

WORLD BANK GROUP GLOBAL TOBACCO CONTROL PROGRAM:

Compendium of Background Policy Briefs for Country Teams on Tobacco Use and Tobacco Taxation in Argentina, Azerbaijan, Bangladesh, Costa Rica, Côte d'Ivoire, Ecuador, Ethiopia, El Salvador, Gabon, Guatemala, Jordan, Kazakhstan, Macedonia, Mexico, Mozambique, Myanmar, Nicaragua, Papua New Guinea, Serbia, Sri Lanka, Tajikistan, Uruguay, Uzbekistan

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Argentina

Tobacco control legislation

Argentina is the only country in Latin America which did not become a Party to the WHO Framework Convention on Tobacco Control. Argentina signed the FCTC on September 25, 2003, but has not ratified the treaty.

Transnational tobacco companies have been actively influencing public health policymaking in Argentina since the early 1970s. As in other countries, in 1977 the tobacco industry created a weak voluntary self-regulating code to avoid strong legislative restrictions on advertising. In addition to direct lobbying by the tobacco companies, these efforts involved use of third-party allies, public relations campaigns, and scientific and medical consultants. During the 1980s and 1990s, efforts to pass comprehensive tobacco control legislation intensified, but the organized tobacco industry prevented its enactment [1].

In the 1990s, Argentina, like other Latin American countries, was targeted by various campaigns launched by the tobacco industry including the "Courtesy of Choice" campaign in 1994-96 [2], a campaign to "discourage juvenile smoking" conducted in 1997-1998 [3].

In 1992-94, Argentina became one of the countries targeted by the "Latin project" funded by Philip Morris International and British American Tobacco, in which the consultants representing a wide variety of scientific disciplines--including chemistry and biochemistry, epidemiology, oncology, pulmonary and cardiovascular medicine--were recruited to generate scientific arguments minimizing the role of secondhand smoke as a health hazard, to produce low estimates of exposure, and to lobby against smoke-free workplaces and public places [4].

More recently, tobacco producers opposed FCTC ratification in Argentina. The principal strategy used was lobbying of provincial legislators and federal officials from the Ministry of the Economy by the tobacco growers associations. A typical legislative strategy used was to request additional analyses of the proposed bills from committees that prioritized economic issues over health. Direct physical threats to legislators who were openly supportive of FCTC ratification were made. These activities have led to a delay in consideration of Argentina's ratification of the FCTC despite the President's signature in 2003 [5].

In 2011, a National Tobacco Control Law (No.26687) was enacted in Argentina. It included implementation of 100% smoke-free environments, a comprehensive advertising ban (prohibiting advertising, promotion, and sponsorship of cigarettes or tobacco products through any media or communications outlets), pictorial health warnings, and a prohibition against the sale of tobacco products through any means to people younger than 18 years [6].

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

Decree 602/2013 was issued under Law 26687 to implement its provisions on smoking in public places; tobacco advertising, promotion and sponsorship; and tobacco packaging and labeling. Resolution 425/2014 established the General Regimen for Enforcement and Processing Complaints of Violation of Law 26687. Resolution 497/2012 was also issued under Law 26687. It contains packaging and labeling requirements, as well as health warning requirements for tobacco advertising. Resolution 494/2014 updated the contents of the pictorial health warnings required to appear on packaging. It also updated the text of the health warning required on permitted forms of tobacco advertising and promotion.

In 2015 [7], tobacco control policies in Argentina were assessed at 33 out of 37 points. The conducted studies demonstrate the general support of the population of Argentina for stronger tobacco control measures [8].

Smoke-free places

In 2005, Argentina became the first Latin American country to adopt an effective smoke-free policy at the sub-national level. To evaluate the impact of these legislative changes, a study [9] compared PM_{2.5} levels in 15 cities with different legislative contexts and found that PM_{2.5} levels were 5 times higher in cities with no legislation vs. smoke-free cities ($p < 0.001$). In cities with designated smoking areas, PM_{2.5} levels were not statistically different between smoking and non-smoking areas ($p = 0.272$). Non-smoking areas had significantly higher PM_{2.5} levels compared to 100% smoke-free venues in the same city (twofold higher) ($p = 0.017$).

Currently, smoking is prohibited in indoor workplaces, indoor public places, and public transport, except for (1) enclosed private office space that is not shared with other workers and is not used for public services; (2) clubs for smokers of tobacco products; and (3) tobacco shops. Smoking is also prohibited on outdoor patios, terraces, and balconies of healthcare facilities and primary and secondary educational facilities, and in areas covered with a roof which are intended for public gathering. Sub-national jurisdictions may enact smoke-free laws that are more stringent than the national law [10].

Tobacco advertising, promotion, and sponsorship

Almost all forms of tobacco advertising and promotion are prohibited, except for (1) some limited signage at points of sale, and (2) some direct communication of exclusively informational content to consenting persons over 18 years of age. Permitted advertising must contain health warnings on 20 percent of the advertising surface. All forms of tobacco sponsorship are prohibited [10].

As the study of point-of-sale advertising in Buenos Aires revealed, 80% of stores had cigarette ads, and few differences were observed by neighborhood socioeconomic status. 'No sales to minors' signs were prevalent [11, 12]. Among the survey participants who attended a store that sells cigarettes in the previous 30 days, 54.1% reported having seen tobacco advertising at the points of sales [13].

Tobacco packaging and labeling

Rotating pictorial health warnings must occupy 50 percent of principal display areas. The image must appear on the lower 50 percent of the front of the package and the accompanying text must appear on the lower 50 percent of the back of the package. The set of 10 health messages and images must be updated every 12 to 24 months. Fifty percent of one side of the tobacco product package must contain information about the free service for quitting smoking that is provided by the Ministry of Health. Misleading packaging and labeling, including such terms as "light" and "low tar" and other signs, is prohibited [10, 14].

Tobacco use among adults

In 1971, 40% of adults aged 15-74 in Argentina were current smokers (58% among men and 20% among women) [15, 16].

According to the 1988 Gallup data [15], 43% of men and 27% of women were current smokers in Argentina.

In 1992, 40% of men and 23% of women in Argentina were estimated to be smokers [17].

In a nationwide household Living Standard Survey conducted in 2001 [18], 38% of men and 24% of women were current smokers, and 20% of current smokers smoked occasionally.

Within CARMELA project [19], a multistage cross-sectional epidemiological study was conducted between September 2003 and August 2005. In Argentina, 1482 urban dwellers aged 25-64 years living in Buenos Aires participated. The prevalence of current smoking among men was 39.7% with a higher percentage of smokers among those aged 25-44 (over 40%); among women, 37.7% were current smokers with a higher prevalence of smoking found among women aged 45-54 years: it constituted 41.2%.

A survey of pregnant women conducted in 2005 [20, 21] found that 44.3% of women in Argentina had ever smoked regularly; of these, 22.1% kept smoking during pregnancy which constituted 10.3% of all surveyed pregnant women.

In 2006, the prevalence of current tobacco use was 32.1% (35.2% among males 29.1% among women). Approximately 90% of the population who smoked did so on a daily basis, and 30% smoked an average of 20 cigarettes per day [22].

The National Survey of Risk Factors for Non-communicable Diseases was conducted in Argentina in 2005, 2009 and 2013 (see

Table 1).

In 2005 [23, 24], 37.2% of men and 25.2% of women were current smokers. A higher socioeconomic position was associated with lower prevalence of smoking among men in all age groups, although the association was the strongest among younger men. For women, a higher socioeconomic position was associated with more smoking in older age groups but less smoking in younger age groups. A higher socioeconomic position was also associated with higher odds of recent quitting compared to not considering quitting for men regardless of age group but for women only in younger age groups.

The decrease in the prevalence of tobacco use found in the second survey [25] was documented in almost all the provinces across Argentina.

The third survey documented a significant decline in the prevalence of tobacco use in 2013. The prevalence remained higher among the men compared to women [26]. The third survey stated that the prevalence of tobacco use was higher among the poorer households compared to more affluent ones; however, the second survey documented no difference by income [25], and some of the analyses of the first survey revealed that the prevalence was higher among those who earned more. Thus, the more rapid changes in the prevalence of smoking were found in more affluent groups of the Argentinean population.

Table 1. The prevalence of tobacco use among the population of Argentina aged 18 years and older, results of the National Survey of Risk Factors for Non-communicable Diseases

| Year | 2005 | 2009 | 2013 |
|--------------------|--------------------|--------------------|--------------------|
| Group | | | |
| All population 18+ | 29.7 (28,7 - 30,8) | 27.1 (26,3 - 27,9) | 25.1 (24.2 - 26.2) |
| Men | 35.1 | 32.4 | 29.9 (28.4 - 31.4) |
| Women | 24.9 | 22.4 | 20.9 (19.7 - 22.1) |

Another survey with data on tobacco use conducted in Argentina several times was the study of psychoactive substances use which was conducted in 1999 [27], 2004 [28], 2008 [29], 2010 [30] and 2017 [31]. The results are shown in

Table 2. As the table shows, the approach to choose the period prevalence indicators of tobacco use and the age cutoffs was extremely inconsistent across this series of surveys. No single tobacco use indicator was reported across all surveys. Where comparable indicators are reported, it is seen that in 1999-2004, the prevalence of ever smoking declined dramatically. In 2004-2008, the prevalence of tobacco use increased among people younger than 35 and decreased among those older than 35 years. In 2008-2010, all the comparable indicators decreased except for the people older than 50 years.

The attention researchers paid to the longer-term indicators (lifetime, last year, and last month) is unusual from the point of view of global tobacco surveillance. However, it is explainable given the low prevalence of daily tobacco use. As stated in the 2008 report [29], only about a quarter of all current (last month) smokers reported smoking on a daily basis.

The format of the survey conducted in 2017 has undergone even more dramatic changes than the previous ones. It was the first one to report the prevalence of daily smoking. The survey revealed that just over half of the population between the ages of 12 and 65 smoked cigarettes at some point in their life; 28.6% of people currently (at least once a month) smoked. Among males, the prevalence of smoking was higher than among women (32.2% and 25.3% respectively) [31]. The percentage of ex-smokers in the population older than 18 years was 15.3%.

Table 2. Period prevalence of tobacco use according to the study of psychoactive substances use

| Period | Age group | Gender | 1999 | 2004 | 2008 | 2010 | 2017 | |
|-----------|------------|------------|--------------|-------------|-------------|-------------|-------------|-----|
| Lifetime | 12-15 | All | 27.34 | 11.0 | | | | |
| | | Males | 31.03 | 11.0 | | | | |
| | | Females | 23.93 | 11.1 | | | | |
| | 16-65 | All | 67.02 | 58.2 | | | | |
| | | Males | 76.02 | 64.3 | | | | |
| | | Females | 58.6 | 52.7 | | | | |
| 12-65 | All | | | 52.2 | 47.3 | | | |
| | Males | | | 57.7 | 52.1 | | | |
| | Females | | | 46.8 | 43.0 | | | |
| 12 months | 12-15 | All | | 8.7 | | | | |
| | | Males | | 40.0 | | | | |
| | | Females | | 34.6 | | | | |
| | 16-65 | All | | | 37.1 | | | |
| | | Males | | | 40.0 | | | |
| | | Females | | | 34.6 | | | |
| | 12-65 | All | | | 32.2 | 29.3 | | |
| | | Males | | | 36.1 | 32.5 | | |
| | | Females | | | 28.3 | 26.4 | | |
| | 25-34 | | | | 38.9 | 40.0 | 37.6 | |
| | | 35-49 | | | 36.9 | 32.9 | 32.5 | |
| | | 50-65 | | | 32.4 | 29.9 | 30.1 | |
| | | | | | | | | |
| | | | | | | | | |
| 30 days | 12-15 | All | 16.22 | | | | | |
| | | Males | 20.14 | | | | | |
| | | Females | 12.60 | | | | | |
| | 16-65 | All | 39.8 | | | | | |
| | | Males | 45.7 | | | | | |
| | | Females | 34.4 | | | | | |
| | 12-65 | All | | | 29.5 | 27.4 | 29.0 | |
| | | Males | | | 33.6 | 30.6 | 32.2 | |
| | | Females | | | 25.5 | 24.2 | 25.3 | |
| | 25-34 | | | | 36.3 | 24.4 | | |
| | | 35-49 | | | 31.2 | 30.6 | | |
| | | 50-65 | | | 28.3 | 28.9 | | |
| | | | | | | | | |
| | | | | | | | | |
| | Daily | 12-17 | Males | | | | | 9.4 |
| Females | | | | | | | 5.8 | |
| 18-24 | | Males | | | | | 20.2 | |
| | | Females | | | | | 15.1 | |
| 25-34 | | Males | | | | | 25.0 | |
| | | Females | | | | | 23.0 | |
| 35-49 | | Males | | | | | 26.5 | |
| | | Females | | | | | 22.5 | |
| 50-65 | | Males | | | | | 26.1 | |
| | | Females | | | | | 20.9 | |

The Global Adult Tobacco Survey conducted in Argentina in 2012 among people aged 15 years and older found that 29.4% of men and 15.6% of women were current tobacco smokers. Both daily tobacco smoking and daily cigarette smoking was reported by 21.9% of men and 12.7% of women [14, 32]. Among women, smoking was more prevalent in younger age groups, i.e. among those aged 15-34 years

than among those older than 35 years [33]. As regards the whole population, the highest prevalence of daily smoking was found among the oldest group aged 50-64 (22.1%) followed by those aged 25-34 years (20.4%) [14]. The mean number of cigarettes per day was found to be 12.2 among current smokers and 15.2 among daily smokers (16.6 among men and 13.0 among women).

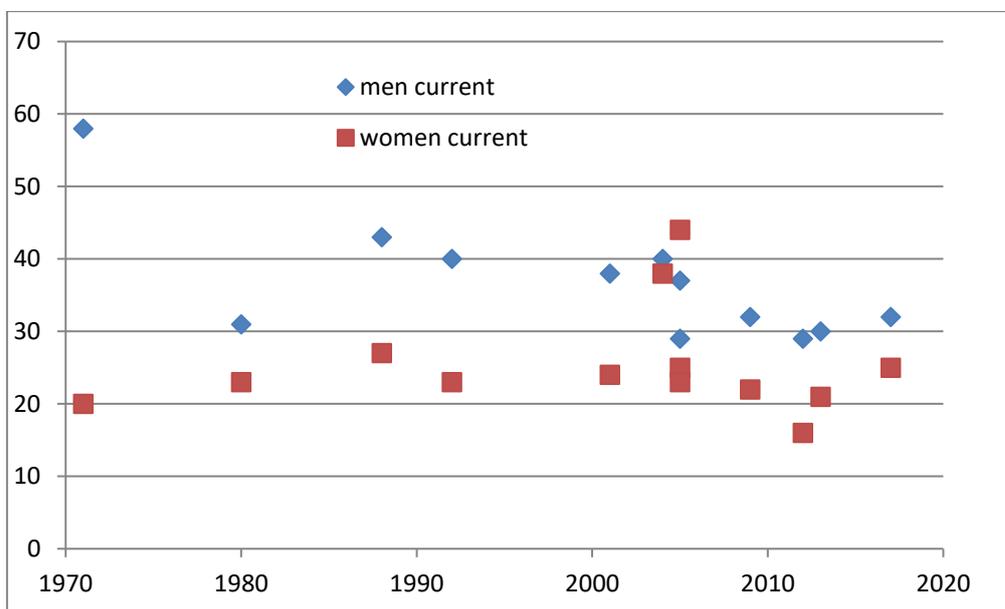
Estimates of trends in adult smoking

According to published international estimates [34], the age-standardized adult smoking prevalence in Argentina decreased from 30.8% in 1980 to 23.9% in 2012 among men and from 22.5% in 1980 to 15.9% in 2012 among women.

Abascal [35] analyzed three Argentinean risk-factor surveys of respondents aged 18–64 years conducted in 2001, 2005 and 2009 and four drug-use surveys conducted in 2004, 2006, 2008 and 2010 among individuals aged 16–65 years living in urban areas. From 2001 to 2009, the prevalence of current smoking among Argentinean men decreased by 3.2 percentage points, but in Argentinean women, it increased by 0.1 percentage points. No trends in the prevalence of tobacco use in adults before 2005 were detected, but from 2005 to 2011, the prevalence of current tobacco use in Argentina decreased annually by 1.7%.

As seen in Figure 1, the prevalence of smoking was declining among men but kept rather stable among women. However, conclusions regarding the prevalence trend are complicated because the surveys apply varying definitions of current smoking: some count those who smoked at least once within 30 days before the survey, other surveys count those who smoked every day or some days, and yet other surveys count those who smoked at least 100 cigarettes in their lifetime [14].

Figure 1. Changes in the prevalence of current smoking among men and women in Argentina



A recent survey was conducted by the Inter-American Heart Foundation (FIC) among inhabitants of large urban agglomerates of the country (the Autonomous City of Buenos Aires, province of Buenos Aires, Córdoba, Rosario, Mendoza, and Tucumán) in December 2016 in a sample of 1,400 people aged 18-74 years. The survey found that 52% used to be smokers and 8.2% of smokers in Argentina quit using

tobacco after the national government raised a tax in May 2016²; 40.5% of smokers said that the tax-driven rise in cigarette prices affected their consumption behavior. Among them, 81.7% decreased the number of consumed cigarettes; 26.7% switched to a cheaper brand; 19.5% started buying loose cigarettes.

Tobacco use among youth

In a survey conducted in 1997 among high school students (8th and 11th graders), 32% of females and 29% of males were current smokers [36]. Of 8th and 11th graders, 20% and 43%, respectively, were classified as current smokers.

A survey comprising 239 schools was conducted in 2002, and it covered adolescents aged 12-18 years [37]. In all, 30.0% of males and 35.0% of females were smokers, i.e. smoked at least one cigarette within 30 days before the survey. In the 12-14 year age group, 22.5% were smokers (19.3% among males and 26.1% among females) and in the 15-18 years group - 40.1% (38.3% among males and 42.2% among females). More than 70% of the adolescents were living with a smoker.

The survey conducted in 2004 in a random sample of 3218 adolescents from 27 schools [38] found that the prevalence of smoking was higher among indigenous adolescents than among those having a European background. The prevalence of alternative tobacco product use was 24.1%: 15.3% of youth used hand-rolled cigarettes, 7.8% smoked cigars, 2.3% chewed tobacco leaf, and 1.6% smoked pipe [39].

The Global School-based Health Survey (GSHS) was conducted in Argentina at the national level in 2007 [40, 41]. The prevalence of smoking was 19.8 ± 4.8 % among boys and 21.9 ± 3.9 % among girls.

The Global Youth Tobacco Survey (GYTS) was conducted in Argentina in the capital city in 2000 [42], 2003 [43] and 2007 [44, 45], and then in 2012 [6, 46] one year after a tobacco control law was enacted.

Table 3. Prevalence of tobacco use-related behaviors among adolescents aged 13-15 years in Argentina, %, GYTS

| | Capital city | | National level | |
|--|--------------|-------------|----------------|-------------|
| | 2000 | 2003 | 2007 | 2012 |
| Currently used any tobacco product (at least once during the last 30 days) | 28.1 | 30.3 | 28.0 | 24.1 |
| <i>boys</i> | 25.7 | 27.3 | 26.1 | 22.7 |
| <i>girls</i> | 30.0 | 32.7 | 29.7 | 25.4 |
| Currently smoked cigarettes (at least once during the last 30 days) | 25.3 | 28.0 | 24.5 | 19.6 |
| <i>boys</i> | 21.9 | 24.4 | 21.1 | 17.4 |
| <i>girls</i> | 28.1 | 30.8 | 27.3 | 21.5 |
| Lived in homes where others smoked in their presence | 68.2 | 71.0 | 54.7 | 47.5 |
| Had at least one parent who smoked | 57.2 | 56.6 | 50.5 | |

As concluded from the two surveys mentioned above, the prevalence of tobacco use was reduced from 28% in 2007 to 24% in 2012 and the prevalence of cigarette smoking from 24.5% in 2007, 19.6% in 2012, but access to tobacco products and exposure to secondhand smoke remained high in public places, including schools [47].

² <http://www.lavoz.com.ar/ciudadanos/cigarrillos-el-aumento-del-precio-hizo-caer-el-consumo>

In 2003–09, the 30-day prevalence of tobacco use in Argentinean students aged 13 years, 15 years, and 17 years decreased by an estimated 2.5% annually [35].

In a survey conducted in 2014 [48] among adolescents aged 12-15 years, only 10% were reported to be smoking within 30 days before the survey.

Tobacco use among health professionals

In 1998, the prevalence of smoking among physicians in Argentina was reported to be 31% [49].

A study conducted in 2002 among pediatric residents [50] revealed that 22.2% of them were smokers. The risk factors for smoking were having a mother who smoked and living alone.

Global Health Professions Students survey conducted in 2005 revealed that among male medical students, 33.4% (30.4-36.4) were current cigarette smokers and among female students, 36.5% (34.1-39.1) [51]. The survey conducted in 2007 among dental students reported that the prevalence of current cigarette smoking among male students was 38.7% (34.5–43.2), among female student 38.0% (35.0–41.0)[52]. Among nursing students in 2007, the prevalence of current cigarette smoking among males was 38.4% (31.5–45.8) and among females 36.0% (32.5–39.6); additionally, 9.3% of females used other tobacco products [53].

A survey conducted in 2011 among the students of Buenos Aires School of Medicine found that 29% of them were smokers [54], and this prevalence was higher than among the general population.

An online self-administered survey conducted in 2011 among eligible medical students and recent graduates from the University of Buenos Aires found that 27.3% of them were current smokers [55, 56].

Tobacco growing

According to the FAO database [57], raw tobacco production in Argentina increased from about 50,000 tons a year in the early 1960s to over 160,000 tons in 2005, but then it decreased to 93,671 tons in 2016. Most (about 80%) of raw tobacco is exported. The area harvested for tobacco increased from about 40,000 hectares in the early 1960s to 83,169 hectares in 2005, but then it decreased to 43,815 hectares in 2016.

Tobacco production concentrates in the north of the country. The provinces of Jujuy, Salta, and Misiones are the leading ones. Argentina's tobacco-growing sector in 2009 included 17,243 farmers who employed 49,517 workers; 95% of tobacco producers owned five hectares of land or less which together constituted 50% of the cultivated area [58]. An important number of Argentina's tobacco industry employees are underage workers³. Tobacco cultivation has been promoted in Argentina since 1967 with creation of the Tobacco Technological Fund, originally as a temporary and emergency measure. In 1978, The Decree No.19800 established the Special Tobacco Fund (FET) which made the tobacco promotion policy permanent. FET gets funded through the tobacco excise tax representing approximately 7% of the retail price of each cigarette pack. According to the law, 80% of the FET tax collected goes to the direct support of tobacco producers (subsidy); the remaining 20% goes to the retrofitting and diversification plans in the tobacco-growing provinces. Argentina began to reduce subsidizing tobacco growers in 1997 when it signed the Agricultural Agreement of the World Trade Organization (WTO). According to the agreement, Argentina was not allowed to provide more than USD75 million a year in direct subsidies to

³ https://en.wikipedia.org/wiki/Tobacco_industry_in_Argentina

tobacco-growing activities [58], but the transfers (in dollar value) for the local tobacco subsidies have multiplied by nine in the last ten years [59].

Tobacco production and sales

Cigarette production and sales in Argentina is highly concentrated and privately owned. There are two major companies— Massalin Particulares (a Philip Morris subsidiary) and Nobleza Piccardo (linked to British American Tobacco) representing 72.9% and 16.5% of cigarette sales in 2017 [60], respectively. Tabacalera Sarandí is a national company which focuses on the production and marketing of cigarettes in the economy segment and had 7.9% share on the cigarette market in 2017. It has a production plant in the province of Buenos Aires, which produces the brand Red Point. There are also some other small cigarette producers in Argentina.

In 2007-2015, annual cigarette sales exceeded 40 billion sticks, but the sales decreased to about 36 billion in 2016 and 2017 (Table 4).

Table 4. Cigarette sales in Argentina, billion sticks

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cigarette sales | 37,23 | 39,80 | 41,14 | 43,44 | 42,63 | 41,96 | 43,84 | 42,80 | 41,78 | 41,38 | 40,62 | 35,88 | 35,94 |

Source: report by the Ministry of Agroindustry ⁴.

In January-July 2018, 20.3 billion cigarettes were sold, which is almost the same as in these seven months of 2017 (20.6 billion)⁵.

Smoking tobacco sales decreased from 2,538 tons in 2013 to 2,159 tons in 2017 [61].

Among other tobacco products, a growing share was recently observed for flavor capsule cigarettes. Argentina was found among the top five countries with the highest market share of these tobacco products which reached in 2014 nearly 10% [62].

The National Administration of Food, Drugs and Medical Technology has banned the marketing and use of electronic cigarettes because there is insufficient evidence to determine whether they are safe for human consumption. Consequently, the law prohibits the import, distribution, marketing, advertising or any form of promotion of electronic cigarettes.

Cigarette consumption

As revealed by the Global Adult Tobacco Survey, 98.2% of tobacco consumers in Argentina smoke cigarettes [32].

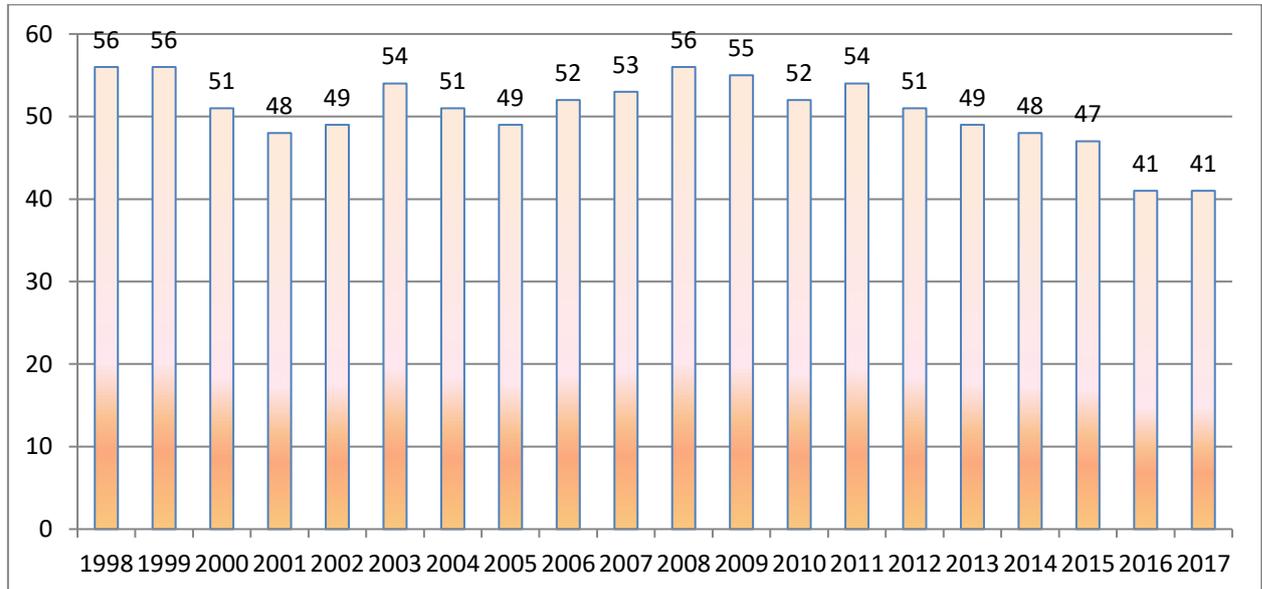
Cigarette consumption per capita in Argentina increased and reached a plateau at about 2000 cigarettes per year in the 1970s and the 1980s and then declined to about 1500 by 1990 [15]. Estimated cigarette consumption per capita among adults (>15 years of age) from 1970-72 to 1990-92 decreased from 1810 to 1610 [17] and then to 1456 by 2000 [63].

⁴ [https://www.agroindustria.gov.ar/sitio/areas/tabaco/estadisticas/_archivos/000004-Consumo%20Aparente%20\(Paquetes%20Vendidos,%20Consumidos%20por%20habitante%20-%20A%C3%B1o\)%20%201910%20-%202017.pdf](https://www.agroindustria.gov.ar/sitio/areas/tabaco/estadisticas/_archivos/000004-Consumo%20Aparente%20(Paquetes%20Vendidos,%20Consumidos%20por%20habitante%20-%20A%C3%B1o)%20%201910%20-%202017.pdf)

⁵ [https://www.agroindustria.gov.ar/sitio/areas/tabaco/estadisticas/_archivos//000003-Participaci%C3%B3n%20en%20las%20ventas%20de%20paquetes%20de%20Cigarrillos%20seg%C3%BAn%20tipo%20de%20empresa%20-%20Grandes%20y%20Pymes%20\(2001-2018\).pdf](https://www.agroindustria.gov.ar/sitio/areas/tabaco/estadisticas/_archivos//000003-Participaci%C3%B3n%20en%20las%20ventas%20de%20paquetes%20de%20Cigarrillos%20seg%C3%BAn%20tipo%20de%20empresa%20-%20Grandes%20y%20Pymes%20(2001-2018).pdf)

Ministry of Agroindustry publishes annual estimates of cigarette consumption per capita (all ages) (Figure 2).

Figure 2. Cigarette consumption in Argentina, 20-cigarettes packs per capita, legal sales.



Source: report of the Ministry of Agroindustry ⁶.

Cigarette consumption declined from 56 packs in the late 1990s to about 50 packs in the early 2000s (after the economic crises), but then it increased again in 2005-2008 to 56 packs per capita and was rather stable in 2009-2011. In 2012-2015, it gradually declined to 47 packs. The largest decline in cigarette consumption was observed in 2016 when it decreased to 41 packs. However, in 2017, there was almost no change in consumption.

Consumption of roll-your-own cigarettes in Argentina is rather low (7.7%) while in neighboring Uruguay, it is 32.4% [64].

Tobacco taxation

Argentina's overall tax system is extremely complicated; the structure of tobacco taxation and, in particular, the taxation of cigarettes, is even more so. Tobacco taxes have a dissimilar, vague origin; their bases differ significantly and are not applied similarly for cigarettes and the other tobacco products.

Tobacco products in Argentina are taxed by two general taxes: Value Added Tax (IVA) and Gross Income tax (IIBB). There are also two special tobacco taxes: Internal Tobacco Tax (INT) and Additional Emergency Tax (IAE) which is applied only to cigarettes. In addition to these four taxes, Law No.19800⁷ established an additional charge on the price of cigarettes to feed the Special Fund for Tobacco – FET.

The VAT was established by Law No.23349 and applies to all phases of production and distribution. On cigarettes, it levies a 21% rate of non-tax price (which consists of the factory prices plus the distribution margin).

⁶ [https://www.agroindustria.gob.ar/sitio/areas/tabaco/estadisticas/_archivos/000004-Consumo%20Aparente%20\(Paquetes%20Vendidos,%20Consumidos%20por%20habitante%20-%20A%C3%B1o\)%20%201910%20-%202017.pdf](https://www.agroindustria.gob.ar/sitio/areas/tabaco/estadisticas/_archivos/000004-Consumo%20Aparente%20(Paquetes%20Vendidos,%20Consumidos%20por%20habitante%20-%20A%C3%B1o)%20%201910%20-%202017.pdf)

⁷ <http://servicios.infoleg.gob.ar/infolegInternet/verNorma.do?id=17440>

The Gross Income tax (IIBB) is earmarked for provincial financing; the companies, the retail distributors, and the retail vendors have to pay it. The rate ranges from 1.5% to 3.5%, depending on the jurisdiction where the sales occur.

The Law No.24625 adopted in December 1995⁸ established the Additional Emergency Tax (IAE) aimed to finance social programs (especially health programs) within the Rural Change Program and the Social-Livestock Program. The rate of this tax was 7%, and it was applied to the final cigarette retail price, including the rest of the taxes involved in the final price. The Article 9 of Title IX of Law No.25239⁹ of December 1999, modified the Additional Emergency Tax, raising the rate to 21% and also empowering the government to reduce it to a minimum of 7%, following a favorable and founded technical report from the relevant ministries. The Decree No.518 of June 30, 2000, established a progressive schedule for the reduction of the tax rate: 16% from July 4, 2000, to October 19, 2000; 12% from October 20, 2000, to February 19, 2001, and 7% from February 20, 2001. Since then, through successive decrees, the application of the reduced rate of 7% was maintained.

Internal tax (INT) is a single-phase tax applied to the final manufacturer. The Law No.24674 Article 15 established a **60%** rate of the final price of cigarettes, excluding other taxes, such as the value-added tax (VAT) and the Additional Emergency Tax (IAE). Article 14 of the law No.24674 granted to the government a power to increase the rate by up to 25% temporary, when the economic situation of certain or specific industries advises them.

The government used this power in April 2016 and issued the Decree No.626¹⁰ to increase the 60% rate to 75% (by $25\% - 60 \times 1.25 = 75$) as of May 1, 2016, and until December 31, 2016. While the increase of ad valorem rate from 60% to 75% looks rather moderate, due to the specificity of the tax base for calculation of the INT excise tax, it actually increased by about 100% in monetary terms. Weighted average cigarette retail price increased from ARS25.88 per pack in April 2016 to ARS39.09 in May 2016¹¹. At the same time, non-tax price, VAT, and IIBB almost did not change, but INT increased from ARS11.8 to ARS23.2. Other tobacco taxes (IAE and FET) also increased by 40-50% in monetary terms.

The governmental Decree 15/2017 prolonged validity time period for the 75% excise rate to 31st December 2017. Then the Decree No. 99/2018¹² extended the 75% rate till February 28, 2018. The INT rate was 60% till April 30, 2016. Then it was 75% from May 1, 2016, to February 28, 2018, and from March 1, 2018, it became 70% as Article 103 of Law No.27430 of 29 December 2017 changed the Article 15 of the Law No.24625 and established a new rate (70%) for cigarettes.

The Law No.27430 also updated Article 16 of the Law No.24625 and increased the rate for cigars and cigarillos from 16% to 20%. The minimum specific excise became 10 pesos per cigar and 20 pesos for each pack of twenty cigarillos. The rate for roll-your-own tobacco, snuff, and other loose tobacco was increased from 20% to 25%, with minimum specific rate becoming 40 pesos per 50 grams of tobacco (updated Article 18 of the Law No.24625).

⁸ <http://servicios.infoleg.gob.ar/infolegInternet/anexos/30000-34999/31989/norma.htm>

⁹ <http://servicios.infoleg.gob.ar/infolegInternet/anexos/60000-64999/61784/norma.htm>

¹⁰ http://www.cira.org.ar/index.php?option=com_content&view=article&id=8391:decreto-506-2018&catid=112&Itemid=500

¹¹ [https://www.agroindustria.gob.ar/sitio/areas/tabaco/estadisticas/_archivos/000001-Volumen%20de%20Paquetes%20de%20Cigarrillos%20Vendidos%20por%20Rango%20de%20Precio%20\(2004-2018\).pdf](https://www.agroindustria.gob.ar/sitio/areas/tabaco/estadisticas/_archivos/000001-Volumen%20de%20Paquetes%20de%20Cigarrillos%20Vendidos%20por%20Rango%20de%20Precio%20(2004-2018).pdf)

¹² <https://www.adelaprat.com/2018/02/impuestos-internos-cigarrillos-prorroga-hasta-el-28-02-2018/>

From 2009, the INT tax should not be less than 75% of the tax corresponding to the price of the most sold category of cigarettes (this rule was incorporated by Article 2 of Law No.26467 published 9/1/2009). For the purpose of determining the minimum tax the most sold category of cigarettes (CMV), the price was calculated and published quarterly¹³. In December 2017, the minimum tax was ARS22 per pack of 20 cigarettes [59].

The Law No.27430 of 29 December 2017 established a new way of calculating the minimum INT tax applicable to cigarettes. Starting from January 2018, it was transformed into a fixed amount that can be updated each calendar quarter based on the variations of the Consumer Price Index (CPI), provided by the National Institute of Statistics and Census. The initial specific rate is ARS28 per pack of 20 cigarettes. For June-August 2018, the minimum specific rate was ARS29.87 for cigarettes; ARS10.67 for cigars; ARS21.34 for cigarillos and ARS42.68 for loose tobacco¹⁴. The Government has the power to change the minimum specific tax rate in some special conditions: increase up to 25% or decrease up to 10%.

The FET tax is an earmarked contribution established by Law No.19800¹⁵. It aims to meet the economic and social needs of the tobacco growers. After several revisions, FET consists of an 8.35% ad valorem rate (7.0% for the FET (Article 23), 1.0% for payment of the wholesale and retail marketing percentage throughout the country (Article 24), and 0.35% to finance the welfare and healthcare institutions managed by trade unions of the tobacco sector (Article 25). The ad valorem FET component amount equals the FET tax rate multiplied by the retail net price (i.e. retail price minus Additional Emergency Tax and the Value Added Tax) [65]. The FET also has a specific component: a lump sum (according to Article 25 of the Law No.19800) increased twice a year in line with the increase of the Weighted Average Price. From July 2018, the specific component constitutes ARS1.8939¹⁶.

As tobacco taxation system is very complicated, we present available estimates of various tax shares in the cigarette retail price in Table 5.

Table 5. Shares of various taxes in the final cigarette retail price

| | November 2013 [65] | December 2014 [66] | December 2017 [59] | July 2018 ¹⁷ |
|--|--------------------|--------------------|--------------------|-------------------------|
| Internal tax (INT) | 45,73 | 46,13 | 59,3 | 59,7 |
| Additional Emergency Tax (IAE) | 7,00 | 7,00 | 7,0 | 7,0 |
| Tax for Special Fund for Tobacco (FET) | 10,38 | 9,67 | 10,0 | 9,2 |
| Value Added Tax (IVA) | | 6,46 | 4,0 | 3,9 |
| Gross Income tax (IIBB) | | | 0,9 | 0,6 |
| Total tax share | 63,11 | 69,26 | 81,1 | 80,4 |

The share of IAE and FET taxes did not change much in 2013-2018. After the tax reform of 2016, the share of the Internal tax increased from 46% to almost 60%, and it was the main factor of the final price increase. VAT share decreased from 6.5% to 4% as VAT is a percentage of the non-tax part of the price, which increased much less than the final retail price. Total tax share was almost 70% in 2014, but in 2017-2018, it exceeded 80%.

¹³ http://biblioteca.afip.gob.ar/estaticos/cuadrosLegislativos/internos_cmv.aspx

¹⁴ <https://www.afip.gob.ar/noticias/documentos/ANEXO4257.pdf>

¹⁵ <http://servicios.infoleg.gob.ar/infolegInternet/anexos/15000-19999/17440/texact.htm>

¹⁶ http://biblioteca.afip.gob.ar/estaticos/cuadrosLegislativos/tabaco_monto_adicional_fijo.aspx

¹⁷ http://www.batargentina.com/group/sites/BAT_9YXKEP.nsf/vwPagesWebLive/DO9Z3F9Z?opendocument

WHO Global report [67] also demonstrated that in 2008-2014, the total tax share in Argentina was 69-70%, but in 2016, it increased to 80.25%.

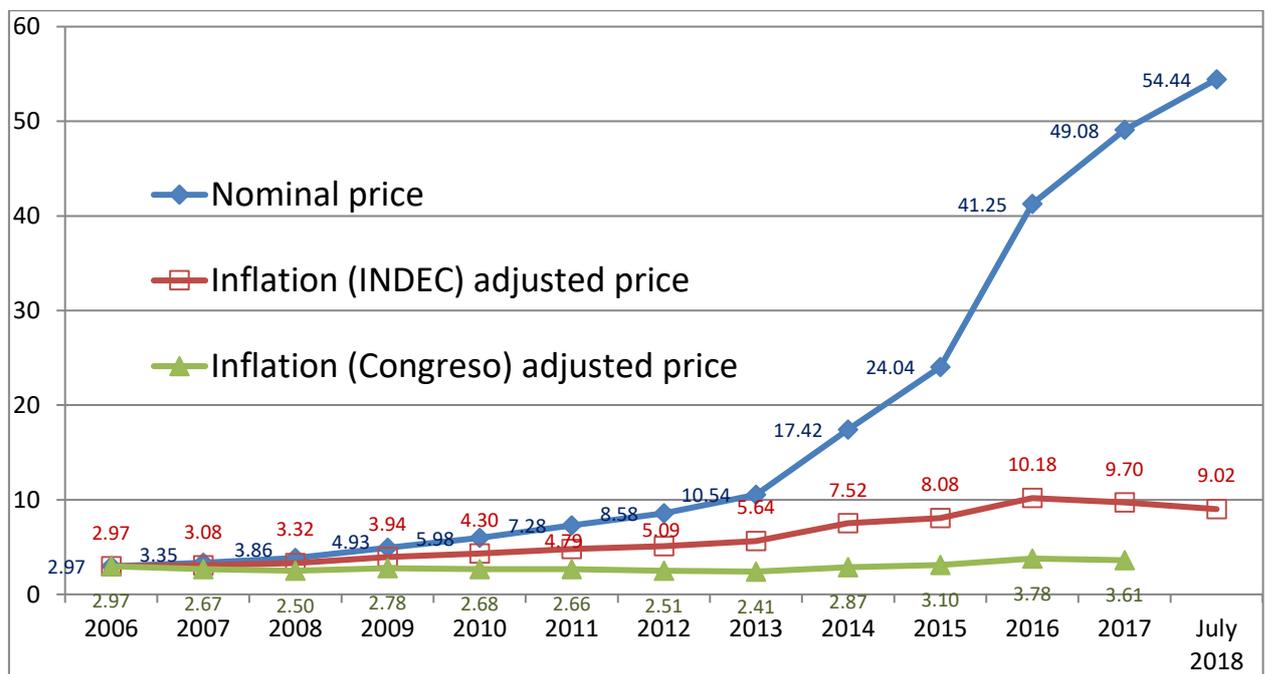
Cigarette prices

The Ministry of Agroindustry publishes average cigarette prices, and they are available from January 2005 to July 2018¹⁸. The nominal average price of 20-cigarette pack decreased from ARS3.15 in January 2005 to ARS2.75 in May 2006 and then started to increase. In October 2007, it was ARS3.18, almost the same as 33 months ago. Then nominal cigarette prices increased almost every month, and in July 2018, the average price of a 20-cigarette pack was ARS54.44 – almost 20 times higher than in May 2006.

Estimation of real (inflation-adjusted) cigarette prices in Argentina is a challenge, as the official inflation rates are not reliable. The International Monetary Fund accused the National Statistical Office (INDEC) of deliberately reporting lower inflation figures [68]. Only in November 2016, IMF declared that Argentinean statistics were again in accordance with international standards.

Online prices collected from the largest supermarket between October 2007 and March 2011 showed that Argentina's online inflation rate was nearly three times higher than the official estimate: the online index increased over 100%, while the official index grew only by 35%¹⁹. From 2007, trends in real cigarette prices depend greatly on which estimates of overall inflation are used. We used both official INDEC inflation rates²⁰ and alternative “Congreso” rates²¹ for 2007-2015 to calculate real cigarette prices.

Figure 3. Average cigarette prices, ARS per pack of 20 cigarettes in December each year, nominal and inflation-adjusted (base 2006=100).



¹⁸ [https://www.agroindustria.gob.ar/sitio/areas/tabaco/estadisticas/_archivos//000001-Volumen%20de%20Paquetes%20de%20Cigarrillos%20Vendidos%20por%20Rango%20de%20Precio%20\(2004-2018\).pdf](https://www.agroindustria.gob.ar/sitio/areas/tabaco/estadisticas/_archivos//000001-Volumen%20de%20Paquetes%20de%20Cigarrillos%20Vendidos%20por%20Rango%20de%20Precio%20(2004-2018).pdf)

¹⁹ <https://dspace.mit.edu/openaccess-disseminate/1721.1/107462>

²⁰ https://es.wikipedia.org/wiki/Anexo:Evoluci%C3%B3n_del_%C3%8Dndice_de_Precios_al_Consumidor_en_Argentina

²¹ <http://www.infocampo.com.ar/wp-content/uploads/2018/03/Informe-Lautaro-1.pdf>

There were no large changes in real cigarette prices in 2007-2011 if alternative inflation rates are used [69]. Then, a small decline in real prices was observed in 2011-2013, but in 2014-2016, real cigarette prices increased. The largest increase took place in 2016, when the real (alternative) price increased by 22%, despite very high (40.6%) inflation that year. In 2017 and in the first half of 2018, real cigarette prices decreased.

Rather high increase in nominal cigarette prices (65%) also occurred in 2014: the Ministry of Finance and the tobacco industry set an agreement to reach particular tax collection objectives [70]. The agreement was the exclusive factor responsible for the price increases in those years [71].

The WHO Global Tobacco Report, 2017 [67] contains information on cigarette prices and taxes in Argentina and other Latin American countries in 2016 (Table 6).

Table 6. Cigarette prices and taxes in Argentina and some neighboring countries in 2016

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of price of the most sold brand | | | | | | Net-of-tax part of the price, US\$ |
|-----------|---|-------------------|---------|--|-------------------|--------------|----------------|--------------|------------------|------------------------------------|
| | In reported currency | Reported currency | In US\$ | Specific excise | Ad valorem excise | Total Excise | VAT/ Sales tax | TOTAL TAX, % | TOTAL TAX, US \$ | |
| Argentina | 40,00 | ARS | 2,67 | 0,00% | 76,10% | 76,10% | 4,15% | 80,25% | 2,14 | 0,53 |
| Bolivia | 11,00 | BOB | 1,59 | 0,00% | 27,85% | 27,85% | 11,50% | 39,36% | 0,63 | 0,96 |
| Brazil | 6,24 | BRL | 1,91 | 22,44% | 9,54% | 31,98% | 25,00% | 67,95% | 1,30 | 0,61 |
| Chile | 2 178 | CLP | 3,28 | 43,16% | 30,00% | 73,16% | 15,97% | 89,13% | 2,92 | 0,36 |
| Paraguay | 2 000 | PYG | 0,36 | 0,00% | 8,31% | 8,31% | 9,09% | 17,40% | 0,06 | 0,30 |
| Uruguay | 110,00 | UYU | 3,70 | 47,47% | 0,00% | 47,47% | 18,03% | 65,51% | 2,42 | 1,28 |

We calculated the net-of-tax price of the most popular cigarette brand as follows: Price in USD * (1 – Total tax share). Cigarettes in Argentina had lower retail prices and taxes than in Chile and Uruguay, but the net-of-tax cigarette price in Argentina was higher than in Chile. The price differences are high enough to smuggle cigarettes from Paraguay to Argentina but also from Argentina to Chile and Uruguay.

Cigarette affordability

According to the recent analysis, published by the Ministry of Health [59], throughout 2005-2013, cigarettes became more affordable for the population. While at the beginning of 2005 the purchase of 100 packs of 20 cigarettes required around 25% of the average worker salary in the private sector, by the beginning of 2014, this percentage became twice lower. The analysis of the average individual income of an adult person obtained from the Permanent Household Surveys (EPH) [59] came to similar conclusions. According to the EPH, the cost of cigarettes in relation to income fell sharply between 2005 and 2006, and more slowly but steadily until the beginning of 2014. Both the upturn of the real wage and the cheapening of cigarettes in relation to other goods contributed to this trend.

Affordability of cigarettes increased significantly in 2004-2014 in all income quartiles, but the largest growth occurred in the poorest quartile. This situation constitutes a significant public health problem because it increases social inequities by means of generating greater tobacco consumption among the most vulnerable sectors in the population. As it is precisely these people who are most harmed by the tobacco epidemic, this perpetuates a cycle of poverty and disease and creates additional obstacles to social and economic development [70]. In Argentina, poor smokers are more sensitive to the changes in

the price of cigarettes. Price elasticity of demand was -0.21 among the population richest tertile and -0.34 among the poorest tertile [72].

According to the WHO estimates [67], cigarette affordability in Argentina was rather stable in 2008-2014 but substantially reduced in 2016.

In the current analysis, a modified tobacco affordability index (TAI) [73] is used to estimate the changes in tobacco affordability in 2007–2017. TAI is calculated as the percentage annual change in nominal average income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. For the TAI calculations, we used as income proxy the World Bank indicator “Annual percentage growth rate of GDP per capita based on constant local currency”²². As INDEC did not publish CPI for tobacco till 2016, we used average cigarette prices in December each year to calculate CPI for cigarettes. As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator is also expressed in real (inflation-adjusted) terms. In this case, the TAI is calculated as GDP annual change divided by the (inflation-adjusted) cigarette price increase minus 100: $(\text{GDP growth} * \text{CPI}_{\text{all items}} / \text{CPI}_{\text{cigarettes}} - 100)$. For CPI_all items, we used alternative (Congreso) inflation estimates²³. The results of the Tobacco Affordability Index estimation are presented in Table 7.

Table 7. Tobacco affordability in Argentina in 2005-2017

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| GDP per capita growth (annual %) | 7,7 | 6,9 | 7,9 | 3,0 | -6,9 | 9,0 | 4,9 | -2,1 | 1,3 | -3,5 | 1,7 | -2,8 | 1,9 |
| CPI cigarettes | 94,6 | 99,7 | 112,8 | 115,2 | 127,7 | 121,3 | 121,7 | 117,9 | 122,8 | 165,3 | 138,0 | 171,6 | 119,0 |
| CPI all items | 109,8 | 110,9 | 125,7 | 123,0 | 114,8 | 125,7 | 122,5 | 125,2 | 127,9 | 138,5 | 127,8 | 140,7 | 124,7 |
| Tobacco Affordability Index | 25,0 | 19,0 | 20,2 | 10,0 | -16,3 | 13,0 | 5,6 | 4,0 | 5,5 | -19,1 | -5,8 | -20,3 | 6,8 |

The TAI values demonstrate that cigarettes became much more affordable in 2005-2008, while in 2009-2013 the affordability did not change much. In 2014-2016, a large reduction in cigarette affordability took place, but in 2017 cigarettes became more affordable again.

Tobacco excise revenue

The cigarette producers and the government, through the Ministry of Economy, agree on semi-annual collection goals. The revenues from internal taxes, the VAT, supplementary emergency taxes, and FET are to secure these goals. Between 2006 and 2010, the collection goals increased, due to large price increases, from 4.0 billion pesos to 7.6 billion pesos [58]. If the revenues from cigarette taxes do not reach the goal, the tobacco companies pay the government the difference between the goal and the amount collected. If the collected taxes exceed the goal, the excess is transferred to the next fiscal period. This agreement also establishes that the Ministry of Economy does not create or modify any tax, contribution, fund, or surcharge on tobacco [58]. The tobacco industry also contributes to revenues with other taxes, such as export licenses that amount to 10% for non-finished products (de-stemmed tobacco, tobacco leaves) and 5% for value-added products (cigarettes, cigarillos), and the taxes on the companies’ profits.

²² <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=AR>

²³ https://es.wikipedia.org/wiki/Anexo:Evoluci%C3%B3n_del_%C3%8Dndice_de_Precios_al_Consumidor_en_Argentina

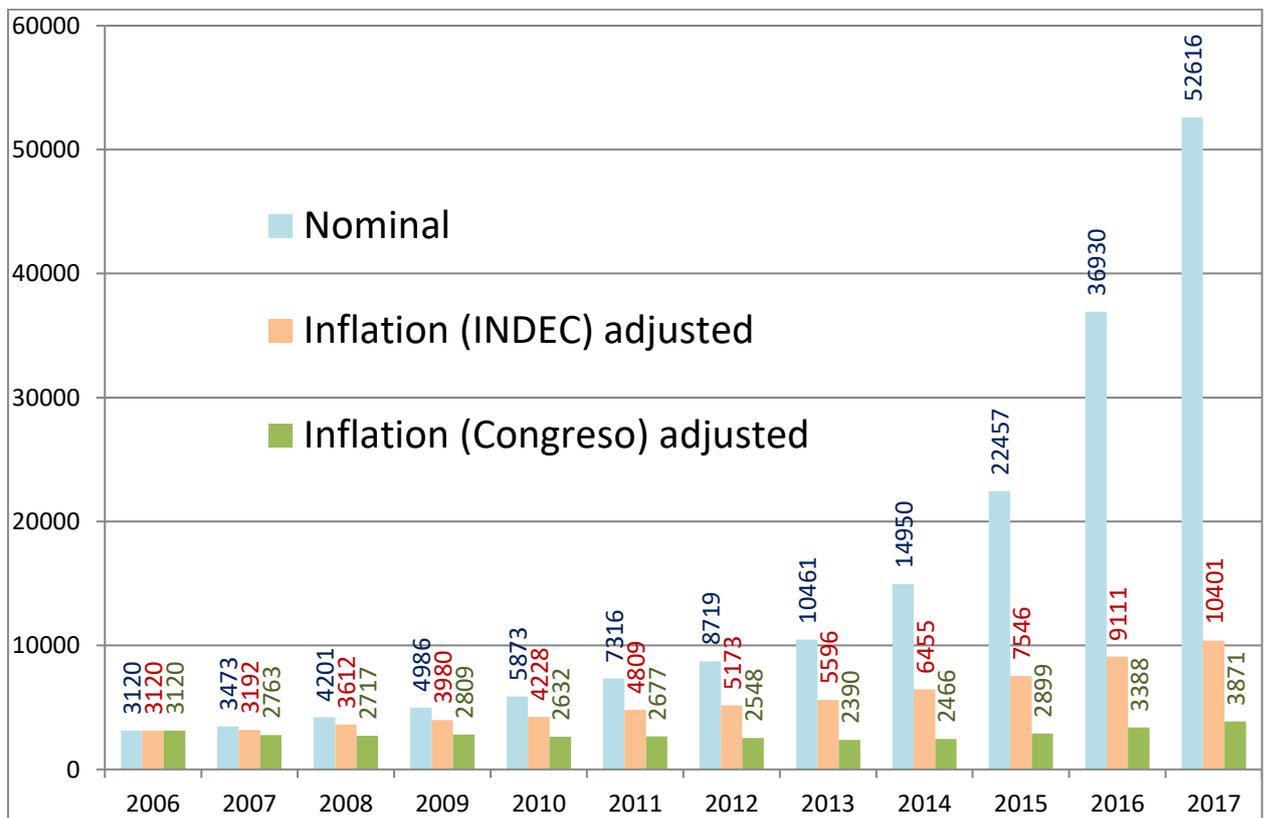
Several taxes are applied to tobacco products, and different authorities collect these taxes. The Federal Administration of Public Revenues (AFIP) publishes monthly data on revenues²⁴, including revenue on the internal tax on cigarettes and other tobacco products and Additional Emergency Tax (IAE) for cigarettes. Table 8 shows annual data on these revenues.

Table 8. Tobacco excise revenue, million pesos (ARS)

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|
| Internal tax, cigarettes | 2297 | 2700 | 2717 | 3021 | 3641 | 4323 | 5081 | 6283 | 7513 | 9059 | 12925 | 19497 | 32655 | 46801 |
| Additional Emergency Tax, cigarettes | 343 | 392 | 398 | 447 | 555 | 658 | 786 | 1026 | 1197 | 1392 | 2013 | 2940 | 4238 | 5750 |
| Internal tax, cigars and other tobacco | 7 | 6 | 5 | 5 | 5 | 5 | 6 | 7 | 9 | 10 | 12 | 20 | 37 | 65 |
| Total tobacco excise revenue | 2647 | 3098 | 3120 | 3473 | 4201 | 4986 | 5873 | 7316 | 8719 | 10461 | 14950 | 22457 | 36930 | 52616 |

We also calculated real (inflation-adjusted) revenue, using both official (INDEC) and alternative (Congreso) inflation rates (Figure 4).

Figure 4. Tobacco excise revenue, nominal and inflation-adjusted (base 2006=100).



In 2006-2017, the nominal revenue increased almost 17-fold. Inflation (INDEC) adjusted revenue increased every year; however, when the alternative inflation rates are used, the trends are different. In 2006-2013, the real revenue decreased by 23%; yet, in 2015-2017, real revenue increased by 57% in three years.

In January-June 2018, cigarette excise revenues increased by 12% while the inflation rate was 19.3%; so, real excise revenue decreased.

²⁴ <http://www.afip.gob.ar/institucional/estudios/>

The revenues for the Special Fund for Tobacco (FET) are not collected by the AFIP, and these revenues return to the tobacco industry; so, these taxes cannot be considered governmental revenues.

Illicit cigarette trade

According to the media reports, in 2001, cigarette smuggling into Argentina took almost 20% of the market, but after a devaluation of the national currency, the smuggling share decreased to 7% in 2003²⁵. However, according to studies conducted by the BAT, smuggled cigarettes constituted 12% of the market in 2002, but this share increased to 20% in 2005²⁶. Another BAT estimate stated that in 2003, 4,500 million cigarettes were illicit which corresponds to a market share of 11% [74].

Analysis of illicit cigarette trade in five South American countries used gap analysis estimates for cigarette tax evasion/avoidance, by comparison on the evolution of the difference between registered cigarette sales and measured population consumption [75]. It showed that in Argentina, after a relative decrease between 2005 and 2009, illicit cigarette trade seems to have stabilized. The study concluded that claims by the tobacco industry of a positive association between price/tax changes and illicit trade were unsubstantiated.

In May 2015, KPMG agency issued a report called "Project Frost" [71] funded by British American Tobacco (BAT). The study had to consider the smuggling and the counterfeit segments of the tobacco market in 16 Latin American markets (including Argentina) and Canada (with a focus on Ontario). A special agreement with the BAT established the purpose and scope of this study. According to this agreement, KPMG had to show the country-specific preliminary results for each of the markets included in the study to the BAT administration teams in order to obtain feedback and comments before finalizing the results. Most data for the study (sales, prices, taxes) were provided by the BAT. The estimates of illicit sales were based on so-called empty pack surveys (EPS). BAT provided the results of EPS to KPMG.

According to the EPS results shown in the 'Project Frost' report [71], contraband and counterfeit cigarettes accounted for 5.6% of cigarettes consumed in Argentina in 2014, a volume of 2,530 million cigarettes: 1,100 million smuggled from Paraguay; 1,090 million cigarettes with false tax stamps and 350 million – counterfeit cigarettes. A considerable volume of cigarettes in Argentina has counterfeit tax stamps. The Red Point trademark owned by Tabacalera Sarandi was the most common brand. The KPMG report also estimated that 320 million cigarettes sold and taxed in 2014 in Argentina were actually smoked in Chile.

According to the Euromonitor estimates [60], the number of illicit cigarettes in Argentina decreased in 2012-2014 but increased in 2015-2017 (Table 9).

Table 9. Estimates of illicit cigarette sales, billion cigarettes, Euromonitor

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--------------------------------|-------|-------|-------|-------|-------|-------|
| Legal sales | 42,92 | 41,77 | 40,90 | 39,98 | 35,61 | 35,84 |
| Illicit sales | 3,22 | 3,07 | 2,98 | 3,28 | 3,64 | 3,83 |
| % penetration of illicit trade | 7,0 | 6,8 | 6,8 | 7,6 | 9,3 | 9,7 |

In 2016, legal sales decreased by 4.37 billion cigarettes, while illicit sales increased only by 0.36 billion. Estimated share of illicit sales increased from 7.6% in 2015 to 9.3% in 2016, but the reduction of legal

²⁵ <https://www.lanacion.com.ar/504341-cigarrillos-las-marcas-de-la-crisis>

²⁶ <https://www.lanacion.com.ar/758205-proviene-del-contrabando-el-20-de-los-cigarrillos>

sales was the main factor of the share increase. Total (licit + illicit) cigarette consumption in 2012-2016 decreased from 46.1 billion to 39.3 billion cigarettes, or by 15%.

According to the Euromonitor [60], about 35% of illicit trade belong to contraband, with Paraguay as the largest supplier, whilst the remaining 65% of illicit packs bear either counterfeit stamp or falsified brands. Many small companies take advantage of the lack of controls and sell products without paying taxes at a price below the price set by the law.

TNS agency estimated that in 2015, cigarettes with counterfeit stamps constituted 5% of the market, smuggled cigarettes – 2.8% and counterfeit cigarettes – 0.3%. In total, illicit cigarettes constituted 8.1% of the total cigarette market²⁷.

A representative of BAT claimed that after the tax reform of May 2016 which increased the tax burden for cigarettes by more than 100%, illicit cigarette share increased from 10.9% to 14.2%²⁸.

A study conducted in 2017 by the consultancy TNS Kantar aimed to measure the penetration level of illegal cigarettes in the Argentinean market and revealed that 13.1% of smokers used cigarettes of illegal origin. In terms of volumes, this corresponded to 14.2% of the market, with a growth of 3.3 percentage points over 2016. The study estimated that around 3,100 million illicit cigarettes were produced in the country by local factories and some 2,600 million were smuggled in from Paraguay²⁹. TNS Kantar agency usually conducts tobacco-related surveys with tobacco industry funding³⁰.

Smuggling of cigarettes OUT OF Argentina to Chile^{31 32} and Uruguay³³ also takes place.

Discussion

Trends in cigarette consumption

Argentina experienced several periods with different trends in cigarette consumption.

In 1993-2001, cigarette consumption per capita in Argentina reduced from 59 to 48 packs. One of the reasons for the reduction in cigarette consumption per capita was the increasing real price of cigarettes by 16% in 1994-1999³⁴ and the economic crises of 1999-2002, when the GDP declined for over 4 years³⁵.

Then, the economics recovered; however, real cigarette prices did not increase (in 2007 even nominal prices were almost the same as in 2005). So, cigarette became much more affordable (see Table 7), and consumption per capita increased from 49 packs in 2005 to 56 packs in 2008.

In 2009-2013, the economic situation was not stable, but real cigarette prices slightly declined (see Figure 3), and cigarette affordability increased encouraging tobacco consumption growth (Table 7).

²⁷ <https://www.bigbangnews.com/policiales/Operativo-Pucho-como-opera-la-mafia-que-falsifica-y-vende-cigarrillos-20160307-0014.html>

²⁸ <http://noticias.perfil.com/2018/03/10/entra-en-vigencia-la-reforma-tributaria-pelearse-por-los-cigarrillos/>

²⁹ <http://www.puntal.com.ar/nacionales/Por-ao-Argentina-consume-millones-de-cigarrillos-ilegales-20180711-0085.html>

³⁰ <http://www.tobaccotactics.org/index.php?title=Kantar>

³¹ <https://www.tiemposur.com.ar/nota/151343-chileno-sorprendido-con-contrabando-de-cigarros-argentinos>

³² <https://losandes.com.ar/article/otra-secuestraron-cigarrillos-contrabando-paso-chile-720404>

³³ <https://www.diarioelargentino.com.ar/noticias/127256/impiden-un-contrabando-de-cigarrillos-desde-argentina-al-uruguay>

³⁴ http://siteresources.worldbank.org/INTPH/Resources/Argentin_e.pdf

³⁵ <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=AR>

However, the tobacco control legislation introduced in 2011 could work in the opposite direction and reduce tobacco consumption in the country. According to the Philip Morris International annual reports³⁶, cigarette market in Argentina in 2009-2013 was rather stable (about 43 billion cigarettes annually).

In 2014-2015, the cigarette market decreased to 40.8 billion cigarettes in 2015 as cigarettes became less affordable. The main factor of cigarette affordability reduction was the substantial increase of nominal cigarette prices undertaken by the tobacco industry: the average nominal price per cigarette pack increased from ARS10 in 2013 to ARS24 in 2015. So, despite high inflation, real cigarette prices did increase. As Argentina has ad valorem excise system, cigarette prices hike increased real governmental revenue in 2013-2015 by 21%, while in 2006-2013 real tobacco excise revenue decreased by 23% (see Figure 4).

The most substantial reduction in tobacco consumption took place in 2016, after the sharp increase in tobacco excise in May 2016: in 2016 cigarette sales decreased by about 5 billion cigarettes. In May 2016, the average nominal price of cigarette pack was over ARS39, while in April 2016 it was less than ARS26. As the tobacco excise tax was increased from May 2016, the excise revenue increased both in 2016 and 2017: by 33% for two years. Argentina received the "Bloomberg philanthropies for global tobacco control" award for the increase in excise taxes on cigarettes in 2016, a measure that caused a reduction in smoking and dropped sales by 10%³⁷.

Tobacco industry continued to increase nominal cigarette prices after the excise hike of May 2016 and the average price per cigarette pack increased to ARS56 in August 2018³⁸. However, the inflation rate was even higher; so, the real cigarette price declined in 2017-2018 (see Figure 3), and cigarette sales in 2017 were almost the same as in 2016.

Tobacco taxation history in Argentina confirms the basic conclusion of the monograph by the National Cancer Institute and WHO [76]: *"Changes in cigarette affordability (rather than the level of cigarette affordability) are expected to drive changes in cigarette consumption over time"*. In Argentina, cigarette affordability and tobacco consumption reduction were observed in: (1) 1999-2002; (2) 2014-2015; (3) 2016.

In the first case (1999-2002), it was mainly caused by the reduction in population income during the economic recession but partly by the tobacco taxation policy: the Additional Emergency Tax (IAE) rate was increased from 7% to 21% in December 1999. However, then the rate was gradually reduced, and from February 2001 it was again 7%.

In 2014-2015, tax rates were not changed, and the main factor of the affordability reduction was the pricing policy of the tobacco industry. As NCI-WHO monograph [76] states: *"Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone."*

³⁶ <https://www.pmi.com/investor-relations/reports-filings>

³⁷ <https://www.baenegocios.com/sociedad/Argentina-fue-premiada-por-reducir-el-tabaquismo-con-impuestos-al-cigarrillo-20180307-0026.html>

³⁸ [https://www.agroindustria.gov.ar/sitio/areas/tabaco/estadisticas/_archivos/000001-Volumen%20de%20Paquetes%20de%20Cigarrillos%20Vendidos%20por%20Rango%20de%20Precio%20\(2004-2018\).pdf](https://www.agroindustria.gov.ar/sitio/areas/tabaco/estadisticas/_archivos/000001-Volumen%20de%20Paquetes%20de%20Cigarrillos%20Vendidos%20por%20Rango%20de%20Precio%20(2004-2018).pdf)

The largest decline in affordability was achieved by the governmental taxation policy implemented in May 2016: the effective excise tax rate was actually increased by about 100%. This excise increase caused the growth in nominal cigarette prices by about 70%, while real prices increased only by 22%. In 2016, cigarette sales decreased by 11.5% (see Table 4); so, real price elasticity was about -0.5. Cigarette price elasticity in Argentina was estimated to be about -0.3 [65, 77]. However, it should be taken into account that real GDP per capita in Argentina decreased in 2016 by 2.8%; so, the population income also decreased. The income elasticity in Argentina was estimated to be about 0.4 [65, 77]. The combined effect of real price growth and real income reduction caused a substantial reduction in tobacco consumption in Argentina in 2016.

Argentina's experience also confirmed that the tobacco consumption can hardly decline if tobacco affordability is not reduced. When cigarettes were getting substantially more affordable (as was seen in 2005-2008), the tobacco consumption even increased. In 2017-2018, cigarette affordability slightly increased, and cigarette consumption did not decline in 2017 and 2018.

Tobacco tax reform

Argentina is a case showing that tobacco tax as a share of the price by itself is not a good indicator of tax policies' effectiveness in reducing the tobacco epidemic [70]. The tax share was about 70% before 2016 and 80% in 2017-2018. Still, it did not help to reduce the tobacco consumption as tax share by itself is not able to reduce tobacco affordability. So, tobacco taxation system should ensure annual reduction of tobacco affordability.

The tobacco tax reform, effective in Argentina from March 2018, has the following main features:

- 1) According to the Law No.27430 of December 29, 2017, the fixed internal tax rate was increased from 60% to 70%. But before this law entered into force, the rate was 75%, and it was effective from May 2016 till March 2018.
- 2) Internal tax rates for tobacco products, other than cigarettes, were increased by 25%, but such rates are still much lower than the tax rate for cigarettes. This could encourage some smokers to switch to these cheaper products instead of quitting smoking.
- 3) Minimum specific excise rate was introduced, and this rate is regularly increased in line with the inflation rate. Such policy is progressive, but local cigarette producers manage to ignore this rate. From July 2018, the minimum specific tax is ARS29.87 per pack of 20 cigarettes. Such tax rate should apply to all cigarettes with prices below ARS55. However, in September 2018, Tabacalera Sarandi declared the price ARS35 for its Red point brand, and another company Espert S.A. declared prices ARS24.1 and ARS28.1 for its brands³⁹. In the past, small local producers managed to survive without paying similar tax (75% of the internal tax for the most popular cigarette brand) through judicial appeals against the regulations that generally had a favorable response [59]. It is likely that the new minimum specific excise rate is also not going to work with the local producers.

The complicated tobacco taxation system in Argentina can be simplified and improved to ensure both the reduction in tobacco consumption and the growth in governmental revenue. The main features of a new taxation system could be the following:

- A. Unified ad valorem excise tax (with the rate 70-75% of the final retail price) is set for all kinds of tobacco products instead of three current excise taxes (INT, IAE, and FET).

³⁹ <https://serviciosweb.afip.gob.ar/genericos/ConsultaCigarrillos/listado.aspx>

- B. Minimum specific excise rates should be set for each main kind of tobacco products. Such specific rate first should be set at the monetary level of the ad valorem excise tax, applied to each main kind of tobacco products with the average weighted price. Then, such specific excise should be annually increased in line with inflation rate + some additional percent, as simple adjustment for inflation is not able to reduce tobacco affordability. The government should have the right to set the size of the additional percent each year.

Such strategic tax reform should be approved by the parliament; however, it may be difficult in the current political situation. Alternatively, the government can use two tactical ways to adopt increased tobacco taxes in order to reduce tobacco consumption and increase governmental revenue:

- 1) Increase the Additional Emergency Tax rate from the current 7% to 21%. In this case, the final retail cigarette price would increase by about 18%.
- 2) Ensure that all cigarette producers and importers pay the minimum specific excise (Internal tax) and increase the minimum specific rate by 25%. The current rate is ARS29.87, and the new rate will be ARS37.34. Such a policy could increase the average cigarette pack price from the current ARS55 to ARS70, or by 27%.

Special Tobacco Fund

The government annually spends 75 million US dollars through the FET tax to support tobacco cultivation in the Northern provinces with subsidies for the purchase of inputs, capital goods, and labor [59]. The FET tax perpetuates a mechanism to maintain a lower price for cigarettes and represents a direct subsidy of the tobacco industry [78]. Such subsidies contradict the World Bank policy. Since 1991, the World Bank's policy has been not to lend, invest in, or guarantee investments or loans for tobacco production, processing, or marketing⁴⁰.

Special Tobacco Funds financially benefits small local tobacco factories, but such support eventually produces numerous problems for the country:

- A. All reports on illicit cigarettes (Euromonitor, KPMG, TNS) demonstrate that most of the illicit cigarettes in Argentina are not smuggled from other countries but produced within the country by small tobacco factories and sold with false tax stamps or other ways of tax evasion. A recent report on illicit trade in sales outlets in Greater Buenos Aires revealed that almost 15% of the tax stamps found on the cheapest brands of the surveyed kiosks were counterfeited compared to 4% on average. For some brands manufactured by small factories, counterfeiting would reach 40% [59]. In September 2016, a production plant of the tobacco company Espert was closed for alleged evasion of \$ 1,000 million in taxes.
- B. Small tobacco factories do not pay minimum specific excise tax. Such a situation has negative consequences from fiscal (the government receives less revenue) and public health (smokers can buy cheap cigarettes instead of quitting smoking for good) points of view.

FET tax creates no economic benefits for the country. In the 2016-2017 harvest year, the tobacco growers sold the grown raw tobacco for ARS3,483 million while the Government distributed ARS7,591 million via FET resources, of which ARS1,200 million were transferred via price, ARS6,159 million for

⁴⁰ The World Bank and Tobacco Control: The Facts. August 20, 2013
<http://www.worldbank.org/en/topic/health/brief/world-bank-and-tobacco-control-the-facts>

projects linked almost entirely to the support of tobacco growing activity, and ARS228 million went to the social work for the tobacco sector [59].

According to a study conducted by the Torcuato Di Tella University, FET funds do not necessarily benefit small producers; rather, they are distributed based on the value of the production each province generates. For example, Salta and Jujuy, which are the major producers, receive two-thirds of the funds. But in these provinces, a few large producers account for most of the tobacco farming, so the FET benefits them, not the small farmers [79].

Tobacco subsidies actually encourage children labor in Argentina. Children who work in tobacco fields in the northwest provinces face serious dangers: with their smaller height, they are forced into more direct contact with harmful pesticides than their adult counterparts⁴¹. José Aranda, from the Tobacco Producers' Cooperative of Salta, claimed that they have "eradicated child labor"⁴², but media report published in 2017 revealed that in Salta and Jujuy provinces, parents continue to use children on tobacco field during the school breaks⁴³. According to the UN's International Labor Organization (ILO) report, the number of children working in tobacco fields in Argentina increased between 2000 and 2013⁴⁴.

Tobacco subsidy locks small farms into the production activities that do not have a sustainable future. According to the FAO database, area harvested for tobacco in Argentina in 2005-2016 decreased by 47% and raw tobacco production – by 41%. Since January 1, 2010, the European Union has not granted any subsidies for raw tobacco production⁴⁵. Instead, the EU supports rural development programs, particularly in tobacco-growing regions. So it is recommended to gradually decrease tobacco subsidies in Argentina and to facilitate farmers' shifting towards more healthy and economically beneficial outputs like fruits and vegetables.

Conclusions

Tobacco tax hike implemented in Argentina in May 2016 was very successful both for the reduction in tobacco consumption and the increase in governmental revenue. However, the current tobacco tax policy is not able to either reduce the tobacco consumption or to increase real tobacco excise revenue.

Tobacco consumption and smoking prevalence in Argentina also decreased due to the implementation of comprehensive tobacco control policies and non-tax factors, which reduced cigarette affordability in the country.

Subsidies for tobacco growers through the governmental Special Tobacco Fund are counterproductive both from public health and economic perspectives.

Tobacco tax increases did not provoke much cigarette smuggling into the country. Most illicit cigarettes are produced within the country.

Recommendations

1. The WHO Framework Convention on Tobacco Control should be ratified by Argentina.

⁴¹ <https://revista.drclas.harvard.edu/book/child-labor-argentina>

⁴² <http://www.argentinaindependent.com/currentaffairs/child-labour-argentina-saving-children-today-tomorrow/>

⁴³ <https://www.cronista.com/especiales/Las-cuentas-pendientes-en-la-lucha-contra-el-trabajo-infantil-20170714-0009.html>

⁴⁴ <https://www.theguardian.com/world/2018/jun/25/revealed-child-labor-rampant-in-tobacco-industry>

⁴⁵ https://ec.europa.eu/agriculture/tobacco_en

2. Tobacco taxation system should be simplified to one excise tax with a unified ad valorem rate for all tobacco products and specific minimum excise rates for each tobacco product. The specific tax rates should be set high enough to prevent the sales of very cheap tobacco products, and these specific rates should be annually increased above the inflation rate to ensure both the reduction of tobacco consumption and the increase of governmental revenue.
3. The money, currently used to support tobacco growing in Argentina should be used for encouraging farmers' transfer to more healthy outputs as well as for rural development programs.
4. The government should implement effective policies to stop excise tax evasion practices of the local tobacco factories, including the production of counterfeit cigarettes and false tobacco stamps.
5. Tobacco use surveillance and monitoring should be further developed in Argentina, including regular surveys with a collection of comprehensive and comparable information on tobacco products consumed in the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Azerbaijan

In 2005, Azerbaijan ratified the WHO Framework Convention on Tobacco Control (WHO FCTC), and the country committed itself to the implementation of the cross-sectoral measures outlined in the Convention to protect people from tobacco use.

The WHO FCTC includes Article 6 entitled “Price and tax measures to reduce the demand for tobacco”. The Parties to the Convention recognize that price and tax measures are an effective and important means of reducing tobacco consumption in various segments of the population, in particular in young people. Each Party should implement tax policies and price policies on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption. In 2014, the Conference of Parties adopted Guidelines for implementation of Article 6 of the WHO FCTC².

The objectives of the paper are:

- Estimate recent trends in tobacco use and tobacco control policies in Azerbaijan;
- Estimate the impact of tobacco taxation policy on tobacco consumption in Azerbaijan between 2005 and 2015.

Sources of data

Data on smoking prevalence, tobacco growing, production, import, export, prices, incomes and other indices were taken from the site of the State Statistics Committee³ in its annual Statistical yearbooks.

Various research, media, and marketing reports were also used to collect additional information.

Tobacco use and prevalence of smoking

Smoking prevalence

Data on smoking prevalence among adults are published by the State Statistics Committee in the annual Statistical yearbooks. The results are presented in Table 1.

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2017.

² Guidelines for implementation of Article 6 of the WHO Framework Convention on Tobacco Control. Geneva: World Health Organization; 2014 (http://www.who.int/fctc/guidelines/adopted/Guidelines_article_6.pdf)

³ The State Statistical Committee of the Republic of Azerbaijan <http://www.stat.gov.az/?lang=en>

Table 1. Smoking prevalence (%) among adults (16 years and older in 2002-2008 and 15 years and older in 2009-2015).

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Male | 41.7 | 39.9 | 41.2 | 37.9 | 38.6 | 38.0 | 38.0 | 36.3 | 36.0 | 35.3 | 35.3 | 36.6 | 35.9 | 35.5 |
| Female | 0.3 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 19.6 | 19.0 | 19.3 | 17.9 | 18.2 | 17.7 | 17.7 | 17.1 | 17.0 | 16.7 | 16.7 | 18.4 | 18.2 | 17.0 |

Source. The State Statistical Committee. Annual Statistical Yearbooks.

Smoking prevalence among men aged 16 years and older decreased from about 41% in 2002-2004 to 38% in 2007. In 2009-2015, smoking prevalence among men aged 15 years and older was rather stable at the level of 35.3-36.6%. In 2009-2015, smoking prevalence among men of different age groups was also rather stable and did not have clear trends: 0.5-0.9% among men aged 15-19 years; 28-35% among men aged 20-44 years; 51-55% among men aged 45-64 years; 36-42% among men aged 65 years and older. Smoking prevalence among women aged 16 years and older decreased from about 0.3% in 2002-2004 to 0.1% in 2007. In 2009-2015, the reported smoking prevalence among women aged 15 years and older was zero. Over all the reported years, an average smoker smoked daily about 16 cigarettes.

According to the Reproductive Health Survey conducted in Azerbaijan in 2001⁴, of 7,668 participating women aged 15-44, only 4% reported ever trying smoking, and 1% had smoked at least 100 cigarettes during their lifetime (i.e., ever smokers), including 0.6% who smoked daily or almost daily during the 30 days preceding the survey (i.e., daily smokers).

*Demographic and Health Survey*⁵ was conducted in Azerbaijan in 2006. It revealed that among men aged 15-59 years old, 49.6% were smokers.

In 2011, Azerbaijan implemented National Survey on Risk Factors for Chronic Noncommunicable Diseases (NCD survey). The sampling frame was all population of Azerbaijan aged 18 years and above with the sample size of 2400. The survey shows that the prevalence of current smoking and daily smoking was overall 22.9% and 21.3% respectively. Overall, 46.1% of men reported daily smoking and additional 3.4% were occasional smokers. Only 0.5% of women reported smoking at the time of the interview. The daily smokers smoked on average 20 cigarettes a day. The prevalence of current smoking was approximately equal in cities and rural areas.

According to published international estimates⁶, age-standardized smoking prevalence in Azerbaijan almost did not change in 1980, 1996, 2006 and 2012 and constituted 43-45% among men and 0.8-0.9% among women.

Company GlobalData UK Ltd reported⁷ that 60% of the male population and 10% of women in Azerbaijan were smokers in 2015, but they do not disclose the source of their data.

⁴ Reproductive Health Survey, Azerbaijan, 2001

http://www.unece.org/fileadmin/DAM/stats/gender/vaw/surveys/Azerbaijan/Azerbaijan_Publication.pdf

⁵ State Statistical Committee (SSC) [Azerbaijan] and Macro International Inc. 2008. *Azerbaijan Demographic and Health Survey 2006*. Calverton, Maryland, USA: State Statistical Committee and Macro International Inc.

⁶ Ng, M., Freeman, M. K., Fleming, T. D., Robinson, M., Dwyer-Lindgren, L., Thomson, B., ... & Murray, C. J. (2014). Smoking prevalence and cigarette consumption in 187 countries, 1980-2012. *Jama*, 311(2), 183-192.

⁷ GlobalData. Cigarettes in Azerbaijan, 2016 <https://www.globaldata.com/store/report/cg0301mr--cigarettes-in-azerbaijan/>

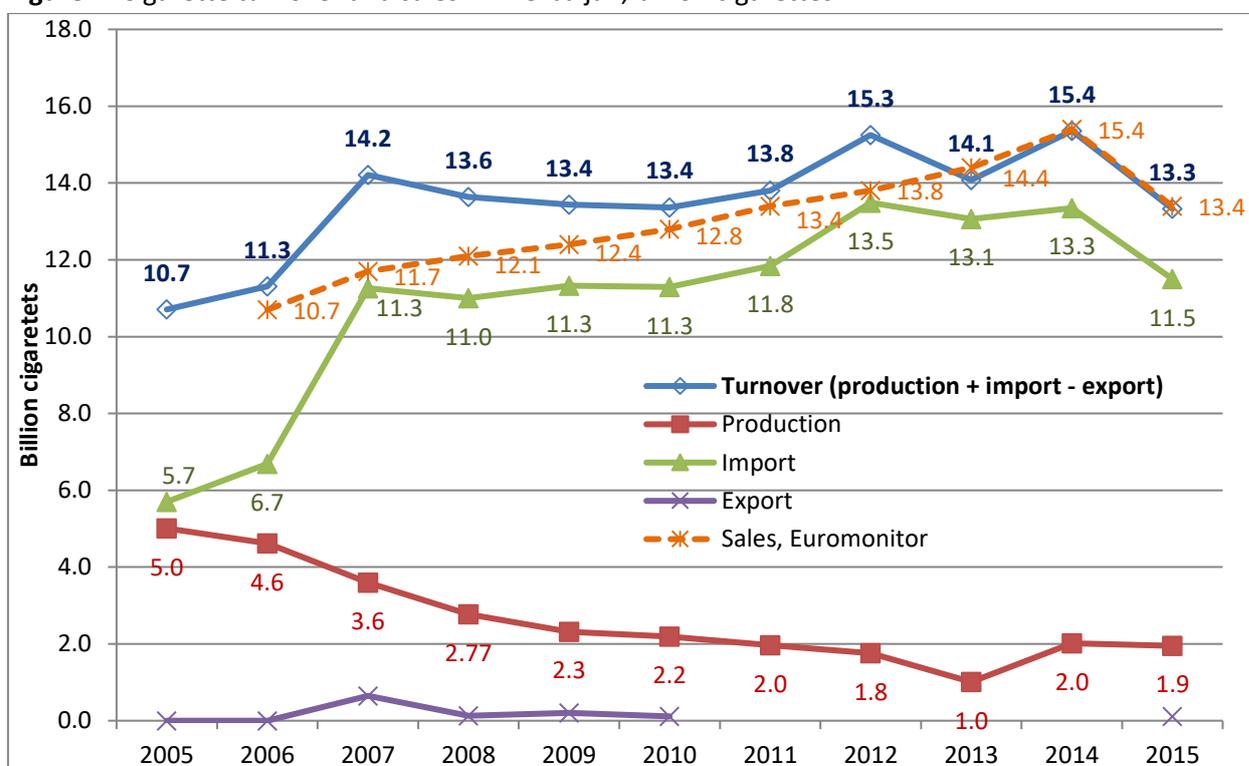
The Global Youth Tobacco Survey (GYTS) was conducted in Azerbaijan in 2011 and 2016 among adolescents aged 13-15 years⁸. In 2016, prevalence of current cigarette smoking (defined as a report by a student that they had smoked cigarettes on at least 1 day in the past 30 days) was 2.9% among all adolescents, 4.6% among male adolescents and 1.0% among female adolescents. GYTS data revealed that current cigarette smoking prevalence among adolescents in Azerbaijan slightly increased from 2.7% in 2011 to 2.9% in 2016.

Overall, we can conclude that smoking prevalence did not change much in Azerbaijan over the last ten years.

Tobacco sales and consumption

Data on cigarette turnover (production + import – export) were taken from the annual Statistics Yearbooks and presented in Figure 1. Euromonitor International estimated^{9 10} cigarette sales in Azerbaijan and these estimates are also presented in Figure 1.

Figure 1. Cigarette turnover and sales in Azerbaijan, billion cigarettes.



Source: The State Statistical Committee data.

The annual cigarette turnover in Azerbaijan increased from about 11 billion cigarettes in 2005-2006 to about 13.5 billion cigarettes in 2008-2011 and about 15 billion cigarettes in 2012-2014 and then in 2015 it decreased to the average level of 2008-2011 – 13.3 billion cigarettes.

Domestic cigarette production substantially decreased in 2005-2011: from 5 billion to 2 billion cigarettes, while cigarette import greatly increased from 5.5 billion in 2005 to 11.3 billion cigarettes in 2007 and consequently the annual import ranged from 11.0 billion to 13.5 billion cigarettes. In 2008-

⁸ https://www.isim.az/upload/File/docs/Azerbaijan_GYTS_2016_Factsheet_EN_FINAL.pdf

⁹ Cigarettes in Azerbaijan. London: Euromonitor International; 2012.

¹⁰ Cigarettes in Azerbaijan. London: Euromonitor International; 2016.

2015, 97 billion cigarettes were imported to Azerbaijan: 59% from Russian Federation; 22.6% from Germany, 17% from Ukraine and 1.4% from other countries.

The number of employees in tobacco factories in Azerbaijan decreased from 1,200 in 2005 to 300 in 2014.

According to the Euromonitor International estimates, cigarette sales had a steady upward trend in 2006-2014 (Figure 1) and overall they increased by 4.7 billion cigarettes or by 44% in eight years. In 2015, cigarette sales declined and they were 13.4 billion cigarettes, very close to their turnover.

According to published international estimates¹¹, annual cigarette consumption in Azerbaijan increased from about 6 billion cigarettes in 1980 and 1996 to 7.2 billion cigarettes in 2006 and 10 billion cigarettes in 2012, or by 39% in eight years.

The increase in cigarette sales is partly caused by the population growth: in 2006-2014 male population increased by 12%. However, the estimated increase in cigarette consumption substantially exceeded the population growth. It could be caused by the following factors: (1) official smoking prevalence estimates underestimate real smoking rates, especially among women; (2) the average number of cigarettes smoked daily could be underestimated as well; (3) some cigarettes could be sold in Azerbaijan, but smoked in other countries, including Turkey and Russia, where cigarette taxes and prices are higher.

Tobacco smuggling

According to the Euromonitor International estimates, illicit cigarette sales in Azerbaijan slightly increased annually from 1.01 billion cigarettes in 2006 to 1.17 billion cigarettes in 2014 and then increased to 1.48 billion cigarettes in 2015.

Japan Tobacco International (JTI) contracted Nielsen to conduct the Empty Pack Survey (EPS) in quarters of 2015¹². The average estimated scale of contraband in Azerbaijan was around 13%, which was more than 1 billion cigarettes. However, the EPS methodology was criticized¹³ as it usually overestimates cigarette smuggling, due to some flaws¹⁴, for example, the EPS are conducted only in urban areas.

Anti-illicit trade program was specifically developed for the State Customs Committee of Azerbaijan by the JTI. JTI invited international experts to deliver training courses on fighting illegal tobacco¹⁵.

On 8 July 2016, the Government of Azerbaijan issued the Decree aimed to decrease tobacco smuggling. of, This Decree specified that the number of cigarettes, which individuals can legally bring to the country without paying taxes and duties, is limited to 600 cigarettes once a month¹⁶.

Head to the Customs Service said that cigarettes are mainly smuggled to Azerbaijan from the neighboring countries: Georgia, Russia, and Iran¹⁷. However, the reported cases revealed some additional issues. For instance, cigarettes smuggled from Georgia were bearing health warnings in

¹¹ Ng, M., Freeman, M. K., Fleming, T. D., Robinson, M., Dwyer-Lindgren, L., Thomson, B., ... & Murray, C. J. (2014). Smoking prevalence and cigarette consumption in 187 countries, 1980-2012. *Jama*, *311*(2), 183-192.

¹² <https://www.azernews.az/business/105716.html>

¹³ Adams, M., & Effertz, T. (2011). [Excise taxes on tobacco and the problem of smuggling - concerning the credibility of the tobacco industry's "Discarded-Cigarette-Packages-Study"]. *Gesundheitswesen*, *73*(10), 705-712.

¹⁴ Rowell, A., Evans-Reeves, K., & Gilmore, A. B. (2014). Tobacco industry manipulation of data on and press coverage of the illicit tobacco trade in the UK. *Tobacco control*, tobaccocontrol-2013.

¹⁵ <https://report.az/en/business/jti-average-scale-of-contraband-of-tobacco-products-in-azerbaijan-around-13/>

¹⁶ <http://www.1news.az/economy/20160713103320966.html>

¹⁷ <http://www.apsny.ge/2016/other/1474516361.php>

English¹⁸, so these were duty-free cigarettes, for which taxes were not paid. Others were cigarettes of such brands as Marlboro¹⁹ and Parliament²⁰, which are not legally imported into Azerbaijan (as well as other brands of Philip Morris International). Cigarettes smuggled from the Russian Federation did not have Russian excise stamps and the seized brand is not legally produced in Russia²¹. So in both cases, smuggling was not caused by tax rate differences between countries.

On the other hand, the Russian customs reported numerous cases of cigarette smuggling from Azerbaijan to Russian Federation²².

Tobacco control legislation

The Law of the Azerbaijan Republic “On tobacco and tobacco products” was adopted in 2001 and entered into force on January 2002²³ and it is rather controversial. The main declared aims were: (1) *cultivation of valuable and high-quality tobacco products to increase exports of tobacco and tobacco products, protection of the domestic tobacco market; and (2) strengthening measures to protect public from the harmful effects of tobacco products.*

Later the Law was amended several times. In January 2017, the President of Azerbaijan signed the amendments to the Law, which prohibits tobacco advertising and sponsorship²⁴.

Health warnings cover 30% of the front and rear principal display areas, but only one text-only health warning is used²⁵.

Smoking cessation services are not available in Azerbaijan.

Health-care and education facilities (including universities) are completely smoke-free in Azerbaijan. The law bans smoking at workplaces, but with the exception of personal offices and specially designated places.

New amendments to the Law “On tobacco and tobacco products” were adopted by the parliament on 14 April 2017 in the first reading and on May 16, 2017 in the second reading. In June 2017, the law was discussed by parliament committees in third reading²⁶, but the final version of the amendments has not yet been adopted as of the end of June 2017.

Tobacco growing

Tobacco growing in Azerbaijan was rather high in Soviet times, but then it declined (Fig. 2).

¹⁸ <http://www.trend.az/azerbaijan/incident/2497625.html>

¹⁹ <http://salamnews.org/ru/news/read/272329>

²⁰ <https://www.radioazadlyg.org/a/28281618.html>

²¹ <http://minval.az/news/12367386>

²² http://sktu.customs.ru/index.php?option=com_content&view=article&id=6218:-----17----&catid=5:2011-10-19-12-30-19

²³ Law on tobacco and tobacco products (unofficial English translation)

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/azerbaijan_2016_annex3_law_on_tobacco_and_tobacco_products_2002.pdf

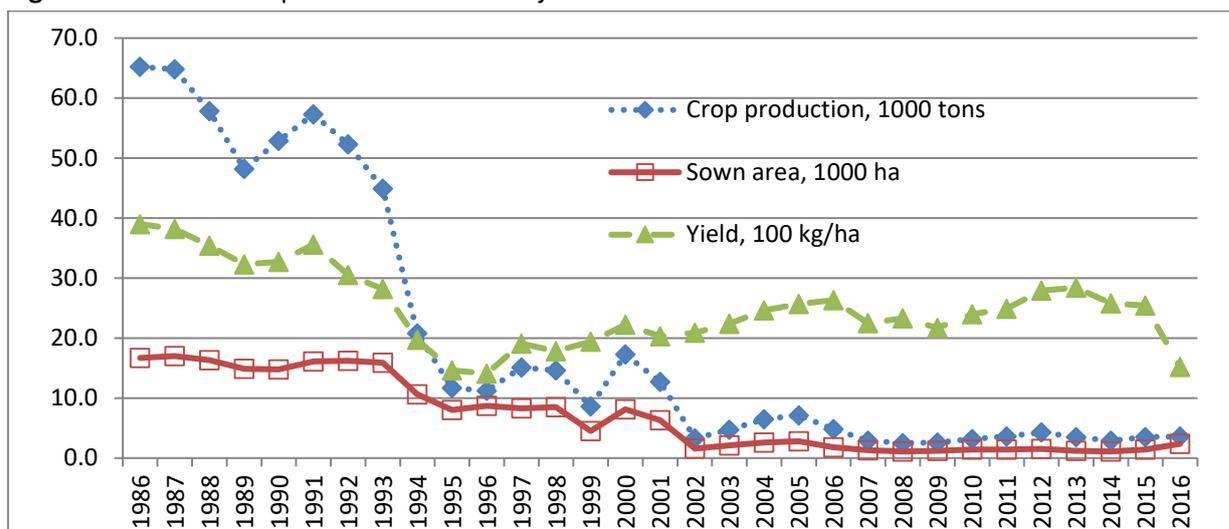
²⁴ Law of 29 November, 2016, No 414-VQD (in Russian) http://base.spinform.ru/show_doc.fwx?rgn=97401

²⁵ Tobacco Control Fact Sheet. Azerbaijan.

http://www.euro.who.int/_data/assets/pdf_file/0009/337428/Tobacco-Control-Fact-Sheet-Azerbaijan.pdf

²⁶ <http://vesti.az/news/333205>

Figure 2. Raw tobacco production in Azerbaijan.



Source: The State Statistical Committee data.

For the last thirty years (1986-2016) the tobacco sown area decreased 7-fold and the crop production reduced 18-fold, as the yield declined from 3.9 tons per hectare in 1986 to 1.5 tons in 2016.

Such situation is typical for all former USSR countries. In Ukraine, in 2009 the raw tobacco production was just 0.4% of the production in 1970²⁷. In Kyrgyzstan, while in 1990, 53 900 tons of tobacco leaves were grown, this amount fell to 4400 tons in 2014²⁸.

A similar trend is observed in most other European countries. Since 1st January 2010, the EU has not granted any specific subsidies for raw tobacco production²⁹. Instead the EU supports rural development programs, particularly in tobacco-growing regions.

Contrary to this common trend the government of Azerbaijan tries to revive tobacco growing in the country. In February 2016, Minister of Economics and Minister of Agriculture met with representatives of the enterprises for tobacco manufacture and processing³⁰. During the meeting, the officials said that measures would be taken to increase the interest of entrepreneurs in tobacco growing and conditions would be created for the expansion of providing farmers with subsidized loans and leasing services. In October 2016, the Presidential order on providing state support to tobacco-growing development was issued³¹.

AZN 0.05 is to be paid in subsidy to the tobacco manufacturers for each 1 kg of dry tobacco and 10 kg of wet tobacco sold to the processing enterprises. In June 2017, the Ministry of Economy of Azerbaijan reported³² that subsidized loans are given to entrepreneurs through the National Entrepreneurship

²⁷ Krasovsky, K., Andreeva, T., Grygorenko, A., Polishchuk, M., Skipalsky, A., & Stoyka, O. (2014). Tobacco Control in Ukraine. Second National Report.–Kyiv: Ministry of Health of Ukraine.–2014.–128 p. Retrieved from http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/annex2_tobacco_control_in_ukraine_second_national_report_ex_sum_0.pdf

²⁸ Krasovsky K. Tobacco taxation policy in Kyrgyzstan. Copenhagen: WHO Regional Office for Europe; 2015 (http://www.euro.who.int/data/assets/pdf_file/0006/293640/Tobacco-taxation-policy-Kyrgyzstan-en.pdf)

²⁹ https://ec.europa.eu/agriculture/tobacco_en

³⁰ <http://abc.az/eng/news/94028.html>

³¹ <http://en.apa.az/azerbaijan-economy/agrarian-industry/azerbaijan-subsidizes-tobacco-manufacturers.html>

³² <http://abc.az/eng/news/104232.html>

Support Fund for the development of the industry. The Fund has given subsidized loans of more than AZN 2 million to about 80 entrepreneurs for growing tobacco.

Such subsidies contradict the World Bank policy. Since 1991, the World Bank’s policy has been not to lend, invest in, or guarantee investments or loans for tobacco production, processing, or marketing³³.

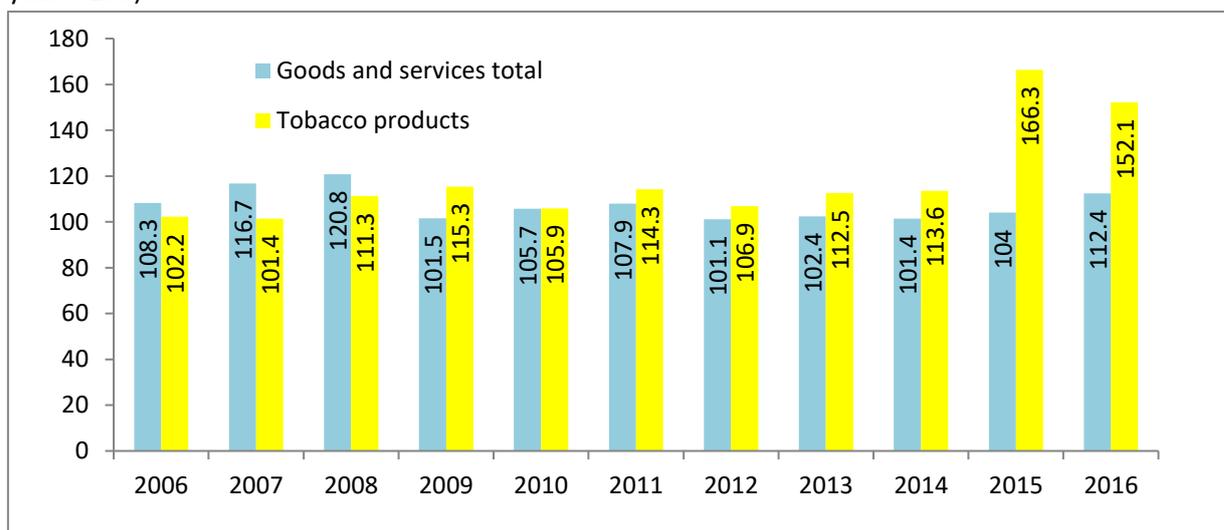
The governmental subsidies to tobacco growers mean that public money is used to make raw tobacco cheaper. Eventually, this policy is expected to encourage tobacco consumption by reducing cigarette prices.

Cigarette prices

Cigarette consumer price growth was above inflation since 2009 (Figure 2). However, only in 2015 and 2016 consumer price index (CPI) for cigarettes substantially exceeded CPI for all items.

Average price for a pack of 20 filter cigarettes increased from 0.5 AZN in 2006 to 0.99 AZN in 2013, 1.21 AZN in 2014, 1.55 AZN in 2015 and 2.2 AZN in 2016.

Figure 2. Consumer price indices for all goods and services in total and for tobacco products (previous year = 100)

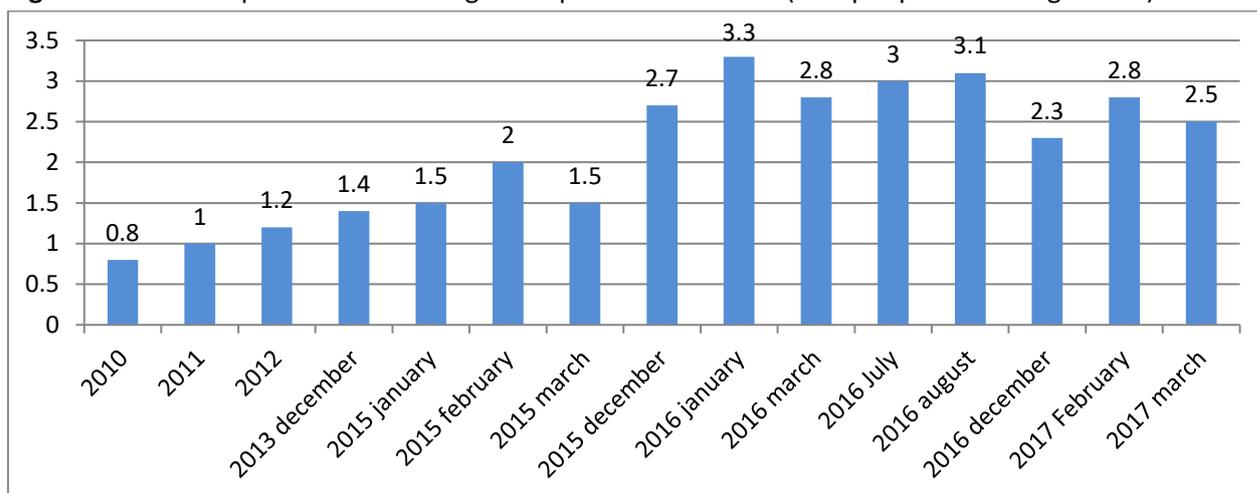


Source: The State Statistical Committee data.

However, the cigarette price growth in 2015-2016 was mainly caused by the national currency devaluation and the introduction of some administrative provisions and was rather inconsistent. The price inconsistency is illustrated with the graph of retail prices for a pack of Winston cigarettes (Figure 3) according to media and other reports.

³³ The World Bank and Tobacco Control: The Facts. August 20, 2013
<http://www.worldbank.org/en/topic/health/brief/world-bank-and-tobacco-control-the-facts>

Figure 3. The retail price of Winston cigarette pack in 2010-2017 (AZN per pack of 20 cigarettes).



Tobacco affordability

The Guidelines for implementation of Article 6 of the WHO FCTC recommend: “When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”. In the Guidelines, “affordability” means price relative to per capita income.

In the current analysis, a modified tobacco affordability index (TAI)³⁴ is used to estimate the changes in tobacco affordability in 2005–2015. TAI is calculated as the percentage annual change in the disposable income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. Calculations of TAI in Azerbaijan are presented in Table 2.

Table 2. Tobacco affordability in 2006-2015

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------------------------------------|-------------|-------------|-------------|-------------|------------|------------|------------|------------|-------------|--------------|
| Income (AZN, per capita per month) | 74.4 | 88.1 | 108.9 | 125 | 144.2 | 166 | 190.9 | 214.7 | 230 | 240.5 |
| Income change (previous year =100) | 147.6 | 118.4 | 123.6 | 114.8 | 115.4 | 115.1 | 115.0 | 112.5 | 107.1 | 104.6 |
| CPI tobacco (previous year =100) | 102.2 | 101.4 | 111.3 | 115.3 | 105.9 | 114.3 | 106.9 | 112.5 | 113.6 | 166.3 |
| Tobacco Affordability Index | 44.4 | 16.8 | 11.1 | -0.4 | 8.9 | 0.7 | 7.6 | 0.0 | -5.7 | -37.1 |

Source: The State Statistical Committee data.

In 2006-2012, tobacco became more affordable and it could cause the observed increase in cigarette sales (see Figure 1). In 2014 and especially in 2015 tobacco affordability greatly declined and it could cause a decrease in tobacco sales in 2015.

Tobacco taxation

In 2005-2014, excise rates for domestic and imported cigarettes were different.

Imported cigarettes. From November 2005 according to the Governmental Order N 209,³⁵ the excise rate for 1000 imported cigarettes, cigars or cigarillos was 1.8 US dollars. However, with the change of

³⁴ Krasovsky K. Tobacco taxation policy in three Baltic countries after the EU accession. Tobacco Control and Public Health in Eastern Europe 2012;2(2):81–98.

³⁵ <http://www.az-customs.net/rus/209-151105.htm>

the official currency exchange rates the actual excise decreased from 1.55 AZN in 2006 to 1.4 AZN in 2012. In January 2015, by the Governmental Order N 17, the excise rate was changed to 4 AZN per 1000 cigarettes (or from 0.028 to 0.08 AZN per pack of 20 cigarettes) and to 10 AZN per 1000 cigars or cigarillos. While it looked like huge (by 185%) increase in excise rate, in monetary terms, the excise per pack of cigarettes increased only by 0.052 AZN. Such growth of the excise rate (taking into account the VAT) could increase the average cigarette retail price only by 5%. However, the effect of excise rate change occurred to be even smaller due to the national currency devaluation in 2015-2016, as with new exchange rates the old excise would be much higher.

Domestic cigarettes. According to the Article 190.3.8 of the Tax Code, excise tax for domestic cigarettes was 12.5% of their price until January 2015. By the Law No 1167 of 30.12.2014³⁶ from 11 January 2015 the excise for domestic cigarettes was changed from ad valorem (12.5%) to specific one: 4 AZN per 1000 cigarettes. Actually, it meant that excise tax increased only for cigarettes with a price below 0.64 AZN per pack of 20 cigarettes, while the average price in 2014 was 1.21 AZN per pack of filter cigarettes. So the excise tax for most domestic cigarette brands was actually reduced.

In the middle of 2017, the excise rate for both imported and domestic cigarettes was 4 AZN (=2.4 USD) per 1000 cigarettes or 0.08 AZN (=0.048 USD) per pack of 20 cigarettes.

In addition to excise tax, an import duty is paid for imported cigarettes³⁷: 0.5 USD per 1000 cigarettes (or 0.01 USD per pack of 20 cigarettes).

The value-added tax (VAT) rate in Azerbaijan was 18% in all years under consideration.

Comparison of cigarette prices and taxes with neighboring countries

Comparative data on cigarette prices and taxes in Azerbaijan and neighboring countries are presented in Table 3. In June 2017, cigarette prices for similar brands in Azerbaijan were lower than in Russia but higher than in Georgia and Armenia. However, this difference is not caused by high excise taxes in Azerbaijan. In monetary terms, cigarette excise rates in Azerbaijan are 5-17 times lower than in the neighboring countries. The excise share in the final retail price in Azerbaijan is only 4-10%, while in Armenia, Georgia, and Russia it ranges from 28% to 70%.

³⁶ <http://www.taxes.gov.az/modul.php?name=qanun&news=1063>

³⁷ <http://www.az-customs.net/en/G24.htm>

Table 3. Cigarette prices and taxes in Azerbaijan, Georgia, Russia, Iran and Armenia in June 2017

| | Price per pack of 20 cigarettes | | Excise per pack of 20 cigarettes | | | | Im- port duty | Total excise + duty | Excise + duty | VAT | Total tax | Net- of-tax price | Exchang e rate LC to USD |
|--|---------------------------------|------|----------------------------------|-------|------------|------|---------------------|---------------------------|------------------------|------------------------|------------------------|-------------------------|--------------------------------|
| | LC* | USD | specific | | ad valorem | | | | | | | | |
| | | | LC | USD | % | USD | | | | | | | |
| | LC* | USD | LC | USD | % | USD | USD | USD | % in final price | % in final price | % in final price | USD | |
| Azerbaijan | | | | | | | | | | | | | |
| Winston Blue | 2,5 | 1,50 | 0,08 | 0,048 | 0 | 0 | 0,01 | 0,058 | 3,87 | 15,3 | 19,12 | 1,21 | 0,6 |
| Azeri (non-filter) | 0,8 | 0,48 | 0,08 | 0,048 | 0 | 0 | 0 | 0,048 | 10,00 | 15,3 | 25,25 | 0,36 | 0,6 |
| Georgia | | | | | | | | | | | | | |
| Winston Blue | 3 | 1,25 | 1,7 | 0,71 | 10 | 0,12 | 0 | 0,83 | 66,67 | 15,3 | 81,92 | 0,23 | 0,416 |
| Astra Blue (non-filter) | 1 | 0,42 | 0,6 | 0,25 | 10 | 0,04 | 0 | 0,29 | 70,00 | 15,3 | 85,25 | 0,06 | 0,416 |
| Russia | | | | | | | | | | | | | |
| Winston Blue | 120 | 2,02 | 31,24 | 0,52 | 14,5 | 0,29 | 0 | 0,82 | 40,53 | 15,3 | 55,79 | 0,89 | 0,0168 |
| Prima (non-filter) | 70 | 1,18 | 42,46 | 0,71 | | | | 0,71 | 60,66 | 15,3 | 75,91 | 0,28 | 0,0168 |
| Iran | | | | | | | | | | | | | |
| Imported cigarettes | 65000 | 1,95 | 0 | 0 | 40 | 0,78 | 0 | 0,78 | 40,00 | 0 | 40,00 | 1,17 | 0,00003 |
| Domestically produced cigarettes with foreign brand name | 30000 | 0,9 | 0 | 0 | 25 | 0,23 | 0 | 0,23 | 25,00 | 0 | 25,00 | 0,68 | 0,00003 |
| Armenia | | | | | | | | | | | | | |
| Winston Blue | 450 | 0,94 | 126,4 | 0,26 | 0 | 0 | 0 | 0,26 | 28,09 | 16,7 | 44,76 | 0,52 | 0,00208 |
| Garni | 300 | 0,62 | 126,4 | 0,26 | 0 | 0 | 0 | 0,26 | 42,13 | 16,7 | 58,80 | 0,26 | 0,00208 |

LC* – local currency

High cigarette prices in Azerbaijan are caused by very high net-of-tax cigarette prices (see Table 3). In 2015, Azerbaijan imported 11,523 billion cigarettes with total value 287 million US dollars. So the average price of imported pack of 20 cigarettes was 0.5 USD. The net-of-tax price is much higher, so some cigarette wholesalers and retailers substantially increase the retail price.

Discussion

Tobacco smoking prevalence in Azerbaijan was rather stable in 2007-2015, while tobacco consumption was slowly increasing over those years as tobacco product became more affordable. Substantial decline in cigarette sales was observed only in 2015, as cigarette affordability substantially reduced that year.

However, the affordability reduction was caused not by the governmental taxation policy. Change of the tobacco excise system in 2015 actually decreased excise rates for domestic cigarettes. Excise for imported cigarettes was increased only by 0.052 AZN per pack of 20 cigarettes, while the average price in 2014 was 1.21 AZN per pack. Such changes in excise burden had minimal impact on cigarette prices and could not reduce tobacco affordability.

The main factor of the cigarette affordability reduction in 2015 was the national currency devaluation and pricing policy of tobacco industry (importers, wholesalers, and producers). In Azerbaijan, the industry (net-of-tax) part of cigarette price is much higher than in neighboring countries and so retail cigarette prices can be higher than in those countries, while excise burden in Azerbaijan is much lower.

However, the tobacco industry tries to present that the tobacco excise reform of 2015 was the main factor of cigarettes sales decline in 2015. The GlobalData company published the report "Cigarettes in

*Azerbaijan, 2017*³⁸, where it claimed that “cigarette sales volumes collapsed 54.9% in 2015 as a consequence of a hike in excise duty”. Cigarette sales in 2015 did decrease, but only by 14% (see Fig. 1), and the “excise hike” was too small to cause even such moderate decline.

Tobacco industry tries to exaggerate the problem of cigarette smuggling into Azerbaijan to create an impression that tobacco taxes should not be increased, as smuggling is already very high. However, cigarette smuggling into Azerbaijan is not caused by differences in tax rates, as tobacco excise burden in Azerbaijan is much lower. Relatively high cigarettes prices in Azerbaijan are mainly determined by the pricing policy of the tobacco industry. However, in 2016-2017 cigarettes in Azerbaijan were cheaper than in Russia, so numerous cases of cigarette smuggling from Azerbaijan to Russia were registered.

In January 2017, cigarette taxes were substantially increased in Iran³⁹, Russia, Armenia, and Georgia, while in Azerbaijan the excise rates were not changed from January 2015.

Azerbaijan has a high potential for the tobacco excise tax increase. For example, if the current excise rates are increased five-fold: from 4 AZN to 20 AZN per 1000 cigarettes, the new rates will be still lower than excise burden in Armenia or excise burden for non-filter cigarettes in Georgia (see Table 3). The excise burden for a pack of cigarettes will increase from 0.08 AZN to 0.4 AZN or by 0.32 AZN. Taking into account VAT, cigarette price should increase by 0.37 AZN. In 2016, average cigarette price was 2.2 AZN. With new excise tax, it will increase to 2.6 AZN or by 18%, provided that the industry does not change net-of-tax part of the price. If we assume that the price elasticity in Azerbaijan is -0.5 (while in post-Soviet countries it usually has lower absolute levels), cigarette sales will decline by 9%. Such change in excise rate will increase the governmental tobacco excise revenue about 4.5-fold: = 5 (excise increase)* (100 – 9) (cigarette sales).

Conclusions

1. Tobacco control policies implemented in Azerbaijan in 2006-2015 did not decrease tobacco smoking prevalence in the country.
2. Tobacco products became more affordable in 2006-2013 and their consumption in Azerbaijan increased. In 2014-2015, tobacco affordability reduced, but this was caused not by the governmental tobacco taxation policy, but by the pricing policy of the tobacco industry. However, this affordability reduction caused the decline in tobacco consumption and demonstrated the potential to reduce the tobacco consumption which the tobacco tax increase undertaken in line with the FCTC provisions might have.
3. In 2017, tobacco excises in Azerbaijan were much lower compared with all neighboring countries both in monetary terms and as a percentage of final retail prices. Substantial increase in tobacco excise rates is able to both reduce tobacco consumption and increase the governmental revenues.

³⁸ GlobalData. *Cigarettes in Azerbaijan, 2017* <https://www.globaldata.com/store/report/gdcdg0330mr--cigarettes-in-azerbaijan-2017/>

³⁹ <https://financialtribune.com/articles/economy-domestic-economy/57432/new-tax-rates-for-tobacco-cigarettes>

World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Bangladesh

Tobacco use

Bangladesh is one of the largest tobacco-consuming countries in the world, where an estimated 46.3 million adults are users of a variety of smoked (e.g., cigarettes, bidis) and/or smokeless (e.g., betel quid with tobacco, gul, sada pata, khaini) tobacco products [1].

Tobacco use among adults

Smoking prevalence in Bangladesh has been assessed infrequently since the mid-1990s; while survey methods and samples varied across surveys and over time, these surveys suggest that smoking prevalence has been relatively flat (40-45%) among men for the past 17 years, while declining somewhat among women (from 4% to 1.5%) [1].

Three annual urban and rural cross-sectional surveys, which were carried out between 2001 and 2003, found that overall prevalence of smoking, chewing tobacco and gul usage were 20.5%, 20.6%, and 1.8%, respectively. Current smoking and gul usage were significantly higher in males (42.2% and 2.2%, respectively) than females (2.3% and 1.5%, respectively) while chewing tobacco was more common in females (21.6%) than males (19.4%). No significant urban-rural difference was observed in smoking rate after adjusting for sociodemographic variables while chewing tobacco was 1.5 times more likely to occur in rural residents and gul usage was 3.6 times more likely to occur in urban residents. On average a smoker consumed 9.3 sticks a day with males and rural residents smoking more [2].

The national survey conducted in 2004 revealed that 41% of men and 1.8% of women (aged 15+) smoked tobacco products, while 14.8% of men and 24.4% of women used smokeless tobacco; 36.8% of adults (aged 15 years and older) used some form of tobacco².

In 2006, Urban Health Survey [3] attracted attention to the socioeconomic disparities in tobacco use: with the overall smoking prevalence among men being 53.6%, the study found the significantly higher prevalence of smoking among men in slums (59.8%) than non-slums (46.4%). Respondents living in slums significantly more likely confirmed that they smoke cigarettes (53.3%) as compared to those living in non-slums (44.6%). A similar pattern was found for bidis (slums = 11.4% and non-slums = 3.2%).

Several waves of Demographics and Health Survey were conducted in Bangladesh but data on tobacco use was collected only in 2007 [4]. The report documents a high prevalence of tobacco use among Bangladeshi men: 60 percent were smokers of cigarettes and 20 percent consumed other forms of tobacco. Use of tobacco was more common among older men, those living in rural areas, men with no education, and men in the lowest wealth quintile. Regional variations were notable as well. One-fourth

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.
²

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/Bangladesh_annex2_prevalence.pdf

of men who smoked reported consuming more than 10 cigarettes in the previous 24 hours. Although rural men were more likely to smoke cigarettes than urban men, urban smokers tended to smoke more cigarettes per day than their rural counterparts. In this survey, women were not asked about tobacco use [5].

In 2009, the Global Adult Tobacco Survey Bangladesh (GATS Bangladesh) [6-11] found that 43.3% of adults (aged 15 years and older) used some form of tobacco, with a higher prevalence of tobacco use among males (58.0%) than females (28.7%). Estimates from GATS Bangladesh showed that 23.0% of adults used smoked tobacco and that 27.2% of adults used smokeless tobacco. Findings also showed that while the prevalence of smoked tobacco use was much higher among males (44.7%) than females (1.5%), the prevalence of smokeless tobacco use was similar among males (26.4%) and females (27.9%). Overall, the prevalence of both smoked and smokeless tobacco use was higher in rural areas than in urban areas.

Bangladesh was found to differ from other countries of the region with regard to the pattern of smokeless tobacco use which is more prevalent among women than among men [13]. In 2011, a survey specifically aimed to consider smokeless tobacco use among women [14] found that among adult rural women with a history of at least one pregnancy, the prevalence of 'current consumption', 'ever consumption but not current', and 'never consumption' was 25%, 44%, and 31%, respectively. Current consumption was associated with being over 25 years of age, a lower level of education, being an income earner, being Muslim, and being divorced, separated or widowed.

Nation-wide STEPS surveys covering people aged 25 years and older among both rural and urban populations in Bangladesh, was conducted in 2002 [15], 2010 [16, 17] and 2013 [18]. Subnational surveys with STEPS methodology were also conducted, e.g. in 2005 [12].

As regards age distribution of tobacco use [17], its prevalence was the lowest in the youngest age groups and increased with age. Among women, this was true regarding both smoking (which increased from 0.4% among those aged 25-34 to 6.2% among women aged 65+) and smokeless tobacco use (which increased from 16.4% among the youngest group to 62.9% among the oldest). Among men, smokeless tobacco use also steadily increased with age from 18.3% to 40.9%. However, the prevalence of smoking among men was above 50% in all age groups between 25 and 64 years old. Only those aged above 65 years had a prevalence of smoking below 40%. This pattern probably means that the population of Bangladesh is experiencing three tobacco use epidemics -- two traditional (bidi smoking and smokeless tobacco use which are more widespread among older population groups) and one new epidemic of manufactured cigarettes smoking which predominantly overwhelms young and middle-aged men.

Table 1. Tobacco use in Bangladesh among adults

| Year | 2002 | 2004 | 2009 | 2010 | 2013 |
|------------------------------------|------------------|-----------------------------|---------------|------------------|------------------|
| Survey (age groups) | STEPS (25-64) | Health cost study (15 +) | GATS (15+) | STEPS (25-64) | STEPS (25-64) |
| Current smoking prevalence | 21,8 | 20,9 | 23,0 | 26,2 | 20,3 |
| men | | 41 | 44,7 | 54,8 | 39,9 |
| women | | 1,8 | 1,5 | 1,3 | 3,5 |
| Smokeless tobacco use | | 19,7 | 27,2 | 31,7 | 28,7 |
| men | | 14,8 | 26,4 | 29,4 | 28,5 |
| women | | 24,4 | 27,9 | 33,6 | 29,5 |
| Use of any tobacco products | | 36,8 | 43,3 | 51,0 | 45,8 |
| men | | 48,6 | 58,0 | 70,0 | 58 |
| women | | 25,4 | 28,7 | 34,4 | 32 |

MM Zaman from the WHO Bangladesh conducted an analysis of tobacco use trends bringing together all the national level studies conducted in 2004-2013³. Although the studies varied in age groups, his analysis was based on the subjects aged 25 years or older. He concluded that in 2004-2009 tobacco use prevalence slightly increased, and then declined in 2009-2013. This decline was primarily caused by the declining trend in smoking. However, the smokeless tobacco use was on the rise. Similar conclusion regarding smokeless tobacco use was made regarding Bangladeshi men in a study which analyzed the trends of tobacco use [19].

Using data of over 90,000 individuals drawn from over 30,000 households from two waves of the International Tobacco Control (ITC) Bangladesh Project conducted in 2009 and 2012, estimates were obtained for the prevalence of use of all tobacco products by socioeconomic groups [20]. Between 2009 and 2012, overall tobacco use went down from 42.4% to 36.3%. The decline is more pronounced with respect to smokeless tobacco use than smoking. The prevalence of exclusive cigarette smoking went up from 7.2% to 10.6%; while smoking both cigarette and bidi went down from 4.6% to 1.8%.

In terms of the number of tobacco users, it appears that the market for exclusive cigarette use expanded significantly with 4.15 million additional smokers in three years' time. At the average consumption of 9.3 cigarettes per day per smoker (ITC Wave 3 Survey), this increase in the number of cigarette smokers means additional consumption of 4.7 billion cigarettes a year. On the other hand, the number of dual smokers and mixed tobacco users went down. The average daily consumption of cigarettes for dual smokers (who also smoke bidis) is lower than that for the exclusive cigarettes smokers (5.7 cigarettes per day), while the average daily consumption of cigarettes among mixed smokers (who also use smokeless tobacco) is equal (9.3 cigarettes per day). Thus, the decline of cigarette consumption from the reduction of 2.7 million dual smokers and 3 million mixed tobacco users is expected to be 5.34 billion pieces, which more than offsets the increase in cigarette consumption from the growth in exclusive cigarette use. In other words, the net cigarette consumption decreased over 2009–2012 [20].

Exclusive bidi smoking remained stable at around 2%. However, total bidi smoking prevalence (including mixed use) decreased from 6.6% to 3.7%.

³ <http://www.dhakacourier.com.bd/is-tobacco-use-declining-in-bangladesh/>

Exclusive smokeless tobacco use went down from 20.2% to 16.9%, and both smokeless tobacco use and smoking went down from 8.4% to 5.1%. This might mean that the trend has changed compared to the results of earlier conducted surveys which showed the upward change in smokeless tobacco use.

In general, the prevalence of tobacco use is higher among men, increases from younger to older age groups, and is higher among poorer people. Smoking prevalence is the highest among the slum population, followed by the tribal population, the national population, and the border area population, suggesting the greater burden of tobacco use among the disadvantaged groups.

The overall decline in tobacco use prevalence can, therefore, be viewed as a structural shift in the tobacco market in Bangladesh from cheap products such as bidi and smokeless tobacco to more expensive cigarettes, which is expected with the growth in income and purchasing power of the general population.

Tobacco use among adolescents and young people

Global Youth tobacco survey was conducted in Bangladesh in 2004 [21] in Dhaka; in 2007 [10] and in 2013 [22] surveys were conducted at the national level. While the use of manufactured cigarettes was rather low among adolescents and especially girls, many more of them reported using other tobacco products, and this rate among boys increased significantly between 2004 and 2007 (Table 2).

Table 2. Tobacco use among adolescents

| | | 2004 [21] | 2007 [23] | 2013 [22] |
|---|-------|-----------------|-------------------|---------------|
| Current smokers of cigarettes (%) | Total | 1.8 (1.2 - 2.8) | 3.0 (1.6 - 5.4) | 2.1 (0.9–4.9) |
| | Boys | 2.3 (1.4 - 3.9) | 4.6 (2.8 - 7.5) | 3.4 (1.5–7.1) |
| | Girls | 0.0 | 1.1 (0.4 - 2.9) | 0.0 |
| Current users of other tobacco products (%) | Total | 4.0 (3.1 - 5.2) | 6.5 (4.9 - 8.6) | |
| | Boys | 3.6 (2.5 - 5.0) | 7.3 (5.2 - 10.1)* | |
| | Girls | 4.7 (3.4 - 6.4) | 4.7 (2.8 - 7.8) | |

Several waves of Global health professions students survey (see Table 3) were conducted in Bangladesh [23]. While groups surveyed in separate years were not the same, the results allow concluding that smoking of manufactured cigarettes is much higher among male students and constitutes 35-50%. Among female students, the prevalence of smoking is much lower than among men and differs dramatically between various groups from less than 1% among nursing female students in 2008 to about 10% among dental and pharmacy female students in 2009. While dental female students showed a significant increase in current cigarette smoking between 2005 and 2009 from 3% to 8%, other specialties were either surveyed just once or did not reveal significant changes in the prevalence of smoking.

With regard to other tobacco products, GHPSS gives quite a mosaic picture which probably reflects different levels of tobacco use in various socio-demographic groups of Bangladesh society. For some specialties, the tobacco use does not differ between men and women, for others (e.g. nursing students) many more male students use 'other tobacco' than female students. For some groups (dental students), the prevalence increased dramatically over time while it did not change in other groups (medical students).

Table 3. Prevalence of cigarette smoking and other tobacco use among health professions students in Bangladesh

| | Indicator | Specialty | 2005 | 2006 | 2008 | 2009 |
|---------|---------------------------------------|-----------|-----------------------|-----------------------|-----------------------|-----------------------|
| Males | Currently Smoked Cigarettes | Dental | 46.7 (39.0 - 54.7) | | | 41.0 (37.7 - 44.4) |
| | | Medical | | 46.5 (37.6 - 55.6) | | 37.3 (21.6 - 56.3) |
| | | Nursing | | | 49.5 (45.6 - 53.5) | |
| | | Pharmacy | | | | 36.2 (28.1 - 45.2) |
| | Currently Used Other Tobacco Products | Dental | 7.8 (4.6 - 13.1) | | | 17.9 (15.6 - 20.5) |
| | | Medical | | 13.3 (3.7 - 38.2) | | 13.1 (8.5 - 19.6) |
| | | Nursing | | | 26.4 (23.1 - 29.9) | |
| | | Pharmacy | | | | 21.1 (11.9 - 34.8) |
| Females | Currently Smoked Cigarettes | Dental | 3.3 (1.6 - 6.7) | | | 8.2 (6.9 - 9.8)* |
| | | Medical | | 4.4 (1.2 - 14.1) | | 1.5 (0.5 - 5.0) |
| | | Nursing | | | 0.3 (0.2 - 0.5) | |
| | | Pharmacy | | | | 9.8 (5.4 - 17.2) |
| | Currently Used Other Tobacco Products | Dental | 0.9 (0.2 - 3.8) | | | 17.8 (15.9 - 19.9) |
| | | Medical | | 9.9 (4.6 - 20.0) | | 7.0 (3.2 - 14.8) |
| | | Nursing | | | 6.5 (6.0 - 7.1) | |
| | | Pharmacy | | | | 13.9 (7.3 - 24.9) |

Tobacco growing

While widely grown, tobacco is a relatively minor crop in overall agriculture in Bangladesh. In 2010, the acreage devoted to tobacco growing accounted for only 0.25% of acreage for all crop production and, in 2009, the monetary value of the tobacco grown was only 0.22% of the value of all agricultural production.

The acreage devoted to tobacco growing in Bangladesh has been falling steadily for most of the past three decades, before rising sharply in 2010. According to the Statistical Yearbooks⁴ in 2000-2009, tobacco acreage area was rather stable (about 75,000 hectares) before rising in 2010. In 2011-2016, the area was around 120,000 hectares. Tobacco leaf production increased from about 40,000 tons in 2000-2009 to about 80-90 thousand tons in 2011-2016.

⁴ <http://www.bbs.gov.bd/site/page/29855dc1-f2b4-4dc0-9073-f692361112da/Statistical-Yearbook>

Over recent years, however, tobacco leaf exports have grown much more rapidly, the result of a 10% incentive on exports provided by the government as part of an export diversification program begun in 2003. Much of the recent rise in the quantity of tobacco grown in Bangladesh is accounted for by these increased exports, with the share of exported tobacco rising from about 2.5% in 2000 to nearly 34% in 2009. In 2008, the export incentive was eliminated. In the 2010/11 budget, the government imposed a 10% duty on tobacco leaf exports in an effort to discourage tobacco growing. In 2017, the government imposed 25% export duty on tobacco aiming to discourage their production and consumption as the items are injurious to health⁵.

The Bangladesh Bureau of Statistics estimated that in 2005/06, 5,893 persons were employed in cigarette manufacturing and 115,500 persons were employed in tobacco growing, about 0.3% of the agricultural labor force. While the recent rise in tobacco growing in Bangladesh was likely to have increased the number of tobacco farmers in the country, the overall share of agricultural employment in tobacco growing is likely to be less than 0.5%.

Cigarette and bidi manufacturing

Cigarette manufacturing is highly concentrated in Bangladesh, while bidi manufacturing is much more fragmented.

Cigarette production

Cigarette markets are dominated by two firms—British American Tobacco Bangladesh (BATB) and the domestic Dhaka Tobacco Industries (DTI), a part of the Akij Group. BATB brands accounted for almost 46% of cigarette consumption in 2010. DTI's share of the cigarette market was around 40% over recent years. There are several other smaller domestic cigarette companies operating in Bangladesh. Together, they account for 10-15% of the Bangladeshi cigarette market. Imports account for less than 1% of cigarette consumption in Bangladesh. Similarly, cigarette exports are minimal, accounting for less than 1% of production in most years.

Star (BATB) and Sheikh (DTI) are the two most popular cigarette brands, followed by Navy (DTI), Gold Leaf (BATB), and Marise (AKTC). Together, the top 5 brands account for over 75% of cigarette consumption. In 2010 over half of cigarette consumption was of inexpensive brands and about 30% was of mid-priced brands. Premium brand cigarettes are typically sold in packs of 20, while discount brands are often sold in 10-cigarette packs so as to keep pack prices more affordable.

Bidi production

Bidi production is much more fragmented than cigarette manufacturing. The top four firms account for a little less than 50% of the market, and, according to the 2001/03 Economic Census, there were a total of 9,624 bidi manufacturers, with over 96% of these being household-based.

The 2001/03 Economic Census estimated that 45,272 people were employed in bidi manufacturing. About two-thirds of employment in bidi manufacturing was in the formal sector and one-third was related to household-based establishments. Women are more likely to be employed in producing bidis in the formal sector, and about 65% of those employed in household-based bidi manufacturing are women. Wages for bidi workers are very low, most bidi workers live in poverty, and many children are also involved as unpaid assistants in household bidi production [24].

⁵ <http://www.dhakatribune.com/business/economy/2017/06/01/govt-impose-surcharge-tobacco/>

A recent study conducted by the Tobacco Industry Watch BD team and widely covered by the media^{6 7} found mismatches in numbers of bidi factories and workers in Bangladesh. According to the study, there were 117 bidi factories in Bangladesh, employing around 65,000 workers who produced 48.65 billion sticks annually. Some 60 to 65 percent of the bidi workers are children aged between four and 14 years, although child labor is banned in the country by law. Most of the children were malnourished (their actual age could not be known) and low paid, and could not attend school regularly. Working in the bidi factories stands fourth among the government-listed 38 hazardous jobs which are prohibited for children.

Tobacco Products Consumption

Data on cigarette production and sales in Bangladesh are not consistent. The UN database⁸ informed that about 24 billion cigarettes were produced in Bangladesh annually in 2008-2010. The official statistical Yearbooks informed that annual cigarette consumption was 25 billion cigarettes in 2005-2006 and then it decreased to 24 billion cigarettes in 2010 and 2011, while in 2012 it increased to 32 billion cigarettes. Reported per capita cigarette consumption was 180 in 2005-2006, 160 in 2010-2011 and 212 in 2012.

Barkat et al [1] reported in 2012 that in 1997-2010, cigarette consumption rose by over 40%, from 50.9 billion cigarettes to almost 71.4 billion cigarettes. Bidi consumption was estimated to be rising more rapidly over time, from 43 billion bidis in 1990 to over 81 billion in 2010.

The country FCTC reports informed that 80 billion cigarettes and 50 billion bidis were produced in 2012⁹, while in 2014 the production decreased to 71 billion cigarettes and 43 billion bidis¹⁰.

Tobacco-related burden

An epidemiological study conducted in 2004 [25] showed that smoking was responsible for approximately 57 000 deaths and 1.2 million tobacco-related illnesses per year in Bangladesh; 16% of all deaths among those of age 30 years and older were attributed to tobacco use. A more recent study [26] conducted with 2010 data concluded that about 25% of all deaths among men aged 25 to 69 years are attributable to smoking which results in average loss of 7 years of life per smoker. These studies suggest an increase in the proportion of tobacco-attributable deaths.

Estimates for 2004 indicate that the annual health care costs attributable to tobacco-related illnesses in Bangladesh were 50.9 billion Bangladeshi Taka (BDT) (USD 856 million), including 5.8 billion BDT (USD 98 million) to treat the diseases caused by the exposure to secondhand tobacco smoke. These amounts most certainly underestimate the tobacco-related costs given that the study focused on the costs of eight selected tobacco-related diseases rather than all diseases caused by tobacco use and conservatively estimated that 25% of those experiencing a disease caused by tobacco would seek inpatient care.

⁶ <http://print.thefinancialexpress-bd.com/2017/06/15/175424>

⁷ <http://www.observerbd.com/details.php?id=80092>

⁸ <http://data.un.org/Data.aspx?q=cigarettes&d=ICS&f=cmID%3a25010-1>

⁹

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/bangladesh_2012_report.pdf

¹⁰

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/bangladesh_2014_report.pdf

In addition to sizable health care costs, the premature deaths, and disability, tobacco use results in significant productivity losses. Conservative estimates for Bangladesh similarly find that the lost productivity costs due to tobacco use are somewhat higher than the health care costs. In 2004, cost of lost productivity due to tobacco-attributable premature deaths caused by the eight selected diseases was estimated as 59 billion BDT (USD 993 million). Taken together, a very conservative estimate of the economic costs of tobacco use in Bangladesh in 2004 was 110 billion BDT (USD 1.85 billion), over 3% of GDP in 2004 [25].

Tobacco control in Bangladesh

Bangladesh signed the FCTC on June 16, 2003, and ratified it less than one year later, on June 14, 2004, one of the first countries to both sign and to ratify the treaty.

The Smoking and Tobacco Usage Act (2005) restricted smoking in a variety of places; mandated health warning labels on tobacco product packaging with six rotating text warnings that take up 30% of the front and back of cigarette and bidi pack; most tobacco product advertising was banned, including on television and radio, in local print, and billboards, as well as tobacco company sponsorship of tournaments. Other regulatory documents included the National Strategic Plan of Action for Tobacco Control, 2007–2010, and the Smoking and Tobacco Product Usage Act which went into effect in May 2009 [27].

The National Assembly of Bangladesh passed the Tobacco Control Law Amendment Bill on 29 April 2013, closing many loopholes in the country's previous tobacco control law¹¹.

The most important measures in the amendment were as follows:

- Smokeless tobacco has been brought under the definition of "Tobacco".
- Restaurants and indoor workplaces have now been included among the public places that are to be completely smoke-free. Fines for non-compliance with smoke-free regulations have been increased from 50 BDT (approximately USD 0.6) to 300 BDT (USD 3.9), in addition to the penalties for violations of other measures covered by the law.
- Advertisements at points of sale have been banned and "corporate social responsibility" activities restricted. Anti-tobacco messages were required to be shown if tobacco use is included in a movie.
- Sales of tobacco to and by minors have been banned.
- Graphic health warnings are to be printed on tobacco packs that cover at least 50% of each principal surface area. Misleading descriptors such as "light", "mild" and "low tar" can no longer be used.
- The Ministry of Health was mandated by law to establish and operate the "National Tobacco Control Cell" (earlier, the Cell functioned under an administrative order).
- The Government was mandated to elaborate policies to discourage tobacco cultivation.

According to the Smoking and Tobacco Products Usage (Control) (Amendment) Act 2013 and Rules 2015, printing of graphic health warnings on all tobacco packets was made mandatory from March 19, 2016. According to Section 10 of the law, the graphic health warnings were supposed to be printed covering 50 percent upper part of the tobacco packets' surface but due the interference of the tobacco

¹¹ http://www.who.int/fctc/implementation/news/news_ban/en/

companies, the Ministry of Law, Justice and Parliamentary Affairs issued a temporary permission to print the graphic health warnings covering 50 percent lower part of tobacco packets and the National Tobacco Control Cell issued a public circular about the issue on March 16, 2016. When the anti-tobacco activists lodged a writ petition with the High Court, the court declared the circular illegal after hearings. Subsequently, the National Tobacco Control Cell issued another public circular on July 04, 2017, prescribing to print graphic health warnings on 50 percent upper part of tobacco products packages mandatorily from September 19, 2017¹².

Smoking is prohibited in the majority of indoor public places and workplaces, with a minor exception for restaurants with fewer than four walls¹³. Certain public places may have outdoor designated smoking zones, but healthcare and educational facilities shall not have such zones. Smoking is prohibited in one-roomed vehicles of public transport, but public transport with two or more rooms may have designated smoking zones. With respect to outdoor places, children's parks, fairs, and queues of passengers to public vehicles are required to be smoke-free. Sub-national jurisdictions may enact smoke-free laws that are more stringent than the national law.

National Tobacco Control Cell was established in 2007¹⁴. It is the functional arm of the Ministry of Health and Family Welfare for tobacco control activities in Bangladesh. It has become the hub of national coordination, referral and support center for all tobacco control stakeholders, including NGOs. It is headed by the Additional Secretary (Public Health and WHO) of the Ministry of Health and Family Welfare and its day-to-day supervision is conducted by the Coordinator of National Tobacco Control Cell.

Prime Minister Sheikh Hasina, speaking in Dhaka in January 2016 at the South Asian Speakers' Summit on Achieving SDGs, told about her hopes to make Bangladesh a tobacco-free country within the next 25 years in order to achieve Sustainable Development Goals (SDGs) and to build a healthy nation¹⁵. The prime minister announced that 'all sorts of steps' would be taken to implement the tobacco control laws. She said the laws would be amended to make them consistent with the WHO Framework Convention on Tobacco Control (FCTC). The third SDG – to ensure healthy lives and promote well-being for all at all ages – will not be achieved without FCTC, she said. "Tobacco is a hindrance to reach the other SDGs," Hasina said. Prime Minister Hasina pledged the commitment of her government to work towards full compliance with the WHO FCTC and stated that overhauling tobacco taxation was high on the agenda as the most powerful measure for reducing tobacco use. Bangladesh aims to be tobacco-free by 2040¹⁶.

Prime Minister Sheikh Hasina instructed the authorities to adopt a national tobacco control program with health development surcharge¹⁷. Following the instruction, the ministry of health framed the draft surcharge policy and sought the opinion of nine relevant ministries. With the recommendations, the Ministry of Health published the draft policy on its website on December 2016 for public opinion.

¹² <http://print.thefinancialexpress-bd.com/2017/07/31/179310>

¹³ <http://www.tobaccocontrolaws.org/legislation/country/bangladesh/summary>

¹⁴ <http://ntcc.gov.bd/front/information/1>

¹⁵ <http://bdnews24.com/bangladesh/2016/01/31/pm-hasina-hopes-to-make-bangladesh-tobacco-free-within-2040>

¹⁶ <https://www.theunion.org/news-centre/news/prime-minister-of-bangladesh-highlights-progress-in-tobacco-control-at-south-asian-summit-on-sustainable-development-goals>

¹⁷ <http://print.thefinancialexpress-bd.com/2017/08/26/181651>

Tobacco taxation

Bangladesh imposes a variety of taxes on tobacco products, including supplementary duties on cigarettes, bidis, chewing tobacco and pipe tobacco, duties on imported tobacco products and on both imported and exported tobacco leaf, and a value-added tax on all tobacco products.

Cigarette taxation

In Bangladesh, the prices of each brand of cigarettes were determined by the National Board of Revenue and these prices were used as the tax base for calculating the tax liability of cigarette manufacturers. Based on these administered prices by brands, cigarettes are categorized into four brand tiers, which are called “slabs” in Bangladesh. The ad valorem excise tax rate (known as Supplementary Duty -- SD), which is based on the administered retail price, varies by these price categories (see Table 4) with the current rate varying (from July 2017) between 52%-65%. In addition, there is value added tax (VAT) at 15% of retail price levied at the point of sale. The tax rate for the low-priced category is significantly lower than that for the top tiers, which was designed to protect domestic low-priced brands and low-income smokers consuming these brands.

Table 4. Ad valorem excise rates for cigarettes of different price categories (prices are for 10 sticks per pack)

| Tiers | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|--------------------|------------|-------------|-------------|----------|---------|-------------|-------------|---------|---------|---------|--------------|
| Low | 6-6,99 | 6,5-7,5 | 7,25-8,75 | 8,4-9,15 | 11-11,3 | 12,1-12,3 | 13,69-13,91 | 15-16,5 | 18 | 23 | 27 L 35 I |
| <i>tax rate, %</i> | 32 | 32 | 32 | 33 | 36 | 39 | 39 | 43 | 48 | 50 | 52 L 55 I |
| Medium | 12,5-13,49 | 13,25-14,25 | 16,25-17,25 | 18,4-19 | 22,5-23 | 24,75-25,25 | 28-30 | 32,5-35 | 21-42 | | |
| <i>tax rate, %</i> | 52 | 52 | 52 | 53 | 55 | 56 | 56 | 60 | 60 | | |
| High | 19-26,9 | 21-28 | 23,25-29,25 | 27-32 | 32-36 | 35,2-39,5 | 42-45 | 50-54 | 44-69 | 45-69 | 45-69 |
| <i>tax rate, %</i> | 55 | 55 | 55 | 56 | 58 | 59 | 59 | 61 | 61 | 62 | 63 |
| Premium | 35+ | 41+ | 46,25+ | 52+ | 60+ | 66+ | 80+ | 90+ | 70+ | 70+ | 70+ |
| <i>tax rate, %</i> | 57 | 57 | 57 | 58 | 60 | 61 | 61 | 63 | 63 | 64 | 65 |

L - Local; I - international

The price slabs that define the tiered tax structure were not continuous; no brands are supposed to be priced below the minimum price in the slab for lowest price cigarettes, while brands sold at prices between the slabs were taxed at the maximum rate. Most cigarette smokers in Bangladesh surveyed in the ITC-Bangladesh surveys of 2009 and 2010 report paying prices between the price slabs, in effect paying lower taxes [1].

The significant price gaps between brands of cigarettes in different price categories created greater incentives for smokers to switch to cheaper brands in response to price and tax increases. These gaps also created greater incentives for manufacturers to engage in tax avoidance and evasion (e.g., by positioning brands in the gaps between price slabs) [28].

In November 2013, the National Board of Revenue issued a demand notice to British American Tobacco Bangladesh (BATB) for paying 19 billion BDT as value-added tax and supplementary duty which the

company evaded by selling medium-slab cigarettes declaring them as low-slab ones. According to the NBR, the BATB evaded the taxes from August 19, 2009, to January 31, 2013, by selling its Pilot and Bristol brand cigarettes at lower prices declaring the two brands in lower slab though they belong to the medium slab. BATB filed petitions before the high court challenging retrospective tax demanded by the revenue board.¹⁸ The issue is currently awaiting outcome from the Supreme Court¹⁹.

From July 2015, continuous tier structure was introduced and every brand can be set to a defined tier. Since July 2017, the lower slab has been divided into two new slabs titled 'local brands' and 'international brands'.

In 2007-2009, ad valorem rates did not change, but from July 2010 the rates for all tiers were changed almost annually. The rates for lowest tier were increased much faster: from 32% to 52% or by 62%, while the high-priced cigarettes rate was increased from 57% to 65% or by 14%.

The minimum price of the lowest tier cigarettes increased from 6 BDT per pack of 10 cigarettes in 2007 to 27 BDT in 2017. Prices of other tiers also increased, while the increase of tier prices could move some brands to a tier with a lower rate and vice versa. For example, in 2015 the tier definition of the high tier was changed from “90 BDT or more” to “70 BDT or more”: this means that a brand priced 80 BDT was taxed with 61% rate in 2014, but with 63% rate in 2016.

In general, the tier structure was gradually moving towards unified rates: in 2017, the difference between lowest and highest rates was 12 percentage points, while in 2010 it was 25 percentage points.

Bidi taxation

The prices of bidis are determined by the bidi manufacturers themselves and their tax liability was calculated based on a pre-determined tariff value per pack of bidis. The VAT was imposed on the tariff value plus the excise tax. The excise tax rate differentiates between unfiltered and filtered bidis.

Table 5. Bidi excise taxes and prices

| | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|--|-------------|-------------|-------------|-------------|-------------|--------------|
| Bidi non-filter (price, BDT per pack of 25 sticks) | 4,36 | 5,354 | 6,14 | 7,06 | 10,61 | 12.5 |
| Tariff value (in BDT) | 3,1579 | 3,88 | 4,27 | 4,91 | 7,1 | |
| <i>tax rate, %</i> | 20 | 20 | 25 | 25 | 30 | 30 |
| Actual specific tax (BDT per pack) | 0,63 | 0,78 | 0,85 | 0,98 | 1,42 | 3,75 |
| Bidi filter (price, BDT per pack of 20 sticks) | 4,93 | 6,052 | 6,92 | 7,98 | 12,03 | 12.5 |
| Tariff value (in BDT) | 3,43 | 4,22 | 4,64 | 5,34 | 7,75 | |
| <i>tax rate, %</i> | 25 | 25 | 30 | 30 | 35 | 35 |
| Actual specific tax (BDT per pack) | 0,69 | 0,84 | 0,93 | 1,07 | 1,55 | 4,375 |

For example, in 2011, bidi were sold at an average retail price of BDT6.00 per pack of 25, while the retail price was not the tax base. Supplementary Duty (SD) and VAT were rather applied to a tariff value of BDT 3.1579 and BDT 3.43 per pack of 25 non-filter and filter bidi respectively. Therefore, this tariff value-driven tax base reduced the effective rate of SD and VAT to 10.5% and 9% respectively [29].

¹⁸ <http://archive.newagebd.net/105701/nbr-claims-tk-1924cr-in-tax-from-batb/>

¹⁹ <http://www.thedailystar.net/business/batb-seeks-quick-end-tax-dispute-nbr-1460968>

According to the law, the excise for bidi is calculated as established tariff value multiplied by the SD (ad valorem) rate, which actually makes this excise a specific one. The calculated specific rates are presented in Table 5. In 2012-2016, such specific excise increased by 125% in four years.

In June 2017, the Minister of Finance Abul Maal Abdul Muhith proposed to abolish the existing bidi tariff system and to fix the tax inclusive prices of both a pack of 25 sticks of non-filter bidi and a pack of 20 sticks of filter bidi at the level of BDT 15²⁰. However, the parliament reduced these prices to BDT 12.5²¹. Anyway, this measure is expected to increase the actual excise tax for bidi by 170%.

Smokeless tobacco taxation

The excise tax rate on the most widely used smokeless tobacco products (zarda and gul) is set as a percentage of the ex-factory price. The excise rate of smokeless tobacco products was 10% in 2009, 20% (from July 2011); 30% (from July 2012), 60% (from July 2014) and 100% (from July 2016).

So, over the last six years, the smokeless tobacco excise rate was increased 10-fold.

Electronic cigarettes

In early 2017, 10 percent duty was applied to e-cigarettes and to their refill packs. In June 2017, the Minister of Finance proposed to introduce two separate Harmonized System Codes for these two items and to impose 25 percent customs duty on both items. At the same time, he also proposed to impose 100 percent Supplementary Duty on these products²².

Additional tobacco taxes

The tobacco companies pay **corporate tax** calculated as 45% of the profit²³.

In 2017, the government has proposed to impose a **surcharge** of 2.5% **on incomes** from tobacco products including cigarettes, bidi, zarda, and gul²⁴.

Supplementary duty at the rate of 20 percent is levied on the domestic production of the **cigarette and bidi paper**²⁵.

In 2015, **customs duty on Artificial Filament Tow** used to produce filter tips for cigarettes, was increased from 5.0 percent to 25 percent²⁶.

The government imposed the '**health development surcharge**' as 1.0 percent tax from tobacco companies in the budget for the fiscal year 2014-15. The VAT authority collects the surcharge on the basis of the same value on which they claim VAT. The surcharge is levied for supply of locally produced tobacco products at the production stage. The National Board of Revenue (NBR) collected the revenue during the last three financial years, 2014-15, 2015-16 and 2016-17; however, the health development surcharge worth BDT 9.0 billion remained unutilized during the last three fiscal years due to the lack of a

²⁰ <http://bdnews24.com/economy/2017/06/01/finance-minister-muhith-goes-tough-on-bidi>

²¹ <http://print.thefinancialexpress-bd.com/2017/07/02/176701>

²² [https://www.mof.gov.bd/en/budget1/17_18/speech/BS_English_2017-05-31%20\(Wednesday\)_Final.pdf](https://www.mof.gov.bd/en/budget1/17_18/speech/BS_English_2017-05-31%20(Wednesday)_Final.pdf)

²³ <https://www.fmcibd.com/blog/129-corporate-tax-in-bangladesh>

²⁴ <http://www.dhakatribune.com/business/economy/2017/06/01/govt-impose-surcharge-tobacco/>

²⁵ <http://print.thefinancialexpress-bd.com/2015/06/05/95425>

²⁶ <http://print.thefinancialexpress-bd.com/2015/06/05/95353>

specific guideline to spend the amount²⁷. The draft of the policy got approval in an inter-ministerial meeting on February 15, 2017. The policy was scheduled to be placed before the cabinet in August 2017. The National Tobacco Control Cell under the Ministry of Health could use the surcharge revenue to execute a national tobacco control program which assumes conducting research and awareness campaigns, rehabilitating tobacco users, creating alternative jobs for tobacco farmers and ensuring overall health development.

Tobacco revenue

According to the WHO reports on the global tobacco epidemic²⁸, tobacco revenue in Bangladesh increased in 2012-2016 by 72%.

Table 6. Tobacco tax revenue, billion BDT, WHO reports data

| | 2012 | 2014 | 2016 |
|---------------|------|------|------|
| Excise | 74,5 | 97 | 130 |
| VAT | 20 | 26 | 33 |
| Total Revenue | 94,5 | 123 | 163 |

According to the British American Tobacco annual reports,²⁹ this company total payments (Value added tax (VAT), Supplementary Duty (SD), Health Development Surcharge (HDSC), Income Tax & Customs duty) increased from 46 billion BDT in 2010 to 136 billion BDT in 2016. It was reported that BATB paid about 66-70% of total cigarette industry payments.

The NBR estimated that about 25 billion BDT and 65 billion BDT of additional VAT revenue were to be received in 2016-2017 and 2017-2018 financial years respectively due to proposed changes in prices and duty rates on tobacco products^{30 31}.

The main part of tobacco revenue comes from cigarette taxes. Bidi consumption was estimated as 40% of the total tobacco consumption, but its tax earning as a fraction of the total tobacco revenue was less than 2% in 2016³².

In 2013-14, the government received only 15 million BDT revenue from smokeless tobacco (jarda and gul). In 2014-15, total expenditure on consumption of smokeless tobacco products was BDT 16.50 billion. But the government earned only BDT 143.6 million tax from the sector, which is less than 1.0 percent of the total expenditure, according to NBR data³³.

Tobacco prices

According to the WHO reports³⁴, prices of the most sold brand and the cheapest brand increased 3-fold over six years (2010-2016) and the price of the premium brand increased 2-fold (Table 7).

Table 7. Cigarette prices (BDT per pack of 20 cigarettes)

| | 2008 | 2010 | 2012 | 2014 | 2016 |
|-------------|------|------|------|------|------|
| WHO reports | | | | | |

²⁷ <http://print.thefinancialexpress-bd.com/2017/08/26/181651>

²⁸ http://www.who.int/tobacco/surveillance/policy/country_profile/bgd.pdf

²⁹ http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DOA5GDLS?opendocument

³⁰ <http://print.thefinancialexpress-bd.com/2016/06/12/143894>

³¹ <http://print.thefinancialexpress-bd.com/2017/06/09/174863>

³² <http://print.thefinancialexpress-bd.com/2017/05/10/172156>

³³ <http://print.thefinancialexpress-bd.com/2015/08/14/103951>

³⁴ <http://www.who.int/tobacco/economics/bangladesh.pdf>

| | | | | | |
|--|------|------|---------|---------|-----|
| Most sold brand | 25,9 | 33 | 50 | 70 | 100 |
| Premium brand | | 104 | | 190 | 220 |
| Cheapest brand | | 14,6 | 28 | 30 | 50 |
| ITC reports [28, 30] | | | | | |
| | 2009 | 2010 | 2011-12 | 2014-15 | |
| Nominal average price | 31,2 | 39,4 | 55,4 | | |
| <i>Real (inflation-adjusted) average price</i> | 40,6 | 47,0 | 57,8 | | |
| Low-priced cigarette brand | 20 | 20 | 24 | 31 | |
| Medium-priced cigarette brand | 40 | 43 | 53 | 53 | |
| High-priced cigarette brand | 89 | 90 | 100 | 119 | |
| Premium cigarette brand | 153 | 156 | 185 | 205 | |

The ITC survey data also demonstrated increases in average cigarette prices, both in nominal and real terms. ITC also presents self-reported prices (Table 7) on cigarettes of different price tiers, while the rates of increase are lower than the average price increase.

In 2007-2014, consumer price index (CPI) for cigarettes usually was higher than the national CPI (inflation). In 2010-2014, the CPI increased by 80% in four years.

Table 8. Consumer price indices and GDP growth

| | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 |
|---------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| CPI cigarettes (previous year = 100) | 119,0 | 116,7 | 113,4 | 105,2 | 127,5 | 116,1 | 116,1 | | |
| CPI national (previous year = 100) | 109,9 | 106,7 | 107,3 | 108,8 | 108,7 | 106,8 | 107,4 | 106,4 | 105,9 |
| GDP per capita growth (annual %) | 105,8 | 103,9 | 104,4 | 105,3 | 105,3 | 104,8 | 104,8 | 105,4 | 106 |
| Inflation, consumer prices (annual %) | 108,9 | 105,4 | 108,1 | 110,7 | 106,2 | 107,5 | 107 | 106,2 | 105,5 |

Data source: CPI cigarettes and CPI national – Statistical Yearbooks³⁵, GDP growth, and Inflation – the World Bank database³⁶.

Comparison of prices of various tobacco products

In 2011-2012, the price of one stick of bidi was less than one-fourth of one stick of the cheapest cigarette brand [31]. There were two distinct varieties of zarda available in the market—the cheaper variety that sells for less than 0.60 BDT per gram and the higher-priced variety that sells for 0.60 to 1.00 BDT per gram. The average price of the cheaper variety of zarda is comparable to the bidi price per stick, while the price of higher-priced variety zarda is higher than bidi price. On average, the price of zarda per gram is less than half of the price per stick of the cheapest brand of cigarette. The price of gul was around 0.10 BDT per gram and it was comparable to the cheaper price variety of zarda.

In early 2016, excise taxes on the most sold brands of cigarettes were approximately 61 percent of their retail price. 'Bidi' taxes account for approximately 11 percent of retail prices, and taxes on smokeless tobacco products are approximately 19 percent of retail prices³⁷.

³⁵ <http://www.bbs.gov.bd/site/page/29855dc1-f2b4-4dc0-9073-f692361112da/Statistical-Yearbook>

³⁶ <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

³⁷ <http://www.thefinancialexpress-bd.com/2016/03/14/21041>

Tobacco affordability

Bangladesh economist Prof Abul Barkat said that faulty taxation has actually been reducing tobacco prices in Bangladesh “steadily” since 2001, encouraging new users³⁸. From 1997 to 2002, cigarettes gradually became less affordable as real incomes were going down. This led to a decline in per capita cigarette consumption during this period. But cigarettes became more affordable after 2002 when incomes rose rapidly. So, there was a rise in per capita consumption from 2003 to 2010.

Nargis et al (2016) [30] used nationally representative individual-level cohort data from the International Tobacco Control (ITC) Bangladesh Survey, conducted in four waves in 2009, 2010, 2011-12 and 2014-15, to measure the affordability of tobacco products in terms of Relative Income Price (RIP), which is defined as the percentage of per capita income needed to purchase 100 packs of cigarettes. The results of the analysis show that both cigarettes and bidis became more affordable in Bangladesh over the period from 2009 to 2015 and the affordability of smokeless tobacco products remained unchanged between 2011-12 and 2014-15. While the price of cigarettes increased in real terms and the price of bidis decreased over this period, income growth more than offset the negative effect of the cigarette price increase on cigarette demand, resulting in a shift in preference from bidis to cigarette smoking.

However, the most recent changes in tobacco taxation increased cigarette price almost by 100% in 2012-2016 (see Table 7), and while GDP per capita increased by 21% in those four years (see Table 8), the real (inflation-adjusted) growth of cigarette price was higher and tobacco affordability in Bangladesh reduced. So, some reduction of tobacco consumption in the country is possible.

According to the BAT Directors reports,³⁹ the cigarette industry had marginal volume growth in 2015 and 2016 (but not in 2014) as the consumers were shifting from bidi to cigarettes while total tobacco industry was in decline. The growth dynamics of the industry varied across the price slabs of cigarettes. The low segment experienced growth (its share increased from 67% in 2014 to 80% in 2016), while high and medium segments declined.

Cigarette smuggling

The government introduced some policies against cigarette smuggling in the early 2000s and illicit trade in cigarette reduced from 20% in 2000 to 1.2% in 2009⁴⁰. Currently, high-priced brands are usually smuggled to Bangladesh. The BAT reports⁴¹ that in 2014-2016 only the premium segment was facing competition due to the availability of the smuggled cigarettes in the market. According to a recent report [32], the median price of illicit cigarettes in Bangladesh in 2013 was 2.83 USD, while the median price of licit cigarettes was only 0.51 USD.

Comparison of cigarette prices and taxes in Bangladesh and neighboring countries

The WHO Global Tobacco Report, 2017 shows information on cigarette prices and taxes in Bangladesh and other countries of the WHO South-East Asia Region (SEARO) in 2016 [33] (Table 9).

³⁸ <http://www.theindependentbd.com/home/printnews/46308>

³⁹ http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DOA5GDSL?opendocument

⁴⁰ http://www.who.int/tobacco/economics/meetings/uicc_tc_taxation_bangladesh.pdf

⁴¹

[http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DOALJFGV/\\$FILE/Directors'_Report_2016.pdf?openelement](http://www.batbangladesh.com/group/sites/BAT_9T5FQ2.nsf/vwPagesWebLive/DOALJFGV/$FILE/Directors'_Report_2016.pdf?openelement)

Table 9. Cigarette prices and taxes in Bangladesh and other SEARO countries

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of price of the most sold brand | | | | | | Net-of-tax part of the price, USD |
|-------------------|---|-------------------|-------------|--|-------------------|----------------|----------------|------------------------|----------------|-----------------------------------|
| | In reported currency | Reported currency | In USD | Specific excise | Ad valorem excise | Total Excise | VAT/ Sales tax | Other taxes and duties | TOTAL TAX | |
| Bangladesh | 100 | BDT | 1,28 | 0,00% | 62,00% | 62,00 % | 15,00 % | 0,00% | 77,00 % | 0,29 |
| India | 158 | INR | 2,36 | 26,46% | 0,00% | 26,46 % | 16,67 % | 0,00% | 43,12% | 1,34 |
| Indonesia | 21 667 | IDR | 1,65 | 44,31% | 4,43% | 48,74 % | 8,70% | 0,00% | 57,44% | 0,70 |
| Maldives | 47 | MVR | 3,05 | 0,00% | 0,00% | 0,00% | 0,00% | 53,19% | 53,19% | 1,43 |
| Myanmar | 850 | MMK | 0,72 | 35,29% | 0,00% | 35,29 % | 0,00% | 0,00% | 35,29% | 0,47 |
| Nepal | 180 | NPR | 1,68 | 14,84% | 0,00% | 14,84 % | 11,50 % | 0,00% | 26,35% | 1,24 |
| Sri Lanka | 1 000 | LKR | 6,86 | 47,50% | 3,93% | 51,43 % | 10,71 % | 0,00% | 62,15% | 2,60 |
| Thailand | 86 | THB | 2,47 | 2,16% | 64,77% | 66,93 % | 6,54% | 0,00% | 73,48% | 0,66 |
| Timor-Leste | 1,50 | USD | 1,50 | 25,33% | 0,00% | 25,33 % | 2,44% | 0,23% | 28,01% | 1,08 |

We calculated the net-of-tax price of the most popular cigarette brand as follows: Price in USD * (1 – Total tax share). Cigarettes in Bangladesh had the second lowest price in the Region (after Myanmar), but, paradoxically the highest tax share percentage (Bangladesh is the only country in the Region, where tax share exceeds 75%). It was caused by the lowest net-of-tax cigarette price in Bangladesh and reveals the tax share indicator can be misleading in comparing countries tobacco taxation policies.

Discussion

Over recent years, Bangladesh has been implementing a rather aggressive tobacco taxation policy:

- 1) Ad valorem rates were increased for all kinds of cigarettes, while the increase was much higher for low-priced cigarettes and the difference in tax rates between cigarette tiers decreased.
- 2) Tax rates for bidi were also increased and the tariff value system was abolished, which also increased actual bidi tax.
- 3) The tax rate for smokeless tobacco products was increased 10-fold in 2010-2016.
- 4) Some additional taxes were introduced, including taxes for e-cigarettes and “health development surcharge”.

The tobacco taxation policy was implemented against the efforts of the tobacco industry to keep tobacco tax rates as low as possible. The pressure of the tobacco industry is evident from the fact that during the period from the fiscal year 2004-05 to the fiscal year 2009-10, SD (supplementary duty - ad valorem tax) rates in different price slabs of cigarettes remained the same [29]. During the fiscal year 2011-12 budget cycle, more than 120 MPs made written statements to the National Board of Revenue not to increase bidi prices. They rather demanded to completely withdraw the tax from bidis. In 2017, bidi factory owners urged the government to withdraw tax hike in bidi proposed in the budget for the fiscal year 2017-18⁴². In some cases, the Parliament approved lower tax rates than those proposed by the Ministry of Finance.

⁴² <http://print.thefinancialexpress-bd.com/2017/06/07/174632>

In 2010, a Tobacco Tax Cell within the National Board of Revenue was established⁴³. The purpose of this cell is to support the tobacco tax policy with data and evidence. Tobacco Tax Cell (TTC) drafted a "Tobacco Tax Policy and 5-Year Roadmap" based on the international best practices – the first of its kind in Bangladesh⁴⁴. With the WHO support, the TTC also had drafted a situation report on tobacco taxation.

In May 2015 the TTC submitted to policy-makers a draft of the national tobacco tax policy⁴⁵. The draft tax policy focused on the withdrawal of tier system and the gradual reduction of tobacco consumption. It also featured several strategies including those aimed to counteract illicit trade of tobacco products, to use health development surcharge and to ban sales of bidi or loose cigarettes.

In early 2016, the Minister of Finance A M A Muhith instructed the National Board of Revenue to revise the existing tobacco taxation system. "Existing tobacco tax system has to be completely overhauled next year. The slab-based tax will not exist," Mr. Muhith wrote in a note to NBR⁴⁶. However, slab-based tax system actually still exists, while the rate differences between slabs were reduced.

The total price elasticity of demand for cigarettes in Bangladesh was estimated at -0.49 [34]. The elasticity of smoking prevalence accounted for 59% of the total price elasticity. The total price elasticity of cigarette consumption is higher for people belonging to lower socioeconomic status: -0.75 for the low SES group, -0.40 for the medium SES group and -0.36 for the high SES group. These estimates suggest that poorer people are more price sensitive than the rich and can thus reap greater health gains from increased tax and prices of cigarettes. Increases in taxes would result in a significant reduction in cigarette consumption while increasing tax revenue.

Simulated tax increases and different tax structures (3 scenarios: uniform ad valorem excise; uniform ad valorem excise with specific excise floor; uniform specific tax) were modeled by Nargis et al [34]. They concluded that raising cigarette taxes and prices can increase government revenue: however the uniform specific excise would provide lower revenue increase than other two scenarios. The greater price sensitivity of cigarette consumption among poorer people means that the poor would benefit more from a given cigarette price increase. This would result in a reduction in the inequities of the burden of tobacco consumption that currently exists in Bangladesh.

Barkat et al (2012) [1] also simulated the effects of cigarette tax increases on several outcomes related to cigarette and bidi smoking in Bangladesh, including overall consumption, government tax revenues, the number of current and future smokers, and deaths caused by smoking. In all scenarios considered, rather than preserve the existing ad valorem system and price slabs, they considered the effects of using a uniform specific excise tax. Their model demonstrated that eliminating the tiered tax structure and adopting a uniform specific excise tax on cigarettes would raise average prices and reduce cigarette consumption. In addition, this taxes and price increase will cause millions of current Bangladeshi cigarette smokers to quit smoking while preventing millions Bangladeshi youth from taking up cigarette smoking. Together, these reductions in smoking are expected to prevent almost 6 million premature deaths caused by tobacco use in the current population cohort. At the same time, because of the inelasticity of cigarette demand, the tax increase would generate additional cigarette tax revenues.

⁴³ http://apps.who.int/iris/bitstream/10665/112847/1/9789241507301_eng.pdf

⁴⁴ <http://www.searo.who.int/bangladesh/enbantobaccosuccess/en/>

⁴⁵ <http://print.thefinancialexpress-bd.com/2015/05/23/93776>

⁴⁶ <http://www.thefinancialexpress-bd.com/2016/03/14/21041>

Similarly, sharp increases in bidi taxes would also generate significant new tax revenues while reducing bidi smoking and its public health consequences.

Conclusions and recommendations

In 2010-2017, tobacco taxes were annually increased and tobacco tax revenue grew by about 200% in seven years. Overall, tobacco consumption apparently declined over those years, but the rate of decline was small. The structure of tobacco consumption gradually shifted from bidi and smokeless tobacco use to cigarette smoking, while the share of low-priced cigarettes increased on cigarette market.

Despite tobacco tax increases, cigarette prices and excise tax rates are still much lower in Bangladesh than in most neighboring countries and should be further increased.

The following changes in tobacco tax rates and structure could both decrease tobacco consumption and increase tobacco tax revenue in the country:

- Cigarette ad valorem excise rates should be unified for all kinds of cigarettes at the level currently used for premium cigarettes. This will minimize incentives to shift to cheaper products.
- Additional unified specific excise tax should be introduced for all kinds of cigarettes.
- Excise taxes for bidi and smokeless tobacco products should be changed from ad valorem to specific ones with specific rates equal (in monetary form) to the rates calculated for high price categories of these products with the current ad valorem rates. The excise rate for bidi should be high enough to minimize downward shifting to less expensive products.
- After the above changes are introduced, the unified specific rates for all kinds of tobacco products should be annually increased to make tobacco products less affordable over time in order to reduce tobacco consumption and the prevalence of tobacco use in line with FCTC provisions.

Tobacco control monitoring, including the collection of economic information on tobacco products sales, prices, and other indices, should be much improved in the country to support more precise forecasts of the outcomes of the current and future tobacco control activities.

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34. Nargis, N., et al., *The price sensitivity of cigarette consumption in Bangladesh: evidence from the International Tobacco Control (ITC) Bangladesh Wave 1 (2009) and Wave 2 (2010) Surveys*. *Tob Control*, 2014. **23 Suppl 1**: p. i39-47.

World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Costa Rica

Tobacco control legislation

Costa Rica became a Party to the WHO Framework Convention on Tobacco Control on November 19, 2008. As of 2015 [1], tobacco control policies in Costa Rica were assessed at 33 out of 37 points, and this puts Costa Rica in the group of most successful countries with over 85% requirements met.

General Law for the Control of Tobacco and its Harmful Effects on Health, Legislative Decree No 9028², adopted in March 2012, is the main legislation for tobacco control and regulates, among other things, smoke-free places; tobacco advertising, promotion, and sponsorship; and tobacco packaging and labeling [2].

There are two pieces of implementing legislation that were issued under the General Law: (1) Regulation of the General Law for Control of Tobacco and its Harmful Effects on Health, Executive Decree No 37185³, which regulates smoke free places, and tobacco advertising, promotion and sponsorship; and (2) Regulation for the Labeling of Tobacco Products and Tobacco Derivatives, Executive Decree No 37778-S⁴, which regulates tobacco product packaging and labeling. Directive No. 6095⁵ was issued by the Ministry of Health in July 2013 and contains the design, placement, and contents of the first round of six authorized warnings, which are required on all tobacco product packages as of September 2014. Directive No 4979 was issued in November 2014 and establishes the second round of authorized warnings. Directive No 4960 was issued in November 2015 and establishes the third round of authorized warnings [3].

Tobacco advertising

Legislative measures regarding tobacco advertising have been adopted in Costa Rica rather early compared to the majority of the countries. The Decree No 11.016-SPPS of December 17, 1979, forbids advertising of cigarettes, unauthorized by the Ministry of Health, through newspapers, radio, television, cinemas, and other media [4].

As of 2017 [3], almost all tobacco advertising, promotion, and sponsorship are banned. There are three regulated exemptions: 1) in adult-only venues and events that do not have smoke free space; 2) through

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² http://www.who.int/fctc/implementation/news/Costa_Rica_tobacco_control_act_2012_Sp.pdf

³

http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=72804&nValor3=89027&strTipM=TC

⁴

http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=75275&nValor3=93278&strTipM=TC

⁵

http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=75429&nValor3=97380¶m2=1&strTipM=TC&Resultado=3&strSim=simp

direct communication with vendors and adult consumers, conducted face to face and in the home; and 3) point of sale product display, which is restricted to shelves behind the cash register at point of sale, but visibility of products is not prohibited.

Smoke-free policies

First steps to restrict SHS exposure were adopted in the late 1980s. Executive Decree No 17.398-S-J of January 21, 1987, forbids civil servants to smoke at work. Executive Decree No 17.964-S of August 3, 1987, forbids smoking in cinemas and theaters. Executive Decree No 18.771 of January 16, 1989, requires the director of public institutions no-smoking signs in visible places [4].

As of 2017 [3], smoking is prohibited in all indoor workplaces and all public transport and virtually all indoor public places. While outdoor workplaces, stadiums, arenas and venues with mass concentration of people; gas stations; and ports and public transit stops are required to be smoke-free, some other outdoor areas were not mentioned by the law, which is considered the result of the tobacco industry front groups interference [5, 6].

Tobacco Packaging and Labeling

Back in 1971, the Decree No 1.520-SPPS of February 24, required warnings on cigarette packages. Executive Decree No 18.780 of January 19, 1989, required warnings on tobacco's harmful effects [4].

As of 2017 [3], combined picture and text health warnings must occupy 50 percent of the two principal display areas (front and back) of tobacco product packages, placed on the lower portion of the pack, with different warnings on the front and back of the pack. A qualitative warning on constituents and emissions must appear on 100 percent of one of the lateral sides of the tobacco product packaging. The authorized warnings must be rotated in such a way that they are distributed evenly across all tobacco product packaging.

The Ministry of Health updates the authorized warnings annually ^{6 7}. The contents of the warnings pertain to smoked tobacco products only, even though the law requires all tobacco product packaging to contain health warnings. Misleading terms such as "light" and "low" are prohibited on tobacco packaging, but other misleading packaging (e.g., colors, numbers, and symbols) is not prohibited.

Tobacco use among adults

A household survey conducted in 1986 found that 35% of men and 14% of women were smokers. In the Gallup survey in 1988, the prevalence of current smoking was measured as 35% among men and 20% among women; 23% of men and 10% of women were reported to be former smokers [4, 7].

According to published international estimates [8], the age-standardized adult smoking prevalence in Costa Rica decreased from 10.7% in 1980 to 9.1% in 1996 but then increased to 11.8% in 2012. In 2012 the prevalence was 16.1% among men and 7.5% among women.

Among women of reproductive age (15-49 years) the prevalence of smoking in 1986 was 12.4% [4].

⁶ <https://www.ministeriodesalud.go.cr/index.php/ley-antitabaco>

⁷ <https://www.ministeriodesalud.go.cr/index.php/ley-antitabaco?id=813>

According to the Institute of Alcoholism and Drug Dependence (IAFA) data ⁸, in 2010, 18% of men and 8.6% women in Costa Rica were smokers (13.4% in general); while in 2015, the percentage fell to 15.4% and 5.5%, respectively (10.5% overall).

Surveys by IAFA are nationally representative surveys on the population aged 12 to 70 years which were conducted in 1990, 1995, 2001, 2006 [9], 2010 [10, 11]. Survey participants were asked whether they smoked in their lifetime, last year, and last month. Prevalence of last month current smoking is presented in Table 1. While overall smoking prevalence gradually declined all over the surveys periods, the largest reduction was observed between 2010 and 2015, when smoking prevalence declined by 2.9 percentage points or by 22%.

Table 1. Prevalence of current smoking among the adult population of Costa Rica (%)

| | 1990 | 1995 | 2001 | 2006 | 2010 | 2015 | 2015, GATS current smoking |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----------------------------|
| Men | 28,6 | 28,5 | 23,1 | 21,3 | 18,0 | 15,4 | 13,4 |
| Women | 8,8 | 6,6 | 8,2 | 8,1 | 8,6 | 5,5 | 4,4 |
| Overall | 18,7 | 17,5 | 15,7 | 14,8 | 13,4 | 10,5 | 9,1 |

The Global Adult Tobacco Survey (GATS) was conducted in Costa Rica in 2015^{9 10}. Its results show that 13.4% of men, 4.4% of women, and 8.9% overall currently smoked tobacco. Overall, 5.8% of adults were daily tobacco smokers and 3.1% were occasional tobacco smokers. An estimated 4.5% and 6.3% of the rural and urban residents, respectively, were daily tobacco smokers. Daily smokers smoked 16.1 cigarettes a day on average. Most (73.0%) of current smokers planned to or were thinking about quitting. Over half (56.7%) of ever daily smokers have quit smoking.

Tobacco use among youth

A survey among young people aged 15-24 years in 1990 measured the prevalence of smoking among men as 23.7% and among women as 5.4% [4].

In the study conducted in 1994 [12], 20.6% of adolescents aged 12-19 years in Costa Rica were found to be ever tobacco smokers.

According to the surveys conducted among adolescents aged 10-18 years in 1999-2000 within PACARDO research project [13], 47% of study participants in Costa Rica were tobacco users (probably at least once in their lifetime).

In 2002 [14], 14.87% of boys and 16.12% of girls in Costa Rica were reported to be current smokers.

Nationally representative surveys of large groups (up to 5500) of adolescents aged 14-17 years were conducted in Costa Rica on a regular basis in 2006, 2009, 2012 [15], and 2015 [16].

Table 2. Prevalence of past month smoking among adolescents, IAFA data

| | 2006 | 2009 | 2012 | 2015 |
|-------|------|------|------|------|
| Men | 10,0 | 10,1 | 7,5 | 3,0 |
| Women | 7,2 | 7,6 | 5,0 | 1,8 |
| Total | 8,5 | 8,9 | 6,0 | 2,4 |

⁸ <https://www.elpais.cr/2017/05/26/costa-rica-redujo-tres-puntos-la-cantidad-de-fumadores-con-ley-antitabaco/>

⁹ http://www.who.int/tobacco/surveillance/survey/gats/cr_factsheet_en.pdf

¹⁰ http://apps.who.int/tobacco/surveillance/survey/gats/cr_executive_summary_en.pdf

The level of initiating smoking also depicted in these surveys reports was stable in 2006-2009 but dramatically declined by 2015 [16].

The Global Youth Tobacco Survey (GYTS) was conducted in Costa Rica in 1999 [17], 2002 [18, 19], 2008 [20, 21], and 2013[22, 23].

Comparison of results of GYTS conducted in 1999 and 2002 showed that some decline was already achieved [18]. The largest decline of smoking prevalence was observed between 2008 and 2013 (Table 3).

Table 3. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in Costa Rica, %, GYTS

| | 1999 | 2002 | 2008 | 2013 |
|---|-------------|-------------|-------------|-------------|
| Currently used any tobacco product | 20,8 | 18,7 | 14,6 | 8,9 |
| boys | 20,6 | 18,6 | 15,9 | 9,7 |
| girls | 21,0 | 18,5 | 13,1 | 8,1 |
| Currently smoked cigarettes | 17,8 | 16,4 | 9,6 | 5,0 |
| boys | 18,2 | 15,7 | 9,4 | 5,7 |
| girls | 17,3 | 16,8 | 9,7 | 4,3 |
| Lived in homes where others smoked in their presence | 32,8 | 29,4 | 21,6 | 16,7 |
| Had at least one parent who smoked | 31,9 | 28,1 | 21,3 | |

Tobacco use and cigarette smoking among young people consistently declined between 1999 and 2013. The analysis of all four waves of GYTS in Costa Rica [24] showed that in addition to the decrease in smoking prevalence (17.3% in 1999 and 5.0% in 2013), the index of smoking susceptibility has also become lower (19.3% in 1999 and 12.4% in 2013).

The percentage of teenagers, who lived in homes where others smoked in their presence, also gradually decreased from 32.8 % in 1999 to 16.7% in 2013, and this can be considered an indirect indicator of smoking behavior among adults.

Global Health Professions student survey was conducted in Costa Rica in 2006 [25]. Among medical students, 29.3% of females and 38.6% of males were found last month cigarette smokers, among nursing students, 23.0% and 25.8% respectively.

Tobacco growing

According to the FAO database [26], raw tobacco production in Costa Rica decreased from about 3,000 tons in mid 1970-s to just 14 tons in 2016 and the area harvested to tobacco decreased over those years from about 3,000 hectares to 8 hectares.

Tobacco consumption

Per capita cigarette consumption among adults (>15 years of age) in Costa Rica was estimated as 1850 cigarettes per year in 1970-72 [7], 1520 in 1980-82 [7], and 1340 in 1990-92 [7].

According to published international estimates [8], the annual cigarette consumption increased from 2.0 billion cigarettes in 1980 to 3.0 billion cigarettes in 2006-2012. Estimated mean daily cigarette consumption per smoker was about 18.8 cigarettes in 2012.

Per capita cigarette sales in Costa Rica were estimated at about 607 for 2005¹¹. In 2016, cigarette consumption was estimated as 329 pieces per person¹².

According to GATS results¹³, there were 208 thousand daily smokers in 2015 in Costa Rica, who on average smoked 16.1 cigarettes per day. Total consumption was: 208 x 16.1 x 365 = 1.22 billion cigarettes. Taking into account occasional smokers, total cigarette consumption in Costa Rica can be estimated as 1.3 billion cigarettes.

¹¹ <http://www.tobaccointernational.com/1007/feature2.htm>

¹² <https://www.marketresearch.com/GlobalData-v3648/Cigarettes-Costa-Rica-10978050/>

¹³ http://apps.who.int/tobacco/surveillance/survey/gats/cr_executive_summary_en.pdf

Cigarette production and sales

The market is dominated by PMI and BAT affiliates: Tabacalera Costarricense, a subsidiary of PMI, and BAT Centra America with a 100% combined market share. Smoking has been declining in recent years because of more rigorous anti-smoking laws, higher taxes and increasing prices.

In the mid-1990s, BAT consolidated six independent companies in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama into one large factory in Honduras [27].

In 2018, the Mendiola & Compañía, a subsidiary and 100% owned by Philip Morris International (PMI), absorbed the Tabacalera Costarricense S.A. It is also reported to be going to stop producing cigarettes in the country¹⁴.

Data on cigarette export and import in Costa Rica are rather contradictory and information on cigarette production in the country is not available.

KPMG Project Frost study [28] (commissioned by British American Tobacco) reported that legal cigarette sales in Costa Rica decreased from 2.4 billion cigarettes in 2010-2011 to 2.2 billion in 2012, 1.9 billion in 2013 and 1.76 billion cigarettes in 2014. In 2016, the market for cigarettes with legitimate sales was estimated as 1.6 billion pieces¹⁵.

According to our calculations based on the amounts of revenue from specific cigarette excise (Table 5), the number of taxed cigarettes was 1.85 billion cigarettes in 2013. In 2014-2016, it was about 1.45 billion cigarettes annually, and in 2017 it decreased to 1.34 billion cigarettes.

Tobacco taxation

In 1972, the Law on Special Consumer Taxes (No 4961) was adopted which set ad valorem excise taxes for tobacco products¹⁶. Later, the Law was amended several times. Article 10 of the Law set that the base to which the ad valorem tax rate must be applied is the customs CIF value plus import duty for imported tobacco products or manufacturer's sale price for domestic cigarettes. However, when customs or manufacturers are to settle any taxes, which simultaneously affect the selective consumption (ad valorem) tax, such taxes must not become a part of the tax base of the consumption tax.

The tax base for domestic cigarettes and cigars is calculated taking into account several variables such as suggested retail price to the public, percentage of presumptive utility of the retailer, the applicable percentage by volume discount concept, and others¹⁷. In the case of imports, the taxable base is calculated by adding the import customs duties (DAI) to the customs value. Once this tax base is calculated, the established rate is applied, which is 95% for cigarettes. However, it does not make 95% of the price but just of a small portion of it.

¹⁴ <http://qcostarica.com/philip-morris-international-will-stop-producing-cigarettes-in-costa-rica/>

¹⁵ <https://www.marketresearch.com/GlobalData-v3648/Cigarettes-Costa-Rica-10978050/>

¹⁶

http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=18507&nValor3=19746&strTipM=TC

¹⁷ http://www.hacienda.go.cr/docs/5ad76e72dbeef_ancomp2016.pdf

Another special tax on cigarettes (INDER) was established by Law No 5792 of September 1, 1975¹⁸, later amended by other laws. Currently, this tax is regulated by the Law on Institute of Rural Development (No 6735), which set that additional tax (2.5% of domestic and imported cigarette price) should be paid and then used to cover the needs of technical education and other needs of rural development¹⁹.

The General Law on Tobacco Control and its Harmful Effects on Health (No 9028) which was adopted on March 22, 2012²⁰, sets several norms on tobacco taxation:

- Article 22 established the specific tax of twenty colons (₡ 20.00) for each cigarette, cigar and other tobacco products in cigarette equivalents, of national or imported production. However, Article 26 set that this specific tax will not affect how other taxes on cigarettes are determined, that is, the specific tax will not be part of the taxable base of the current taxes. For this reason, as the retail price to the final consumer includes the specific tax, it is deducted when calculating the base for determining other taxes.
- Article 30 set that the Ministry of Finance must annually update the amount of specific tax in accordance with the variations of the consumer price index determined by the National Institute of Statistics and Censuses (INEC). The new specific tax rate is set by the Ministry every April according to the reported inflation rate. From April 2018, the specific rate is 23.39 colons (CRC) per 1 cigarette (Resolution RES-DGH-0020-2018)²¹.
- Article 31 established a minimum level of taxation: the total sum to be paid for the selective tax on consumption, plus the tax for the Institute of Agrarian Development (Inder), plus the general sales tax (VAT), should not be less than 85% of the sum of these three taxes paid for the best-selling category of cigarettes (CMV).
- The most sold category of cigarettes (CMV), which is a brand with the highest sale level, shall be determined and then the final retail price of the CMV brand is used to calculate the minimum specific tax rate. The minimum level of taxation should be established and reported annually by the Tax Department, for packs of 20 cigarettes, if the resulting minimum level of taxation is higher than the level in force.
- The minimum level of taxation was set by the Tax Department as 311.8153 CRC per pack from 29 November 2012²², 331.6473 CRC from 1 July 2014²³ and 362.5282 CRC from 1 July 2015²⁴. By notice published in the Official Newspaper on July 19, 2016, the validity of the resolution DGT-R-014-2015 of June 8, 2015, is maintained for the period 2016-2017²⁵.

Currently, taxation of cigarettes in Costa Rica is very complicated and its detailed scheme (based on the scheme of the Taxation Department²⁶) is presented in Table 4.

¹⁸

http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=2206&nValor3=109677&strTipM=TC

¹⁹ <http://www.ucr.ac.cr/medios/documentos/2015/LEY-6735.pdf>

²⁰

http://www.pgrweb.go.cr/scij/Busqueda/Normativa/Normas/nrm_texto_completo.aspx?param1=NRTC&nValor1=1&nValor2=72249&nValor3=100226¶m2=1&strTipM=TC&IResultado=6&strSim=simp

²¹ <http://www.hacienda.go.cr/contenido/13049-impuesto-a-los-productos-de-tabaco>

²² http://www.imprentanacional.go.cr/pub/2012/10/11/COMP_11_10_2012.html

²³ http://www.imprentanacional.go.cr/pub/2014/06/17/COMP_17_06_2014.pdf

²⁴ https://www.imprentanacional.go.cr/pub/2015/06/25/COMP_25_06_2015.pdf

²⁵ <http://www.hacienda.go.cr/contenido/13049-impuesto-a-los-productos-de-tabaco>

²⁶ https://www.imprentanacional.go.cr/pub/2015/06/25/COMP_25_06_2015.pdf

Table 4. Components of cigarette price in Costa Rica

| Price and taxes | The formula to calculate tax | 2015 | | | | | | | | 2018 | | | |
|---|--|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|
| | | Price per pack | tax share |
| Price | A | 1500 | | 1700 | | 1350 | | 2000 | | 1500 | | 2000 | |
| Specific excise | B | 437,6 | 29,2 | 437,6 | 25,7 | 437,6 | 32,4 | 437,6 | 21,9 | 467,8 | 31,2 | 467,8 | 23,4 |
| VAT, 13% | $C=(A-B)/113*13$ | 122,2 | 8,1 | 145,2 | 8,8 | 105,0 | 7,8 | 179,7 | 9,0 | 118,7 | 7,9 | 176,3 | 8,8 |
| Inder (rural tax), 2,5% | $D=(A-B)/1,13/1.025*0.025$ | 22,9 | 1,5 | 27,2 | 1,7 | 19,7 | 1,5 | 33,7 | 1,7 | 22,3 | 1,5 | 33,1 | 1,7 |
| Sales price billed to retail customers | $E=A*0.90907$ | 1364 | | 1545 | | 1227 | | 1818 | | 1364 | | 1818 | |
| PUD (Percentage of presumptive utility of the retailer) | $F=(A-E)/(E-B)$ | 0,147 | | 0,140 | | 0,155 | | 0,131 | | 0,152 | | 0,135 | |
| Special consumption Tax, 95% | $G=((A-B)/(1+F))/1.0251/1.25 - C - D)/1.95*0.95$ | 281,4 | 18,8 | 337,2 | 20,4 | 239,5 | 17,7 | 420,9 | 21,0 | 271,9 | 18,1 | 411,4 | 20,6 |
| All ad valorem taxes | $H=C+D+G$ | 426,5 | 28,4 | 509,6 | 30,9 | 364,2 | 27,0 | 634,4 | 31,7 | 412,9 | 27,5 | 620,8 | 31,0 |
| Total tax | $I=B+H$ | 864,1 | 57,6 | 947,2 | 57,4 | 801,8 | 59,4 | 1072 | 53,6 | 880,7 | 58,7 | 1089 | 54,4 |
| Net-of-tax price | $J=A-I$ | 635,9 | | 752,8 | | 548,2 | | 928,0 | | 619,3 | | 911,4 | |

Calculations, presented in Table 4, show some features of cigarette taxation system in Costa Rica:

1. While the declared rate of the consumption tax is 95%, in reality, it is only 18-21% of the final retail price. Similarly, while the declared VAT rate is 13%, it actually constitutes only 8-9% of the price. The sum of three ad valorem taxes is 27-32% of the final retail cigarette price.
2. Current minimum level of taxation (362.5282 CRC per pack) worked in 2015 only for cigarettes with a price below 1350 CRC per pack, as for cigarettes with price 1350 CRC total ad valorem tax was 364.2 CRC. However, in 2016 the price of the lowest cost brand of cigarettes was 1500 CRC²⁷.
3. When tobacco industry increased prices in 2015, for example, from 1500 to 1700 CRC per pack or by 200 CRC, such price rise resulted in the ad valorem excise increase by 83 CRC, while net-of-tax price (which determines the industry's profit margin) increased by 117 CRC.
4. Between 2015 and 2018, the specific excise rate increased by 30.2 CRC or by 7%, but, paradoxically, this resulted in the decreased total ad valorem tax by 13.6 CRC for all price categories. Total tax increased just by 16.6 CRC or by 2% in three years.
5. The current taxation system encourages tobacco industry to increase the price to get extra profits, while the impact of increased tax rates and prices on governmental revenue is rather small.

²⁷ http://www.who.int/tobacco/surveillance/policy/country_profile/cr.pdf

Tobacco excise revenue

Information on tobacco tax revenue is available only from 2012²⁸, as a specific excise for tobacco products was established in March 2012. Annual reports of the Ministry of Finance^{29 30 31 32} contain information on specific excise revenue for domestic and imported tobacco products and also on consumption (ad valorem) tax revenue for domestic tobacco products for 2012-2016 (Table 5).

Table 5. Tobacco taxes revenues

| | Formula | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| Specific excise revenue, million CRC | A | 19852 | 38860 | 32227 | 33681 | 32560 | 30590 | |
| domestic | B | 10182 | 23661 | 17628 | 18374 | 16853 | | |
| imported | C | 9670 | 15198 | 14649 | 15307 | 15707 | | |
| Consumption tax revenue for domestic tobacco products, million CRC | D | 17084 | 13385 | 13268 | 12377 | 12129 | | |
| Specific excise rate, CRC per 1 cigarette, effective from April each year ³³ | E | 20 | 21,3 | 21,88 | 22,65 | 22,64 | 22,88 | 23,39 |
| Recalculated average annual specific excise | F | | 21,0 | 21,7 | 22,5 | 22,64 | 22,8 | |
| Number of taxed cigarettes, million | G=A/F | | 1850 | 1485 | 1497 | 1438 | 1342 | |
| domestic | H=B/F | | 1127 | 812 | 817 | 744 | | |
| imported | I=C/F | | 714 | 670 | 676 | 694 | | |

In 2012, specific excise tax revenue was accumulated starting from June. In 2013, specific revenue was about 39 billion CRC; then it declined to about 32-33 billion CRC per year in 2014-2015 and to 30.6 billion CRC in 2017. However, revenue from the specific excise declined only for domestic cigarettes, while revenue from imported cigarettes even slightly increased in 2013-2016.

Revenue from consumption (ad valorem) tax on domestic tobacco products declined by 22% in 2013. In 2014-2016, it decreased by 9% in three years. In 2013-2016, revenue from consumption (ad valorem) tax on domestic tobacco products is about 50% lower, than the revenue from specific excise on domestic tobacco products, so the average consumption tax rate in monetary terms was about 15 CRC per one cigarette.

As specific rate was changed annually in April, we recalculated average annual specific excise rate and used it to estimate the number of taxed cigarettes (Table 5). In 2013, 1.85 billion cigarettes were taxed, in 2014-2015 about 1.5 billion cigarettes and in 2016-2017 about 1.4 billion cigarettes were taxed annually. In 2014, the number of taxed cigarettes decreased by 20%, and in 2015-2017 (for three years) it further decreased by 10%. However, the number of taxed imported cigarettes was rather stable in 2013-2016: about 0.7 billion cigarettes annually. On the other hand, the number of taxed domestic cigarettes decreased by 22% in 2013-2016.

²⁸

https://view.officeapps.live.com/op/view.aspx?src=http://www.hacienda.go.cr/docs/5adf6339677de_Ingresos%201990-2017%20publicar.xlsx

²⁹ http://www.hacienda.go.cr/docs/59f8b323e0e34_analisis13.pdf

³⁰ http://www.hacienda.go.cr/docs/59f898b00d4a1_analisis14.pdf

³¹ http://www.hacienda.go.cr/docs/59f898b023db3_analisis15.pdf

³² http://www.hacienda.go.cr/docs/5ad76e72dbeef_ancomp2016.pdf

³³ <http://www.hacienda.go.cr/contenido/13961-historico-impuesto-productos-de-tabaco>

Tobacco tax earmarking

The General Law on Tobacco Control and its Harmful Effects on Health (No 9028, of 2012), in its Article 29, establishes that the revenue, received from taxes set by this law must be managed in a specific account and so that the National Treasury can direct them, directly and in a timely manner, on a monthly basis, and distributed as follows³⁴:

a) Sixty percent (60%) of the resources will be destined to the Costa Rican Social Security Fund (CCSS), to be used in:

- i. The diagnosis, treatment, and prevention of diseases associated with smoking.
- ii. The strengthening of the National Oncological Network, to be used in the prevention, diagnosis, and treatment of cancer, as well as rehabilitation and palliative cancer care.

b) Twenty percent (20%) will be destined to the Ministry of Health so that it fulfills the functions entrusted in the present law.

c) Ten percent (10%) will go to the Institute on Alcoholism and Drug Dependence (IAFA), for the performance of the tasks established in this law.

d) Ten percent (10%) will go to the Costa Rican Institute of Sports and Recreation (ICODER) for the fulfillment of its functions related to sport and recreation.

The CCSS and IAFA, which both work on the prevention, diagnosis, and treatment of tobacco-related diseases, have used the funds to finance prevention programs, treatment clinics, and research. The Health Ministry and ICODER placed print and broadcast advertisements directed at teenagers and young adults illustrating the importance of living a healthy smoke-free life. Prominent and youth-appealing musicians and sports athletes were involved in this [5].

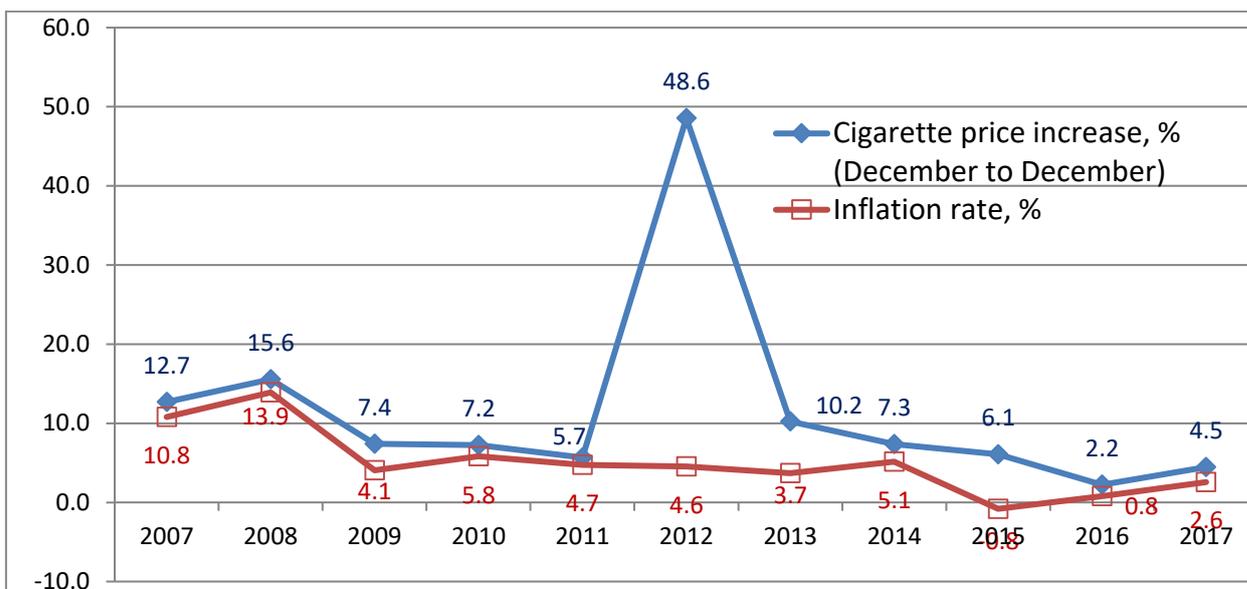
Cigarette prices

In 2006, the price of the most popular cigarette brand Derby was 550 colons (CRC). According to the WHO Global tobacco control reports, the price of Derby cigarette pack increased from 750 CRC in 2008 to 800 CRC in 2010. In 2012, the price sharply increased to 1300 CRC and then to 1600 CRC in 2014 and 1700 CRC in 2016.

Starting from 2007, cigarette price increases in Costa Rica exceed inflation rates (Fig. 1).

Figure 1. Annual changes in average cigarette prices and inflation rates.

³⁴ http://iris.paho.org/xmlui/bitstream/handle/123456789/28380/9789275318867_spa.pdf



Source of data for calculations: Reports of the National Institute of Statistics and Census^{35, 36}

In 2007-2011, cigarette price increased by 58%, while the inflation over those four years was 27%. In 2012, when specific excise tax for cigarettes was introduced, the average price increased by 48.6% (in April-May 2012 price increased by 40%). Over the subsequent five years (2013-2017), cigarette price increased by 34%, while the inflation was 12%. Price of the most popular cigarettes increased by 400 CRC in 2012-2016, while specific excise increased only by 52.8 CRC per pack of 20 cigarettes). So the cigarette price increase was mainly caused by pricing policy of tobacco industry, but not by the governmental taxation policy.

According to the Law No 9028, the price of the most sold cigarette brand has to be officially declared by the Tax Department It was 900 CRC per pack from 29 November 2012³⁷, 1400 CRC from 1 July 2014³⁸ and 1500 CRC from 1 July 2015³⁹.

According to GATS results, in 2015 the average amount spent on 20 manufactured cigarettes was 1328 CRC⁴⁰.

Cigarette smuggling

In October 2016, CID Gallup manager for Latin America, Esteban Álvarez, presented smuggling estimates as a CID Gallup study called *THE ILLICIT TRADE OF CIGARETTES IN CENTRAL AMERICA - From ant smuggling to an elephant in the market*⁴¹, commissioned by the North American Costarican Chamber of Commerce (AmCham)⁴². "This type of study reinforces what the Ministry of Finance has been saying for some time, and that the level of smuggling that circulates daily in our country is increasing"- said Fernando Rodríguez Garro, Vice Minister of Revenue of Costa Rica during the presentation of the study.

³⁵ http://www.inec.go.cr/sites/default/files/documentos-biblioteca-virtual/seeconomipcbbasejulio2006_0.xls

³⁶ <http://www.inec.go.cr/sites/default/files/documentos-biblioteca-virtual/seeconomipc042018-02.xlsx>

³⁷ http://www.imprentanacional.go.cr/pub/2012/10/11/COMP_11_10_2012.html

³⁸ http://www.imprentanacional.go.cr/pub/2014/06/17/COMP_17_06_2014.pdf

³⁹ https://www.imprentanacional.go.cr/pub/2015/06/25/COMP_25_06_2015.pdf

⁴⁰ http://apps.who.int/tobacco/surveillance/survey/gats/cr_executive_summary_en.pdf

⁴¹

https://cigarroilicito.weebly.com/uploads/1/0/9/4/109477265/16_10_19_estudio_completo_contrabando_cid_gallup.pdf

⁴² <https://www.prnewswire.com/news-releases/illicit-cigarettes-fueling-organized-crime-and-connections-to-terrorism-in-costa-rica-and-central-america-300347819.html>

The media report about this presentation⁴³ contains footnotes mentioning that KPMG Frost report is the source of estimates.

In May 2015, KPMG agency issued a report called “Project Frost” [28] funded by British American Tobacco (BAT). The purpose and scope of this study were established through an agreement with the BAT. The study had to consider the smuggling and the counterfeit segments of the tobacco market in 16 Latin American markets (including Costa Rica) and Canada (with a focus on Ontario). According to this agreement, KPMG had to show the country-specific preliminary results for each of the markets included in the study to the BAT administration teams in order to obtain feedback and comments before finalizing the results. Most data for the study (sales, prices, taxes) were provided by the BAT. The estimates of illicit sales were based on so-called empty pack surveys (EPS). The results of EPS were provided to KPMG by the BAT.

According to the EPS results shown in the 'Project Frost' report [28], contraband cigarettes accounted for 15.6% of cigarettes consumed in Costa Rica in 2014 or 0.32 billion cigarettes. Most contraband cigarettes in Costa Rica were labeled Panamanian. In 2014, the average price of a legal tobacco pack in Costa Rica was \$2.74 compared to \$4.08 in Panama. However, the report claims that the empty Panamanian packs found in Costa Rica were Chinese brands from the free zone of Panama and were likely to have lower prices. No counterfeit packs were identified in the EPS.

KPMG also had to admit that 60 million cigarettes that were legally sold and taxed in Costa Rica in 2014 were eventually consumed in Mexico.

It was reported that the number of collected packs for the EPS in Costa Rica was 5,880, but mainly two illicit brands were found: Silver Elephant (88% of all illicit empty packs) and Seneca (6%). However, Costa Rican authorities reported seizures of many other illicit cigarette brands: Cumbia, Golden Deer, Modern, Jaisalmer, Gold City and others^{44 45 46}. A journalist, who visited illicit markets in San Jose, reported that the most illegally traded brand was Silver Elephant, which was followed by Modern, Golden Deer and Cumbia⁴⁷. So the EPS results make us suspect that the number of empty packs collected by BAT team was very small and limited to some areas, where consumption of illicit cigarettes was most common.

The real aim of BAT media efforts on cigarette smuggling was disclosed in the interview of Franklin Murillo, the manager of British American Tobacco in Costa Rica. He said: *“Since the enactment of the Anti-Tobacco Law in Costa Rica on March 2012, we’ve been under the impression that cigarette use has gone down. However, in reality, we’ve seen a dramatic increase in illegal smuggling. Instead of taxing cigarettes at a lower rate, and therefore taxing a larger quantity of sales, the government failed to properly analyze the situation”*⁴⁸.

⁴³ <http://www.hacienda.go.cr/noticias/13793-segun-estudio-realizado-por-la-firma-consultora-cid-gallup-para-amcham-cigarrillos-ilegales-combustible-para-el-crimen-organizado-en-costa-rica-y-centroamerica-su-vinculo-con-el-terrorismo>

⁴⁴ <http://www.hacienda.go.cr/noticias/13618-aduanas-detiene-contrabando-de-cuatro-millones-de-cigarros>

⁴⁵ <http://www.hacienda.go.cr/noticias/14413-policia-de-control-fiscal-decomisa-9-millones-de-cigarrillos-valorados-en-450-millones-de-colones>

⁴⁶ <https://www.nacion.com/el-pais/politica/cigarrillos-complican-plan-del-gobierno-sobre-contrabando/G32JMLEBABBFFJNFVFM7CSWCXI/story/>

⁴⁷ <https://elcapitalfinanciero.com/cigarrillos-ilegales-golpean-a-centroamerica/>

⁴⁸ <https://panampost.com/david-rodriguez-suarez/2014/07/30/costa-ricas-cigarette-tax-regime-merely-a-gift-to-black-markets/>

However, even the KPMG report has to admit that after the excise hike in 2012 cigarette sales in Costa Rica decreased by 0.64 billion cigarettes: from 2.4 billion in 2011 to 1.76 billion in 2014, while the estimated smuggling volume in 2014 was 0.32 billion cigarettes. It means that the total cigarette consumption in the country decreased in 2011-2014 by at least 0.32 billion cigarettes. The actual decline of tobacco consumption was even larger for the following reasons: (1) tobacco industry consistently overestimates [29] volumes of smuggling into the country; (2) KPMG reported that 0.06 billion cigarettes were sold in Costa Rica in 2014, but then moved to Mexico; (3) some smuggling into Costa Rica took place before 2012.

According to GATS results, only 5.4% of smokers purchased cigarettes from street vendors in 2015; however, 6.2% of them purchased cigarettes in duty-free shops⁴⁹.

In March 2014, two years after the tax increase took effect, the Ministry of Finance reported that Law 9028 had little to no impact on smuggled cigarettes, despite continued tobacco industry claims in the media that raising taxes increased contraband and smuggled cigarettes. For example, in November 2013, PMI complained that cigarette seizures became five times more than in 2012, but the Finance Ministry reported that the increase was due to improved enforcement after the Ministry strengthened the Fiscal Control Police with additional staff, and an increased focus on organizations that import illegal cigarettes and their distribution networks [5].

Cigarette prices in Costa Rica substantially increased from 2012 and this increase was partly caused by pricing policy of tobacco industry. Sharp price increase encouraged cigarette smuggling and the government developed serious countermeasures. In 2015, the Law to reduce illicit trade (No 9328⁵⁰) was adopted. The number of cigarettes, seized by authorities, increased from 2 million in 2012 to 22 million in 2013 and 34 million in 2014, but in 2015 it decreased to 24 million cigarettes⁵¹. Probably, effective policies reduced volumes of smuggling to Costa Rica in 2015.

In October 2016, the Fiscal Control Police of the Ministry of Finance, in coordination with the Office of Economic and Tax Crimes, carried out an important operation, which resulted in the dismantling of the country's main cigarette smuggling ring, allowing the seizure of more than 40 million cigarettes⁵². Effective anti-smuggling operations were also conducted later. For example, in March 2018 a shipment of nine million cigarettes was confiscated by the Fiscal Control Police⁵³.

In 2017, Costa Rica ratified the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products.

Comparison of cigarette prices and taxes in Costa Rica and neighboring countries

The WHO Global Tobacco Report, 2017, contains information on cigarette prices and taxes in Costa Rica and other countries of the WHO Americas Region (AMRO) in 2016 [30] (Table 6).

Table 6. Cigarette prices and taxes in Costa Rica and some neighboring countries in 2016, WHO report data [30]

⁴⁹ http://www.who.int/tobacco/surveillance/survey/gats/cr_i_factsheet_en.pdf

⁵⁰ http://untobaccocontrol.org/impldb/wp-content/uploads/reports/costa_rica_2016_annex14_law_to_reduce_illicit_trade_2015.pdf

⁵¹ http://untobaccocontrol.org/impldb/wp-content/uploads/reports/costa_rica_2016_annex7_cigarette_seizures_2016.pdf

⁵² <http://www.hacienda.go.cr/noticias/13777-policia-de-control-fiscal-decomiso-hoy-mas-de-40-millones-de-cigarrillos>

⁵³ <http://www.hacienda.go.cr/noticias/14413-policia-de-control-fiscal-decomisa-9-millones-de-cigarrillos-valorados-en-450-millones-de-colones>

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of the price of the most sold brand | | | | | | % of GDP per capita required to purchase 2000 cigarettes of the most popular brand |
|--------------------------|---|-------------------|------------------------------------|--|-------------------|--------------|---------------------------|--------------|-----------------|--|
| | In reported currency | Currency reported | In US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Total tax | Total tax, US\$ | |
| Belize | 5.00 | BZD | 2.50 | 26.0% | 0.0% | 26.0% | 11.1% | 37.1% | 0.93 | 5.4% |
| Canada | 10.29 | CAD | 7.89 | 57.2% | 0.0% | 57.2% | 9.0% | 66.2% | 5.22 | 1.8% |
| Costa Rica | 1 700 | CRC | 3.09 | 26.6% | 31.2% | 57.9% | 11.5% | 69.4% | 2.14 | 2.7% |
| El Salvador | 2.00 | USD | 2.00 | 22.5% | 18.5% | 41.0% | 11.5% | 52.5% | 1.05 | 4.6% |
| Guatemala | 16.50 | GTQ | 2.18 | 0.0% | 38.3% | 38.3% | 10.7% | 49.0% | 1.07 | 5.2% |
| Honduras | 44.00 | HNL | 1.92 | 19.1% | 0.0% | 19.1% | 15.3% | 34.3% | 0.66 | 7.3% |
| Mexico | 47.39 | MXN | 2.51 | 14.8% | 38.7% | 53.5% | 13.8% | 67.3% | 1.69 | 3.0% |
| Nicaragua | 50.00 | NIO | 1.74 | 22.1% | 0.0% | 22.1% | 13.0% | 35.1% | 0.61 | 8.2% |
| Panama | 4.25 | PAB | 4.25 | 0.0% | 43.5% | 43.5% | 13.0% | 56.5% | 2.40 | 3.1% |
| United States of America | 6.43 | USD | 6.43 | 37.8% | 0.0% | 37.8% | 5.2% | 43.0% | 2.77 | 1.1% |

Cigarette prices and taxes (in monetary terms) in Costa Rica are higher than in all countries of the region except Panama, Canada, and the USA. On the other hand, in terms of affordability, cigarettes are more affordable in Costa Rica than in Panama, Mexico, El Salvador, Belize, Guatemala, Honduras, and Nicaragua. In 2012, cigarettes became much less affordable than in 2010: the percentage of GDP per capita required for purchasing 2000 cigarettes of the most popular brand increased from 1.9% to 2.6%. In 2014-2016, cigarette affordability in Costa Rica slightly declined.

Tobacco affordability

The Guidelines for implementation of Article 6 of the WHO FCTC [31] recommend: “When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”. In the Guidelines, “affordability” means price relative to per capita income.

In the current analysis, a modified tobacco affordability index (TAI) [32] is used to estimate the changes in tobacco affordability in 2010–2017. TAI is calculated as the percentage annual change in nominal average income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. For the TAI calculations, we used the National Institute of Statistics and Census data on household nominal annual average income per capita and annual CPI for tobacco products (Table 7).

Table 7. Tobacco affordability in 2010-2017

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|
| Average household income per capita ⁵⁴ , CRC | 268592 | 296311 | 315084 | 328688 | 348324 | 356648 | 369518 | 368227 |
| Annual income increase (previous year = 100) | | 110,3 | 106,3 | 104,3 | 106,0 | 102,4 | 103,6 | 99,7 |
| Cigarette price increase, % (December previous year = 100) | 107,2 | 105,7 | 148,6 | 110,2 | 107,3 | 106,1 | 102,2 | 104,5 |

⁵⁴ <http://www.inec.go.cr/sites/default/files/documentos-biblioteca-virtual/seinghogaresenaho2010-2017-03b.xls>

| | | | | | | | | |
|-----------------------------|---|-----|-------|------|------|------|-----|------|
| Tobacco Affordability Index | x | 4,4 | -28,4 | -5,4 | -1,3 | -3,5 | 1,3 | -4,6 |
|-----------------------------|---|-----|-------|------|------|------|-----|------|

In 2011, cigarettes became more affordable as income increase was rather high. After the excise hike in 2012, cigarette affordability was greatly reduced. Later, in 2013-2017, the affordability continued to decline, while there were no tax increases. Tobacco industry pricing policy combined with moderate income growth in the country made cigarette less affordable and their consumption reduced in 2013-2017.

Discussion

Tobacco taxation and other tobacco control policies in Costa Rica were very successful in terms of public health. Smoking prevalence both among adults and adolescents decline, and after 2012 the rates of decline increased. In 2015, only 5.8% of the adult population smoked daily.

However, the tobacco excise revenue in Costa Rica decreased over recent years as the number of taxed cigarette sales reduced. The Ministry of Finance of Costa Rica admits, that the main factor of the sales decline was *'a lower demand for these products resulting from the population awareness of the harmful effects of tobacco; consequently, people smoke less'*⁵⁵. The Ministry also mentioned such factors as *'increased import of lower-priced cigarettes that have come to compete with what the local market offers'*, and *'an increase of contraband over recent years'*.

However, another factor of cigarette sales decline is the pricing policy practiced by the tobacco industry. After tax hike in 2012, tobacco tax increase was very small, but cigarette prices in 2013-2017 increased by 34%, while inflation in those years was 12%. The income increase was rather moderate and cigarettes became less affordable in 2013-2017 (see Table 7). The increase in cigarette prices in Costa Rica in those years was therefore largely due to tobacco corporations' pricing policy, not the government's excise policy. The recent monograph from the National Cancer Institute and WHO reveals that this phenomenon is also observed in other counties. It states [33]: "Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone."

Another factor of reduced revenue from tobacco taxes is incomprehensive taxation regulations:

- The minimum level of taxation established by the Article 31 of the Law 9028 actually does not work, as it applies only to very cheap cigarettes which are not available at the market.
- Provisions to calculate the consumption tax for cigarettes are very complicated and beneficial only for the tobacco industry: when the industry increases prices, it receives more profits. The size of tax payments, received by the government, increases to a smaller extent.
- The specific tax rate is annually increased by the inflation rate. However, such tax increase by itself is not able to reduce tobacco affordability and so to reduce tobacco consumption.
- Article 26 of the Law 9028 sets that the base for ad valorem tobacco taxes calculations should be deducted by the amount of specific tax. Such provision makes this base lower and reduces the total tax burden for cigarettes. For example, in 2015-2018 the specific tax rate was increased in line with inflation by 7%, but the total tax burden increased only by 2%.

Costa Rica has the sovereign right to determine and establish its taxation policies, including the level of tax rates to apply, and the structure and system of tobacco taxes, taking into account national

⁵⁵ http://www.hacienda.go.cr/docs/5ad76e72dbeef_ancomp2016.pdf

circumstances to achieve public health, fiscal and other objectives. However, several options can be proposed to change the taxation in a way that is beneficial for both public health and fiscal interests.

1. Cancel Article 26 of the Law 9018 that the specific tax is not a part of the taxable base of the other taxes. This measure will increase revenue from the consumption tax, VAT and the Inder tax by about 30% and increase cigarette retail price by about 15%. Such price growth will reduce cigarette sales, but revenue from the specific tax will decline.
2. Increase the specific excise rate much higher than the inflation. It will increase specific revenue, but revenue from all ad valorem taxes will decline.
3. The most comprehensive option is a combination of several measures: (a) Cancel Article 26 of the Law 9028; (b) cancel the consumption tax for cigarettes; (c) increase the specific excise rate so that new specific excise rate substantially exceeds the sum of the current specific excise and the consumption tax in monetary terms.

Estimates of the potential revenue for the third option are presented in Table 8. They are based on the following assumptions:

- The specific excise rate will be increased to 60 CRC per 1 cigarette from January 2019.
- The consumption tax for cigarettes in monetary terms in 2017 was 50% less than the specific excise.
- Current average cigarette price is 1500 CRC per pack of 20 cigarettes and the net-of-tax price is 619 CRC (see Table 4).
- The industry will keep the net-of-tax price after the proposed tax increase. In this case, excise share in the final retail price will be 57% and the total tax share will be 71%.

With such assumptions, the average price should increase to 2100 CRC per pack or by 40%. In 2012, cigarette prices increased by 48% (see Figure 1) and taxed cigarette sales declined (due to reduced consumption and increased smuggling) from 2.4 billion in 2011 to 1.85 billion in 2013 or by 23%, so the price elasticity was about -0.5. We can expect that after 40% price increase taxed sales will decline by 20%. However, the price elasticity of cigarette demand might be smaller as estimated in a systematic review based on the studies from Latin America and the Caribbean (pooled elasticities, short-run: -0.31; long-run: -0.43[34]). This will result in a smaller decrease of cigarette sales and, thus, greater revenues.

Table 8. Estimates of tobacco tax revenue after the proposed taxation changes

| | 2017 | 2019 |
|---|-------------|-------------|
| Number of taxed cigarettes, billion | 1,34 | 1,12 |
| <i>Specific excise rate, CRC per pack</i> | 22,8 | 60 |
| Revenue from specific tax, billion CRC | 30,6 | 67,2 |
| <i>Consumption tax rate, CRC per pack</i> | 15,2 | 0 |
| Revenue from the consumption tax, billion CRC | 20,4 | 0 |
| <i>VAT rate, CRC per pack</i> | 6 | 12 |
| Revenue from VAT, billion CRC | 8,0 | 13,4 |
| <i>Inder rate, CRC per pack</i> | 1,1 | 2,2 |
| Revenue from the Inder tax, billion CRC | 1,5 | 2,5 |
| Total revenue, billion CRC | 60,5 | 83,1 |

The estimations demonstrate that the proposed changes are able to bring more than 20 billion CRC to the governmental budget.

In Costa Rica, the brand-new administration of President Carlos Alvarado, elected in April 2018, faces the challenge of solving complex problems such as the growing fiscal deficit⁵⁶.

The World Bank Group is supporting the Government's efforts to bolster fiscal sustainability, increase the efficiency of its fiscal management, and strengthen its capacity⁵⁷.

The described tax increase will be supported by the population. According to GATS results, 85.1% of adults favored increasing taxes on tobacco products⁵⁸; 91% of adults in Costa Rica are non-smokers and they do not pay tobacco taxes.

In 2018, the cigarette production in the country will be closed. Tobacco industry claimed⁵⁹ that the closure had been caused by increased cigarette smuggling. However, there are no independent estimates of illicit cigarette share on the market while tobacco industry used to exaggerate the volumes of smuggled cigarettes. Cigarette price difference between Costa Rica and neighboring countries is rather small to encourage large smuggling and the observed illicit cigarette sales are likely caused by the factors, which are not related directly to tobacco taxation.

Costa Rica authorities already implemented some effective policies to counteract tobacco smuggling. Such efforts should be strengthened in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is already ratified by the country. While cigarette smuggling is a problem, it should not be overestimated and used as an argument against further excise increases. The FCTC Article 6 Guidelines state [31]: *The development, implementation and enforcement of tobacco tax and price policies as part of public health policies should be protected from commercial and other vested interests of the tobacco industry, including tactics of using the issue of smuggling in hindering implementation of tax and price policies.*

Conclusions and recommendations

Tobacco control policy including tobacco taxation policy practiced in Costa Rica in recent years greatly contributed to the tobacco consumption reduction in the country.

However, some features of the tobacco taxation policy, as well as tobacco industry pricing policy, caused the reduction of tobacco tax revenue.

It is recommended to consider the proposal to change the current mixed excise system for cigarettes to a specific excise system with a uniform excise rate for all cigarettes in monetary terms. The specific excise rate for cigarettes should be also annually increased to ensure the reduction in tobacco affordability and the increase in the excise revenues. Such policy is able to reduce the fiscal deficit in the country.

The tobacco taxation policy should be based on careful analysis of previous results of tax increase provided by institutions independent from the tobacco industry. To conduct such analysis, tobacco use surveillance and monitoring should be further developed in Costa Rica, including a regular collection of information on cigarette sales, prices and other economic indicators.

⁵⁶ https://en.centralamericadata.com/en/article/home/New_Government_New_Opportunity

⁵⁷ <http://www.worldbank.org/en/country/costarica/overview#2>

⁵⁸ http://apps.who.int/tobacco/surveillance/survey/gats/cr_executive_summary_en.pdf

⁵⁹ <http://qcostarica.com/philip-morris-international-will-stop-producing-cigarettes-in-costa-rica/>

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Côte d'Ivoire

Côte d'Ivoire is a middle-income country located in West Africa. Côte d'Ivoire's economic performance has been impressive over the past four years with robust GDP growth that resulted in a decline in poverty [1]. The FCTC was ratified on 13 August 2010 [2].

Tobacco use

Tobacco use among adolescents

According to the GYTS conducted in 2009, the prevalence of tobacco use among young people (13–15 years old) [3, 4] was as follows:

Table 1. Prevalence of tobacco use among young people in Côte d'Ivoire

| | Boys | Girls | Total |
|-----------------------------------|------|-------|-------|
| Current tobacco use (%) | 26.3 | 10.9 | 19.1 |
| Current cigarette smoking (%) | 20.9 | 5.7 | 13.7 |
| Current smokeless tobacco use (%) | 10.0 | 6.5 | 8.3 |

Among the health professions students, as measured in 2008 [5], prevalence of current smoking was 1.9% among medical students, 14.1% among nursing students, and 9.6% among pharmacy students.

A study which considered explanatory factors of tobacco use among young people [6] found that the prevalence of use differed by age, place of living, education of the parents, number of people in the household, their wellness, religion and many other factors with age being the strongest.

Tobacco use among adults

According to STEPS survey conducted in Côte d'Ivoire sub-nationally among men and women aged 15-64 in 2005 [7], 23.7% of men and 7.3% of women were current tobacco smokers, 18.6% and 3.7% respectively were daily tobacco smokers of which 86-88% were smokers of manufactured cigarettes using per day 6.3 cigarettes among men and 3.4 among women. Based on this data and population of Côte d'Ivoire as of 2005², we estimated the cigarette consumption as about 4 billion per year.

As Demographics and Health Survey (DHS) 2011-12 [8] shows, among women of reproductive age (15-49 y.o.) only about 0.4% were cigarette smokers and about 1.3% used other tobacco products and the latter prevalence was higher among older women (6.7% among those aged 45-49), those with lower SES (3.6%), and living in rural areas (2.0%).

Among male participants of DHS [8], 25% smoked cigarettes and about 1% used tobacco in other forms. Tobacco use was the lowest among the youngest males aged 15-19 (6%), increased to 36% among the

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.

² <http://worldpopulationreview.com/countries/ivory-coast-population/>

Tobacco use and tobacco taxation in Côte d'Ivoire

25-34 age group, then decreased to 23% among men aged 45-49 years. Tobacco use was more frequent in rural areas (27%) than in urban areas (23%) and among men with primary education (30%), living in the poorest households (31%). Among male daily smokers, only 9% used 1-2 cigarettes a day, nearly 34% smoked 3-5 cigarettes, 21% - 6-9 cigarettes, and 33% consumed 10 or more. More intense smoking was found among urban, older, less educated and those who belong to the Muslim religion.

According to published international estimates [9], age-standardized smoking prevalence in Côte d'Ivoire slightly increased in 1996-2012 (Table 2) and in 2012 it was 18.7% among men and 1.8% among women.

Table 2. Estimates of smoking prevalence and cigarette consumption in Cote d'Ivoire

| | 1980 | 1996 | 2006 | 2012 |
|---|-------|-------|-------|---------|
| Smoking prevalence (%) Male | 14.5 | 13.9 | 15.7 | 18.7 |
| Smoking prevalence (%) Female | 3.1 | 3.2 | 2.2 | 1.8 |
| Smoking prevalence (%) Both | 9.3 | 8.9 | 9.2 | 10.5 |
| # Smokers (thousands), Male | 370.3 | 630.3 | 840.1 | 1,126.9 |
| # Smokers (thousands), Female | 50.2 | 93.3 | 74.1 | 67.6 |
| # Smokers (thousands), Both | 420.6 | 723.6 | 914.2 | 1,194.5 |
| Total cigarette consumption (millions) | 3,615 | 6,212 | 6,709 | 7,364 |
| Mean Annual cigarettes consumption Per Capita | 802 | 741 | 658 | 634 |
| Mean Daily cigarette consumption Per Smoker | 23.5 | 23.5 | 20.1 | 16.9 |

The estimated annual cigarette consumption increased 2-fold in 1980-2012, mainly due to the population growth. In 1996-2012, the consumption was about 6-7.5 billion cigarettes. Estimated mean daily cigarette consumption per smoker decreased in 1996-2012 and in 2012 it was 17 cigarettes per smoker.

However, WHO [10] estimated that annual cigarette consumption in the country was only 2.5 billion cigarettes in 1996-2000. Similarly, estimates of cigarette consumption range between 2.1 and 3.8 in 1970-2000 without any upward trend [11].

Tobacco production and trade

According to FAO statistics [12], raw tobacco production in Côte d'Ivoire increased from 1,667 tons in 1980 to 13,500 tons in 1998 and then gradually declined to 8,912 tons in 2014.

In 2000, 3.3 billion cigarettes were produced in Côte d'Ivoire [10, 11]. Data on cigarette production in later years is not available.

According to the UN database, cigarette export from Côte d'Ivoire exceeded import till 2012 (Table 3). In 2014-2015, annual volume of cigarette import exceeded volume of cigarette export by about 1 thousand tones (approximately 1 billion cigarettes).

Table 3. External cigarette trade in Côte d'Ivoire (tones)

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---------------|------|------|------|------|------|------|------|------|------|------|------|
| Import | 165 | 562 | 747 | 405 | 491 | 638 | 832 | 1239 | 1178 | 1959 | 1800 |
| Export | 764 | 1025 | 883 | 1194 | 1034 | 819 | 1181 | 974 | 796 | 821 | 846 |
| Trade balance | -599 | -463 | -136 | -789 | -543 | -181 | -349 | 265 | 382 | 1138 | 954 |

Data source: UN database <http://data.un.org/Search.aspx?q=cigarettes>

WHO estimated [13] that in 2008-2012 cigarette sales in Côte d'Ivoire increased from 5 billion to 5.5 billion sticks.

SITAB (Ivorian Society of Tobacco) is the only Ivorian company manufacturing cigarettes locally, while its competitors import their products [14]. SITAB market share was 90% in 2000 but declined to 60% in 2016. Its main cigarette brand (Fine) had a 57% market share in 2016. The operating support to SITAB is provided by the Imperial Tobacco Group.

British American Tobacco Group decided to withdraw from the Ivorian territory in 2006, but it entrusted its distribution to the Ivorian Tobacco Distribution (IDT) company Mata PLC Holding with 100% Ivorian capital [15]. Commercial representation of the brands of BAT Group is entrusted to IDT in the form of an exclusivity contract.

Tobacco taxation in Côte d'Ivoire

Côte d'Ivoire is the largest economy in the West African Economic and Monetary Union (WAEMU or UEMOA in French). It was established to promote economic integration among the countries that share the West African CFA franc (XOF) as the common currency. UEMOA was created in 1994 by Benin, Burkina Faso, Côte d'Ivoire, Mali, Niger, Senegal, and Togo. In 1997, Guinea-Bissau, a former Portuguese colony, became the organization's eighth member state.

Côte d'Ivoire is also a member of the Economic Community of West African States (ECOWAS) which includes all WAEMU countries and also the countries of the West African Monetary Zone (WAMZ): Gambia, Ghana, Guinea, Liberia, Nigeria and Sierra Leone. Cape Verde is also a member of ECOWAS.

In terms of harmonization of tobacco taxes, the ECOWAS directive requires its member states to implement an ad valorem excise tax with a minimum rate of 15% and a maximum rate of 100% of the cost, insurance and freight (CIF) price (imports) or ex-factory price (domestic production) [16].

In 1998, the WAEMU countries adopted a directive on harmonization of tobacco taxes [17], which established minimum (10%) and maximum (40%) ad valorem excise rates on tobacco products. In 2009 [18], the Directive was modified and minimum and maximum excise rates on tobacco were increased by 5 percentage points: to 15% and 45%.

In Côte d'Ivoire, tobacco excise rates in 2000 were the following [19]: 35% for cigars and cigarillos; 20% for tobacco products with price below 15,000 XOF per kilogram and 30% for tobacco products with price equal or higher than 15,000 XOF per kilogram. Later kilogram as the base for taxation was substituted by 1000 cigarettes.

The base for calculation of the ad valorem tax was:

- For imported products: customs value (CIF) plus duties and taxes levied at entry, excluding value added tax (VAT). In 2008 the amendment was adopted³ and the taxable value (used as base for excise calculation) for imported products was required to be multiplied by 1.25. In 2015 this amendment was cancelled⁴.

³ Annexe Fiscale a l'Ordonnance n° 2007-488 du 31 mai 2007, art. 3.2
<http://cidcom.cgeci.org/civ/fr/1/p/1079/pdf.do>

⁴ http://www.dgi.gouv.ci/site/index.php?p=article_5

- For locally manufactured products (including products manufactured in countries of the customs union): by the selling price, excluding taxes. From 2008 the ad valorem tax base for domestic cigarettes was defined as ex-factory price.

In late 2008 [20], the rates were settled in the Article 418 of the General Customs Code as follows: cigars, cigarillos and smoking tobacco – 35%; cigarettes with ex-factory price below 11,250 XOF per 1000 cigarettes (or 250 XOF per pack) – 23%; cigarettes with price equal or above 11,250 XOF per 1000 cigarettes (or 250 XOF per pack) – 33%.

In 2014 [21], the ad valorem rate for cigarettes was modified as follows: for cigarettes with price below 15,000 XOF per 1000 cigarettes it became 25%; cigarettes with price equal or above 15,000 XOF per 1000 cigarettes – 35%. In 2015, the unified ad valorem rate of 38% was set for all cigarettes and other tobacco products [22].

In addition to the main ad valorem excise tax, two more special taxes are levied on tobacco products in Côte d'Ivoire.

In 2006 [23], an additional Special tax on tobacco for the development of sport (TSS) was set (see Article 1085 of the General Tax Code). In 2009, the Sport tax rates were modified as follows: on cigarettes with price below 11,250 XOF per 1000 cigarettes – 2.5%; on cigarettes with price equal or above 11,250 XOF, but less than 15,000 XOF per 1000 cigarettes as well as cigars and smoking tobacco – 5%; on cigarettes with price equal or above 15,000 XOF per 1000 cigarettes – 10%. From 2015, the sport tax rate was unified to 5%⁵.

Article 48 of the tax annex to Ordinance No. 2008-381 of 18 December 2008 on the State Budget for 2009 introduced a Solidarity tax (TFS) for the National AIDS Fund (FNLS)⁶ to allocate resources for fighting HIV / AIDS pandemic (see Article 1133 of the General Tax Code). This tax rate was set as 2%, based on the factory cost price or the taxable value of the tobacco imports, and the revenue should be allocated in full to the FNLS. This is an example of earmarking part of the tobacco taxes on AIDS-related programs [24]. Since 2013, 30% of this Solidarity tax revenue (or 0.6% tax rate) was allocated for national program on tobacco, alcohol and drug control (PNTLA) [25].

The taxable basis for the special tobacco tax (TAB) and the special tax on tobacco for the development of sport (TSS) levied on imports from 2015 are determined by the taxable customs value increased by all customs duties and taxes, excluding VAT. However, this taxable value may not be less than 15 000 CFA francs per 1000 cigarettes, for products manufactured in a country linked to Côte d'Ivoire by a customs union agreement, and 20 000 FCFA per 1000 cigarettes, for products manufactured in a country not bound to Côte d'Ivoire by a customs union agreement. Tax base of the Solidarity Tax for Combating AIDS and Tobacco (TFS) is determined under the same conditions and in the same way as the Special Tax on Tobacco for the Development of Sport (TSS)⁷.

Currently, the total ad valorem excise rate for cigarettes is equal to 38% (TAB) + 5% (TSS) + 2% (TFS) = 45%. However, it applies to the ex-factory price or CIF price with taxes, excluding VAT, which are much

⁵ http://www.dgi.gouv.ci/site/index.php?p=article_5

⁶ <https://cotedivoire.eregulations.org/media/annexe%20fiscale%202013%20wisdom.pdf>

⁷ http://www.cgeci.org/cgeci/index.php?option=com_content&view=article&id=1125:douanesn-de-nouveaux-amenagements-pour-lannexe-fiscale-2015&catid=54

lower than final retail price. WHO Tobacco Free Initiative estimated the excise tax share in the final cigarette retail price (800 XOF in 2016) in Côte d'Ivoire as 13.1% [2].

The minimum taxable value introduced from 2015 actually means that specific excise tax floor was introduced, which is (taking into account all three excise taxes) is 135 XOF ($300 * 0.45$) per pack of 20 domestic cigarettes and 180 XOF ($400 * 0.45$) per pack of 20 imported cigarettes.

Price of the cheapest cigarettes in 2016 was 500 XOF per pack, so for domestic cigarettes the maximum share of three excise taxes combined was $135/500 = 27\%$. For imported cigarettes with the price of 800 XOF per pack, the excise share is $180/800 = 22.5\%$.

The general VAT rate in Côte d'Ivoire is 18% (Article 359 of the General Tax Code⁸). However, the VAT rate for tobacco, cigars and cigarettes is 21.31%⁹. So the total tax (all three excise taxes and the VAT) share for domestic cigarettes is about 45%.

Côte d'Ivoire also charges 2.5% on the CIF value of imported cigarettes in the form of other taxes (Community Levy/ECOWAS levy, 0.5%, Community Solidarity Levy/WAEMU levy, 1%, and Statistical charge, 1%) [13].

According to the WHO Reports on Global tobacco epidemic, tobacco excise revenue in Côte d'Ivoire in 2011 was 12.1 billion XOF. In 2013, tobacco excise revenue increased to 17 billion XOF and total tobacco tax (excise + VAT + customs duty) was 40.6 billion XOF. In 2015, tobacco excise revenue was 14.8 billion XOF [2].

Cigarette prices

According to the 2015 WHO report on Global tobacco epidemic [24], price of the most popular brand in Côte d'Ivoire did not change and was 700 XOF in 2008-2014 and in 2016 it increased to 800 XOF [2].

According to the FCTC reports [26], price of cheap cigarettes (Excellence Rouge brand) increased from 475XOF in 2012 to 500XOF in 2014 and 700 XOF in 2016. Price of the most popular domestic brand (Fine) was 700 XOF in 2012-2014 and 800 XOF in 2016. The price of imported cigarettes (Marlboro) was 800 XOF in 2012-2016. Some multinational sites^{10 11} report that the price of Marlboro was also 800 XOF in 2017.

The National Institute of Statistic reported¹² that in 2011-2013 cigarette prices did not increase and were 714-738 XOF for domestic cigarettes and 922-980 XOF for imported cigarettes.

On the basis of the available information, we can conclude that cigarette prices in Cote d'Ivoire almost did not increase in 2008-2016, while inflation for these 8 years was 21% (Table 4). Inflation-adjusted GDP per capita increased over those years by 61%, so cigarettes became much more affordable and it could encourage their consumption.

⁸ <http://www.dgi.cgici.com/indexs.htm>

⁹ <http://www.izf.net/pages-facteurs-production/cote-d-ivoire-2>

¹⁰ <http://www.combien-coute.net/cigarette/cote-d-ivoire/>

¹¹ https://www.numbeo.com/cost-of-living/country_result.jsp?country=Ivory+Coast

¹² <http://www.ins.ci/n/templates/docss/prixvariete.pdf>

Table 4. Inflation and GDP growth in Cote d'Ivoire

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2008-2016 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| Annual growth of GDP per capita based on constant local currency (previous year =100) | 102,5 | 103,3 | 102 | 95,6 | 110,7 | 108,9 | 108,8 | 109,2 | 108,8 | 160,9 |
| Inflation, consumer prices (previous year =100) | 106,3 | 101 | 101,2 | 104,9 | 101,3 | 102,6 | 100,5 | 101,2 | 100,7 | 121,3 |

Data source: World Bank database <http://data.worldbank.org>

Comparison of cigarette prices and taxes in the WAEMU countries

The 2017 WHO Global Tobacco Report provides information on cigarette prices and taxes in Côte d'Ivoire and other WAEMU countries in 2014 [27] (Table 5). We have also collected recent information on Marlboro prices from various sites.

Cigarette prices in Côte d'Ivoire are similar to prices in other WAEMU countries. Cigarette excise rate in Côte d'Ivoire is higher than in Guinea Bissau and Mali, but lower than in Senegal, Togo, Benin, and Niger. The estimated total tax share in Côte d'Ivoire is 27%, which is lower than in Senegal, Burkina Faso, Mali and Niger.

Table 5. Cigarette prices and taxes in Cote d'Ivoire and other WAEMU countries

| | 20-cigarette pack of the most sold brand, 2016 | | | | | Prices in 2016 | | Most recently reported price of Marlboro | | Excise rate |
|----------------------|--|-------------|----------------------|---------------------------|--|----------------|------------|--|-------------|---------------------|
| | Price, XOF | USD | Excise as % of price | Total taxes as % of price | % of GDP per capita required to purchase 100 packs | Cheapest brand | Marlboro | XAF | USD | Ad valorem, % |
| Côte d'Ivoire | 800 | 1,36 | 15,8 | 27,1 | 9,3 | 500 | 800 | 800 | 1,39 | 38 |
| Benin | 500 | 0,85 | 4,0 | 6,4 | 10,9 | 200 | 1000 | 1000 | 1,74 | 40 ¹³ |
| Burkina Faso | 650 | 1,10 | 19,6 | 34,8 | 17,0 | 500 | 700 | 850 | 1,48 | 30 40 ¹⁴ |
| Guinea Bissau | 500 | 0,85 | 3,5 | 19,5 | 12,2 | 300 | 1000 | 1000 | 1,74 | 25 ¹⁵ |
| Mali | 800 | 1,36 | 11,2 | 27,7 | 16,3 | 250 | 1000 | 1000 | 1,74 | 32 ¹⁶ |
| Niger | 500 | 0,85 | 18,1 | 35,3 | 20,5 | 250 | 1500 | 1000 | 1,74 | 40 ¹⁷ |
| Senegal | 500 | 0,85 | 22,5 | 37,5 | 8,8 | 500 | 700 | 700 | 1,22 | 45 ¹⁸ |
| Togo | 500 | 0,85 | 6,6 | 10,6 | 14,3 | 450 | 1200 | 1000 | 1,74 | 45 ¹⁹ |

The WHO Tobacco Free Initiative compared cigarette affordability in 2016 in different countries by such an indicator as the percent of per capita GDP required to purchase 100 packs of most sold brand (the higher the %, the less affordable cigarettes are). In Côte d'Ivoire cigarettes were more affordable than in other WAEMU countries except Senegal.

Tobacco control policies

Côte d'Ivoire signed the Framework Convention on Tobacco Control in 2003 and ratified it in 2010.

As of late 2016 [2], Côte d'Ivoire has its National tobacco control program with specific government objective and national agency for tobacco control. These activities are also undertaken within the National program to Combat Tobacco, Alcoholism, and Other Addictions (NTPA),²⁰ which aims, among other things, to ratify the Protocol against illegal trade, to adopt the legislative ban on smoking in public places, to adopt tobacco control law, and to control its enforcement.

¹³ <http://who.int/tobacco/economics/ben.pdf>

¹⁴ http://www.burkinapmepmi.com/IMG/pdf/loi_de_finances_gestion_2016_nouvelles_mesures_burkinapmepmi.com_kam-auguste.pdf

¹⁵ <http://who.int/tobacco/economics/gnb.pdf>

¹⁶ <http://www.droit-afrique.com/uploads/Fiscalite-Panafricaine-2016-GHA.pdf>

¹⁷ <http://www.who.int/tobacco/economics/ner.pdf>

¹⁸

https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=0ahUKEwj9bn suZLVAhUHCpoKHZeYB-YQFggiMAA&url=http%3A%2F%2Fpubdocs.worldbank.org%2Fen%2F515451493930313390%2F11-Senegal-TAXATION-DU-TABAC-CTSALL1-PANEL-9.pptx&usq=AFQjCNES_09WdSEt0SFEiDR90IDGQieRtQ

¹⁹ <http://who.int/tobacco/economics/tgo.pdf>

²⁰ <http://www.serviceongsante.ci/PROGRAMME/pnltab.pdf>

Smoke-free policies have not been widely introduced [2] and SHS exposures measured in 2009 among young people aged 13-15 years old revealed that 74.4% were exposed in public places and 33.1% were exposed in homes [3, 4]. However, the Decree No. 2012-980 [28] adopted on October 10, 2012 prohibited smoking in public places and public transport. After that, the awareness campaign was started. However, in March 2013, the Decree was announced an abuse of power by the juridical firm obviously involved with the tobacco industry, and the Supreme Court demanded to cancel the ban on smoking in public places.

With regard to smoking cessation, the corresponding help is provided through a toll-free telephone quit line/help line, in some clinics and some hospitals. The available medicines include NRT, bupropion and varenicline [2].

While health warnings are required by the legislation of Côte d'Ivoire, they lack many of the characteristics of the strongest health warnings. Yet, there were positive elements in providing awareness campaigns [2].

No substantial achievements in tobacco advertising and promotion bans were mentioned in the 2017 country profile [2].

Discussion

In 2008-2014, cigarette prices in Côte d'Ivoire were stable despite the inflation and income increase. Cigarettes became more affordable and their consumption in the country could increase, while no reliable data on recent tobacco consumption trends is available.

Current ad valorem excise rate for cigarettes is 38% (while some sources report that this rate is 35%). Taking into account two other ad valorem taxes (sport tax and solidarity tax), the total rate is 45% and it is equal to the maximum level defined by the WAEMU taxation directive. Senegal and Togo already reached this limit.

Blecher and Drope [17] admitted that the WAEMU member governments continue to make many key collective economic decisions by consensus, but tax harmonization progress is likely to be slow. Without stronger pressure—for example, from a hegemon, a supra-institutional body (as with the EU) or an influential international organization (such as the International Monetary Fund)—to speed the process, economic policy integration is likely to continue to be slow.

While re-considering the WAEMU taxation directive to increase (or better get rid of) the maximum level of ad valorem excise, another way of excise tax increase is possible.

In 2015, Côte d'Ivoire actually introduced minimum specific tax stating the minimum price for calculating the ad valorem excise. Apparently, this increased the excise burden and price of cheapest cigarettes. It is possible to further increase this minimum price. Currently, the minimum price is 300 XOF for domestic cigarettes (ex-factory) and 400 XOF for imported cigarettes (CIF and taxes without VAT). If the minimum prices are increased to 500 XOF and 600 XOF respectively (by 200 XOF per pack), the total excise burden per pack of cigarettes will increase by 90 XOF ($200 * 0.45$). Total excise burden for domestic cigarettes will be 225 XOF ($500 * 0.45$). For cigarettes with final retail price 900 XOF, the excise tax share will be only 25%.

Together with all other taxes, the proposed increase it could increase cigarette price by about 120 XOF or 15% (if tobacco industry will keep net-of-tax part of the price). Such price increase could encourage

some smokers to quit and prevent some young people from starting smoking. For each billion of sold cigarettes, the additional governmental tobacco excise revenue will be about 10 billion XAF. The VAT and other duties revenue will also increase as total cigarettes turnover in monetary terms should be higher with new taxes and prices, while for more precise estimates more detailed data on the national tobacco market is needed.

Conclusions and recommendations

1. Tobacco control policies implemented in Côte d'Ivoire recent years did not decrease tobacco smoking prevalence in the country. Tobacco products became more affordable and their consumption apparently increased.
2. Introducing minimum prices for calculating ad valorem excise tax payments in 2015 was a positive policy as it actually introduced specific excise tax floor for tobacco products in Côte d'Ivoire. Further substantial increase of these minimum prices is recommended, while keeping on the current level or increasing the rates of other taxes and duties. The resulting increase in tobacco excise burden is able to both reduce tobacco consumption and increase the governmental revenues.
3. Tobacco control monitoring, including economic information of tobacco products sales, prices and other indices, should be much improved in the country to support more precise forecasts of the current and future tobacco control activities.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Ecuador

Tobacco control legislation

Ecuador became a Party to the WHO Framework Convention on Tobacco Control on October 23, 2006. Ecuador ratified the Protocol to Eliminate Illicit Trade in Tobacco Products on October 15, 2015.

On 14 June 2011, the Ecuadorian Parliament adopted the Tobacco Control and Regulation Act containing strict rules for smokers and sellers of tobacco products². It repeals and replaces the Organic Law Amending the Organic Law of Consumer Protection, which previously governed many aspects of tobacco control³. The most important provisions of the new act include: a complete ban on smoking in all enclosed areas of workplaces, public places and sports environments, all enclosed and outdoor areas of health and educational facilities, and all public transport facilities; a ban on all tobacco advertising, promotion and sponsorship; a ban on sales to and by minors; and further restrictions of sales of tobacco products, including a ban on tobacco vending machines and tobacco packages of fewer than 10 cigarettes or less than 10 grams of tobacco; pictorial warnings must cover 60% of both principal display areas of packs. According to the new legislation, education and health authorities had to include tobacco-related matters within educational curricula and implement public awareness campaigns. The legislation also refers to the enforcement and sanctions in case of non-compliance.

The bylaw No. 1047⁴ to implement the Tobacco Control and Regulation Act was issued in February 2012. It introduced provisions on smoke-free environments and tobacco advertising, promotion, and sponsorship.

In 2017, Ecuador was awarded the World No Tobacco Day Prize of the World Health Organization (WHO) for its tobacco control efforts and implementation of the WHO Framework Convention on Tobacco Control (FCTC). The president of the Republic Lenin Moreno celebrated the award, which he described as "*a well-deserved recognition for the policies adopted to reduce tobacco consumption.*"⁵

In 2011, then the Vice President of the Republic of Ecuador Lenin Moreno received the medal of "Character of the year 2011 that does not smoke" in recognition of his support for tobacco control⁶. Lenin Moreno thanked for the recognition given to him and expressed his commitment to work for the approval of the Law for the Regulation and Control of Tobacco. When asked about most important

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² http://www.who.int/fctc/implementation/news/ecuador_news/en/

³ <https://www.tobaccocontrolaws.org/legislation/country/ecuador/summary>

⁴ http://instituciones.msp.gob.ec/images/Documentos/tabaco/Reglamento_Ley_Control_Tabaco.pdf

⁵ <https://www.eluniverso.com/noticias/2017/05/31/nota/6209026/oms-premia-ecuador-su-lucha-contra-tabaquismo>

⁶ https://www.paho.org/ecu/index.php?option=com_content&view=article&id=338:vicepresidente-republica-ecuador-comprometio-apoyar-esfuerzos-relacionados-control-regulacion-tabaco&Itemid=360

things for life, he said: "*being able to breathe, oxygen, air*"; and he encouraged all those present not to get carried away by things that are not substantial for life such as tobacco, alcohol and drugs.

Before the above-described events, the tobacco control policies in Ecuador were rather controversial.

Ecuador was the first Latin American country in which the transnational tobacco companies launched a campaign to "discourage juvenile smoking." In 1989, the PMI's affiliate Tanasa (Tabacalera Andina) developed a television advertisement in response to actions taken by the Ministry of Health to control tobacco. In 1990, another PMI affiliate, Proesa (Proveedora Ecuatoriana), had partnered with the Ecuadorian Ministry of Education to air a 40-second television advertisement called "Fumar Es una Decisión de Adultos" ("Smoking Is an Adult Decision"). By 1991, Proesa developed a comprehensive campaign for radio and newspaper advertisements, and also a booklet aimed at parents [1].

In 1992-94, Ecuador became one of the countries targeted by the "Latin project" funded by Philip Morris International and British American Tobacco, in which the consultants representing a wide variety of scientific disciplines, including chemistry and biochemistry, epidemiology, oncology and pulmonary and cardiovascular medicine were recruited to generate scientific arguments minimizing the role of secondhand smoke as a health hazard, to produce low estimates of exposure, and to lobby against smoke-free workplaces and public places [2].

In early 2001, Ecuador's tobacco-control efforts were reported to show mixed results [3]. The process of FCTC ratification, as reported back in 2009, was "*not accompanied by a true commitment to adopt effective internal legislation*" [4]. Furthermore, "*The Ministry of Public Health had not pushed for better domestic tobacco legislation nor did it have the technical capacity to decisively influence policy. By contrast, Philip Morris (PM) ... was ready to act to minimize potential FCTC impacts. ... First, PM adopted a clever two-part legislative strategy that maximized its influence on the content of the legislation while minimizing the possibility that these weak norms would be strengthened in the future. Second, it adopted a public relations (PR) posture as a friend of the FCTC and tobacco control in Ecuador that lulled well-meaning but naive legislators into accepting PM's legislative proposals.*"

Still, after the above-described changes, in 2015 [5], tobacco control policies in Ecuador were assessed at 30 out of 37 points.

Smoke-free places

Smoking is prohibited in indoor workplaces, public places, and public transportation. There is one exemption to the smoking ban, which allows smoking in up to 10 percent of hotel guestrooms provided the rooms are designated to be smoking rooms only and comply with regulations. Smoking is also prohibited in outdoor areas of health facilities and primary and secondary educational facilities. Sub-national jurisdictions may adopt regulations that are more stringent.

Tobacco advertising, promotion, and sponsorship

Most forms of tobacco advertising and promotion are prohibited with a few exceptions. Tobacco advertising is permitted inside places that may be accessed by adults (18+ years) only and through direct communication by email or the postal services, provided that the adult consumer requests to receive information in writing, and the consumer's majority age is verified. Although sponsorship by the tobacco industry is only prohibited in part, all publicity of sponsorship is prohibited.

Tobacco packaging and labeling

Tobacco product packages must contain text and pictorial health warnings covering 60 percent of both the front and back surfaces of the pack. Other qualitative health information must occupy 70 percent of one side panel of tobacco product packages. Misleading packaging and labeling, including terms such as “light” and “low tar” and other signs, is prohibited. Provisions regulating tobacco product packaging and labeling came into effect in July 2012. Ministry of Public Health Decision No. 407 on Approved Health Warnings established the first round of six health warnings for packs and other tobacco product packaging. Several decisions have been issued establishing subsequent rounds of pictorial health warnings: Decision No. 2853 (second round), Decision No. 4723 (third round), Decision No. 5239 (fourth round), and Decision No. 24 (fifth round). With each round of health warnings, the Ministry of Public Health released manuals specifying the contents of the health warnings and the health information on toxic constituents and emissions to assist with implementation.

Tobacco use among adults

A study conducted in 1988 [6, 7], found that 54% of Ecuadorian inhabitants had ever used tobacco while 13% were found addicted to tobacco. According to the same year Gallup data [8], 39% of men and 16% of women were current smokers.

In 1991, 800 adult persons (18 years and older) in the cities of Quito and Guayaquil were interviewed on smoking. About a third of them were cigarette smokers (45% men vs. 17% women) [9]. About 60% of smokers expressed the desire to quit smoking.

Within CARMELA project [10], a multistage, cross-sectional epidemiological study was conducted between September 2003 and August 2005 in several cities in Latin America. In Ecuador, 1638 urban dwellers aged 25-64 years from Quito city participated. The prevalence of current smoking among men was 49.4% (45.9%-52.9%) with a higher percentage of smokers among those aged 25-44 (over 51%); among women, 10.5% (7.8%-13.2%) were current smokers, and this was the lowest among all the participating Latin American cities. Respondents from Quito had also the lowest exposure to secondhand smoke at workplaces and the highest percentage of those who reported that smoking was not allowed at home.

Reproductive Health Surveys was conducted in Ecuador among women aged 15-49 years in 2004: 13.1% were found to be current smokers, 13.3% former smokers. Unlike other countries, over two-thirds of women current smokers in Ecuador were occasional smokers. The reported number of cigarettes per day smoked by daily smokers was just 1.9. Women were more likely smokers if they lived in urban areas, had middle or high socioeconomic status, were previously married and did not have children below 5 years of age [11].

A survey of pregnant women in 2004-2005 [12, 13] found that 53.3% had smoked occasionally, and 4.3% -- regularly; of these, 75% had quit smoking before or during pregnancy. Having more education (11 or more years), being in the middle or upper socioeconomic classes, being Caucasian, and being of the opinion that it is acceptable for women in the community to smoke were significantly and directly associated with cigarette smoking ($P<0.001$). Overall, 12.9% of women were being exposed to secondhand smoke and this was significantly associated with being single and cohabiting with smokers or employees connected to the tobacco industry ($P<0.001$).

It was reported that in 2005 the prevalence of smoking was 7.9% among men and 1.9% among women [14].

The National surveys on drug use in the population aged 12 to 65 years were conducted in Ecuador in 2007⁷ and 2013⁸. In 2007, the self-reported smoking (cigarettes or other type of tobacco) prevalence was: 46.8% (lifetime), 25.2% (last year) and 18.4% (last month). In 2013, the prevalence decreased to 32.3% (lifetime), 11.4% (last year) and 8.1% (last month).

On May 31, 2017, to commemorate the World No Tobacco Day, the National Institute of Statistics and Censuses (INEC) released its data on smoking prevalence changes over the previous 16 years. In 1998, daily smoking prevalence among persons 15 years and older was 9.5%; in 1999 - 8.2%; in 2006 - 5.0% and in 2014 it reached 2.8%⁹. It was also reported that throughout Ecuador, 8.8% of the population over 12 years old currently consumed cigarettes, while in the Sierra region 10.7% of the population smoked.

The ESANUT survey conducted in Ecuador in 2011-2013¹⁰ reported that among the population aged 20-59 years, 55% (81% men and 31% women) were ever smokers. Current (at least once in last 30 days) tobacco smoking was reported by 18% (31% among men and 5% among women), while only 26% of current smokers smoked daily, so the prevalence of daily smoking among people aged 20-59 years was about 5%.

According to published international estimates [15], the age-standardized adult smoking prevalence in Ecuador decreased from 9.5% in 1980-1996 to 6.5% in 2006-2012. In 2012, the prevalence was 10.3% among men and 3.0% among women.

In 2015, the WHO estimated¹¹ current smoking (any tobacco) prevalence among people aged 15 years and more to be 7.4% (12.7% among men and 2.1% among women). The prevalence of daily cigarette smoking was estimated to be 3.2% (5.4% among men and 0.9% among women).

Cigarette consumption

Estimated cigarette consumption increased from 2.4 billion cigarettes in 1980 to 4.3 billion cigarettes in 2006 (which was mainly caused by the growth of population from 8 billion people in 1980 to 14 billion in 2006) and then decreased to 3.7 billion cigarettes in 2012 [15]. Other estimates of total cigarette consumption are as follows: 1970: 1.6bl; 1980: 3.9bl; 1990: 1.9bl; 2000: 2.1bl [16].

Estimated per capita cigarette consumption among adults (>15 years of age) from 1970-72 to 1990-92 increased from 650 to 870 cigarettes [17]. However, after 1990, the per capita consumption reduced to 250 cigarettes by the year 1999 [16].

Tobacco use among youth

The Global Youth Tobacco Survey (GYTS) was conducted in Ecuador in cities Guayaquil, Quito¹², and Zamora in 2001 and 2007, and then in 2016 as a national survey¹³.

⁷ http://untobaccocontrol.org/impldb/wp-content/uploads/reports/Ecuador_annex4_household_survey2007.pdf

⁸ <http://www.prevenciondrogas.gob.ec/wp-content/uploads/downloads/2017/03/Cuarta-Encuesta-Nacional-sobre-uso-de-drogas-en-poblaci%C3%B3n-de-12-a-65-a%C3%B1os.pdf>

⁹ <http://www.elcomercio.com/tendencias/consumo-diario-cigarrillo-ecuador-fumadores.html>

¹⁰ <https://www.unicef.org/ecuador/esanut-2011-2013.pdf>

¹¹ http://www.who.int/tobacco/surveillance/policy/country_profile/ecu.pdf

¹² <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/Location.aspx?WHID=1&COID=152&LOID=84>

¹³ <https://bibliotecapromocion.msp.gob.ec/greenstone/cgi-bin/library.cgi?e=d-11000-00---off-0promocin--00-1---0-10-0---0---0direct-10---4-----0-1l--11-es-50---20-help---00-3-1-00-00--4--0--0-0-11-10-OutfZz-8-00&a=d&c=promocin&cl=CL6&d=HASH0190092e87a099d21b5aab37>

Table 1. Prevalence of tobacco-related behaviors among adolescents aged 13-15 years in Ecuador, %, GYTS

| | Quito | | Guayaquil | | Zamora | | National 2016 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|------------------|
| | 2001 | 2007 | 2001 | 2007 | 2001 | 2007 | |
| Currently used any tobacco product (at least once during the last 30 days) | 25,1 | 28,6 | 14,7 | 20,4 | 32,9 | 39,2 | 13,0 |
| <i>boys</i> | | 31,2 | 14,7 | 23,1 | | 48,1 | 15,3 |
| <i>girls</i> | 17,1 | 26,1 | 14,5 | 16,8 | 30,8 | 31,7 | 10,7 |
| Currently smoked cigarettes (at least once during the last 30 days) | 20,5 | 20,5 | 9,1 | 12,2 | 17,6 | 41,8 | 8,0 |
| <i>boys</i> | 27,2 | 23,2 | 9,1 | 13,6 | 18,9 | 47,9 | 8,9 |
| <i>girls</i> | 12,6 | 18,1 | 9,0 | 9,4 | 16,5 | 35,9 | 7,0 |
| Lived in homes where others smoked in their presence | 36,1 | 28,9 | 31,3 | 28,3 | 41,8 | 38,7 | 16,7 |
| Had at least one parent who smoked | 49,3 | 39,1 | 38,6 | 30,2 | 46,3 | 40,8 | |

Tobacco use and cigarette smoking among young people increased between 2001 and 2007 but substantially decreased in 2016 [18]. Percentage of teenagers, who lived in homes where others smoked in their presence, decreased already in 2007 and especially in 2016. Percentage of smoking parents also declined in 2007, and this can be considered an indirect indicator of smoking behavior among adults.

The Global School-based Health Survey (GSHS) was conducted in Ecuador in the same cities in 2007 [19]. Interestingly, in the city of Zamora which is situated to the east of the mountain range and closer to the border with Peru, in both surveys (GYTS and GSHS), the prevalence of smoking was the highest ($32.7 \pm 11.1\%$ among boys and $12.3 \pm 7.4\%$ among girls in GSHS). The lowest of the three cities prevalence of smoking was found in both GYTS and GSHS in the city Guayaquil situated closer to the ocean ($13.6 \pm 3.3\%$ among boys and $7.2 \pm 2.7\%$ among girls in GSHS).

Tobacco taxation

Tobacco products in Ecuador are levied by excise called a special consumption tax. In 2005-2008, this tax was ad valorem with the rate of 98%. The tax base was the retail price deducted by VAT and excise rates. In 2006, minimum specific excise rate was established¹⁴, which was 0.50821 USD per pack of 20 cigarettes.

In 2008, the ad valorem rate for all kinds of tobacco products was increased to 150%¹⁵. The actual ad valorem rate was about 55% of the final retail price [20].

¹⁴ RESOLUCIÓN No. NAC-DGER2006-0685 (FIJACIÓN DEL VALOR A PAGARSE POR IMPUESTO A LOS CONSUMOS ESPECIALES EN LA VENTA DE CIGARRILLOS RUBIOS)
<https://www.tobaccocontrollaws.org/files/live/Ecuador/Ecuador%20-%20Res.%20No.%202006-0685%20-%20national.pdf>

¹⁵ LEY DE RÉGIMEN TRIBUTARIO INTERNO SEGÚN LAS REFORMAS DE LA LEY REFORMATORIA PARA LA EQUIDAD TRIBUTARIA DEL ECUADOR Año I -- Quito, Sábado 29 de Diciembre del 2007 -- Nº 242
<https://www.tobaccocontrollaws.org/files/live/Ecuador/Ecuador%20-%20Amdts.%20to%20Internal%20Taxation%20Law%20-%20national.pdf>

In November 2011, the amendments to the taxation legislation were adopted¹⁶. Excise for cigarettes was changed from ad valorem to specific, while remained the same (150% ad valorem) for other tobacco products. Specific excise rate was set as 0.08 USD per 1 cigarette from 1 December 2011, and it was set that the specific cigarette rate would be adjusted every six months depending on the variation of the consumer price index (CPI), discounted by the effect of the increase of the tax itself. The new rates must be published by the Internal Revenue Service in June and December each year to be valid from the first calendar day of the following month. Specific excise rates for cigarettes effective from December 2011 are presented in Table 2.

Table 2. Specific excise rates for cigarettes in Ecuador in 2011-2018

| | 1 December 2011 | 1 July 2012 | 1 January 2013 | 1 July 2013 | 1 January 2014 | 1 July 2014 | 1 January 2015 | 1 July 2015 | From May 2016 |
|--|-----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|---------------|
| Excise rate (US dollars per 1 cigarette) | 0,08 | 0,081 | 0,081 | 0,086 2 | 0,0862 | 0,092 5 | 0,131 | 0,132 4 | 0,16 |

The Internal Revenue Service regularly published resolutions with new excise rates. In December 2014¹⁷, the parliament increased the excise rate to 0.131 USD, well above the CPI increase.

On April 29, 2016, the “Organic law for the balance of public finances” was adopted, which increased the rate to 0.16 USD per 1 cigarette. As the inflation rate in late 2016 and 2017 had negative values, the rate has not been increased and from 1 January 2018, it is still 0.16 USD¹⁸.

According to the Solidarity Contribution Law for the Reconstruction and Reactivation of the Zones Affected by the Earthquake of 16 April 2016, which was published in Official Gazette Supplement No. 759 on 18 May 2016, the VAT rate was increased from 12% to 14% for one year from 1 June 2016. On 1 June 2017, the VAT rate returned to 12%¹⁹.

Tobacco excise revenue

According to the Internal Revenue Service database^{20, 21}, tobacco excise revenue increased from about USD70 million annually in 2005-2007 to USD119 million in 2009-2010 after the increase of the ad valorem rate from 98% to 150% in 2008 (Figure 1).

¹⁶ <http://www.sri.gob.ec/DocumentosAlfrescoPortlet/descargar/a2d9e000-58d0-424d-b7e2-6ec0b7d270e3/Ley+del+Impuesto+Ambiental+a+la+Contaminaci%F3n+Vehicular+%28IACV%29.pdf>

¹⁷ Law 405-S of 29.12.2014 [http://2013-](http://2013-2017.observatoriolegislativo.ec/media/archivos_leyes/registro.fraude_fiscal.pdf)

[2017.observatoriolegislativo.ec/media/archivos_leyes/registro.fraude_fiscal.pdf](http://2013-2017.observatoriolegislativo.ec/media/archivos_leyes/registro.fraude_fiscal.pdf)

¹⁸ Resolución No. NAC-DGERCGC17-00000621, Suplemento Registro Oficial 149 de 28 de diciembre de 2017.

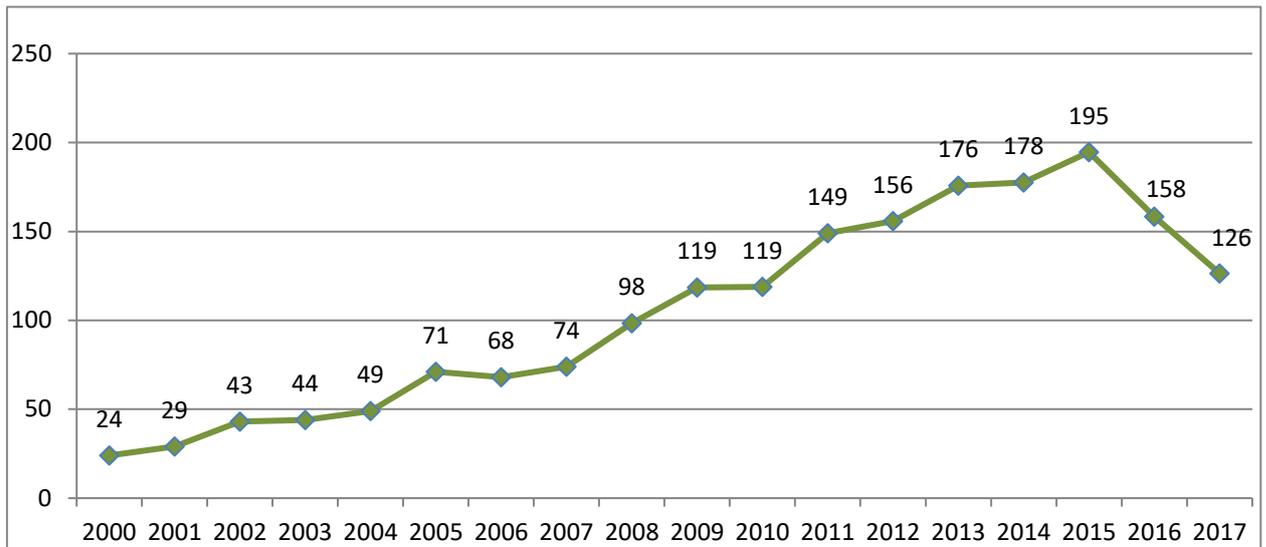
<http://www.sri.gob.ec/DocumentosAlfrescoPortlet/descargar/6951efbd-2675-4a0e-a0e7-2b01f3b3cabb/NAC-DGERCGC17-00000621.pdf>

¹⁹ <https://www.ey.com/gl/en/services/tax/international-tax/alert--ecuador-reduces-vat-rate>

²⁰ <http://www.sri.gob.ec/web/guest/estadisticas-generales-de-recaudacion;jsessionid=2rJDdpzFdE+h7B-8l7jao7Wf>

²¹ http://www.sri.gob.ec/BibliotecaPortlet/descargar/dfad944c-167d-4dbe-89f4-12e77015bf40/ESTAD%CDSTICAS+DE+RECAUDACI%D3N_DICIEMBRE+2017.xlsx

Figure 1. Tobacco excise revenue in Ecuador, million USD.

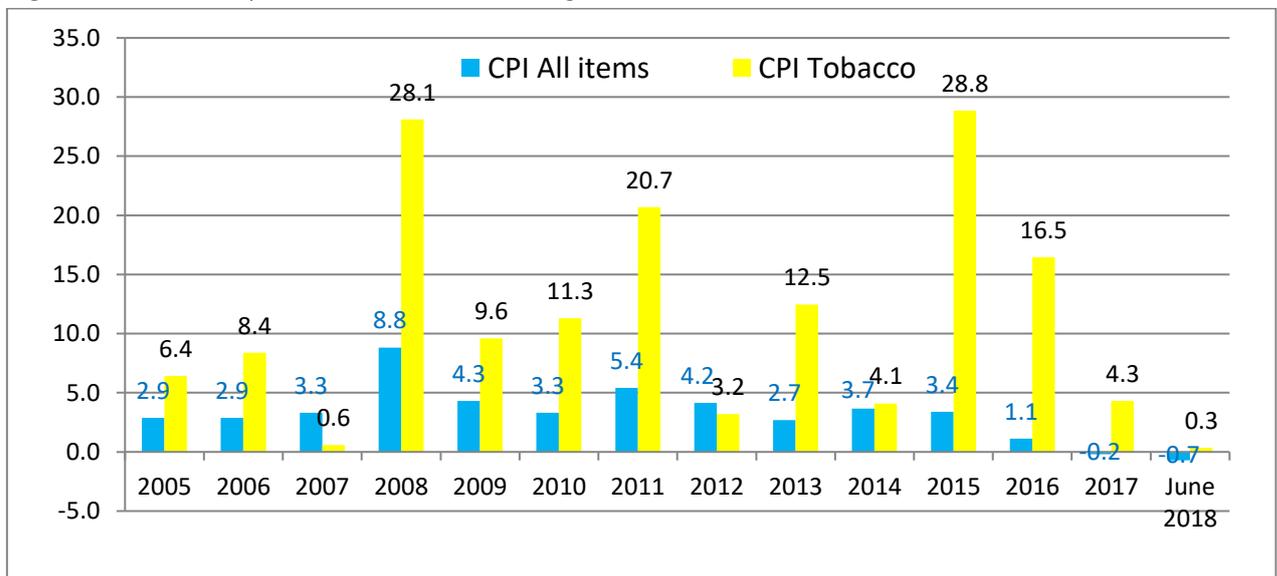


In 2011-2015, the revenue increased from 119 million to 195 million USD or by 64% in five years due to excise rate increase in those years (see Table 2). However, in 2016 and 2017 the revenue sharply decreased to 126 million USD (Figure 1).

Cigarette prices

According to the National Institute of Statistics and Census database, in 2005-2018, the increase in tobacco prices usually exceeded the consumer price index for all items (the inflation rate) (Figure 2).

Figure 2. Consumer price indices (CPI), annual growth in %.



Source: the National Institute of Statistics and Census database

http://www.ecuadorencifras.gob.ec/documentos/web-inec/Inflacion/2018/Junio-2018/Historicos_completo/SERIES%20IPC%20EMPALMADAS/ipc_var_anu_nac_reg_ciud_emp_clase_06_2018.xls

The highest cigarette price increases were observed in 2008, 2011, 2015 and 2016, after the corresponding cigarette excise rate increases. In 2010-2016 combined, the tobacco prices increased by 144%, although the inflation (CPI all_items) was only 26%.

Cigarettes of brand “Lider” constituted about 60% of the cigarette market in Ecuador over recent years. Prices of this brand (taken from the WHO Tobacco Control report, FCTC reports, Euromonitor, and other sources) are presented in Table 3.

Table 3. Prices and taxes for Lider cigarette brand

| | 2006 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Retail price, pack of 20 cigarettes, USD | 1,15 | 1,7 | 2,0 | 2,6 | 3,0 | 3,6 | 4,25 | 5,2 | 5,3 | 5,4 |
| Price increase, % | | 47,8 | 17,6 | 30,0 | 15,4 | 20,0 | 18,1 | 22,4 | 1,9 | 1,9 |
| <i>Ad valorem, % of final price</i> | | 53,6 | 55 | | | | | | | |
| Specific excise, USD per pack | 0,5082 1 | | | 1,62 | 1,72 4 | 2,15 | 2,64 8 | 3,20 | 3,20 | 3,20 |
| VAT, % of final price | 10,71 | 10,7 1 | 10,7 1 | 10,7 1 | 10,7 1 | 10,7 1 | 10,7 1 | 12,2 8 | 10,7 1 | 10,7 1 |
| VAT, USD per pack | | | 0,21 4 | 0,27 8 | 0,32 1 | 0,38 6 | 0,45 5 | 0,63 9 | 0,56 8 | 0,57 8 |
| Total tax (excise + VAT) share, % | 54,9 | 64,3 | 65,7 | 73,0 | 68,2 | 70,4 | 73,0 | 73,8 | 71,1 | 70,0 |
| Net-of-tax price, USD per pack | 0,52 | 0,61 | 0,69 | 0,70 | 0,95 | 1,07 | 1,15 | 1,36 | 1,53 | 1,62 |
| <i>Net-of-tax price increase, %</i> | | 17,1 | 12,9 | 2,3 | 36,1 | 11,7 | 7,6 | 18,7 | 12,6 | 5,8 |

In 2012-2018, the retail price of the *Lider* cigarette pack increased by 108%: from 2.6 to 5.4 USD per pack. Excise tax rate increased by 98%. The net-of-tax cigarette price increased by 131%; yet, the inflation rate in those six years was only 10%. Total tax (excise + VAT) share in 2012-2018 even decreased from 73% to 70% which means that the industry increased its price faster than the government increased the taxes.

So, the sizable increase in cigarette price in 2012-2016 was only partly caused by excise rate increase. The other two important factors were: the VAT rate increase in 2016 and the pricing policy of the tobacco industry.

Tobacco affordability

The Guidelines for implementation of Article 6 of the WHO FCTC [21] recommend: “When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”. In the Guidelines, “affordability” means price relative to per capita income.

In the current analysis, a modified tobacco affordability index (TAI) [22] is used to estimate the changes in tobacco affordability in 2007–2017. TAI is calculated as the percentage annual change in nominal average income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. For the TAI calculations, we used the National Institute of Statistics and Census data on household nominal average income per capita and the annual CPI for tobacco products. For control, we also used as income proxy the World Bank indicator “Annual percentage growth rate of GDP per capita based on constant local currency”²². As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator is also expressed in real (inflation-adjusted) terms. In this case, the TAI is calculated as GDP annual change

²² <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

divided by the (inflation-adjusted) tobacco price increase minus 100: $(\text{GDP growth} * \text{CPI_all_items} / \text{CPI_tobacco} - 100)$.

The results of the Tobacco Affordability Index estimation are presented in Table 4.

Table 4. Tobacco affordability in Ecuador in 2007-2017

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Average income per capita, USD | 143,2 | 134,9 | 127,6 | 139,1 | 142,2 | 147,9 | 156,4 | 158,5 | 161,5 | 155,7 | |
| <i>Income change</i> | <i>x</i> | <i>94,2</i> | <i>94,6</i> | <i>109,0</i> | <i>102,2</i> | <i>104,0</i> | <i>105,7</i> | <i>101,3</i> | <i>101,9</i> | <i>96,4</i> | |
| CPI all items, previous year = 100 | 103,3 | 108,8 | 104,3 | 103,3 | 105,4 | 104,2 | 102,7 | 103,7 | 103,4 | 101,1 | 99,8 |
| CPI tobacco, previous year = 100 | 100,6 | 128,1 | 109,6 | 111,3 | 120,7 | 103,2 | 112,5 | 104,1 | 128,8 | 116,5 | 104,3 |
| TAI - income | x | -26,5 | -13,7 | -2,1 | -15,3 | 0,8 | -6,0 | -2,7 | -20,9 | -17,2 | |
| GDP per capita growth (annual %) | 6,3 | 4,6 | -1,1 | 1,8 | 6,1 | 4,0 | 3,3 | 2,2 | -1,4 | -3,0 | 1,5 |
| TAI - GDP | 9,2 | -11,2 | -5,9 | -5,5 | -7,3 | 5,0 | -5,7 | 1,8 | -20,9 | -15,8 | -2,9 |

Tobacco affordability was gradually reduced in Ecuador from 2008. However, the largest reduction in tobacco affordability was observed in 2015 and 2016.

Tobacco growing

According to the FAO database [23], raw tobacco production in Ecuador increased from 851 tons in 1961 to almost 9,391 tons a year in 2016, and the area harvested for tobacco increased from 1,000 hectares in 1990 to 4,163 hectares in 2000. Further on, in 2000-2016, area and raw tobacco production were rather stable: about 8,000-9,000 tons and 4,000-4,500 hectares annually. A large part of raw tobacco is exported for cigar production.

Cigarette production and sales

More than 99% of tobacco in Ecuador is consumed as manufactured cigarettes, so we consider only cigarette production and sales.

In 2017, Tabacalera Andina, the local subsidiary of Philip Morris International, got its monopoly in cigarette production in Ecuador as British American Tobacco exited the country. PMI factory in Durán processes tobacco, while the Quito factory manufactures cigarettes.

In 2005-2010, the cigarette sales in Ecuador gradually decreased from 3.3 billion to 2.8 billion cigarettes [24] (Table 5). In 2010-2014, sales declined to 2.1 billion cigarettes or by 25% in four years. The sharpest reduction of cigarette sales was observed in 2014-2017: in 2017, according to the Euromonitor report, only 915 million cigarettes were sold, which reflected a 56% reduction in three years.

Table 5. Cigarette production and sales in Ecuador, million cigarettes

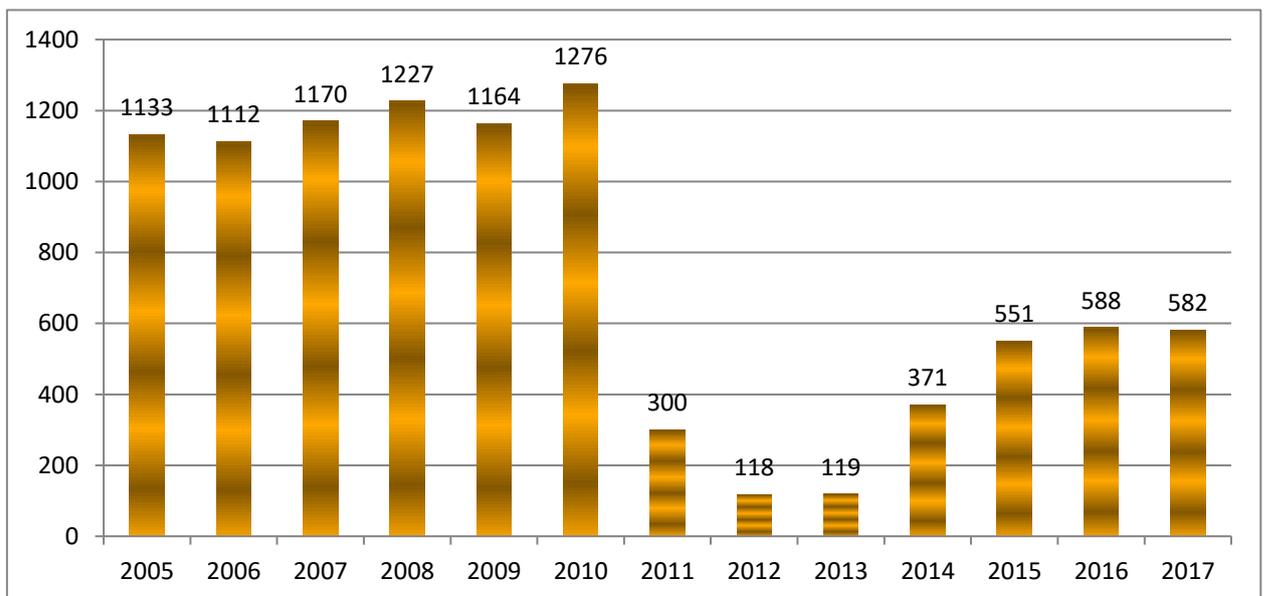
| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------|------|------|------|------|------|------|-------------|-------------|-------------|-------------|-------------|------------|
| Production, UN database ²³ , FCTC reports ²⁴ | 2876 | 2890 | 3175 | 2018 | | 2398 | 2590 | 2233 | 2196 | 1516 | 1491 | | 756 |
| Taxable sales | | | | | | | | 1935 | 2117 | 1972 | 1474 | 1056 | 789 |
| Production, Euromonitor | 3479 | 3534 | 3547 | 3393 | 3325 | 3098 | | 2399 | 2273 | 2117 | 1581 | 1100 | 1024 |
| Turnover (production + import – export), Euromonitor | | | | | | | | 2179 | 2156 | 2105 | 1473 | 1003 | 930 |
| Licit sales, Euromonitor | 3307 | 3117 | 2749 | 2931 | 2872 | 2822 | | 2381 | 2256 | 2102 | 1569 | 1092 | 915 |

Cigarette turnover (production + import – export) in 2011-2014 and 2017 was lower than the licit cigarette sales, as reported by Euromonitor. Probably, some produced and imported cigarettes were actually sold during the subsequent year.

Estimated taxable cigarette sales, calculated as cigarette excise revenue (see Figure 1) divided by the specific excise rate (from Table 2), are also lower than the sales reported by the Euromonitor. In 2012-2017 combined, the number of taxed cigarettes was 9.3 billion, while the number of cigarettes sold was 10.3 billion, 1 billion cigarettes more. Probably, cigarette corporations used forestalling (in anticipation of tax increases they increased the stock of products) starting in late 2011, when the first substantial excise hike was adopted. In 2014-2017, taxable sales decreased by 60%.

Cigarette smuggling

Estimates of cigarette smuggling into Ecuador are presented in the Euromonitor reports (Figure 3).

Figure 3. Euromonitor estimates of cigarettes smuggled into Ecuador, million cigarettes.

²³ <http://data.un.org/Data.aspx?q=cigarettes&d=ICS&f=cmID%3a25010-1>

²⁴ <http://untobaccocontrol.org/impldb/ecuador/>

In the report published in 2011 [24], the Euromonitor estimated the smuggling volume in 2010 to be 1,276 million cigarettes and claimed: *Tax hikes are the main reason for illicit trade growth in 2010 and with the scheduled tax review (and expected increase) in the first months of 2011 illicit trade is expected to increase more.* However, in the report published in 2018, they estimated that the smuggling volume in 2012 and 2013 was about 120 million cigarettes (less than 10% of what was estimated for 2010) despite the increase of tax rates (see Table 2). In 2014 and 2016, the estimated smuggling increased to 551 million cigarettes in 2015, but it was rather stable in 2015-2017 despite the sharp decline in the licit cigarette sales in those years (see Table 5). In 2011, cigarette smuggling volume was estimated to be 300 million cigarettes²⁵.

Most probably, Euromonitor overestimated the volumes of cigarettes smuggled in Ecuador, as it did in many other countries [25]. Anyway, Euromonitor had to admit that total (licit + illicit) cigarette consumption in Ecuador sharply declined in 2012-2017: at least from 2.5 billion to 1.5 billion cigarettes.

Cigarette smuggling into Ecuador does take place as cigarettes are more expensive in Ecuador than in neighboring countries. According to the WHO Report [20], in 2016, the price of a pack of the most popular cigarettes was 5.2 USD in Ecuador, but 0.88 USD in Columbia and 3.13 USD in Peru. Such a situation was partly caused by the depreciation of the Colombian peso against the US dollar, which puts Colombian products at a significantly lower price point. Some Chinese cigarette brands are also reported to be smuggled to Ecuador via free-trade zones in Panama²⁶.

The cigarettes that come from Colombia become the target for the combined forces that fight contraband in the border area²⁷. In 2017, more than 1 600 thousand packs of cigarettes of various brands were seized²⁸.

Since March 2017, the Internal Revenue Service (SRI) has applied the Identification, Marking, Authentication, Tracking and Tax Tracking System (SIMAR) for domestic cigarettes, beers, and alcoholic beverages, *"in order to reduce the accessibility and affordability of tobacco products, as well as to protect public revenues"*. The World Health Organization admitted that the SIMAR *"has become an example for other countries in the region"*^{29, 30}. The main objective of SIMAR is to maintain greater control of excise payments and combat tax evasion. It also seeks to detect products of dubious origin. The detailed rules of SIMAR are presented on the official site of the Internal Revenue Service³¹. In 2017, 39,606 million excise stamps were issued for cigarettes³². In January-May 2018, 25,633 million excise stamps were issued for cigarettes³³.

²⁵ <https://www.lahora.com.ec/noticia/1101325011/oferta-de-cigarrillos-de-contrabando-crecic3b3->

²⁶ <https://lahora.com.ec/noticia/1102157448/policia-encuentra-100000-unidades-de-cigarrillo-en-un-taxi-abandonado-en-pichincha>

²⁷ <https://lahora.com.ec/noticia/1101967168/cigarrillos-extranjeros-en-la-mira-de-las-autoridades-aduaneras->

²⁸ <https://lahora.com.ec/carchi/noticia/1102108609/contrabando-de-cigarrillos-preocupa-a-las-autoridades-fronterizas->

²⁹ <https://www.eluniverso.com/noticias/2017/05/31/nota/6209026/oms-premia-ecuador-su-lucha-contra-tabaquismo>

³⁰ https://www.paho.org/hq/index.php?option=com_content&view=article&id=13381%3Acolombia-ecuador-y-peru-recibiran-el-premio-del-dia-mundial-sin-tabaco-de-la-oms&catid=740%3Apress-releases&Itemid=1926&lang=pt

³¹ <http://www.sri.gob.ec/web/guest/simar>

³² <http://www.sri.gob.ec/DocumentosAlfrescoPortlet/descargar/8ffb1d87-4a16-45b7-92cc-1b185fefcaf6/Estad%3%adsticac3%20Marcaci%3%b3n%20SIMAR%202017.pdf>

³³ <http://www.sri.gob.ec/DocumentosAlfrescoPortlet/descargar/8e7fa02e-408e-4600-91a4-811caddb2802/Estad%3%adsticac3%20marcaci%3%b3n%20SIMAR%20A%3%b1o%202018.pdf>

Discussion

Since 2011, Ecuador has conducted a very strong tobacco control policy. A comprehensive tobacco control law was adopted and implemented. Tobacco tax rates were periodically increased, and in 2011-2016, specific excise rate was increased by 100%: from 0.08 to 0.16 USD per 1 cigarette.

Smoking prevalence substantially decreased both among adults and youth. Cigarette sales in the country have been declining at least since 2005; however, the sharpest reduction in cigarette sales was observed in 2016 and 2017.

The recent reduction of cigarette sales was so sizable that the tobacco excise revenue in 2016 and 2017 decreased after the continuous growth in 2000-2015. Sharp reduction of tobacco sales in 2016 and 2017 was caused by the substantial reduction in tobacco affordability due to the combined effect of the cigarette price growth and the population income decline.

While the increase of tobacco excise rate from 0.1324 to 0.16 USD per 1 cigarette or by 21% was the main factor of the cigarette price growth in 2016, two other factors also contributed to this price hike: (1) the increase of the VAT rate by one-sixth in 2016; (2) the increase of the industry (net-of-tax) part of the price by 19% in 2016 (see Table 3).

The main factor of the population income reduction was the earthquake of 16 April 2016. The President of Ecuador has estimated the damage to be USD3 billion and has obtained credits from the World Bank, Inter-American Development Bank, and other sources, anticipated to reach a total of USD2 billion; national sales tax has been raised as have income taxes on Ecuadorians³⁴.

Such a sharp reduction of cigarette affordability in 2016 also affected cigarette sales in 2017. There was no increase in cigarette excise in 2017 and VAT rate was even reduced back from 14% to 12%, but the industry increased its part of the price by 13% in 2017 (see Table 3) which further reduced tobacco affordability in the country.

The affordability-driven reduction of cigarette sales was much larger than the increase of cigarette excise rate in 2016, and in such a situation, cigarette excise revenue declined.

Price elasticity of demand for cigarettes in Ecuador was estimated using cross-sectional data from the National Survey of Urban and Rural Household Income and Expenditures (ENIGHUR) 2011-2012 and it was -0.87 [26], meaning that a 10% price increase could lead to an 8.7% decrease in consumption. In 2010-2016, the tobacco prices in Ecuador increased by 144% with the inflation rate in those years equal to 26%, so real (inflation-adjusted) prices increased by 93% over seven years. With price elasticity -0.87 the tobacco consumption in 2010-2016 was to decrease by: $93\% \times 0.87 = 68\%$. In 2007-2010, annual consumption was about 3 billion cigarettes (licit and illicit). With the reduction of tobacco consumption equal to 68%, in 2017, annual consumption should be about 1 billion cigarettes (licit and illicit), which is close to the real situation in 2017 (0.8 billion licit + 0.2 billion illicit cigarettes).

While the increases in cigarette prices in recent years could encourage cigarette smuggling into Ecuador, the smuggling growth was only a minor factor in the decline in cigarette sales in 2016-2017. The government of Ecuador introduced strong policies against tobacco smuggling in 2017, and even according to the Euromonitor estimates, there were no increases in the smuggled cigarette numbers in 2017 (see Figure 3).

³⁴ https://en.wikipedia.org/wiki/2016_Ecuador_earthquake

Paradoxically, by raising prices the industry engineered a greater decrease in cigarette consumption than the tax increase alone [27]. Pricing policy of the tobacco industry also increased the price differences between Ecuador and Columbia and in such way it contributed to the increase of cigarette smuggling into Ecuador.

In 2011 and 2012, about 2,000 million cigarettes were taxed in Ecuador annually (Table 5) with the average net-of-tax price being USD0.70 per pack (see Table 3). The industry part of the market was: $2,000 \times 0.70 / 20 = \text{USD}70$ million. In 2016, taxable sales decreased to 1,056 million cigarettes, with the average net-of-tax price being USD1.36 per pack. The industry part of the market was: $1,056 \times 1.36 / 20 = \text{USD}72$ million. As production and distribution costs of 1 billion cigarettes are lower than such costs for 2 billion cigarettes, the tobacco industry profits in 2012-2016 apparently increased despite the sharp reduction in cigarette sales.

Conclusions

Tobacco control policy in Ecuador was very effective for the reduction of smoking prevalence and tobacco consumption. According to the official estimates, only 2.8% of adults were daily smokers in 2014.

Estimated annual cigarette consumption in Ecuador declined from about three billion cigarettes in 2007-2010 to about one billion cigarettes in 2017.

Tobacco excise revenue increased by 64% in 2010-2015 due to the strong taxation policy. Some decline in tobacco excise revenue was observed in 2016 and 2017, but it was caused by a sharp reduction of tobacco affordability after the earthquake of April 2016 and the consequent decline of cigarette sales.

Pricing policy of tobacco industry also contributed to the reduction in cigarette sales in Ecuador. However, due to such pricing policy, the tobacco industry apparently increased its profits despite the sharp decline in cigarette sales in the country.

Recommendations

- Specific excise rate for cigarettes should be annually increased by at least 20% to ensure the reduction in tobacco affordability and the increase in the excise revenues.
- Tobacco use surveillance and monitoring should be further developed in Ecuador, including a regular collection of information on smoking prevalence, tobacco consumption, licit and illicit cigarette sales, prices and other economic indicators.
- Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is already ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Ethiopia baseline information

Scope of tobacco use

Tobacco use among adults

Tobacco smoking

A systematic review of tobacco use among adults in sub-Saharan African countries (Brathwaite, Addo, Smeeth, & Lock, 2015) reported that the prevalence of current smoking in Ethiopia was much higher among men than among women and higher among rural population than among urban and constituted 10.3% among urban men, 21.6% among rural men, 0.7% among urban women and 1.1% among rural women. The current smoking prevalence reported in the studies conducted during 2000–2006 and 2007–2014 increased twice of more in both men and women.

A review of smoking and smokeless tobacco use in sub-Saharan African countries (Sreeramareddy, Pradhan, & Sin, 2014) mentions Ethiopia among countries with relatively low (<10%) prevalence of both smoking and smokeless tobacco use among men and the lowest (6.75%) prevalence of smoking among men when compared with other countries of East Africa. Prevalence of smoking among women below 5%.

The review of population-based data from Demographic Health Surveys (DHS) of men aged 15-54 years and women aged 15-49 years (Pampel, 2008) mentions low prevalence of cigarette smoking among men as 8.3% and the prevalence of the use of pipes and other forms of smoking tobacco as that below 2%. The 2005 Ethiopian Demographic and Health Survey (EDHS) estimated the prevalence of smoking among males aged 15–49 years at 9%, where as for females it was 2% (ORC Macro & Central Statistical Authority of Ethiopia, 2005).

A study conducted in southern Ethiopia in 2003 (Schoenmaker, Hermanides, & Davey, 2005) reported that 15.4% of men and 0.2% of women had ever smoked, and 11.8% and 0.2% respectively, were current smokers. The questions on smoking included ‘Have you ever smoked for as long as a year?’ and ‘Do you smoke now?’ The average age of smoking debut was 23.2 years (range 4 to 55 years), and the average daily cigarette consumption was 6.6 cigarettes (range 1 to 20 cigarettes). The estimated per capita consumption of cigarettes (138.5 cigarettes per person aged 15 years and over) in Ethiopia kept to be lower than for most other African countries for which data are available. Authors found associations of smoking with male gender, older age, Muslim religion and official employment. There was a strong and significant increasing prevalence of smoking with increasing income group (1.4% lowest income group to 23.2% highest income group, p for trend <0.001). When grouped into two around the median income value, 9.8% of those earning

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

more than 10 Birr per month and 1.9% of those earning 10 Birr or less per month were ever-smokers ($p < 0.001$). Similarly, there was increased prevalence of smoking with increasing educational achievement (2.5% illiterate group to 16.2% higher education, p for trend < 0.001). Binary classification into no formal education and any formal education demonstrated that 3.9% vs. 6.8%, respectively, were ever smokers ($p = 0.009$).

In a cross-sectional study using the World Health Organization instrument for stepwise surveillance of risk factors for chronic diseases in a probabilistic sample of 4001 men and women aged 25 to 64 years in Addis Ababa (F. Tesfaye, Byass, Wall, Berhane, & Bonita, 2008) the prevalence of current daily smoking among men was 11.0% (95% confidence interval [CI], 9.5%-12.5%).

A population-based cross-sectional survey of risk factors for CNCs was conducted from September 2008 to January 2009 among individuals aged 15 to 64 years from both sexes according to WHO STEPS guideline (Alemseged et al., 2012). However, it was not nationally-representative and covered only residents of the 10 kebeles under surveillance by the Gilgel Gibe Field Research Center (GGFRC) of Jimma University. The overall reported prevalence of smoking was 9.3%. Further smoking-related results from the text are as follows: "more than eighteen percent males were smokers, and 10.6% were from rural and 5.3% from urban areas". In the discussion: "Current smoking was more prevalent among men (18.3%) compared to women (1.0%); "The prevalence for rural community (10.6%) was twice higher than urban (5.3%)." Authors also admit that "underreporting of smoking, khat chewing and alcohol consumption could have happened due to social desirability bias". Authors discuss: "The prevalence of current smoking (9.3%) was higher than findings of a national study in Ethiopia (17), findings of community-based studies in Butajira, Ethiopia (Schoenmaker et al., 2005; F Tesfaye, 2008), and findings among higher education communities in Ethiopia and elsewhere (Eshetu & Gedif, 2006; Yigzaw Kebede, 2002)."

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Among instructors at four colleges in north-west Ethiopia, 13.3% were current smokers (Y. Kebede, 2002).

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Among diabetic patients attending a clinic in Addis Ababa, 6.6% were current smokers (Seyoum et al., 1999).

Fourteen percent of urban and 6% of rural blood donors in Gondar were current smokers (Gebre-Yohannes & Rahlenbeck, 1998).

The most similar previous study in Ethiopia, which used the same definition of an ever-smoker (We considered a smoker to be an individual who had smoked for as long as one year), but in a larger town (Jimma), yielded an overall prevalence of smoking of less than 6% (Scrivener et al., 2001).

Calculation of annual per capita cigarette consumption from daily consumption among smokers yields an estimate higher than that made by the World Health Organization for Ethiopia in 1997 (World Health Organization, 1997).

A study conducted in 2010 among the rural population of eastern Ethiopia with the use of GATS questionnaire (Reda, Kotz, & Biadgilign, 2013) revealed that of 548 respondents (405 men) 28% respondents reported to smoke daily, whereas 6 (1.1%) smoked on a non-daily basis (1.1%). The proportion of current smokers (daily and non-daily smoking at the time of the study) was 38.6% among males and 0.8% among females. Twenty-two (4%) of the respondents were former smokers, from which 10 (1.8%) were daily smokers. The mean (SD) age of smoking initiation was 21.1 (6.4) years. The mean (SD) number of cigarettes smoked per week by smokers was 47.2 (51.4), showing a significant variation from 1 to 168 cigarettes. This amounts to an average of 6.7 cigarettes smoked per day (range 24). The mean (SD) expense of the last cigarette purchase was 4.7 (6.1) birr (currency of Ethiopia) which amounts to \$0.9 (\$1.1) in 2010 purchasing power adjusted dollars. Thirteen (8.7%), 21 (14.0%), 24 (16.0%), and 92 (61.3%) smokers reported to smoke the first cigarette within respectively 5, 6–30, 31–60, and more than 60 minutes after waking up in the morning. About 34.0% (49) of smokers had tried to stop smoking in the past. The mean (SD) number of days of cessation was 5.9 (13.5). A total of nineteen (27.9%) smokers who visited a health facility in the past year were asked by health personnel about the use of tobacco and 16 (24.6%) were advised to quit. The main method used for smoking cessation was counselling (25%). Regarding plans to quit smoking, 16 (10.3%), 31 (20.0%), 58 (37.4%) respondents aimed to quit respectively within 6 months, 12 months, and some day but not within 12 months. Thirty-seven (23.9%) smokers were not interested in quitting. Plan to quit was negatively associated with number of cigarettes smoked per week ($X^2 = 34.3$, $df = 3$, $p < 0.001$).

the cigarette smoking prevalence in the current study population is much higher than the national average of 7.2% (World Health Organization, 2008) This prevalence is cited in (Reda et al., 2013); however, the prevalence in the report differs.

Smokeless tobacco use

A review of smoking and smokeless tobacco use in sub-Saharan African countries (Sreeramareddy et al., 2014) mentions Ethiopia among countries with relatively low (<10%) prevalence of both smoking and smokeless tobacco use among men and the lowest (6.75%) prevalence of smoking among men when compared with other countries of East Africa. Prevalence of smoking among women below 5%.

A study conducted in 2010 among the rural population of eastern Ethiopia with the use of GATS questionnaire (Reda et al., 2013) revealed that twenty-six (5%) of the respondents used smokeless tobacco, mainly in the form of chewing. From these 9 (1.7%) used it daily.

In Ethiopia, nationally representative data on the smokeless tobacco use is not available. A community based cross-sectional study (Etu, Gameda, & Hussen, 2017) using quantitative and qualitative approaches was conducted in 14-29, 2015. The study was conducted among adults in pastoralist communities in Borena zone, Ethiopia. A total of 634 households were selected randomly for interview. An interviewer-administered questionnaire and in-depth interview guide was used to assess adults' practice, attitude, knowledge, and perception on smokeless tobacco use. Out of 634 participants, 287 (45.3%) of them were current users of smokeless tobacco. Being Muslim (AOR = .21, 95% CI: .13, .33), being Christian (AOR = .38, 95% CI: .22, .67), and having good health risk perception toward smokeless tobacco use (AOR = .49, 95% CI: .34, .70) were protective factors for smokeless tobacco use, whereas favorable attitude (AOR = 2.12, 95% CI:

1.48, 3.04) and high social pressure towards smokeless tobacco use (AOR = 1.73, 95% CI: 1.21, 2.47) were factors independently associated with smokeless tobacco use.

Tobacco use among adolescents and young people

The prevalence of smoking and its associations among school-going adolescents in Addis Ababa, Ethiopia, based on the data of Global Youth Tobacco Survey (GYTS) conducted in 2003 (Rudatsikira, Abdo, & Muula, 2007). Prevalence of smoking among adolescents in Ethiopia was found to be lower than in many other African countries and constituted 4.5% among male adolescents and 1% among female adolescents.

A cross-sectional study conducted among 1,721 school adolescents in Harar town, eastern Ethiopia (Reda, Moges, Yazew, & Biadgilign, 2012), revealed that the prevalence of ever cigarette smoking was 12.2% (95% CI 10.8% - 13.9%). The main predictors of cigarette smoking were sex (OR 4.32; 95% CI 2.59-7.22), age (OR 1.20; 95% CI 1.05-1.38) and having friends who smoke (OR 8.14; 95% CI 5.19-12.70). Living with people who smoke cigarettes was not significantly associated with smoking among adolescents (OR 1.25; 95% CI 0.81-1.92).

Tobacco use among students

An earlier study (Zein, 1988) among 479 medical and paramedical students in a boarding college in northwestern Ethiopia found that 26.3% were current smokers.

A study conducted among 600 students of technology and pharmacy, Addis Ababa University (Eshetu & Gedif, 2006) revealed that lifetime prevalence of cigarette smoking was 16.8% and prevalence of current smoking was 6.1% (7.9% among male students and 0% among female students). Four in ten current smokers smoked daily.

A survey conducted in 2009 (Deressa & Azazh, 2011) among 622 medical students (Year I to Internship program) at the School of Medicine, Addis Ababa University, about 9% of the respondents (10.6% males vs. 4.6% females, $p = 0.014$) reported ever cigarette smoking, and 1.8% were found to be current smokers, ever use of cigarette was significantly associated with alcohol consumption (adjusted OR = 8.65, 95% CI = 3.48-21.50).

A study of young people aged 15 to 24 years in Addis Ababa demonstrated current smoking prevalence of 11.8% in males and 1.1% in females (16).

16. Betre M, Kebede D, and Kassaye M. Modifiable risk factors for coronary heart disease among young people in Addis Ababa. *East African Medical Journal*. 1997; 74, 376-381.

A cross sectional study was conducted in January 2001 in the four colleges found in North West Ethiopia (Yigzaw Kebede, 2002). The study revealed 13.1 % life time prevalence rate of cigarette smoking. The current prevalence of cigarette smoking was found to be 8.1%.

Among undergraduate students of Hawassa University in 2011 (Kassa, Taddesse, & Yilma, 2014), 11.9% smoked cigarettes within last 12 months. The mean ages at which the respondents started smoking cigarettes was 17.0 (SD± 2.9 years).

A survey conducted in 2012 among Axum University students in North Ethiopia (Gebreslassie, Feleke, & Melese, 2013) revealed that the prevalence of lifetime smoking was 9.5% and the prevalence of current smoking 9.3%.

The study conducted in 2013 in Haramaya University, which is located 510 Km away from Addis Ababa in the East Hararghe Zone between Harar and Dire Dawa towns, among 1040 students with 76% males (G. Tesfaye, Derese, & Hambisa, 2014), found that 22% of the respondents smoked cigarettes at least once in their life time whereas 10.8% of the respondents have smoked cigarettes in the past 30 days.

The study conducted in 2015 in Sheba University College (SUC) which is located in the northern part of Ethiopia 787 km away from the capital city of Ethiopia (Hagos, Asfeha, & Berihu, 2016) with 1076 participant (39% males) 11.4% were found to be ever smokers and 5% current smokers.

Tobacco use among prisoners

A cross-sectional study of nine major prison setups in northern Ethiopia among 738 prisoners (Abera & Adane, 2016) found that the prevalence of smoking was 21 per cent (95%CI = 18.2%, 24.1). Urban residence (AOR = 2.15; 95%CI = 1.20, 3.84), previous history of incarceration (AOR = 1.91; 95%CI = 1.08, 3.40) and alcohol use before incarcerated (AOR = 4.20; 95%CI = 2.57, 6.87) were significantly associated with risk of smoking. In contrast, risk of smoking was significantly lower for farmers (AOR = 0.20; 95% CI = 0.08, 0.49), prisoners with family support (AOR = 0.52; 95% CI = 0.32, 0.87) and for those who were jailed in Shire prison site (AOR = 0.43; 95%CI = 0.20, 0.95).

Secondhand smoke exposure

In Ethiopia, female smoking rates are currently low (1 %). However, because of male smoking rates (overall 7.7 % and up to 27 % depending on region), women and children's risk of second hand smoke (SHS) exposure is a pressing concern. In an exploratory cross-sectional study conducted in Aleta Wondo town and surrounding districts in Southern Ethiopia in 2014 (Petersen, Thompson, Dadi, Tolcha, & Cataldo, 2016), 7.6 % of surveyed women reported living with a tobacco user, however, twice that number (14.4 %) overall, and 22 % of urban participants reported that smoking occurred daily in their home.

Burden of tobacco-related diseases

In a cross-sectional study using the World Health Organization instrument for stepwise surveillance of risk factors for chronic diseases in a probabilistic sample of 4001 men and women aged 25 to 64 years in Addis Ababa (F. Tesfaye et al., 2008) current daily smoking and regular khat chewing were significantly associated with elevated mean diastolic blood pressure (beta = 2.1, P = .03 and beta = 1.9, P = .02, respectively).. The age-adjusted prevalence (95% confidence interval) of high blood pressure, defined as systolic blood pressure (SBP) > or = 140 mmHg (millimetres of mercury) or diastolic blood pressure (DBP) > or = 90 mmHg or reported use of anti-hypertensive medication, was 31.5% (29.0, 33.9) among males and 28.9% (26.8, 30.9) among females (F. Tesfaye, Byass, & Wall, 2009).

Tobacco control measures

The date of WHO FCTC ratification by Ethiopia was 25 March 2014 and it was mentioned as a country which took the longest time (10 years) to ratify the convention after becoming a signatory (Brathwaite et al., 2015). As of 2015, no data on the level of implementation of tobacco control measures in Ethiopia was reported.

Quitting smoking

A community based cross-sectional study among 384 current cigarette smokers in Dire Dawa town east Ethiopia in 2009 (Girma, Assefa, & Deribew, 2010) found that two hundred and nineteen (57%) smokers in the study area had the intention to quit cigarette smoking within the next six months and all the process of change had an increasing trend across the stages. Based on the Fragestrom test of nicotine dependence of cigarette, 35 (9.1%), 69 (18%) and 48(12.5%) were very high, high and medium dependent on nicotine respectively. For the majority 247(64.3%) of the respondents, the mean score of cons of smoking outweighs the pros score (negative decisional balance). Only 66(17.2%) had high self efficacy not to smoke in places and situations that can aggravate smoking.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in El Salvador

El Salvador became a Party to the WHO Framework Convention on Tobacco Control on October 19, 2014.

Tobacco control legislation

On 23 June 2011, the Congress of El Salvador passed a national tobacco control law² that included 100% smoke-free policies. On 18 July, almost a month after the approval, President of the country (in 2009-2014) Mauricio Funes vetoed the law. As part of his arguments to support the veto the president repeated well-established tobacco industry claims in the media that *“individual freedom is diminished, (the law) also harms economic freedom of the stakeholders that participate in the market, negatively affecting not just the tobacco industry”*. Tobacco control advocates with support from international organizations successfully pressured the legislators to overturn the veto, which the Congress of El Salvador did on 23 July. However, the President refused to issue the regulations of the law and then introduced an amendment in Congress. Surprisingly, on November 17, the same legislators that had overridden the veto to keep the 100% smoke-free law, changed their position and approved the amendment³, a huge success for the tobacco industry [1].

Other examples of tobacco industry interference in tobacco control policies in Latin America are widely known [2]. For instance, in 1998, Philip Morris representatives presented model legislation to the president of the Congress of El Salvador and then worked with the minister of health to get approval. Another example is related to the pressure on the ministry of education regarding youth education program "I have courage". In 1999, the "Courtesy of Choice" program was pushed in several countries of Latin America including El Salvador [3].

In 2015, the Executive Decree No. 63 of May 29, 2015, was issued⁴ signed by the President Salvador Sanchez and the Minister of Health Elvia Menjivar. This Decree eventually established regulations of the Tobacco Control Law. The Decree has forbidden smoking or keeping lit tobacco products and their

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

²

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/salvador_2014_annex3_tobacco_control_act_2011.pdf

³ <https://www.tobaccocontrolaws.org/files/live/EI%20Salvador/EI%20Salvador%20-%20Decree%20No.%20914%20-%20national.pdf>

⁴

<http://www.jurisprudencia.gob.sv/VisorMLX/Documento/Documento.aspx?data=EMBQcpWTU/OXeveNvi7y+ddU3LThVU/ztbSHaWHBLEQS1mHhLVL9HEjZWTyzE6kO3wBELGKuYc4Zia44xhUgSX8CE6GOJkIFqcFR3aQbbfZCKEXkK1A4VOGUAUMs4n7hy9C1agwdMKUSXdb7icEUBaf3YAqDnw/UL+BqKoi0qw+SqkjJeXPDqpv4wmuAOkNNQ==>

derivatives that emit smoke, gases or vapors, in any forms or devices, including electronic cigarette and pipe, in the following places:

- Workplaces, including access areas, transit zones, motor vehicles and parking;
- Areas where events, shows, activities of massive concentration of people take place, including political, sports, recreational, religious, cultural, scientific, commercial events;
- Areas or establishments where food is processed, prepared, tasted or sold;
- Shopping centers, casinos, nightclubs, bars, restaurants, and cafeterias;
- Bus terminals, bus stops, as well as any means of public transportation;
- Land, sea, and air transport vehicles with origin and destination in national territory;
- Governmental facilities, autonomous institutions, and non-governmental public service entities;
- Public and private educational centers of all levels.

Most kinds of tobacco advertising are forbidden, except point of sale, free distribution and internet sales.

There are 10 kinds of health warnings that cover 50% of both front and rear principal display areas [4].

In 2005, the Law on The Solidarity Fund for Health (FOSALUD) was adopted⁵. The Fund receives up to 35% of tax revenues from tobacco, alcoholic beverages, arms and ammunition to implement preventive campaigns to reduce the consumption of tobacco, alcohol, and to provide health care for the cessation of tobacco and alcohol⁶. Tobacco control education was reported in some medical schools [5]. In 2016, the Government's expenditures on tobacco control were 800,000 USD and the Fund had 44 staff workers [4]. As reported in February 2018⁷, FOSALUD has got a two-year grant from the Bloomberg Initiative to Reduce Tobacco Use. The strategic partnership aims to expedite reductions in tobacco use by developing a national tobacco control policy, strengthening tobacco control legislation, and promoting tobacco tax reform. In March 2018, the FOSALUD received the Bloomberg Philanthropies Award for Global Tobacco Control⁸. El Salvador passed comprehensive smoke-free legislation in 2015, made possible by FOSALUD's leadership. FOSALUD not only conducted evidence gathering (e.g., air quality monitoring, development of fact sheets, etc.) to support advocacy for the law in its initial phases but engaged the international community for help when tobacco industry interference became evident.

In 2016, the WHO FCTC Secretariat conducted needs assessment mission to El Salvador [6]. In 2017, it was reported⁹ that the Government was going to develop a national tobacco control plan with assistance from specialists of the United Nations Development Program and the World Health Organization.

⁵

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/el_salvador_2016_annex9_law_for_constitution_of_solidarity_fund_to_health_2005.pdf

⁶

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/salvador_2014_report.pdf

⁷ <https://www.theunion.org/news-centre/news/el-salvador-launches-collaboration-with-the-union-to-step-up-implementation-of-the-who-framework-convention-on-tobacco-control>

⁸ <https://www.bloomberg.org/blog/2018-bloomberg-philanthropies-awards-global-tobacco-control-meet-winning-organizations/>

⁹ <http://www.who.int/fctc/mediacentre/press-release/fctc2030-el-salvador/en/> ;

<https://ph.invertalia.net/news/the-government-of-el-salvador-will-develop-a-national-plan-for-tobacco-control-10803>

Tobacco consumption

The estimated prevalence of smoking, stratified by sex, for adults (> 15 years), in El Salvador in 1988 was 38.0% among men and 12.0% among women [7], while it was not clearly stated whether current or lifetime smoking had been referred to.

According to published international estimates [8], the age-standardized adult smoking prevalence in El Salvador decreased in 1980-2012 from 11.3% to 9.5% and in 2012 it was 18.1% among men and 2.5% among women.

According to the Household Survey, conducted in 2005¹⁰ among persons 12-71 years old, smoking prevalence was 21.5% among men and 3.5% among women.

WHO El Salvador country profiles on non-communicable diseases [9] and cancer [10] refer to the survey conducted in 2011 with the revealed prevalence of current smoking 24.2% among men and 3.2% among women.

National Alcohol and Tobacco Survey was conducted in 2014¹¹ among adult population (18 years old and older). It revealed that the prevalence of ever smoking was 35% (59% among men and 16% among women), while the prevalence of current (during the last 30 day) tobacco use was 8.8% (16.9% among men and 2.2% among women). However, 32% of current smokers used less than one cigarette a day and they can be considered occasional smokers. So the prevalence of daily smoking in 2014 can be recalculated as $8.8\% \times (1-0.32) = 6\%$. Among current smokers, 45.1% reported that they smoke 1-5 cigarettes a day; 16.5% 6-10 cigarettes a day and 5.5% 11-20 cigarettes a day. Smokers usually underestimate the number of smoked cigarettes, so we assume that those who reported smoking 1-5 cigarettes a day actually smoked 5 cigarettes a day and other two groups smoked 10 and 20 cigarettes a day respectively. The calculated average daily cigarette consumption per daily smoker equals 7.5 cigarettes. There were 4 million adult persons in El Salvador in 2014 and 6% of them or 0.24 million were daily smokers. The calculated annual consumption is $0.24 \times 7.5 \text{ cigarettes} \times 365 \text{ days} = 657 \text{ million cigarettes}$.

MICS [11] was conducted in El Salvador in 2014 among women aged 15-49. Along with other indicators, the survey measured the prevalence of lifetime use of any tobacco, including smoked and smokeless forms, which constituted 14.7% on average with higher prevalence among the urban women (18.6%) and lower among rural ones (7.7%) and significant difference between regions. Current tobacco use (measured as any use within the last month before the survey) was pertinent to 1.6% of women while urban women were current tobacco users four times more likely (2.2%) than rural ones (0.5%).

Tobacco use among youth

In a study conducted in 1994 [12], 25.5% of adolescents aged 12-19 years were reported to be ever tobacco smokers.

A study based on the results of Youth Risk Behavior Survey (YRBS) conducted in 1999 among people aged 14-17 years [13] reported that the prevalence of lifetime cigarette use constituted 20.8% among girls and 46.8% among boys and the prevalence of current cigarette use - 8.1% and 17.5% respectively. Similar and probably overlapping study [14] reported that the prevalence of lifetime cigarette use

¹⁰

http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/salvador_2014_report.pdf

¹¹ <http://www.fosalud.gob.sv/download/encuesta-nacional-de-alcohol-y-tabaco-2014/#>

constituted 19.4% among girls and 45.1% among boys and the prevalence of current cigarette use 7.4% and 19.1% respectively.

According to the surveys conducted among adolescents aged 10-18 years in 2000 within PACARDO research project [15], 30% of study participants in El Salvador have used tobacco (probably at least once in their lifetime).

A survey of 290 adolescents and young adults in high-risk communities in the Greater San Salvador Metropolitan area conducted between June and November 2011 [16] measured lifetime cigarette use for adolescents and young adults as 83.5% and 76.5%, respectively.

The Global Youth Tobacco Survey (GYTS) was conducted in El Salvador in 2003¹², 2009 [17] and 2015 [18].

Table 1. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in El Salvador, GYTS

| | 2003 | 2009 | 2015 |
|--|-------------|-------------|-------------|
| Currently use any tobacco product | 19,0 | 14,6 | 13,1 |
| <i>boys</i> | 24,4 | 18,2 | 15,3 |
| <i>girls</i> | 15,4 | 11,0 | 10,7 |
| Currently smoke cigarettes | 14,0 | 9,1 | 9,9 |
| <i>boys</i> | 18,4 | 11,2 | 11,4 |
| <i>girls</i> | 10,9 | 7,1 | 8,2 |

Tobacco use and cigarette smoking among young people substantially declined between 2003 and 2009, but almost did not change between 2009 and 2015.

Tobacco growing

According to the FAO database¹³, raw tobacco production in El Salvador reached maximum (more than 4,000 tons a year) in the early 1980s, then it declined to about 700 tons in early 1990s and later it increased. In 2012-2016, annual raw tobacco production was about 1,700 tons.

Tobacco turnover

Following the closure of BAT cigarette factory in 1997, El Salvador has been completely supplied by import¹⁴. According to the UN database¹⁵, cigarette export (actually re-export) is rather small and cigarette turnover (import minus export) is almost equal to import. In 2002-2009, annual cigarette turnover was about 1.5 billion cigarettes. Then it declined almost every year to about 0.7 billion cigarettes in 2016 (Fig. 1). El Salvador had the lowest per capita cigarette consumption in Central America in 2005 when it was estimated at 455 for the year¹⁶.

Figure 1. Cigarette turnover (import minus export) in El Salvador. Source: UN database.

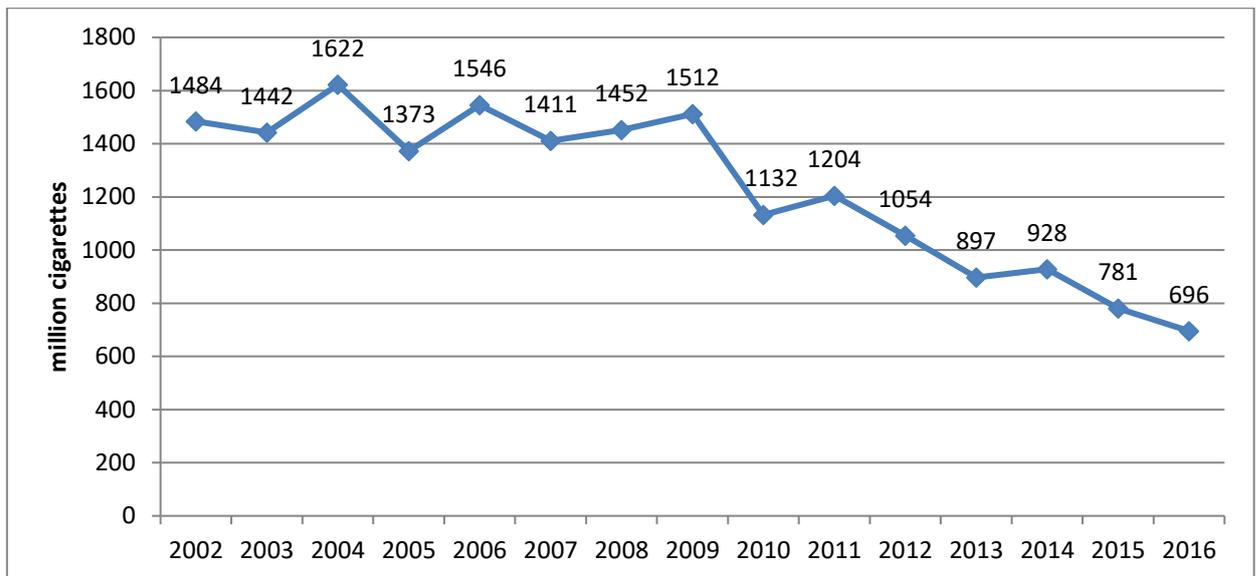
¹² <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=217>

¹³ <http://www.fao.org/faostat/en/#data/QC>

¹⁴ <https://view.joomag.com/reportsweb-cigarettes-in-el-salvador-2017/0080859001497643790>

¹⁵ http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=_11Code%3a25%3bcmdCode%3a240220

¹⁶ <http://www.tobaccointernational.com/1007/feature2.htm>



Cigarette prices

According to the WHO Global Tobacco Control reports [19], the price of the most popular cigarette brand in El Salvador increased from 1.4 USD (20 cigarettes pack) in 2008 to 1.75 USD in 2010 and 1.95 USD in 2012 or by 39% in four years. In 2014 and 2016, the price was 2.0 USD.

In 2014 and 2016, the price of Marlboro was 2.75 USD per pack and it increased to 3.0 USD in 2018¹⁷.

Ramos et al [20] estimated the real cigarette price trends in El Salvador in 2000-2012 using nominal price data from the General Directorate of Statistics and Census (DIGESTYC) and deflated by the consumer price index (CPI). In 2000-2009, the index of real cigarette price was rather stable at the level of 90-95%, meaning that the increase in cigarette price was below the inflation. In 2010, the real price index reached 120% and it kept at such level in 2011-2012.

According to the official consumer price index bulletins¹⁸, cigarette prices were 24.2% higher in June 2011 than in December 2009, while the general CPI (inflation) was 7.3%. In 2012-2016, cigarette price growth in El Salvador exceeded both inflation and the GDP growth (Table 2).

¹⁷ https://www.numbeo.com/cost-of-living/country_result.jsp?country=El+Salvador

¹⁸ <http://www.digestyc.gob.sv/index.php/temas/ee/ipc/indice-de-precios-al-consumidor.html>

Table 2. Consumer price indices for tobacco and all items (official bulletins), average monthly household incomes (annual reports¹⁹) and GDP annual change (World Bank Data²⁰) in 2010-2016

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total increase in 2010-2016, % |
|---|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------------------------|
| CPI tobacco (December previous year = 100) | 119* | 108* | 107* | 104,0 | 106,7 | 104,4 | 106,8 | 70,6 |
| CPI all items (December previous year = 100) | 102,1 | 105,1 | 100,8 | 100,8 | 100,5 | 101,0 | 99,1 | 9,6 |
| The average monthly income of households, USD | 479 | 487 | 507 | 556 | 540 | 539 | 546 | |
| Annual income change (previous year = 100) | 96,2 | 101,7 | 104,1 | 109,7 | 97,1 | 99,8 | 101,3 | 9,6 |
| GDP per capita growth (previous year = 100) | 100,9 | 101,8 | 101,4 | 101,4 | 100,9 | 101,8 | 101,9 | 10,4 |

*estimated values, as real data is not available

In seven years (2010-2016), cigarette prices increased by 70.6%, while the inflation rate was 9.6%. Average household income increased by 9.6% and GDP per capita based on constant local currency increased by 10.4%. It means that cigarettes became much less affordable during this period.

Tobacco taxation

Before 1995, El Salvador used ad valorem excise rates: 52%, 50% and 42.5% for different types of cigarettes. According to the provisions of Decree 52 of May 22, 1995, the ad valorem rate was unified as 33% which is calculated based on the retail price excluding the Value Added Tax [21].

In December 2004, Decree No 539 was adopted²¹, which added specific excise tax (0.005USD per 1 cigarette or 0.1USD per pack) and increased ad valorem rate to 39%, which should be calculated based on the retail price excluding VAT and specific excise. Of the final retail price, ad valorem tax constituted about 25%.

Decree No 235 of 21 December 2009²² increased the specific excise to 0.0225 USD per 1 cigarette, or 0.45 USD per pack, while it did not change the ad valorem excise rate for cigarettes. For cigars and cigarillos, ad valorem rate is 100%.

All cigarettes in the country are imported; the import tariff (DAI) is 30%²³. VAT rate in El Salvador is 13%.

¹⁹ <http://www.digestyc.gob.sv/index.php/temas/des/ehpm/publicaciones-ehpm.html>

²⁰ <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

²¹ http://www.mh.gob.sv/portal/page/portal/MH_IMPUESTOS/Mis%20img/lispt.htm

²²

http://www.transparenciafiscal.gob.sv/downloads/pdf/DC5821_Ley%20de%20impuesto%20sobre%20el%20tabaco.pdf

²³

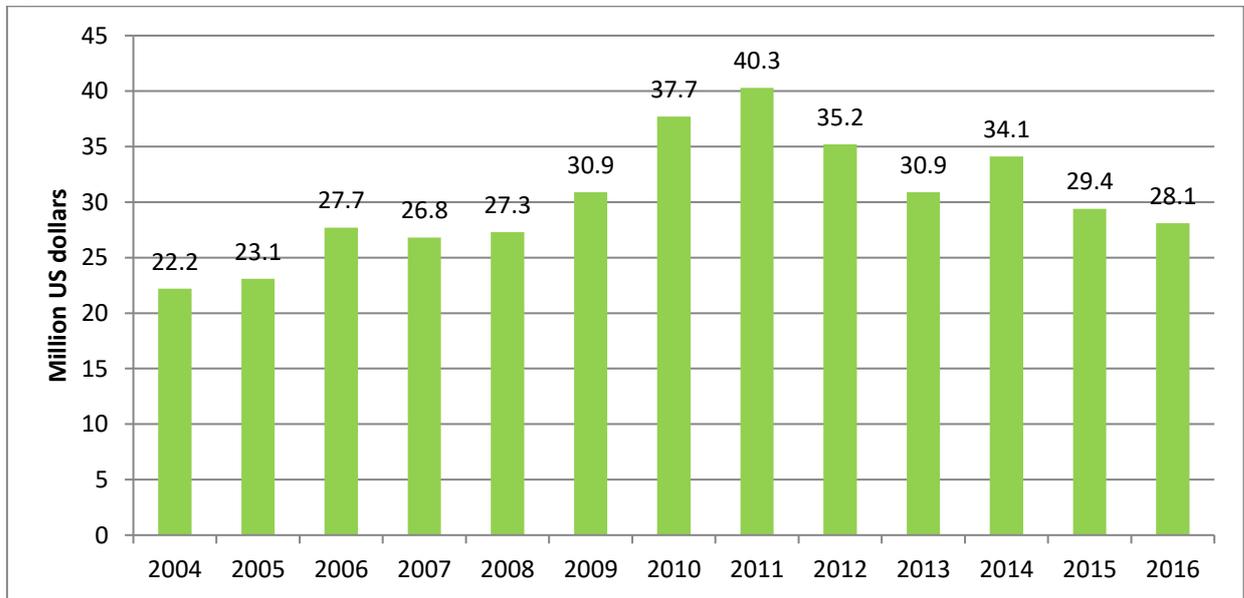
http://www.mh.gob.sv/portal/page/portal/PMHAntiguo/Temas/Operaciones_Aduaneras/Proceso_Despaacho/Proceso_Aduanero/Impuestos%20a%20pagar

Tobacco excise revenue

Data on tobacco excise revenues is presented in reports of the Ministry of Finance^{24 25}.

After the excise increase in December 2004, the revenue increased from 22.2 million USD in 2004 to 27.7 million USD in 2006 (Figure 2), despite the decline in cigarette turnover, as average excise burden increased. After the excise increase in December 2009, the revenue increased from 27.3 million USD in 2008 to 40.3 million USD in 2011, but then it gradually decreased to 28.1 million in 2016.

Figure 2. Tobacco excise revenue in El Salvador.



We calculated average excise per pack of 20 cigarettes using the MOF data on revenue and UN database data on import and export (Table 3). The specific rate was increased in 2009 by 0.35 USD per pack, while the average rate increased by 0.29 USD in 2008-2010. It was apparently caused by the decrease of the average net-of-tax part of the price, which is used to calculate the ad valorem excise. Probably, some smokers switched to cheaper brands after the tax increase.

Table 3. Tobacco excise revenue and cigarette turnover.

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Tobacco excise revenue, million USD | 22,2 | 23,1 | 27,7 | 26,8 | 27,3 | 30,9 | 37,7 | 40,3 | 35,2 | 30,9 | 34,1 | 29,4 | 28,1 |
| Turnover, million cigarettes | 1622 | 1373 | 1546 | 1411 | 1452 | 1512 | 1132 | 1204 | 1054 | 897 | 928 | 781 | 696 |
| Calculated average excise, USD per 20 cigarettes pack | 0,27 | 0,34 | 0,36 | 0,38 | 0,38 | 0,41 | 0,67 | 0,67 | 0,67 | 0,69 | 0,73 | 0,75 | 0,81 |

In 2012-2016, the calculated average excise increased, while the excise rates were not changed. It was caused by the increase of net-of-tax cigarette price in those years. Our calculations (Table 4) revealed that average net-of-tax cigarette price (importer price + retail margin) should increase by about 50% to ensure the increase of the average excise burden from 0.69 USD to 0.81 USD per pack.

²⁴

http://www.transparenciafiscal.gob.sv/downloads/pdf/DC4672_1_Estadisticas_Tributarias_19_de_enero_2010.pdf

²⁵

http://www.transparenciafiscal.gob.sv/downloads/pdf/DPEF02000022_Estadisticas_tributarias_2010_a_2016_20_Junio_2017_b_003.pdf

Table 4. Calculations of taxes for three brands of cigarettes, USD per pack of 20 cigarettes

| Price and its components | | Formula | Brand 1 | Brand 2 | Premium brand |
|--------------------------|---|----------------|---------|---------|---------------|
| Importer price | A | | 0,21 | 0,34 | 0,90 |
| Import duty | B | $A*0.3$ | 0,063 | 0,105 | 0,27 |
| Retail margin | C | | 0,10 | 0,12 | 0,17 |
| Specific excise | D | | 0,45 | 0,45 | 0,45 |
| Ad valorem excise | E | $0.39*(H-D-G)$ | 0,24 | 0,36 | 0,86 |
| Total excise | F | $D+E$ | 0,69 | 0,81 | 1,31 |
| VAT | G | $H*13/113$ | 0,14 | 0,18 | 0,35 |
| Retail price | H | $A+B+C+F+G$ | 1,20 | 1,55 | 3,00 |

Our calculations also revealed that for a premium brand, which has the final retail price 1.45 USD higher than the price of average excise brand, the total excise rate is just 0.5 USD higher, while the net-of-tax is higher by 0.61 USD.

Cigarette smuggling

In March 2017, the organization called “Crime Stoppers” presented²⁶ the results of CID Gallup study, commissioned by the North American Costarican Chamber of Commerce (Amcham). The study entitled “From ant contraband to an elephant in the market” claimed: *Each year El Salvador consumes up to \$940 million in cigarettes. 31 percent of those cigarettes are illegal and the numbers are growing. Legal tobacco companies are already losing more than \$291 million due to this illicit trade. Besides this loss, the country’s treasury loses another \$15 million because of it.*

The study reported that the most popular illicit cigarette brands in the informal market were Modern, Pine and Esse. The study described rather complicated routes of the smuggled cigarettes: they arrive in Panama from China and from there they move, by sea, to Belize. Then cigarettes are moved via Guatemala to El Salvador²⁷. However, such complicated route with the illicit crossing of 4 borders made transportation (which includes bribes to some officials) rather expensive and such business can hardly be very profitable.

The CID Gallup manager for Latin America, Esteban Álvarez stated that poor customs control in the region is one of the factors favoring the smuggling of cigarettes, while other factors include the *increase in prices in the region due to anti-smoking laws that established taxes on cigarettes*²⁸.

The rhetoric of the CID Gallup report shows that this study was supported by the tobacco industry and its main aim is not the reduction in illicit cigarette sales, but prevention of further cigarette excise increases in the Central American countries. The study methods are not disclosed and there are strong reasons to suspect that the volumes of smuggled cigarettes have been much overestimated.

It was reported [6] that in 2014 and 2015, the General Directorate of Customs in coordination with the General Prosecutor's Office and the National Civil Police conducted destruction of 40 metric tons of cigarettes (about 40 million cigarettes) confiscated in various processes. The destruction was supported by state entities and “companies that legally import and market tobacco products”.

²⁶ <https://csiworld.org/news/illicit-trade-undermining-public-health-in-el-salvador>

²⁷ <http://elmundo.sv/el-contrabando-de-cigarros-financia-pandillas-en-el-pais/>

²⁸ <http://www.elsalvador.com/noticias/negocios/314034/cid-gallup-cigarrillos-ilicitos-financian-actividades-de-las-pandillas-de-el-salvador/>

While some illicit cigarettes are seized by Salvadorian authorities²⁹ cigarette smuggling from the neighboring countries can hardly be high as the differences in cigarette prices between countries are rather small.

Comparison of cigarette prices and taxes in El Salvador and neighboring countries

The WHO Global Tobacco Report, 2017, contains information on cigarette prices and taxes in El Salvador and other countries of the WHO Americas Region (AMRO) in 2016 [19] (Table 5).

Table 5. Cigarette prices and taxes in El Salvador and some neighboring countries in 2016, WHO report data [19]

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of the price of the most sold brand | | | | | | % of GDP per capita required to purchase 2000 cigarettes of the most popular brand |
|--------------------------|---|-------------------|------------------------------------|--|-------------------|--------------|---------------------------|--------------|-----------------|--|
| | In reported currency | Currency reported | In US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Total tax | Total tax, US\$ | |
| Belize | 5.00 | BZD | 2.50 | 26.0% | 0.0% | 26.0% | 11.1% | 37.1% | 0.93 | 5.4% |
| Canada | 10.29 | CAD | 7.89 | 57.2% | 0.0% | 57.2% | 9.0% | 66.2% | 5.22 | 1.8% |
| Costa Rica | 1 700 | CRC | 3.09 | 26.6% | 31.2% | 57.9% | 11.5% | 69.4% | 2.14 | 2.7% |
| El Salvador | 2.00 | USD | 2.00 | 22.5% | 18.5% | 41.0% | 11.5% | 52.5% | 1.05 | 4.6% |
| Guatemala | 16.50 | GTQ | 2.18 | 0.0% | 38.3% | 38.3% | 10.7% | 49.0% | 1.07 | 5.2% |
| Honduras | 44.00 | HNL | 1.92 | 19.1% | 0.0% | 19.1% | 15.3% | 34.3% | 0.66 | 7.3% |
| Mexico | 47.39 | MXN | 2.51 | 14.8% | 38.7% | 53.5% | 13.8% | 67.3% | 1.69 | 3.0% |
| Nicaragua | 50.00 | NIO | 1.74 | 22.1% | 0.0% | 22.1% | 13.0% | 35.1% | 0.61 | 8.2% |
| Panama | 4.25 | PAB | 4.25 | 0.0% | 43.5% | 43.5% | 13.0% | 56.5% | 2.40 | 3.1% |
| United States of America | 6.43 | USD | 6.43 | 37.8% | 0.0% | 37.8% | 5.2% | 43.0% | 2.77 | 1.1% |

Cigarette prices and taxes (in monetary terms) in El Salvador are lower than in all countries of the region except Honduras and Nicaragua. In terms of affordability, cigarettes are more affordable in El Salvador than in Belize, Honduras, Guatemala, and Nicaragua.

Discussion

Tobacco consumption in El Salvador has been declining since 2009: annual cigarette turnover decreased from 1.5 billion cigarettes in 2002-2009 to 0.75 billion cigarettes in 2015-2016. Calculations based on the data of the National Alcohol and Tobacco Survey conducted in 2014 also demonstrate that of the annual cigarette consumption in the country constituted about 0.7 billion cigarettes.

Smoking prevalence surveys show that smoking prevalence among adults declined in 2005-2014 as well as smoking prevalence among teenagers in 2003-2015.

National household survey reports³⁰ contain data on tobacco products expenditures only in 2007³¹ and 2016³². Over these 9 years, nominal monthly tobacco expenditures per household increased from

²⁹ <http://elmundo.sv/encuentran-nueve-mil-cajetillas-de-cigarros-dentro-de-camioneta-en-metapan/>

³⁰ <http://www.digestyc.gob.sv/index.php/temas/des/ehpm/publicaciones-ehpm.html>

³¹ <http://www.digestyc.gob.sv/index.php/temas/des/ehpm/publicaciones-ehpm.html?download=8%3Aehpm-2007>

³² <http://www.digestyc.gob.sv/index.php/temas/des/ehpm/publicaciones-ehpm.html?download=616%3Apublicacion-ehpm-2016>

10.3USD to 13.67 USD, or by 33%, but nominal cigarette prices increased in those years by at least 70% (see Table 2), so the number of consumed cigarettes should have decreased.

The main factor of the observed tobacco consumption decline was the reduction of tobacco affordability, while tobacco control policies, adopted in 2011 and implemented in 2015 also contributed to the reduction in consumption.

In 2010-2016, nominal tobacco prices increased by 70.6%, while inflation was 9.6% and household average income increased by 9.6% (see Table 3). Ramos et al [20] estimated long-term cigarette price elasticity in El Salvador as -0.9287 and income price elasticity as 0.9978. With such high elasticities, tobacco consumption could have really declined by 50% in 2010-2016.

The main factors of the cigarette affordability reduction in 2010-2016 were the following:

- 1) Economic recession: in 2009 and 2010 even nominal household income declined and in 2010-2016 there was no increase in real (inflation-adjusted) incomes in El Salvador.
- 2) Hike of specific tobacco excise rate in December 2009 increased average excise burden by about 80%, but in 18 months after the excise increase, average cigarette price increased only by 24.3%.
- 3) Then in 2012-2016 annual cigarette price growth substantially exceeded both inflation rate and income increase. As cigarette excise rates were not changed over those years, the observed price growth was only caused by pricing policy of the tobacco corporations. The recent monograph from the United States National Cancer Institute and WHO reveals that this phenomenon is also observed in other countries. It states [22]: *“Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone.”*

Tobacco corporations increased their part of the price to keep profits on the declining tobacco market. However, as tobacco consumption reduction was caused not by increased tax rates, but by the increase of the industry prices, the government excise revenue declined, while the industry apparently kept its profits.

To hide the impact of their pricing policy on tobacco market, the tobacco industry used their traditional claims that tobacco sales decreased due to an alleged increase in smuggling which was inspired by “too high” excise rates. The recent CID Gallup report on tobacco smuggling is a clear example of such tobacco industry deceptive tactics. In El Salvador, the tobacco excise rates were not changed for the last eight years and they could not “inspire” smuggling over recent years. While measures against cigarette smuggling should be strengthened, concerns about smuggling should not postpone the increase of tobacco excise rates which are able both to reduce the tobacco consumption and increase the governmental revenues.

Conclusions

1. In December 2009, El Salvador substantially increased specific cigarette excise rate and this caused a 25% decrease in tobacco consumption and 30% increase in tobacco excise revenue in 2010-2011.
2. In 2012-2016, tobacco excise rates were not changed, while tobacco industry annually increased the net-of-tax cigarette price well above the inflation rate and above the population income growth. Such price policy reduced tobacco affordability and cigarette consumption continued to decline. The impact of affordability reduction was reinforced by smoke-free and other effective tobacco control policies.

3. The decline in tobacco consumption under constant tobacco excise rates caused a reduction in the governmental tobacco excise revenues.
4. There were no factors which could substantially increase cigarette smuggling into El Salvador in recent years and the observed decline in cigarette sales is caused by the reduction of cigarette consumption in the country.

Recommendations

- Specific excise rate for cigarettes should be annually increased to ensure the reduction in tobacco affordability and the increase in the excise revenues.
- When increasing specific excise rates, effective ad valorem excise rates should not be reduced. It is worth considering the issue of calculating ad valorem excise as percentage of final retail price without reducing it by VAT and the specific excise, as it is done at present. This measure can enhance the excise revenues.
- Tobacco use surveillance and monitoring should be further developed in El Salvador, including a regular collection of information on cigarette sales, prices and other economic indicators. Smoking prevalence surveys need to clearly distinguish daily, current and ever smokers and are recommended including questions on cigarette packs, which a smoker can show at the time of the interview. Such questions were used in the GATS in Ukraine and Poland and subsequently in many other countries and they helped to make a more robust estimate of cigarette smuggling into the country.
- Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Gabon: Tobacco Control and Tobacco Taxation

Gabon is an upper middle-income country, which signed the Framework Convention on Tobacco Control [1] on 22 Aug 2003, ratified on 20 Feb 2009 and FCTC entered into force on 21 May 2009 [2].

Tobacco use

Scope of tobacco exposure

While most tobacco used in the form of smoking, Gabon is known for the use of a specific form of smokeless tobacco called 'adzeghane,' which is dried tobacco mixed with wood placed under the tongue [3].

Tobacco smoking among adolescents and young people

In 2007, a survey of young people aged 14-22 found that 10.9% were current smokers (14.7% among boys and 7.6% among girls) [4].

In 2008, a survey of 1469 adolescents aged 10 to 19 years in six cities in Gabon revealed that 21.5% had some experience of cigarette smoking (27.5% of boys and 16.0% of girls). The average age of smoking the first cigarette was 12.6 years for boys and 14.9 years for girls [5].

According to the GYTS conducted in 2014 among adolescents aged 13-15 years old, the prevalence of current tobacco smoking was found 7.6% (6.1–9.5) overall, 7.9% (6.3–9.8) among boys and 7.0% (5.1–9.5) among girls [6, 7].

Tobacco smoking among adults

According to the STEPS survey conducted among persons aged 15-64 years old in 2009 [8], 19.7% (15.9-23.4) of men and 4.6% (3.3-5.8) of women were current smokers while 15.0% (11.6-18.5) and 2.2% (1.3-3.1) were daily smokers respectively. Among men, 97.1% (94.7-99.5) of smokers used manufactured cigarettes and daily smokers were using on average 9.8 (8.6-11.0) cigarettes per day. This data makes us estimate that with 1,541,936 people² living in Gabon in 2010, men smokers consumed 405 mln. cigarettes per year.

Among adults, according to the Demographics and Health Survey (DHS) conducted in 2012 among people aged 15-49 including 9,755 households with 8,422 women and 5,654 men [9], the prevalence of smoking was 22.3% among men and 2.9% among women [2]. This prevalence of smoking was found to be the highest among the countries which conducted DHS in the African region [9]. Among both men and women, the prevalence of smoking was almost equal in all age groups and was slightly higher in rural areas. Among

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² <http://worldpopulationreview.com/countries/gabon-population/>

men, an average number of cigarettes per day increased in older age groups. Other tobacco products besides cigarettes were used more in rural areas and in older age groups [10].

According to published international estimates [11], the age-standardized smoking prevalence in Gabon increased in 1980-2012 (Table 1) and in 2012 it was 19% among men and 2.8% among women.

The estimated cigarette consumption increased more than 5-fold in 1980-2012, mainly due to the population growth. Estimated mean daily cigarette consumption per smoker increased 2-fold and reached 25 cigarettes per smoker, while such daily consumption looks too high and probably the population tobacco consumption in 2012 was overestimated.

Table 1. Estimates of smoking prevalence and cigarette consumption in Gabon [11]

| | 1980 | 1996 | 2006 | 2012 |
|---|-------|-------|-------|-------|
| Smoking prevalence (%) Male | 16.6 | 16.8 | 18.1 | 19.0 |
| Smoking prevalence (%) Female | 2.6 | 2.6 | 2.8 | 2.8 |
| Smoking prevalence (%) Both | 9.3 | 9.5 | 10.4 | 11.0 |
| # Smokers (thousands), Male | 34.2 | 51.2 | 75.8 | 95.6 |
| # Smokers (thousands), Female | 6.1 | 8.7 | 11.9 | 14.3 |
| # Smokers (thousands), Both | 40.3 | 59.9 | 87.6 | 109.9 |
| Total cigarette consumption (millions) | 185.5 | 304.4 | 659.5 | 990.1 |
| Mean Annual cigarettes consumption Per Capita | 420 | 469 | 769 | 986 |
| Mean Daily cigarette consumption Per Smoker | 12.6 | 13.9 | 20.6 | 24.7 |

However, if tabled DHS data [10] is used for calculations, the annual cigarette consumption among Gabonese men in 2012 is estimated at 283-428 million cigarettes.

Data on cigarette turnover (production + import – export) in Gabon is not consistent (Fig. 1). For some years, most cigarettes produced in the country were exported out of it.

In Gabon, the tobacco (brown) crop sector is virtually nonexistent, very few people grow tobacco [12].

Only one company, SOCIGAB, had a monopoly on the manufacturing of cigarettes (Houston brand). Raw materials used to manufacture cigarettes were imported. The Gabonese state owned 10% of the company's shares [12]. In 2012, the production reached 250 million cigarette sticks. Most of the cigarettes produced in Gabon were exported to Cameroon. Both production and exports of cigarettes were declining over time (Fig. 1). However, this was explained not by implementation of policy measures protecting the health of the population. These declines originated from the protection of the Cameroonian domestic market, and from stock shortages of inputs (raw materials), linked to import problems.

Finally, in November 2015, SOCIGAB announced that their shareholders decided to proceed with the liquidation [13]. In the press release, the company reported that it had been facing enormous financial difficulties for ten years mainly due to loss of export markets (Chad in 2006, Congo in 2013, Central African Republic and Cameroon in 2014). The company also mentioned the increase in tobacco taxation as another reason of losses while excise rates in Gabon were increased in 2015 only from 30% to 32%.

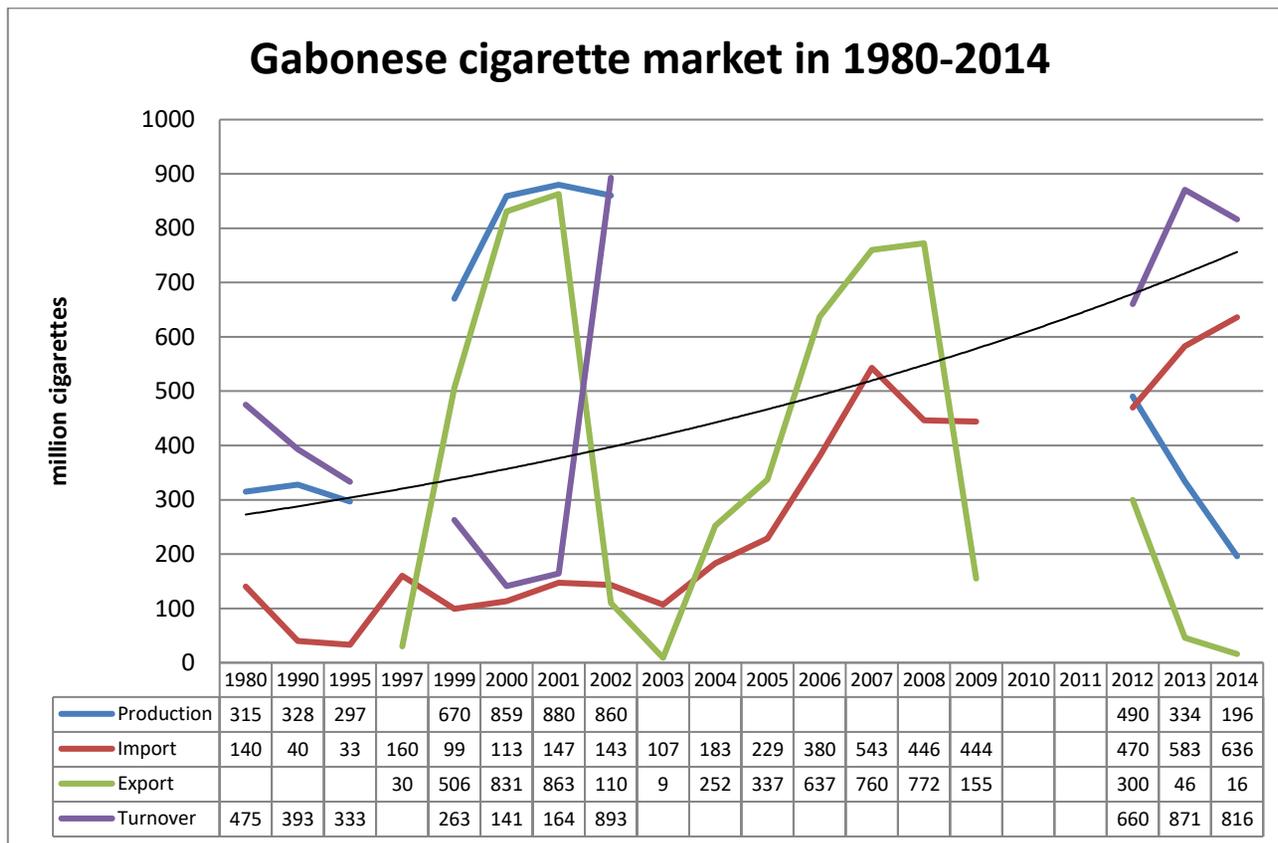
Taking into account the available information, the above estimates of cigarette consumption from surveys, and the published findings that survey-based estimates of cigarette consumption constitute 59-65% of

taxed cigarettes [14], we can assume that over recent years annual cigarette consumption in Gabon was about 600-900 million cigarettes. The dynamics of cigarette market in Gabon is shown in Fig.1.

Cigarette sales

The distribution system of cigarettes is subject to the monopoly of the Gabonese Tobacco Board, which collaborates with ministries involved in the search for contraband and counterfeit products. Data on seizures of this illicit trade is not available [12]. The cigarette sale can be done by pack or by stick [12].

Figure 1. Gabonese cigarette market in 1980-2014 (metric tons / million pieces).



Data sources: [15]; for 1980-2000 [16]; for 1999-2009 [17]; for 2012-2014 [12].

Tobacco control in Gabon

In the 1990s [18], a wider group of middle-income West African francophone countries were characterized as those having an increase in tobacco consumption since early 1980s, legislation which is not implemented and the nascent anti-tobacco movement targeting school children.

Gabon is known as a place where WHO's Regional committee for Africa met in September 1995 and emphasized the need for concerted action to prevent increases in tobacco use in Africa [18]. Countries called for a ban on tobacco advertising, a regional effort to harmonize and increase tobacco excise duty, and improved educational programs for children.

The World Bank adopted a policy which required health sector work to include anti-tobacco activities and prohibited the Bank from lending for producing, processing, importing or marketing tobacco, whether for domestic consumption or for export. This was a significant change from the previous period [18].

Prior to Gabon's ratification of the WHO Framework Convention on Tobacco Control, the available legislation provisions concerned only the tobacco trade (monopoly, prices, accreditation, etc.). Some articles of these texts dealt with advertising and health warnings on packaging. These texts implied no restriction on sale and were easily circumvented. Thus, despite the ban on advertising, tobacco companies were able to advertise on television, radio and elsewhere, and through sponsorship of sporting and cultural activities [12].

As of 2015 [2], Gabon was the only country in the African region which ratified the Protocol to eliminate illicit trade in tobacco products.

On April 11, 2016, the government of Gabon approved a series of new tobacco regulations [19] and the National tobacco control program for 2016-2020 was adopted, which is to be implemented by the National Commission for Tobacco Control. Among the main actions to be included in the National tobacco control program, the following were mentioned: (1) ban on smoking in places open to the public throughout the national territory, (2) prevention of tobacco industry interference in health policies, (3) packaging of cigarettes and cigars intended for sale in Gabon was required to bear notes 'Tobacco kills' and 'Forbidden for sale to those under 18' [20], (4) the prohibition on the advertising of cigarette brands. The possibility of introducing plain packaging was also being discussed [21]. In the National Program, tobacco taxation measures were mentioned among the strategies to reduce the demand [12] (p. 20).

As reported in the WHO report on the global tobacco epidemic, 2017 [22], Gabon has both specific national government objectives in tobacco control and National agency or technical unit for tobacco control. Strategies related to the introduction of health warnings and advertising ban are considered as relatively developed while monitoring, smoke-free policies and smoking cessation are at some initial level.

With regard to SHS exposure, as was measured in the second wave of Demographics and Health Survey (DHS) conducted in Gabon in 2012 [10], most homes in Gabon were reported to be free of tobacco smoke (77.5% in urban areas and 60.0% in rural); however, in 17.1% of urban households and in 35.9% of rural ones smoking was reported on a daily basis.

According to the GYTS conducted in 2014, among adolescents aged 13-15 years old, 51.1% were exposed to SHS in public places and 29.7% were exposed at home; still, the prevalence of tobacco use was found to be

at the level of 10.4% (15.1% among boys and 7.1% among girls) [2, 12]. In this study, 77.6% of students were in favor of banning tobacco use in closed public environments, and 71.8% - in open public places [12].

As of 2016, several public places including health-care facilities, educational facilities including universities, government facilities and indoor offices and workplaces were required to be smoke-free with some enforcement measures in place [22].

Tobacco taxation

Gabon is a member of the Economic and Monetary Community of Central Africa (CEMAC), an organization of states of Central Africa established by Cameroon, Central African Republic, Chad, Republic of Congo, Equatorial Guinea, and Gabon to promote economic integration among countries that share a common currency, the CFA franc (XAF).

In 1999, the Directive No 1/99-CEMAC-028-CM-03 on the harmonization of national legislation on excise duties and added value in CEMAC was adopted [23]. Article 57 of this Directive stipulates that the excise duty rates are freely determined by each Member State in the range of 0% to 25%. However, in 2011 [24, 25] the excise duty in Gabon was increased to 30% and in 2015 to 32% [26], which exceeds the maximum CEMAC level.

The base for calculation of the 32% ad valorem tax is: for imported products - customs value (CIF) plus duties and taxes levied at entry, excluding value added tax (VAT); for locally manufactured products - the selling price of the factory, excluding VAT.

As the excise tax base is much lower than the final retail price, the WHO Tobacco Free Initiative estimated the excise tax share in the final cigarette retail price in Gabon in 2014 (when the rate was 30%) as 19.56% [27]. Currently, with ad valorem rate of 32%, the excise tax share is about 21%.

In addition to the excise tax, the following taxes apply to tobacco products in Gabon [28]:

1. Customs Duty – 30% (CEMAC tariff) on the customs value (CIF) for cigarettes and 10% for raw and fine-cut tobacco.
2. Community Integration Tax (TCI) - 1% on the customs value (CIF) of goods not originating in CEMAC from 10 January 2003.
3. Community Integration Contribution (ICF) - 0.4% on the customs value of goods not originating in ECCAS (Economic Community of Central African States - an organization of 11 African states, including all states of CEMAC) from 1 January 2005.
4. Contribution to the Profit of OHADA - 0.05% on the customs value (CIF) of goods not originating in OHADA (Organization for the Harmonization of Business Law in Africa, which is made up of 17 African states, including all states of CEMAC) from 27 January 2005.
5. Value Added Tax (VAT) – 18% of the retail sales price, excluding VAT, or 15.25% of the final retail price.

So, additional duties (up to 31.45% of customs value) are applied on imported cigarettes, which are about 20% of the final retail price. The total tax and duties share in the final retail price is about 56% (20% duties + 21% excise + 15.25% VAT).

Data on tobacco taxes and duties revenue is presented in Table 3. In 2011-2015, the revenues were rather stable – about 9 billion XAF.

Table 3. Governmental revenue from tobacco taxes and duties, million XAF

| | Excise | VAT | Customs duty | TCI | ICF | Total |
|------|--------|------|--------------|-----|-----|-------|
| 2011 | 2404 | 3347 | 2790 | | | 8540 |
| 2013 | 2971 | 3171 | 2729 | 118 | 47 | 9036 |
| 2014 | 3321 | 2807 | 2639 | 94 | 37 | 8898 |
| 2015 | 3312 | 2659 | 2581 | 88 | 35 | 8675 |

Data source: 2011 http://www.who.int/entity/tobacco/global_report/2013/appendix_viii_table_8_1.xls?ua=1, 2013-2015 [29]

Cigarette prices

According to the Gabon FCTC reports, the retail price of a pack of 20 domestic cigarettes (Houston brand) increased from 425 XAF (Central African Franc) in 2012 to 500 XAF in 2014-2015 (about 0.85 USD all years) and the retail price of imported cigarettes (Marlboro) was 900 XAF in 2012-2014 and 1000 XAF in 2015 (about 1.8 USD all years). Several multi-national sites^{3 4 5} reported that in 2017 price of Marlboro pack in Gabon was 1000-1200 XAF.

Nominal cigarette price recently increased in line with inflation (Table 4). GDP per capita in constant (inflation-adjusted) terms also increased and we can assume some increase of population income. So tobacco products most probably became more affordable in Gabon over recent years, which could encourage tobacco consumption augmentation.

Table 4. Inflation and GDP enlargement in Gabon

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2010-2015 |
|---|-------|-------|-------|-------|-------|-------|-----------|
| Inflation, consumer prices (previous year =100) | 101,5 | 101,3 | 102,7 | 100,5 | 104,7 | 100,6 | 111,8 |
| Annual growth of GDP per capita based on constant local currency (previous year =100) | 103,6 | 103,5 | 101,7 | 102,1 | 101,1 | 100,9 | 113,6 |

Data source: World Bank database <http://data.worldbank.org>

Comparison of cigarette prices and taxes in the CEMAC countries

The WHO Global Tobacco Report, 2017 [30] contains information on cigarette prices and taxes in Gabon and other countries of CEMAC in 2016 (Table 5). We also collected recent information on Marlboro prices from various sites. As seen from recent reports, prices for imported cigarettes in Gabon were lower than in some CEMAC countries, while domestic cigarettes were more expensive. The difference of the most sold brand price was mainly caused by the selection of brands from different price categories, while no data on brands' market shares are available.

³ https://www.numbeo.com/cost-of-living/country_result.jsp?country=Gabon

⁴ <https://www.expatisan.com/price/cigarettes/libreville>

⁵ <http://www.combien-coute.net/cigarette/gabon/>

Table 5. Cigarette prices and taxes in Gabon and other CEMAC countries

| | 20-cigarette pack of the most sold brand, 2016 | | | | Prices in 2016 (XAF) | | Most recently reported price of Marlboro pack | | Excise rates | |
|------------------------------------|--|------------|---------------------------|--|----------------------|---------------|---|------|-------------------------|--------------------|
| | Price, XAF | Price, USD | Total taxes as % of price | % of GDP per capita required to purchase 100 packs | Cheapest brand | Premium brand | XAF | USD | Specific (XAF per pack) | Ad valorem, % |
| Gabon | 1000 | 1,69 | 25,39% | 2,2 | 565 | 1000 | 1000 | 1,74 | 0 | 32 |
| Equatorial Guinea | 500 | 0,85 | 52,20% | 0,6 | 500 | 1000 | 1000 | 1,74 | 0 | 25:50 ⁶ |
| Cameroon | 500 | 0,85 | 21,31% | 6,8 | 300 | 1100 | 1000 | 1,74 | 70[31] | 25[31] |
| Central African Republic (in 2014) | 500 | 0,85 | 32,77% | 27,9 | 300 | 2000 | 1500 | 2,61 | x | x |
| Chad | 750 | 1,27 | 34,47% | 14,8 | 350 | 1500 | 1500 | 2,61 | 0 | 13 |
| Congo | 650 | 1,10 | 40,94% | 6,1 | 500 | 1000 | 1112 | 1,93 | 40[32] | 24[32] |

Data sources: WHO report on the global tobacco epidemic [30](Annex IX), 2017. "X" = data not available.

The WHO Tobacco Free Initiative compared cigarette affordability in 2016 in different countries by such indicator as % of GDP per capita required to purchase 2000 cigarettes of the most sold brand (the higher the %, the less affordable cigarettes are). In Gabon, cigarettes were more affordable than in Cameroon, Chad, Central African Republic, and Congo.

Gabon has higher ad valorem excise rate for cigarettes (32%) than other CEMAC countries, and it even exceeds the maximum rate (25%) specified in the Directive No 1/99-CEMAC-028-CM-03. However, the CEMAC Directive recognizes the possibility for States to introduce both a specific and ad valorem excise duty. Cameroon [31] and Congo [32] already introduced specific excise rates (see Table 5), while they are rather small (about 4-7% of the Marlboro price).

Discussion

The Guidelines for implementation of Article 6 of the WHO FCTC [33] recommend: *“When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”*.

Tobacco taxation policy conducted in Gabon over recent years did not decrease tobacco affordability in the country, so no incentives were created for the diminishing of smoking prevalence.

Gabon uses pure ad valorem excise system for tobacco products. Such system is more frequently used by those countries which grow tobacco and wish to protect local cigarette producers from competition with transnational tobacco companies. However, in Gabon, very few people cultivate tobacco [12] and the only tobacco producing company in the country has been closed. So it is quite reasonable to change the pure ad valorem excise system into a mixed excise system following the examples of Cameroon and Congo.

⁶ Altair Marta. IVA e a CPLP. Slide 32 <https://www.slideshare.net/djelany/iva-e-a-cplp>

In January 2016, tobacco taxation workshop was conducted in Libreville [34]. The workshop recommended introducing a specific tax in addition to the current ad valorem component. The workshop experts pointed out that smuggling is not related to the taxes increase and that the argument of smuggling is often used by the tobacco industry to prevent the increase of taxes. They also cited the examples of those African countries which are affected by smuggling despite low tobacco taxes.

If Gabon introduces specific excise tax of 100 XAF per pack of 20 cigarettes, keeping all other taxes and duties unchanged, it will increase the current final retail price of a cigarette pack (1000 XAF) by about 160 XAF (taking into account ad valorem excise, VAT, and customs duty). The resulting price increase (16% or more if tobacco industry increases net-of-tax part of the price) can be large enough to encourage some smokers to quit and prevent some young people from starting smoking. If annual cigarette sales decline to 700 million cigarettes, it will increase the government revenue by 3.5 billion XAF just from specific excise (5 XAF per cigarette * 700 million). The VAT and other duties revenue will also increase as total cigarettes turnover in monetary terms should be higher with new taxes and prices, while more accurate estimates could be made provided that more detailed data on the national tobacco market is available.

Conclusions and recommendations

1. Tobacco control policies implemented in Gabon over the recent years have not resulted in decreased smoking prevalence in the country. Tobacco products have become more affordable and their consumption has likely increased.
2. Introducing specific excise tax for tobacco products in Gabon is recommended while keeping the current rates of other taxes and duties. A substantial increase in tobacco excise burden is able to both reduce tobacco consumption and increase the governmental revenues.
3. Tobacco control monitoring, including economic information on tobacco products sales, prices, and other indices, should be much improved in the country to support more precise forecasts outputs of the current and future tobacco control activities.
4. As specified by the Article 11 of FCTC, each unit packet and a package of tobacco products should carry health warnings describing the harmful effects of tobacco use. These health warnings need to be large, clear, visible and legible, have the form of or include pictures or pictograms, should be 50% or more of the principal display areas, and be rotating. The introduction of plain packaging currently under discussion in Gabon is highly recommended. Yet, the warning that cigarettes are not for sale to people under 18 years old is not recommended.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Guatemala

Tobacco control legislation

Guatemala became a Party to the WHO Framework Convention on Tobacco Control on February 14, 2006.

Tobacco advertising

In Guatemala, advertising (written, graphic, radio, television, films and other electric or electronic media) requires prior authorization of the Ministry of Public Health and Social Aid [1]². In addition, tobacco billboards are banned within 500 meters of entrances and exits of pre-school, elementary or high schools. Moreover, the tobacco industry (Philip Morris (PM) and British American Tobacco (BAT)) has voluntarily removed radio and television advertising. As observed in 2008, very few stores in Guatemala had exterior tobacco ads, but most shops had interior ads and tobacco products in close proximity to confectionary [2].

Smoke-free policies

In 2006, a study revealed high SHS exposure in public spaces. The risk to be exposed to SHS was highest in bars and restaurants, where nicotine concentrations were 710 and 114 times higher as compared to those found in a public hospital. The support for smoke-free environments rendered by employees was high (70%) [3]. In 2008³ a smoke-free law was adopted and in 2009 the implementation regulations⁴ were issued. Smoking is prohibited anywhere in workplaces and closed public places. There is one limited exemption to the complete indoor smoking ban for hotel and motel guest rooms. Smoking is also prohibited on all public transportation. In addition, the law mandates businesses to have a visible “No smoking” sign and prohibits smoking sections in all hospitality venues. The Ministry of Health is responsible for overseeing compliance and to penalize businesses violating the law. Six months later, a significant reduction in SHS exposure was documented in bars and restaurants, although compliance was better in restaurants than in bars [4]. In 2010, however, an observational study reported that 86% of bars and restaurants were non-compliant with the law ranging from allowing smoking indoors to inappropriate “No smoking” signage [5, 6].

In 2014, the SHS exposure was assessed using airborne nicotine monitors in bars and restaurants in Guatemala using the same protocol as in 2006 and in 2009 [7, 8]. Most (71%) venues still had a smoking section which was a violation of the law. The percentage of samples with detectable nicotine concentrations was 100%, 85% and 43% in 2006, 2009 and 2014, respectively, so the situation was gradually improving, while the law was not yet fully respected. In bars, median nicotine concentrations

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.

² <https://www.tobaccocontrolaws.org/files/live/Guatemala/Guatemala%20-%20Govt%20Agreement%20No.%2020426-2001.pdf>

³ <https://www.tobaccocontrolaws.org/files/live/Guatemala/Guatemala%20-%20Decree%20No.%2074-2008.pdf>

⁴ <https://www.tobaccocontrolaws.org/files/live/Guatemala/Guatemala%20-%20Govt%20Agreement%20No.%20137-2009.pdf>

were 4.58 µg/m³ in 2006, 0.28 in 2009 and 0.59 in 2014. In restaurants, the corresponding medians were 0.58 µg/m³, 0.04 and 0.01. The support for the law among bar and restaurant employees kept being high (88 %). Most employees reported no economic impact of the law.

Tobacco Packaging and Labeling

One of five text health warnings is required to occupy 25 percent of the front surface of the pack. The warning “Use of this product causes serious health damage” must be printed on the side of the pack. The size of the side panel warning is not specified [1].

As of 2015 [9], tobacco control policies in Guatemala were assessed at 15 out of 37 points.

Tobacco use among adults

In 1971 [10, 11], the prevalence of current smoking was measured as 36% among men and 10% among women; 11% of men and 9% of women were reported to be former smokers. Several surveys conducted between 1982 and 1989 estimated the prevalence of smoking among men as 34-53% and among women 18-38% [10].

The only available representative survey (World Health Survey) on tobacco use among the adult population in Guatemala was conducted in 2003⁵. It documented that 23.9% of men and 3.4% of women were current smokers, while the prevalence of daily smoking was much lower: 8.3% and 0.9% respectively. Similar estimates were reported by Hammond [12] with 24.8% of men and 3.9% of women being current smokers and 7.8% of men and 0.8% of women daily smokers.

According to published international estimates [13], the age-standardized adult smoking prevalence in Guatemala decreased from 8.3% in 1980 to 6.6% in 2006-2012. In 2012 the prevalence was 11.7% among men and 2.1% among women.

According to the STEPS conducted in the Metropolitan area in 2015, 25.4% of men were current (19.1% daily) smokers and 5.0% and 2.3% of women respectively [14].

Among women of reproductive age (15-44 years) the prevalence of smoking in 1983 was 6.6% [10] and in 1987 4% [10, 15].

The survey of women aged 15-49 in Guatemala in 2002 revealed that the prevalence of current smoking among them was 2.6% [16]. According to the survey among women of reproductive age conducted in 2014-2015 [17] 98% of them do not smoke. Non-indigenous women smoke more than indigenous women (2 percent versus 1 percent, respectively). The highest percentage of women who smoke was found among those with higher education and in the top wealth quintile with the prevalence of smoking reaching 4% in these two groups.

A small survey of 77 randomly selected clinical attendees (mean age 38, range 13-87) was conducted in 2001 in the village Chimaltenango [18]: 68% of surveyed men and 17% of women reported ever smoking a cigarette, and 21% of males and 2% of females were current smokers.

Tobacco use among youth

In a study conducted in 1994 [19], 13.3% of adolescents aged 12-19 years were found to be ever tobacco smokers.

⁵ http://untobaccocontrol.org/impldb/wp-content/uploads/reports/guatemala_2014_report_import%20final.pdf

According to the surveys conducted among adolescents aged 10-18 years in 1999-2000 within PACARDO research project [20], 22% of study participants in Guatemala were tobacco users (probably at least once in their lifetime).

In 2002 [21], 12.44% boys and 9.32% girls were reported to be current smokers.

The Global Youth Tobacco Survey (GYTS) was conducted in Guatemala in 2002 [21, 22], 2006⁶, 2008⁷ and 2015⁸.

Table 1. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in Guatemala, %, GYTS

| | 2002 | 2006 | 2008 | 2015 |
|---|-------------|-------------|-------------|-------------|
| Currently used any tobacco product | | 20,5 | 16,6 | 17,1 |
| <i>boys</i> | | 25,0 | 19,7 | 19,5 |
| <i>girls</i> | | 15,8 | 13,3 | 14,4 |
| Currently smoked cigarettes | 14,3 | 13,3 | 11,4 | 12,9 |
| <i>boys</i> | 17,3 | 15,0 | 13,7 | 14,7 |
| <i>girls</i> | 11,2 | 11,5 | 9,1 | 11,1 |
| Lived in homes where others smoked in their presence | | 25,8 | 23,1 | 21,6 |
| Had at least one parent who smoked | | 23,6 | 25,5 | |

Tobacco use and cigarette smoking among young people declined between 2006 and 2008 but increased in 2015. Percentage of teenagers, who lived in homes where others smoked in their presence, gradually decreased from 25.8 % in 2006 to 21.6% in 2015, and this can be considered an indirect indicator of smoking behavior among adults.

Tobacco growing

According to the FAO database [23], raw tobacco production in Guatemala increased from 2,200 tons in 1961 to almost 30,000 tons a year in 2016 and the area harvested to tobacco increased over those years from 3,100 hectares to 14,000 hectares. However, in 2009-2016 raw tobacco production was rather stable: about 28,000 tons annually.

Tobacco consumption

Per capita cigarette consumption among adults (>15 years of age) in Guatemala was estimated as 660 cigarettes per year in 1970-72 [24], 640 in 1980-82 [24], 550 in 1985 with a decline of 26% in 1970-1985 [10], and 340 in 1990-92 [24].

The estimated cigarette consumption per capita in 2016 was 199 pieces, which is 6.4% above the level documented in 1990⁹.

According to published international estimates [13], the estimated annual cigarette consumption increased from 1.1 billion cigarettes in 1980 to 2.2 billion cigarettes in 2006-2012. Estimated mean daily cigarette consumption per smoker was about 10.5 cigarettes in 2012.

⁶ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=243>

⁷ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=244>

⁸ http://www.paho.org/hq/index.php?option=com_docman&task=doc_view&gid=43116&Itemid=270&lang=en

⁹ <https://www.marketresearch.com/GlobalData-v3648/Cigarettes-Guatemala-11013550/>

Cigarette production, external trade, and sales

Only two companies are registered to manufacture, import and sell cigarettes in Guatemala: Tabacalera Centro Americana, S.A. (TACASA) and Tabacalera Nacional, S.A. (TANASA), subsidiaries of Philip Morris International and British American Tobacco, respectively.

In 2012, TACASA closed its plant in Boca del Monte, where for 50 years it produced such cigarette brands as Marlboro, Rubios, and L&M. About 60% of its production was exported to El Salvador, Honduras, and Panama. According to UN database¹⁰, in 2007-2011 cigarette export from Guatemala was about 1,800 tons a year, while annual import was about 800 tons.

From 2013 the cigarette market in Guatemala is supplied through imports. According to UN database¹¹, cigarette import to Guatemala in 2013-2014 was about 1,700 tons annually, while in 2015 it increased to 1,845 tons.

A.Ramos (2014) [25] estimated annual cigarette sales in Guatemala in 2012 as 82.8 million packs or 1.65 billion cigarettes.

KPMG Project Frost study [26] (commissioned by British American Tobacco) reported that legal cigarette sales in Guatemala decreased from 1.5 billion cigarettes in 2010 to 1.2 billion in 2012 and then increased to 1.3 billion in 2014.

Tobacco taxation

Tobacco taxation rates are set by the Law on Tobacco and its products (Decree 61-77) adopted in 1977¹². Article 22 of this law set that tax imposed for machine-made cigarettes is equivalent to 100% of the factory sale price without tax. Article 30 stipulated that importers should pay a tax equal to 100% of the cigarettes CIF value. Article 27 of the law declared that both for domestic and imported cigarettes the tax cannot be less than 46% of the declared retail sale price. The retail price must be reported by the manufacturer or importer to the Tax Administration, deducting the Value Added Tax. In 1995 the rate was reduced from 46% to 44%, but in 2001 it was increased again back to 46%.

The Value Added Tax in Guatemala is 12%, so the effective ad valorem excise rate was $46 * (1-12/112) = 41.07\%$.

In April 2010, British American Tobacco brought a constitutional claim against the existing tobacco tax legislation (approved 27 years earlier) noting that tax calculated on that basis is unconstitutional as it implies "double taxation" since the value-added tax is also imposed. The Constitutional Court ruled in favor of BAT in September 2010¹³. The decision by the highest court in Guatemala repealed the second paragraph of Article 27 of the Tobacco Law which sets that the calculated tax should be no less than 46% of retail price. The application of the tax law was suspended (until the problem was fixed with another law) and consequently in 2011 tobacco excise revenue decreased to 259 million Quetzals (GTQ), while in 2010 it was 347 million GTQ.

¹⁰ <http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=l1Code%3a25%3bcmdCode%3a240220>

¹¹ <http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=l1Code%3a25%3bcmdCode%3a240220>

¹² <http://www.mspas.gob.gt/images/files/saludambiente/regulacionesvigentes/tabaco/Decreto61-77.pdf>

¹³ https://www.centralamericadata.com/en/article/home/Guatemala_Court_Ruling_Against_Tobacco_Tax

The new law was adopted in January 2012¹⁴. The second paragraph of the Article 27 was amended, as follows: *In any case, both for domestically manufactured and imported manufactured cigarettes, the tax base cannot be less than seventy-five percent (75%) of the suggested retail price to the consumer. The manufacturer, the importer, the distributor or the intermediary, depending on who makes the sale to the consumer, must report through a sworn statement to the Tax Administration the suggested retail price, deducted by the Value Added Tax and the specific tax established in this Law. The price invoiced to the distributor or intermediary by the manufacturer or importer is not considered the suggested retail price to the consumer.*

The amendment looks good at the first sight as it sets that excise is 75% of the retail price. However, the base for calculation of this 75% rate should be reduced by VAT and “specific tax”. But the law does not set any specific excise rate. The “specific tax established in this Law” is actually the ad valorem excise in monetary terms. The Tax Administration provides an example of the cigarette excise calculation¹⁵. The detailed calculation is presented in Table 2. It shows that effective ad valorem rate is only 38.27% of the retail price, which is lower than in previous years (41.07%).

Table 2. Example and formulas of the cigarette excise calculation (adapted from what is presented in the law)

| A | Price | Formula | 100,00 |
|---|--|----------------|--------|
| B | VAT | $B=A*12/112$ | 10,71 |
| C | Base 1 (Price-VAT) | $C=A-B$ | 89,29 |
| D | Base 2 (Price - VAT - "specific excise") | $D=C/1,75=E+F$ | 51,02 |
| E | "Tax-free" part of Base 2 | $E=D*0,25$ | 12,76 |
| F | "Specific" excise | $F=D*0,75$ | 38,27 |

However, the scheme used in the taxation law is misleading as the actual tax-free part of the retail price is not the E part but the D and thus it constitutes not the 12.76% of the price but 51.02%. Actual total tax share is just 48.98% =38.27% (excise) + 10.71 (VAT) of the retail price and the excise constitutes just 38.27% of the price.

Article 25 of the Tobacco Law of 1977 requires that 100% of collected ad valorem tax is allocated to health programs. However, according to the estimations of A.Ramos (2014) [25], who used methodology from the World Bank, tax revenues from tobacco taxes in Guatemala do not compensate health expenses derived from diseases associated with smoking. The fiscal collection of the year 2012 would only reach to compensate 50% of the health expenses.

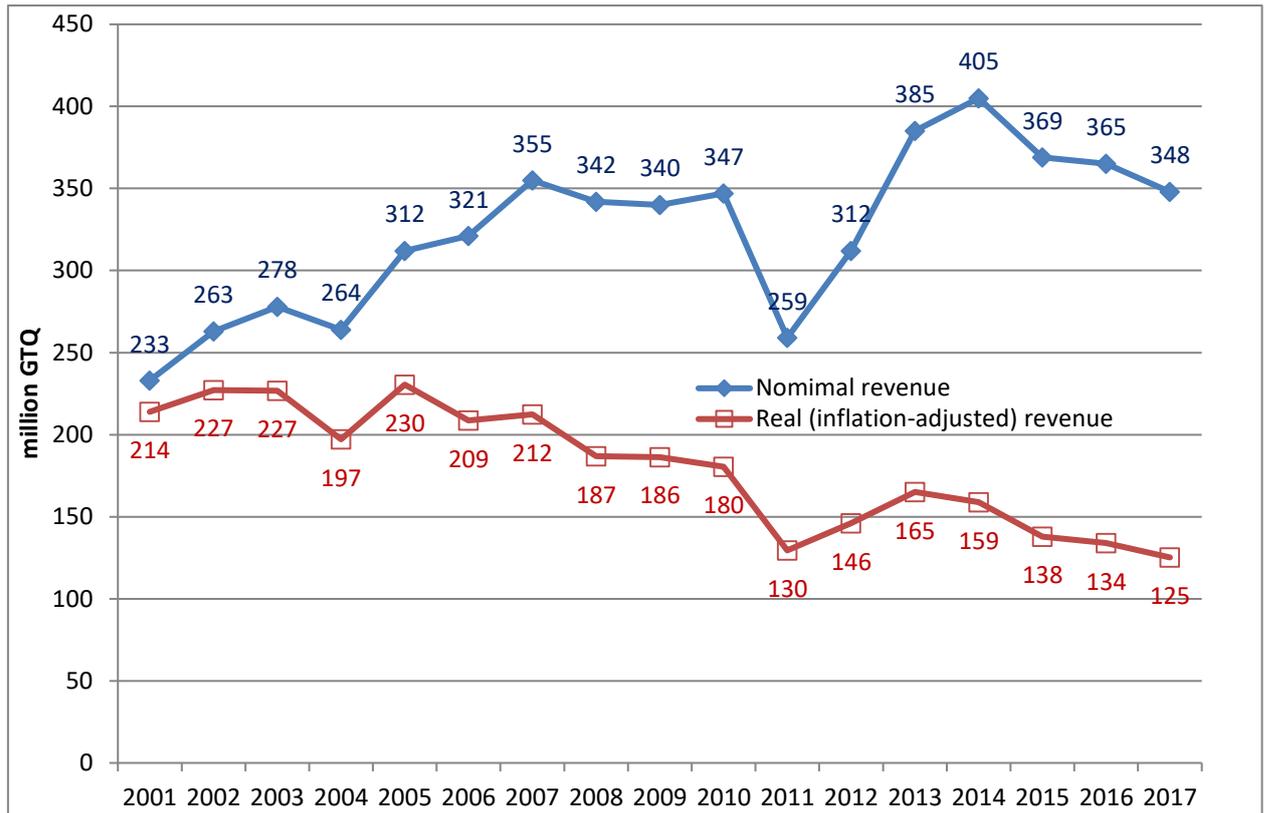
Tobacco excise revenue

According to the OECD database¹⁶, cigarette excise revenue in Guatemala gradually increased from 76 million GTQ in 1990 to 205 million GTQ in 2000. In 2001-2017, tobacco excise revenue in nominal terms increased from 233 to 348 million GTQ, however real (inflation-adjusted) revenue decreased from 214 million to 125 million GTQ (Fig. 1).

¹⁴ <https://transdoc.com/assets/images/users/pau/DECRETO%20DEL%20CONGRESO%204-2012%20DISPOS%20P%20FORTALECIMIENTO%20DEL%20SISTEMA%20TRIBUTARIO%20Y%20EL%20COMBATE%20A%20LA%20DEFRAUD%20Y%20AL%20CONTRAB.doc>

¹⁵ <https://sites.google.com/site/elabcedelospuestossat/el-abc-de-los-impuestos-1/08-impuesto-al-tabaco-y-sus-productos>

¹⁶ <https://stats.oecd.org/Index.aspx?DataSetCode=REVGTM>

Figure 1. Tobacco excise revenue in Guatemala.

Source: Nominal revenue OECD and Guatemalan Internal Revenue Service (SAT) reports¹⁷. Real revenue – authors' calculations with inflation rates from the National Institute of Statistics reports¹⁸.

Cigarette prices

According to the WHO Global tobacco control reports, the price of a pack of the most popular cigarette brand in Guatemala (Pall Mall) increased from 10 Quetzals (GTQ) in 2008 to 13.59 GTQ in 2010, 14 GTQ in 2012, then to 16 GTQ in 2014 and 16.5 GTQ in 2016. In 2010-2016, the price increased by 21%, while the inflation rate for those four years was 38%.

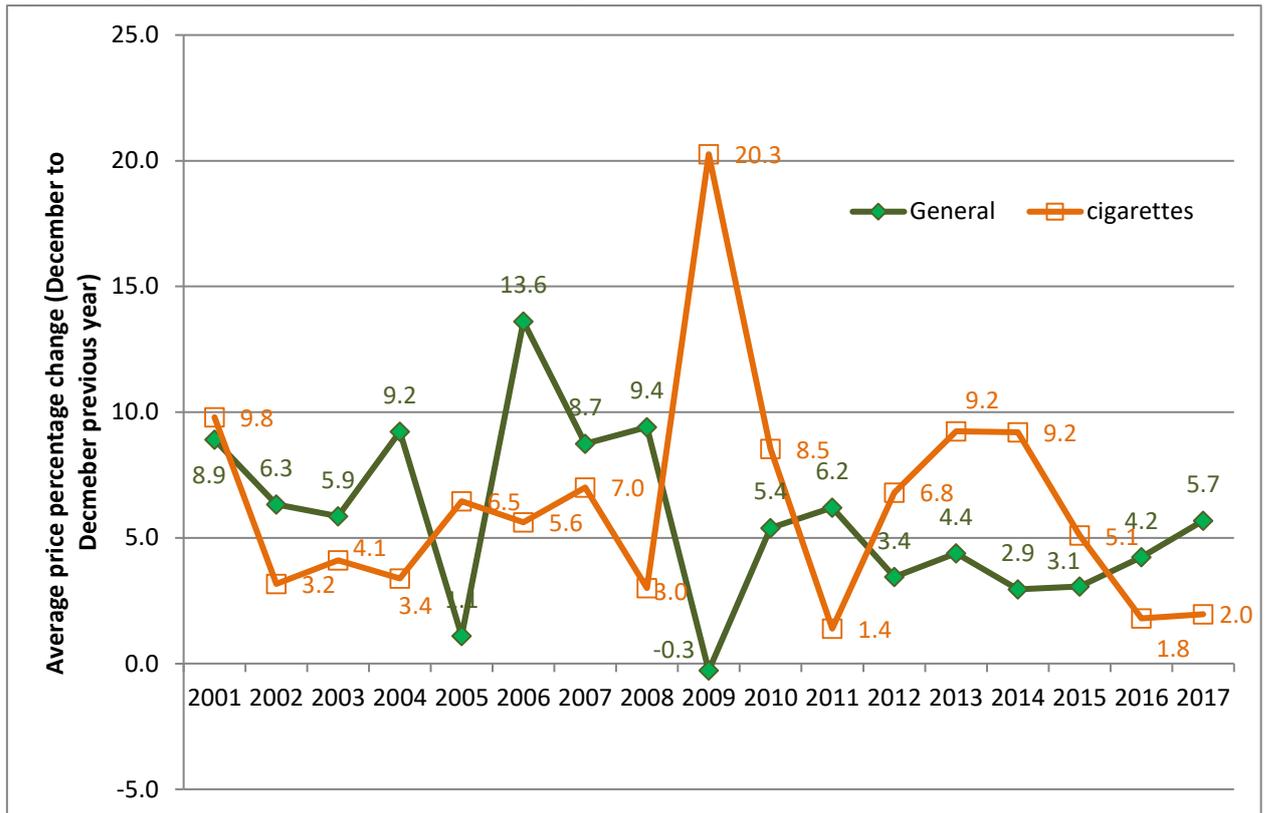
According to the database of the National Institute of Statistics,¹⁹ the largest increase of cigarette price (20%) was observed in 2009, while general prices did not increase that year (Figure 2). However, in 2001-2008 cigarette prices increased by 51%, while the inflation rate in that period constituted 83 %.

¹⁷ <https://portal.sat.gob.gt/portal/estadisticas-tributarias-sat/>

¹⁸ <https://www.ine.gob.gt/index.php/estadisticas-continuas/indice-de-precio-al-consumidos>

¹⁹ <https://www.ine.gob.gt/index.php/estadisticas-continuas/indice-de-precio-al-consumidos>

Figure 2. Cigarette consumer price change and general inflation rates in Guatemala.



Source: National Institute of Statistics database

Cigarette price increase exceeded the inflation rates in 2012-2014, despite the fact that effective excise rate decreased in 2012. As Guatemala has only ad valorem excise the cigarette price increase was mainly caused by pricing policy of tobacco industry, but not by the governmental taxation policy.

Comparison of cigarette prices and taxes in Guatemala and neighboring countries

The WHO Global Tobacco Report, 2017, contains information on cigarette prices and taxes in Guatemala and other countries of the WHO Americas Region (AMRO) in 2016 [27] (Table 3).

Table 3. Cigarette prices and taxes in Guatemala and some neighboring countries in 2016, WHO report data [27]

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of the price of the most sold brand | | | | | | % of GDP per capita required to purchase 2000 cigarettes of the most popular brand |
|--------------------------|---|-------------------|------------------------------------|--|-------------------|--------------|---------------------------|--------------|-----------------|--|
| | In reported currency | Currency reported | In US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Total tax | Total tax, US\$ | |
| Belize | 5.00 | BZD | 2.50 | 26.0% | 0.0% | 26.0% | 11.1% | 37.1% | 0.93 | 5.4% |
| Canada | 10.29 | CAD | 7.89 | 57.2% | 0.0% | 57.2% | 9.0% | 66.2% | 5.22 | 1.8% |
| Costa Rica | 1 700 | CRC | 3.09 | 26.6% | 31.2% | 57.9% | 11.5% | 69.4% | 2.14 | 2.7% |
| El Salvador | 2.00 | USD | 2.00 | 22.5% | 18.5% | 41.0% | 11.5% | 52.5% | 1.05 | 4.6% |
| Guatemala | 16.50 | GTQ | 2.18 | 0.0% | 38.3% | 38.3% | 10.7% | 49.0% | 1.07 | 5.2% |
| Honduras | 44.00 | HNL | 1.92 | 19.1% | 0.0% | 19.1% | 15.3% | 34.3% | 0.66 | 7.3% |
| Mexico | 47.39 | MXN | 2.51 | 14.8% | 38.7% | 53.5% | 13.8% | 67.3% | 1.69 | 3.0% |
| Nicaragua | 50.00 | NIO | 1.74 | 22.1% | 0.0% | 22.1% | 13.0% | 35.1% | 0.61 | 8.2% |
| Panama | 4.25 | PAB | 4.25 | 0.0% | 43.5% | 43.5% | 13.0% | 56.5% | 2.40 | 3.1% |
| United States of America | 6.43 | USD | 6.43 | 37.8% | 0.0% | 37.8% | 5.2% | 43.0% | 2.77 | 1.1% |

Cigarette prices and taxes (in monetary terms) in Guatemala are lower than in all countries of the region except El Salvador, Honduras, and Nicaragua. In terms of affordability, cigarettes are more affordable in Guatemala than in Belize, Honduras, and Nicaragua. In 2010-2016, cigarettes became more affordable in Guatemala as the percentage of GDP per capita required to purchase 2000 cigarettes of the most popular brand decreased from 5.9% to 5.2%.

Cigarette smuggling

According to the Industry Chamber of Guatemala, illegal cigarettes sales increased from 8.9% of the market share in 2010 to 12% in 2011²⁰.

In 2012, two trained research assistants purchased cigarettes in 22 traditional markets in the country asking for “imported cigarettes” (how vendors refer to illegal cigarettes) [28]. One pack of each brand was purchased to get as many brands as possible. All markets but one sold illegal cigarettes. A total of 104, 79 illegal and 25 legal cigarette packs were purchased, but the method used could only estimate the qualitative composition of the brands legally and illegally imported to the Guatemalan market but not the share of illicit cigarettes on the market.

In May 2015, KPMG agency issued a report called “Project Frost” [26] funded by British American Tobacco (BAT). The purpose and scope of this study were established through an agreement with the BAT. The study had to consider the smuggling and the counterfeit segments of the tobacco market in 16 Latin American markets (including Guatemala) and Canada (with a focus on Ontario). According to this agreement, KPMG had to show the country-specific preliminary results for each of the markets included in the study to the BAT administration teams in order to obtain feedback and comments before

²⁰ Guatemala Chamber of Industry: Corozal, La Capital del Contrabando de Cigarrillos, Industria y Negocios; 2012. <http://www.revistaindustria.com/?p=7954>

finalizing the results. Most data for the study (sales, prices, taxes) were provided by the BAT. The estimates of illicit sales were based on so-called empty pack surveys (EPS). The results of EPS were provided to KPMG by the BAT.

According to the EPS results shown in the 'Project Frost' report [26], contraband cigarettes accounted for 18% of cigarettes consumed in Guatemala in 2014. Most (62%) contraband cigarettes in Guatemala were labeled Panamanian. In 2014, the average price of a legal tobacco pack in Guatemala was \$2.04 compared to \$4.08 in Panama. However, the report claims that the empty Panamanian packs found in Guatemala were Chinese brands from the free zone of Panama and arrived through Belize. Smuggled cigarette brands from India, China, and Ukraine were also found in Guatemala. No counterfeit packs were identified in the EPS.

The number of collected packs for the EPS in Guatemala is not disclosed, but 62% of all illicit empty packs were just one Chinese brand "Modern" from Panama. Such results make us suspect that the number of empty packs collected by BAT team was very small and their collection was limited to some areas, where consumption of illicit cigarettes was most probable.

Police in Guatemala regularly seized smuggled cigarettes. For example, on April 15, 2016, agents of the National Civil Police (PNC) carried out a raid and confiscated 10 boxes of cigarettes of various brands. Among the seized, there were cigarettes from South Korea, which, according to the agents, are sold in nightclubs and their price is about GTQ40 per pack²¹. However, the price of licit Marlboro cigarettes in Guatemala is only 20-25 GTQ²². According to a recent report [29], the median price of illicit cigarettes in poor countries is higher than the median price of licit cigarettes and price is not the main factor of cigarette smuggling.

In December 2017, Guatemalan authorities conducted 35 raids to curb the contraband down and have arrested 24 persons, including five military officers for being a part of the contraband network circle²³. Millions of contraband cigarettes were bought in Belize and smuggled to Guatemala, Honduras, and El Salvador by boats. This was organized with the help of law enforcement officers²⁴.

Guatemala is also used as a transit country for cigarette smuggling. On April 6, 2018, four subjects who tried to smuggle cigarettes from Guatemala were arrested in El Salvador²⁵. The detainees were seized with a total of 4,650 packages containing 10 packs of cigarettes of Chinese origin.

Discussion

Tobacco excise rates were almost not changed in Guatemala for 40 years and in 2012 the rate was even decreased. The increase in cigarette prices in 2009-2014 exceeded the inflation rates and was caused by tobacco industry pricing policy.

Smoking prevalence among adolescents increased in 2008-2015. There were no large changes in cigarette consumption in Guatemala over the last years. The only tobacco factory in the country was closed in 2012. Tobacco industry claimed²⁶ that the closure had been caused by increased cigarette

²¹ <http://s21.gt/2016/04/15/incautan-10-cajas-cigarrillos-ilicitos-en-izabal/>

²² https://www.numbeo.com/cost-of-living/country_result.jsp?country=Guatemala

²³ <http://www.reporter.bz/front-page/guatemalans-say-contraband-cigarettes-originated-in-belize/>

²⁴ <http://lovefm.com/cigarette-smuggling-ring-linked-to-belize/>

²⁵ <http://diario1.com/nacionales/2018/04/detienen-a-cuatro-sujetos-por-contrabandear-cigarrillos-en-frontera-con-guatemala/>

²⁶ https://www.centralamericadata.com/en/article/home/Smuggling_in_the_Guatemalan_Economy

smuggling. However, there are no independent estimates of illicit cigarette share on the market while tobacco industry used to exaggerate the volumes of smuggled cigarettes. Cigarette price difference between Guatemala and neighboring countries is rather small to encourage large smuggling and the observed illicit cigarette sales are likely caused by the factors, which are not related directly to tobacco taxation.

Tobacco excise revenue in real (inflation-adjusted) terms decreased almost two-fold in 2005-2017, while there were no major changes in cigarette consumption in the country. Such situation dictates the strong necessity of tobacco taxation reform in Guatemala in line with the FCTC Guidelines on Article 6 adopted in 2014.

During 2011, there was a strong push for raising tobacco taxes in Guatemala by the civil society with technical assistance from consultants A. Ramos and H. Vallarino [25].

The consultants proposed to change ad valorem system to a full specific type of excise tax with tax per pack increasing in 4 years [25]: 0.4 GTQ per 1 cigarette in the first year, and respectively 0.50; 0.55 and 0.60 GTQ in the 2nd, 3rd and 4th years. A four-year simulation was performed using the previously calculated price and income elasticity estimates (long-term price elasticity of demand were -0.68 and income elasticity 1.08). The simulation model also used the baseline fiscal revenue, consumption and estimated average cigarette prices and a 2.5% annual increase in real income. They also assumed that tobacco companies would not only increase prices by the amount of the tax but also raise them higher to maintain profits. The specific tax per 20 cigarette pack would increase in year 3 by 127% and the price per pack was expected to increase by the same percentage. Estimated consumption decrease in three years was 40% and the increase in fiscal revenue 67%.

The initiative was supported by the Ministry of Health and tobacco control organizations²⁷. *"If the proposal is accepted we would be able to raise about \$66 million a year"*, said the congresswoman Zury Rios. *"The new estimate is higher than the target proposed by the Tax Administration (SAT) to raise GTQ356 million (\$ 46.8 million)"*.

The draft bill on tax increases promoted by the civil society was under Parliament discussion through 2011 and was finally discarded when the new President came to office in January 2012 (an industry-backed bill was passed).

Two years later, in May 2013, a second attempt was made to change the existing legislation on cigarette taxes [25]. A draft law on tax increase was prepared by A.Ramos and his colleagues and presented to Parliamentarians by the NGO "Observatorio del CMCT". It aimed at raising taxes through a three-year tax increase to push the retail price level (at year 4) for the bestselling brand to around 3.21 dollars per 20 cigarette pack. However, this time there was no progress either. The economic and tax authorities of the new Government coming to office in January 2012 did not show any interest in moving on with the tax. The priorities for tax reform of the new government were not directed to excise taxes (tobacco among them). A.Ramos concluded in 2014 that *"Guatemala does not seem a good prospect for tax increases"* [25].

It should be noted that retired general Otto Pérez Molina was elected President of Guatemala in 2011 along with Vice-president Roxana Baldetti; they began their term in office on 14 January 2012. In April 2015, international prosecutors, with help from the UN, presented evidence of a customs corruption

²⁷ https://www.centralamericadata.com/en/article/home/Guatemala_New_Tabaco_Tax

circle ("La Línea") in which discounted tariffs were exchanged for bribes from importers. On April 16, 2015, an operation with a total of 23 operatives with 250 Civil National Police officers resulted in extensive information collection and 20 suspects captured, among them SAT (Tax Administration) personnel, including SAT Chief director²⁸. Vice President Roxana Baldetti resigned on May 8 and was arrested for her involvement on August 21, 2015. On August 21, Guatemalan prosecutors presented evidence of Pérez's involvement in the corruption circle. Congress stripped Pérez Molina of prosecutorial immunity on September 1, 2015, and, on September 2, he presented his resignation from the Presidency. On September 3, after a court hearing in which charges and evidence against him were presented, he was arrested and sent to the Matamoros prison in Guatemala City²⁹. In June 2016, a United Nations-backed prosecutor described the administration of Pérez Molina to a criminal syndicate.

Jimmy Morales serves as President of Guatemala since January 2016. The president named a new superintendent and board of directors to SAT at the beginning of 2016 and they began the work aimed to improve human capital and IT systems to reduce tax evasion³⁰. Additionally, in July 2016 the Congress approved a reform of the SAT that would strengthen the institution. In August 2016, Morales asked the president of Congress, Mario Taracena to consider the bill on the proposed tax reform³¹. The Minister of Public Finance, Julio Héctor Estrada, explained that this reform was proposed considering the suggestions of various sectors of civil society, research centers, academics and new actors and leaders. However, he did not rule out that changes could be made to other taxes that had not been considered initially, such as taxes on firearms, on alcoholic beverages and on **cigarettes can be increased in order to strengthen the health component**, among others.

The IMF mission to Guatemala issued MISSION CONCLUDING STATEMENT in March 2018³². Among others, it recommended the following: *Revenue mobilization efforts need to continue, within the context of an integral fiscal reform. A comprehensive tax reform is needed to raise revenues to at least 15 percent of GDP. A variety of tax policy changes will be needed including ... higher indirect taxes.*

In recent years, the excise rate for cigarettes of the most popular price category was about 300 GTQ per 1000 cigarettes or 6 GTQ per pack (16 GTQ*0.38). About 1.2 billion cigarettes were taxed in Guatemala annually and annual revenue was about 360 million GTQ (see Figure 1).

It was already proposed to change the cigarette excise system in Guatemala from ad valorem to a specific one. If the specific excise rate is set in 2019 as 400 GTQ per 1000 cigarettes or to 8 GTQ per pack (25% increase of excise rate) the average cigarette pack price could increase from 16.5 GTQ to 19 GTQ or by 15%. Taking into account price elasticity, which was estimated earlier (-0.68), cigarette sales might decrease by 10%. So if the volume of cigarette sales declines to 1.1 billion cigarettes, the projected revenue will be 400 GTQ*1.1 = 440 million GTQ. However, the price elasticity of cigarette demand might be smaller as estimated in a systematic review based on the studies from Latin America and the Caribbean (pooled elasticities, short-run: -0.31; long-run: -0.43[30]). This will result in a smaller decrease of cigarette sales and, thus, greater revenues.

²⁸ https://en.wikipedia.org/wiki/La_L%C3%ADnea_corruption_case

²⁹ https://en.wikipedia.org/wiki/Otto_P%C3%A9rez_Molina

³⁰ <https://www.businesswire.com/news/home/20160823005876/en/Fitch-Guatemala-Tax-Rise-Success-Relies-Tax>

³¹ <http://s21.gt/2016/08/26/presidente-retira-polemica-iniciativa-reforma-fiscal/>

³² <https://www.imf.org/en/News/Articles/2018/03/20/ms031918-guatemala-staff-concluding-statement-of-the-2018-article-iv-mission>

Over the next years, the specific tax can be annually increased by 100 GTQ per 1000 cigarettes: 500 in 2020; 600 in 2021 and so on. Such increase is able to ensure both tobacco consumption reduction and revenue growth.

Conclusions and recommendations

Tobacco taxation policy practiced in Guatemala over the last 40 years did not contribute to the tobacco consumption reduction. It also caused the reduction of real tobacco excise revenue.

It is recommended to consider the proposal to change the current ad valorem excise system for cigarettes to a specific excise system with a uniform excise rate for all cigarettes in monetary terms. Then the specific excise rate for cigarettes should be annually increased to ensure the reduction in tobacco affordability and the increase in the excise revenues.

The tobacco taxation policy should be based on careful analysis of previous results of tax increase provided by institutions independent from the tobacco industry. To conduct such analysis, tobacco use surveillance and monitoring should be developed in Guatemala, including a regular collection of information on cigarette sales, prices and other economic indicators. Smoking prevalence surveys need to be regularly conducted in line with international guidelines.

Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country. While cigarette smuggling is a problem, it should not be overestimated and used as an argument against further excise increases. The FCTC Article 6 Guidelines state [31]: *The development, implementation and enforcement of tobacco tax and price policies as part of public health policies should be protected from commercial and other vested interests of the tobacco industry, including tactics of using the issue of smuggling in hindering implementation of tax and price policies.*

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Jordan

Tobacco use in Jordan

Cigarette smoking

Jordan is mentioned among countries with the high smoking prevalence and medium consumption (10-20 cigarettes per day per smoker) (1).

Adults

As of the early 2000s (2), 48% of men and 10% of women in Jordan were reported to be cigarette smokers.

STEP survey was conducted in Jordan in 2004 and in 2007. In 2004 (3), 25% of the participants (51% of men and 7% of women) were daily smokers. The highest prevalence (29%) was found among the respondents aged 35-44 years and graduates of secondary school (31%). The majority of smokers (59%) reported smoking 10-20 cigarettes per day. In 2007 (4), 29% (50% of men and 6% of women) were daily smokers and 9% (14% of men and 3% of women) were ex-smokers. The highest prevalence of smoking was found among the participants aged 25-34 years - 37% of all and 63% among men of this age group. Among women, the highest prevalence of smoking (7-8%) was revealed among those aged 35-64 years. Among all daily smokers, 97.5% reported smoking manufactured cigarettes and 2.8% - hand-rolled. Most smokers, both among men and women reported smoking 10-19 cigarettes a day.

A survey by the Ministry of Health found a 27% to 29% smoking rate in the Jordanian population, with an increase between 2007 and 2009 (5).

As documented in a survey conducted among adults in 2009-2010, the prevalence of both current and daily cigarette smoking was higher among men (71% and 64%) than women (21% and 10% respectively) and among older participants and those who had lower levels of education or had lower grades at school, as well as those who reported ever smoking cigars (6).

According to the Demographic and Health Survey (DHS), the prevalence of cigarette use among women in 2012 was 10.9% (7) and the prevalence of any smoking was 17.96% (8). However, an analysis of four waves of DHS conducted in Jordan in 2002, 2007, 2009 and 2012 shows that no change in the prevalence of cigarette smoking was observed over this time span while the prevalence of smoking waterpipe had a clear upward trend (9).

There is evidence of a substantial socio-economic disparity in tobacco use in Jordan. According to Toukan (10), the prevalence of cigarette smoking was the highest among the poorest, with the highest rate (57%)

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

being found among adult males with income of 100 to 250 Jordanian dinars per month as compared with the prevalence rate of 14% among adult males with income of 500 Jordanian dinars per month or more. Calculations show that the poorest 40% of adult males are 1.7 times more likely to smoke cigarettes than the richest 17% of adult males.

Among Jordanian women, those with better education less likely smoke cigarettes. Household wealth, on the other hand, was associated with higher prevalence of both forms of tobacco consumption, and especially waterpipe tobacco smoking (9).

The Global Adult Tobacco Survey (GATS) questionnaire was used to gather information about tobacco use in Jordan from July 2011 until September 2011(11). The survey found that 42.2% of individuals aged 15 and above in Jordan smoked tobacco. Among the total population, 32.2% were daily smokers and 6% were less than daily smokers. Among those who smoked tobacco, 35.2% smoked cigarettes, 15.2% smoked waterpipe (Argileh), and less than 2% smoked other types of tobacco such as pipes, cigars and/or hand-rolled cigarettes. Among men and women, the prevalence of tobacco smoking was 55.9% and 23.7% respectively. More men smoked cigarettes than waterpipe with a prevalence of 48.9% and 9.2% respectively. The prevalence of smoking cigarettes and waterpipe in women was 13.8% and 18.6% respectively. The overall prevalence of cigarette use only was 45.2% and the prevalence of waterpipe use only was 7.2%. Those who used both water pipe and cigarettes constituted 5.5%. According to the survey results, former smokers constituted only 2% of the sample. The survey also found that 27.4% of Jordanian current smokers tried to quit smoking during the past 12 months.

Health workers

Studies among healthcare workers have documented extremely varying smoking rates; this was probably predetermined by the sample compositions. The measured prevalence was between 60% (82% among men and 47% among women) (12) and 39% (83.8% among male nurses, 94.6% among male physicians, 16.2% among female nurses and 5.4% among female physicians) (13). Another study (14) documented the equally high prevalence of smoking among nurses (41.5%) and physicians (43.6%) while significantly more men than women smoked in this study as well.

College students

A cross-sectional survey of 400 students at the Jordan University of Science and Technology in northern Jordan measured the prevalence of current smoking as 16.5% and the prevalence of former smoking as 10.0% (15). Yet, another survey (16) at the same university revealed that the prevalence of smoking was 28.6% (50.2% among males and 6.5% among females). A survey at Al-Isra Private University (17) reported that 33% of students were smokers.

Adolescents

According to the Global Youth Tobacco Survey conducted in Jordan in 1999, 2003, 2007 and 2009, the estimated prevalence of having ever smoked any form of tobacco among adolescents in Jordan was 18% in 1999, 13% in 2004, 16% in 2007 (18) and 26% in 2009 (19). Prevalence of cigarette smoking was lower in some of the measurements in 2007-2009 than in 1999-2003. Compared to other Eastern-Mediterranean countries, Jordan is among the countries which showed the highest level of current cigarette smoking in initial surveys (20). With both cigarettes and other tobacco use, the initial difference between boys and girls was observed to disappear in Jordan.

Waterpipe smoking

Waterpipe smoking in Jordan is relatively common and is prevalent among both genders (5). There is a threat that waterpipe tobacco smoking may undermine the progress made in curbing the cigarette epidemic (21).

Adults

STEP survey conducted in 2004 (3) estimated that only 6% of participants (11% of men and 2% of women) were waterpipe smokers. Younger people were showing a higher prevalence of waterpipe smoking (7% 18-24 years; 8% 25-34 years), and participants with a graduate degree had highest (9%) prevalence of waterpipe smoking. STEP survey conducted in 2007 (4) revealed 9% (15% of men and 3% of women) of waterpipe smokers. The highest prevalence was found among people aged 25-34 years (over 15%) and among those with university diploma and above (22%). Most smokers (68% of men and 89% of women) reported smoking waterpipe at home.

As shown in a survey conducted among adults in 2009-2010 (22), more than a half of the sample had previously used a waterpipe to smoke tobacco (52.84%), about a third smoked a waterpipe in the past 30 days (33.9%) and over one in five had a waterpipe in the past week. The prevalence of smoking waterpipe was higher among younger participants, those who previously used cigarettes, cigars or alcohol, whose siblings or friends had experience of smoking waterpipe, and who believed that smoking waterpipe is less harmful than smoking cigarettes.

In the survey based on the Global Adult Tobacco Survey (GATS) questionnaire conducted in 2011 (11), 9.2% of men and 18.6% of women smoked waterpipe. Most waterpipe smoking was done at home (87%), followed by coffee shops (12%), restaurants (0.9%), and bars and nightclubs (0.1%).

Students

In a survey of university students (5), 36.8% of the participants were found to be waterpipe smokers; 61.9% of male students and 10.7% of female students were current smokers of waterpipe. Cigarettes and waterpipe were the preferred smoking methods among male students (42%). On the other hand, female students preferred waterpipe only (53%). Parental smoking status but not their educational level was associated with the students smoking status.

In a survey conducted among university students in 2008 (23), more than half (61.1%) had ever smoked tobacco from a water pipe, and use at least monthly was reported by 42.7%. Higher prevalence of use was found among men and students from families with higher income.

Youth

Among youth, waterpipe smoking is on the rise as well (24). According to the GYTS measurements, about 21% of Jordanian adolescents aged 13 to 15 currently smoke waterpipes, with higher prevalence rates among males (27%) than females (16%). Analysis of the 2009 Jordan Global Youth Tobacco Survey has revealed that those adolescents who had ever smoked waterpipe were more susceptible to cigarette smoking than those who never smoked waterpipe (25).

Tobacco control measures in Jordan

Jordan ratified the FCTC in 2004. According to the WHO report on the global tobacco epidemic, 2017 (26), most tobacco control measures are implemented in Jordan at least to some extent. However, in a study

which quantified the implementation of the MPOWER policies and assessed changes in 2011-2015 across Eastern Mediterranean Region, Jordan was among countries with decreased scores (27).

Public Health Law No. 47 of 2008, Chapter 12, is the primary piece of tobacco control legislation in Jordan and addresses smokefree places, tobacco advertising and promotion, and tobacco packaging and labeling. It also provides penalties for violations of these provisions. Jordanian Standard 466/2012 implements the tobacco packaging and labeling provision in the Public Health Law (Article 56). The Public Transport Law of 2008 and the Traffic Law of 2008 are separate pieces of legislation (i.e., not issued under the Public Health Law) and address smoking in public transport. The Control of Juvenile Conduct Law of 2006 is also separate legislation and prohibits the sale of tobacco to minors. The tobacco advertising and promotion provisions of the Public Health Law are largely self-implementing, except for the point of sale display, which is regulated by the Tobacco Products Display Regulation of 2013. The Ministry of Health has issued instructions to restaurant associations, the airport authority and the general manager of the Amman mall regarding the implementation of the smoking ban in airports, restaurants, fast food restaurants, and the Amman mall (28).

Protect

According to the WHO report on the global tobacco epidemic, 2017 (26), public places required to be completely smokefree in Jordan include governmental, health-care and educational facilities, public transport. Still, universities, indoor offices and workplaces, restaurants, cafes, pubs and bars are not required to be smokefree.

Smoking is prohibited in hospitals, health centers, schools, cinemas, theatres, public libraries, museums, governmental and non-governmental public premises, means of transportation, arrivals and departures halls at airports, enclosed stadiums, lecture-halls and any other place deemed by the Minister as public. The law fails to list all indoor public places and workplaces, so smoking is restricted or completely unrestricted in some places. Further, the law authorizes the Minister of Health to allow designated smoking areas in public places. The Ministry of Health has allowed a phase-in of the smoking ban in restaurants. The current policy is that 50 percent of seats must be reserved for non-smokers. The Ministry has not yet allowed smoking rooms in other places (28).

The national law requires fines for smoking which are levied on both the smoker and the establishment. However, no funds are dedicated to enforcement and no investigation is required after a complaint is submitted. Weak implementation of smoking bans is documented in survey-based studies reporting high public support to establishing smokefree public places (29).

Under the new rules, anyone caught smoking in a public place is liable for a prison sentence of up to three months and a fine equivalent to nearly \$300. Those responsible for the premises where people are caught smoking illegally could be fined up to \$4,500, or even imprisoned for six months. The introductions are not radically new: on paper, smoking has been banned in public places in Jordan since 2008. But poor enforcement, meager fines and a loose definition of 'public areas' meant that legislation had little effect in the past. Whether on a university campus, in a cafe or even in Parliament buildings - all of which are affected to some degree by the changes - it's generally considered acceptable to light up a cigarette indoors (30).

Offer

Smoking cessation support is available only in some clinics but no toll-free telephone or other quitline is established (26). Some medication, including NRT and varenicline, are legally sold in the pharmacy but the cost is only partially reimbursed by health insurance.

Studies document a high level of interest in quitting: the majority of smokers had a previous quit attempt (60%), more than half of the surveyed smokers considering quitting within the next year (57%), and 42% considering quitting in the next 30 days. Predictors of willingness to quit include heaviness of smoking, media antismoking message exposure, medical education, previous quit attempts, and smoker's mental health (31).

Published studies on smoking cessation are mostly related to the assessment of needs rather than document the achievements (32). Many Jordanian nurses and physicians are reported to not recognize the addictive aspect of smoking, and not to receive formal training in smoking cessation approaches to use with patients (14, 33) and not to provide primary prevention services (34). However, this needs assessment process was complemented with the adoption of tobacco dependence treatment guidelines which are believed to be the first comprehensive Arabic-language guidelines (35).

Warn

Although the law requires health warnings on all tobacco products, health warnings have been authorized for cigarette packs only. Therefore, other tobacco products do not carry health warnings. On cigarette packs, the authorized text-only health warning must occupy 40 percent of the front of the pack, placed length-wise down the long edge of the pack. One of four authorized combined picture and text warnings must occupy 40 percent of the back of the pack, placed along the bottom edge. Misleading terms, descriptors, trademarks, and figurative and other signs are prohibited (28).

While previous four non-pictorial health warnings on tobacco packages used in Jordan since 2011 were considered insufficiently effective (36), the pictorial warning labels introduced in 2013 were evaluated as those provoking quit attempts (37).

According to the WHO report, the conducted media campaigns were in line with the adopted requirements. Several studies by local researchers were devoted to the media coverage and its effects with conclusions that anti-tobacco messages need to be more salient, evocative and multi-faceted, tailored to subgroups, given detected variability in knowledge across smoking status and sociodemographic characteristics (38).

Enforce

Almost all forms of tobacco advertising and promotion are prohibited in Jordan, including in traditional and electronic media. However, some forms of indirect promotion, such as retailer incentive programs, may escape the ban. Tobacco sponsorship is not restricted (28).

Current National tobacco control strategy

In response to the alarming rates of smoking that are among the highest in the region, the Ministry of Health with support from the World Health Organization (WHO) and King Hussein Cancer Foundation and Center (KHCF/KHCC) recently completed the development and launch of a time-bound roadmap aimed at reversing the tobacco epidemic in Jordan. To discuss the roadmap, a national meeting engaging more than 100 stakeholders representing national organizations was held in 2016 under the patronage of HRH Princess

Dina Mired, Director General of King Hussein Cancer Foundation. The roadmap underlines the importance of complete enforcement of protection from second-hand smoke, raising prices of tobacco products, and wide-scale availability of tobacco dependence treatment services. *“No Health Ministry will be able to cope with the avalanche of smoking-related illnesses that are expected to double by 2020. We need to act fast and work together as a community to stamp out the deadly tobacco products that are stealing our children,”* said HRH, Princess Dina Mired².

Princess Dina Mired was also elected president of the Union for International Cancer Control (UICC). She stated: *We still need to implement smoke-free public spaces, impose more taxes on cigarettes and protect our children from tobacco companies*³.

Recently Jordan's national tobacco control strategy for 2017-2019 was adopted, which is based on the implementation of the WHO's MPOWER strategy, a comprehensive set of tobacco control measures. The strategy seeks to decrease tobacco consumption by 30% by 2025 and was set in partnership with the WHO, the King Hussein Cancer Centre, and concerned civil society organizations⁴.

Tobacco production and consumption

Tobacco growing

According to the FAO database (39), in 1961-2002 tobacco growing was rather extensive in Jordan, with a maximum in 1983: production of unmanufactured tobacco was 6,017 tons and area harvested was 8,370 ha. However, in 2003, tobacco growing sharply declined and currently it almost disappeared in the country.

Tobacco production

While most consumed tobacco products in Jordan are manufactured within the country, consistent data on production of cigarettes and other tobacco products is not available.

According to the World Bank report (40), Jordan produced 4,100 million cigarettes in 1999, up from 3,800 million in 1993. According to the country FCTC reports⁵, 7.4 billion cigarettes were produced in 2010 and the production increased to 8.6 billion cigarettes in 2012, while 1.756 billion cigarettes were imported.

According to the official Annual Statistical Yearbooks⁶, tobacco import in Jordan in 2010-2016 ranged from 42 million JD (Jordanian dinars) to 63 million JD, while the tobacco export was slightly lower: between 24 million and 52 million JD.

In 1999, there were three major tobacco manufacturing companies: Jordan Tobacco & Cigarettes Co, Union Tobacco & Cigarette Industries Company (UTC) and International Tobacco Cigarettes Company (ITCC). Philip Morris Investments B. V. Jordan (PMJ) was established in 2011 as a result of the PMI acquisition of the

² <https://www.globalbridges.org/news/blog/2015/12/22/jordan-launches-2016-18-tobacco-control-roadmap/#.WrEovfluZhF>

³ <http://www.middleeasteye.net/in-depth/features/exclusive-qa-hrh-princess-dina-mired-jordan-cancer-hospital-shisha-leukaemia-smoking-1301636925>

⁴ <http://www.jordantimes.com/news/local/firm-implementation%E2%80%99-anti-smoking-laws-pledged>

⁵ <http://apps.who.int/fctc/implementation/database/parties/Jordan>

⁶ <http://dosweb.dos.gov.jo/product-category/statistical-year-book/>

operations of the International Tobacco Cigarettes Company (ITCC)⁷. In 2014, there were seven tobacco manufacturers in Jordan⁸.

Tobacco consumption

According to published international estimates (1), the age-standardized smoking prevalence in Jordan slightly decreased in 1980-2012 and in 2012 it was 43.4% among men and 8.5% among women. The estimated cigarette consumption increased from 3.3 billion cigarettes in 1980 to 4.7 billion cigarettes in 1996-2006 and 5.6 billion cigarettes in 2012, while estimated mean daily cigarette consumption per smoker decreased 2-fold from 26.6 cigarettes in 1980 to 12.9 cigarettes per smoker in 2012.

The Department of Statistics conducted several household surveys on expenditures and incomes, which included questions on tobacco consumption⁹. The survey data are presented in Table 1 and were used for calculation of the average cigarette price.

Table 1. Tobacco expenditure and consumption in Jordan: household surveys data

| | 2002-2003 | 2006 | 2008 | 2010 | 2013 |
|---|------------|---------|------------|------------|------------|
| Average annual household member expenditure on tobacco and cigarettes (in JD) | 34,8 | 47,1 | 60,3 | 78,9 | 94,8 |
| Average annual tobacco consumption per household member (in cigarette packs) | 52 | | 55 | 62 | 66 |
| Average Annual Current Income of household member (in JD) | 900,5 | 1083,7 | 1350,5 | 1660,2 | 1857,2 |
| No of household members | 5003251 | 5418932 | 5836892 | 6027943 | 6247808 |
| Total tobacco consumption (million cigarettes) | 5203 | | 6421 | 7475 | 8247 |
| Total tobacco expenditure (in million JD) | 174 | | 352 | 481 | 602 |
| <i>Average calculated price of a 20-cigarettes pack</i> | <i>0.7</i> | | <i>1.1</i> | <i>1.3</i> | <i>1.4</i> |

In 2003-2013, tobacco consumption in Jordan increased by 58% and average annual household member expenditure on tobacco and cigarettes increased by 172%, which was partly caused by the increase of the average cigarette price by 115%. Apparently, over recent years annual cigarette sales were about 8 billion cigarettes.

Cigarette expenditures by socioeconomic groups were estimated by Toukan (10). The average poorest adult male cigarette smoker with an income of 100 to 250 Jordanian dinars per month spends approximately 25 times more on cigarettes than on health, approximately 10 times more on cigarettes than on education, approximately 2.5 times more on cigarettes than on housing, and approximately 1.5 times more on cigarettes than on food. Smoking cost the country 1 billion Jordanian dinars in 2012, including money spent on tobacco and smoking-related diseases, which amounted to approximately 5% of the gross domestic product.

⁷ <https://www.pmi.com/markets/jordan/en>

⁸ <http://www.jordantimes.com/news/local/storeowners-manufacturers-trade-blame-over-cigarette-shortage>

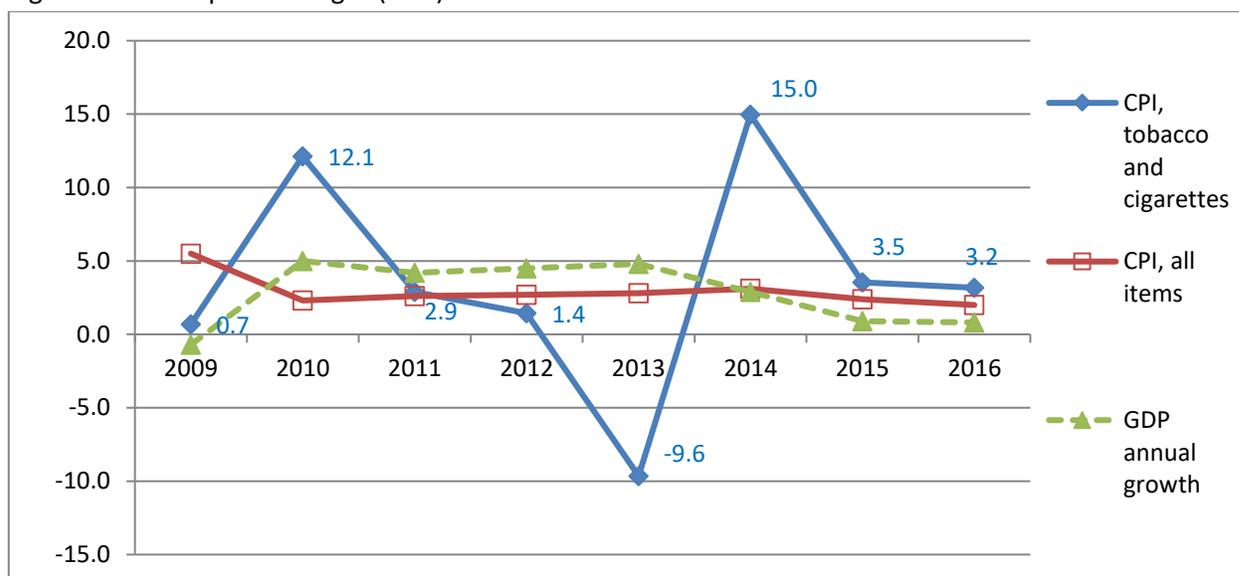
⁹ http://www.dos.gov.jo/dos_home_e/main/sdb_ec_e/household/index.htm

Cigarette prices

According to the WHO Global Tobacco Control reports (41) price of the most popular cigarette brand in Jordan increased from 0.85 JD in 2008; 0.95 JD in 2010; 1.1 JD in 2012; 1.2 JD in 2014 to 1.4 JD in 2016 or by 65% in eight years. However, the most popular brand was also the cheapest brand in 2016, so the trend for average price differed. According to the survey, conducted in 2011 (11), the average reported price was 1.43JD. The survey also reported that the average number of packs of cigarettes smokers used was 7.98 packs per week.

According to the official Annual Statistics Yearbooks¹⁰, average tobacco and cigarette prices in 2008-2016 increased by 30%, while the inflation was 21% over those eight years. However, the changes in cigarette prices were not consistent (Fig. 1).

Figure 1. Annual price changes (in %).



Source: Annual Statistics Yearbooks and World Bank database.

The average prices of cigarette decreased by almost 10% in 2013. In December 2012, tobacco manufacturers informed the Income and Sales Tax Department of their intention to reduce cigarette prices by at least 15%, referring to the intensified competition from smuggled tobacco products originating in Syria and other neighboring countries. They claimed that the government's policies aimed to repeatedly increase taxes on local cigarettes had not only deterred consumers from purchasing them but had also spurred smuggling of foreign cigarettes. Locally-made Marlboro price decreased by 22% from JD1.8 per pack to JD1.4 and Gauloises price went to JD1.1 from its previously set JD1.4¹¹. Price of a pack of Winston dropped to 1.2 JD from 1.6 JD.

¹⁰ <http://dosweb.dos.gov.jo/product-category/statistical-year-book/>

¹¹ <http://www.jordan-business.net/features/cheaper-cigarettes>

Philip Morris International stated: "We were forced to decrease the prices of our cigarettes in Jordan to address the serious problem of illicit smuggled cigarettes," which assumedly accounted for 46 percent of all cigarettes sold in the country in 2012, costing the government about \$190m in lost taxes¹².

The WHO economist Anne-Marie Perucic in response to cigarette price reduction in Jordan said that "smuggling estimates provided by the tobacco industry are often exaggerated"¹³. "They want to keep this fear within governments because it's not in their interest that taxes are increased." Nor is lowering tobacco prices an ideal means of combating illicit trade, she added. Effective ways of fighting smuggling include governmental actions such as strengthening customs capacity, increasing penalties and improving information exchanges with neighboring countries. In other countries, Perucic explained, tobacco industry also decreased the price of certain products. "And then at some point, they would raise it again. They don't stay with the low price for a long time. It's usually a short-term strategy to increase their market share."

Very soon the opinion, expressed by Perucic, was confirmed. In 2014, cigarette prices were increased by 15% and they returned to levels of 2012 (Fig. 1). For example, the price of Marlboro was 1.8 JD (42) both in 2012 and 2014. In 2016, the price of Marlboro increased to 2.0 JD and in 2018 to 2.3JD¹⁴.

Tobacco smuggling

The Philip Morris estimates of illicit tobacco sales (46% of the cigarette market) were criticized by public health officials. Director of the Cancer Control Center Dr. Feras Hawari said¹⁵: "The notion that there is extensive smuggling in Jordan is an insult to all parties that control the borders. Our borders are some of the most controlled in the world due to the political situation in all the surrounding countries." He also questioned the relationship between lowering prices and deterring smuggling, calling the notion "completely unfounded" and said that this claim "has been traditionally used as an excuse by the tobacco industry and was proven wrong by the scientific community. The real reason is the intention to control not just the market in Jordan, but also in the region".

In the survey of 2011 (11), when asked about the place cigarettes were purchased, nearly all (99.9%) Jordanian smokers reported buying their cigarettes from a store. It is doubtful that stores sell 46% of illicit cigarettes.

Tobacco taxation

Till 2014 Jordan had mixed tobacco excise system with specific tax and ad valorem tax. The ad valorem rate was 102% of the net-of-tax price pursuant to Regulation No. 8/2000. The general sales tax (16%) is also applied to tobacco products.

The main unified specific excise per pack of 20 cigarettes was 0.3JD in 2008 and in 2010 it was increased to 0.32JD. Then it was gradually increased to 0.42JD in 2014, 0.47JD in 2015; 0.482 JD in 2017 and 0.57JD in 2018¹⁶ or by 0.15 JD per pack (by 36%) in four years.

¹² <https://www.aljazeera.com/indepth/features/2013/04/2013414101437602592.html>

¹³ <https://www.aljazeera.com/indepth/features/2013/04/2013414101437602592.html>

¹⁴ <https://www.expatistan.com/price/cigarettes/amman>

¹⁵ <http://www.jordan-business.net/features/cheaper-cigarettes>

¹⁶

<http://www.istd.gov.jo/AttachedArabic/Legislations/%D9%86%D8%B8%D8%A7%D9%85%20%D8%B1%D9%82%D9%85>

In January 2014, the additional tiered specific excise tax was introduced (Regulation No 26 of 2014) instead of ad valorem tax (28). It was set as 0.283JD per pack of cigarettes with a price below 0.9JD per pack of 20 cigarettes and 0.938 JD for packs with price above 2.4 JD. This tiered specific tax is actually similar to ad valorem excise with rates ranging from 31% for cheapest cigarettes to 39% for most expensive cigarettes. In 2017 and 2018, the tier excise rates were changed. In 2018 (Regulation No 3 of 2018¹⁷), the excise ranged from 0.545 JD for cigarettes with prices lower than 1.5JD per pack to 1.315 JD for cigarettes with a price higher than 3.25 JD per pack (this excise share in the final retail price constitutes from 36.6% to 40.5%). However, for cigarettes which had the same price in 2014-2018, this additional excise rate was almost not changed. For example, for cigarettes with price 1.5JD per pack, the additional excise rate was 0.545JD in both 2014 and 2018. Total excise for such cigarettes increased from 0.965 JD to 1.132 JD or by 17% in four years.

Currently, the cigarette tax is a sum of the following: 1) main unified specific excise; 2) additional tiered specific excise; 3) general sales tax. Calculations of tax burden are presented in Table 2.

Table 2. The tax burden for cigarettes in Jordan for a pack of 20 cigarettes, in fils (1 JD = 1000 fils)

| | 2013 | 2014 | 2018 |
|--------------------------|------|------|------|
| Net-of-tax price | 500 | 500 | 500 |
| Specific excise | 320 | 420 | 570 |
| Ad valorem excise (102%) | 510 | | |
| Tiered specific excise | | 653 | 809 |
| VAT, 16% | 133 | 172 | 221 |
| Total tax | 963 | 1245 | 1600 |
| Final retail price | 1463 | 1745 | 2100 |

As we see, for cigarettes with net-of-tax price 0.5 JD per pack the tax burden increased by 66% and resulting final retail price increased by 43%.

In 2010, the excise rate for other tobacco was increased from 2.5 JD to 3.3 JD per 1 kg. Excise rates for two types of the waterpipe tobacco were set in 2014 as 4.5 and 10 JD per 1 kg, for cigars as 150 JD per 1 kg and for smoking tobacco for pipes and RYO as 50JD per 1 kg (28).

Tobacco tax earmarking

In 2007, additional specific excise (0.02JD per pack of 20 cigarettes) was levied in Jordan¹⁸, but later it was canceled. In a similar way, the parliament removed in April 2017 an article which stipulated levying a 0.05 JD

[%203%20%D9%84%D8%B3%D9%86%D8%A9%202018%20%D9%86%D8%B8%D8%A7%D9%85%20%D9%85%D8%B9%D8%AF%D9%84%20%D9%84%D9%86%D8%B8%D8%A7%D9%85%20%D8%A7%D9%84%D8%B6%D8%B1%D9%8A%D8%A8%D8%A9%20%D8%A7%D9%84%D8%AE%D8%A7%D8%B5%D8%A9.PDF](#)

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<http://www.istd.gov.jo/AttachedArabic/Legislations/%D9%86%D8%B8%D8%A7%D9%85%20%D8%B1%D9%82%D9%85%203%20%D9%84%D8%B3%D9%86%D8%A9%202018%20%D9%86%D8%B8%D8%A7%D9%85%20%D9%85%D8%B9%D8%AF%D9%84%20%D9%84%D9%86%D8%B8%D8%A7%D9%85%20%D8%A7%D9%84%D8%B6%D8%B1%D9%8A%D8%A8%D8%A9%20%D8%A7%D9%84%D8%AE%D8%A7%D8%B5%D8%A9.PDF>

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<http://apps.who.int/fctc/implementation/database/sites/implementation/files/documents/reports/jordanrepenglish.pdf>

tax on each tobacco packet and allocating the money for the Higher Council for Affairs of People with Disabilities¹⁹.

Tobacco tax revenue

According to the WHO Global Tobacco Control reports (41-43), tobacco excise revenue in Jordan increased from 312 million JD in 2012 to 375 million JD in 2013 and 554 million JD in 2016. VAT tobacco revenue also increased from 67 million JD in 2013 and 120 million JD in 2016.

According to the official Annual Statistical Yearbooks²⁰, the total amount of taxes on tobacco production increased from 345 million JD in 2008 and 440 million JD in 2011, but in 2012-2015 it was rather stable – about 420 million JD a year.

Comparison of cigarette prices and taxes in Jordan and neighboring countries

The WHO Global Tobacco Report, 2017 (41) shows information on cigarette prices and taxes in Jordan and other countries of the WHO Eastern Mediterranean Region (EMRO) in 2016 (41) (**Error! Reference source not found. 3**).

Table 3. Cigarette prices and taxes in Jordan and some neighboring countries in 2016, WHO report data (41).

| COUNTRY | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of the price of the most sold brand | | | | | | Net-of-tax part of the price, USD |
|--------------------------|---|-------------------|------------------------------------|--|-------------------|--------------|---------------------------|-------------|-----------------|-----------------------------------|
| | In reported currency | Currency reported | In US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Total tax | Total tax, US\$ | |
| Egypt | 10 | EGP | 1,13 | 23,5% | 50,0% | 73,5% | 0,0% | 0,00% | 73,5% | 0,30 |
| Iraq | 1 000 | IQD | 0,85 | 0,00% | 41,5% | 41,5% | 0,0% | 10,4% | 51,8% | 0,41 |
| Jordan | 1,40 | JOD | 1,97 | 67,3% | 0,0% | 67,3% | 13,8% | 0,0% | 81,1% | 0,37 |
| Lebanon | 3 250 | LBP | 2,16 | 0,0% | 30,9% | 30,9% | 9,0% | 1,4% | 41,4% | 1,27 |
| Saudi Arabia | 12 | SAR | 3,20 | 16,7% | 0,0% | 16,7% | 0,0% | 16,7% | 33,3% | 2,13 |
| West Bank and Gaza Strip | 22 | ILS | 5,75 | 35,9% | 33,3% | 69,2% | 13,0% | 0,0% | 82,2% | 1,02 |

While Jordan had the second highest (after West Bank and Gaza Strip) total tax share in the cigarette price (81.08%), cigarette prices and taxes (in monetary terms) in Jordan are lower than in Lebanon, Saudi Arabia and West Bank and Gaza Strip.

We calculated the net-of-tax price of the most popular cigarette brand as follows: Price in USD * (1 – Total tax share). The net-of-tax cigarette price in Jordan is similar to such price in Egypt and Iraq, but much lower than in Lebanon and Saudi Arabia.

¹⁹ <http://www.jordantimes.com/news/local/lower-house-endorses-draft-law-people-disabilities>

²⁰ <http://dosweb.dos.gov.jo/product-category/statistical-year-book/>

Discussion

The prevalence of daily cigarette smoking in Jordan is rather high: about 50% among men and 10% among women and no clear trends in 2000-2016 were observed. The prevalence of cigarette smoking is higher among the poor. Data on cigarette production and sales is not available, but household surveys-based estimates revealed that cigarette consumption in the country increased from 5 billion cigarettes in 2003 to 8 billion cigarettes in 2013.

Waterpipe smoking is clearly on the rise in Jordan, especially among women, young and well-educated people.

Smoking cost the country 1 billion Jordanian dinars in 2012, including money spent on tobacco and smoking-related diseases, which amounted to approximately 5% of the gross domestic product (10).

In 2014-2018, the government increased cigarette excise rates and the tobacco excise revenue increased from 375 million JD in 2013 to 554 million JD in 2016. However, taking into account the actual changes in excise rates, the observed increase of revenue was mainly caused by the increase in tobacco sales. The average annual excise growth was about 5% in 2014-2018 and annual tobacco price increase in 2015-2016 was rather moderate: about 3% with inflation rate 2% and GDP growth 1%, so tobacco affordability did not change. Such situation was partly caused by pricing policy of tobacco industry which even decreased cigarette prices in 2013 to encourage cigarette consumption within the country.

The total price elasticity of cigarette demand in Jordan was estimated to be -0.6 (44). The price elasticity estimates suggest that significant increases in tobacco taxes are likely to be effective in reducing smoking in Jordan.

Conclusions and recommendations

Cigarette and waterpipe smoking prevalence in Jordan is very high and in 2003-2013 tobacco consumption in the country substantially increased. To reverse the tobacco epidemic, sustained efforts are needed to reduce the affordability of tobacco products and to implement other effective tobacco control policies.

While cigarette excise rates were increased in Jordan in 2014-2018, the increase was not sufficient to decrease tobacco consumption in the country. It is recommended:

1. Cigarette excise rates (both main unified and additional tiered specific excises) should be annually increased by at least 20% to ensure tobacco affordability reduction.
2. Excise rates for waterpipe and other tobacco products should be also annually increased by at least 20% to stop the epidemic waterpipe smoking in the country.
3. Tobacco use surveillance and monitoring should be further strengthened in Jordan, including a regular collection and public presentation of information on cigarette and other tobacco products sales, prices and other economic indicators.
4. Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Kazakhstan

Kazakhstan became a Party to the WHO Framework Convention on Tobacco Control on April 22, 2007.

Tobacco Control legislation

Tobacco Advertising, Promotion, and Sponsorship

The Law on Advertising No. 508-II regulates advertising in general. Articles 13 and 14 of the Law regulate tobacco advertising and promotion. There is a ban on tobacco advertising and some forms of tobacco promotion. The ban applies mainly to direct forms of advertising and promotion and therefore some indirect or less conventional forms of advertising and promotion may escape the ban. There are restrictions on sponsorship by the tobacco industry².

Smoke-free policies

Article 159 of the Law on People's Health and Health Care System regulates smoking in public places as well as packaging and labeling of tobacco products. The law prohibits smoking in some workplaces and public places, including education and health facilities, cultural facilities, exhibition halls, stadiums and arenas, nightclubs and discos, and government facilities. However, smoking is permitted in designated areas of public catering facilities, "airports, rail, road and water stations." Smoking is prohibited on commercial aircraft and most ground transport; however, designated smoking areas are permitted on the long-distance rail and commercial watercraft.

Tobacco packaging and labeling

Resolution No. 1366 and Ministry of Health Order No. 422 implement the provisions of Article 159 that pertain to packaging and labeling of tobacco products. Eurasian Economic Union Council Decision No. 18 and Technical Regulations for Tobacco Products, which are directly applicable to Kazakhstan as part of the Eurasian Economic Union, regulate tobacco product packaging and labeling and impose a final implementation deadline of November 15, 2017.

The law requires picture and text warnings to occupy 40 percent of each of the principal display areas of tobacco product packaging. Each of the 12 authorized warnings must be applied to an equal number of

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² <https://www.tobaccocontrolaws.org/legislation/country/kazakhstan/summary>

tobacco packages. Misleading terms such as 'low tar,' 'light,' 'ultralight' or 'mild,' are prohibited on tobacco packaging, but other elements of misleading packaging (e.g., colors, numbers, and symbols) are not prohibited.

Offer help to quit tobacco use

Smoking-cessation services are available in some clinics and primary care facilities and in offices of health professionals, with costs fully covered by the national health service or national health insurance. Cessation support can also be accessed at hospitals, where the cost is partially covered, and in the community (without cost coverage). Nicotine replacement therapy can be purchased over the counter in a pharmacy without a prescription, but its cost is not covered. A toll-free quit line is available³.

As of 2015 [1], tobacco control policies in Kazakhstan were assessed at 28 out of 37 points, which is above the mean 24.35 in the European region.

Prevalence of smoking

In 1999, 9% of women in Kazakhstan who had one or more children living with them currently smoked cigarettes or other tobacco products [2]. Women residing in urban areas, women living in Almaty City and the Central region, women with a secondary-special education, and Russian women were more likely to be smokers than women of other population subgroups. Women younger than 20 years of age were less likely current smokers than older groups of women.

Results of population surveys measuring the prevalence of smoking in Kazakhstan in early 2000-s were reported by several authors [3-5].

According to the two Health in Times of Transition (HITT) surveys conducted among people aged 18 years or more, in 2001-2011, smoking prevalence among men decreased from 65.3% to 51.2%, while it did not change among women and was 9.3% both in 2001 and 2010 [6, 7].

The third and fourth national health lifestyle surveys showed smoking prevalence in Kazakhstan increasing from 23% to 27% between 2003 and 2007 [8]. The fourth and fifth national health lifestyle surveys (2007–2012) showed that smoking prevalence decreased only from 27% to 26.5% among adults aged 18 and older⁴.

Smoking prevalence had decreased to 18.3% (a factor of 1.31 or by 8.2 percentage points) by the time of the sixth national healthy lifestyle survey in 2014⁵.

The Global Adult Tobacco Survey (GATS) was conducted in Kazakhstan in 2014 [9], involving 4425 men and women aged 15 years or older. The GATS results showed that the prevalence of daily smoking was

³ http://www.euro.who.int/_data/assets/pdf_file/0003/337431/Tobacco-Control-Fact-Sheet-Kazakhstan.pdf

⁴ <http://apps.who.int/fctc/implementation/database/parties/Kazakhstan>

⁵ http://www.hls.kz/announcements_2_2/, accessed 2 February 2017

19.1%, which was close to the results of the sixth national healthy lifestyle survey. Among men, 36.9% were daily and 42.4% current smokers and among women 3.2% and 4.5% respectively [9-11].

Tobacco use among youth

The Global Youth Tobacco Survey (GYTS) was conducted in Kazakhstan in 2004 [12]⁶, 2009⁷ and 2014⁸ [13].

Table 1. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in Kazakhstan, %, GYTS

| | 2004 | 2009 | 2014 |
|---|-------------|-------------|-------------|
| Currently used any tobacco product | 11,3 | 9,9 | 3,2 |
| <i>boys</i> | 13,8 | 12,2 | 3,9 |
| <i>girls</i> | 9,0 | 7,8 | 2,3 |
| Currently smoked cigarettes | 7,4 | 7,7 | 1,7 |
| <i>boys</i> | 9,1 | 9,7 | 2,0 |
| <i>girls</i> | 5,9 | 6,0 | 1,3 |
| Lived in homes where others smoked in their presence | 66,7 | | 18,2 |
| Had one or more parents who smoked | 49,8 | 52,7 | |

Tobacco use and cigarette smoking among young people almost did not change between 2004 and 2009 but dramatically decreased by 2014. Percentage of teenagers, who lived in homes where others smoked in their presence, decreased from 67% in 2004 to 18% in 2014, which is an indirect indicator of smoking behaviors among adults.

Tobacco production and sales

Domestic cigarette production increased from 19.3 billion in 2000 to 31.5 billion in 2007, then it gradually declined to 17.9 billion in 2017.

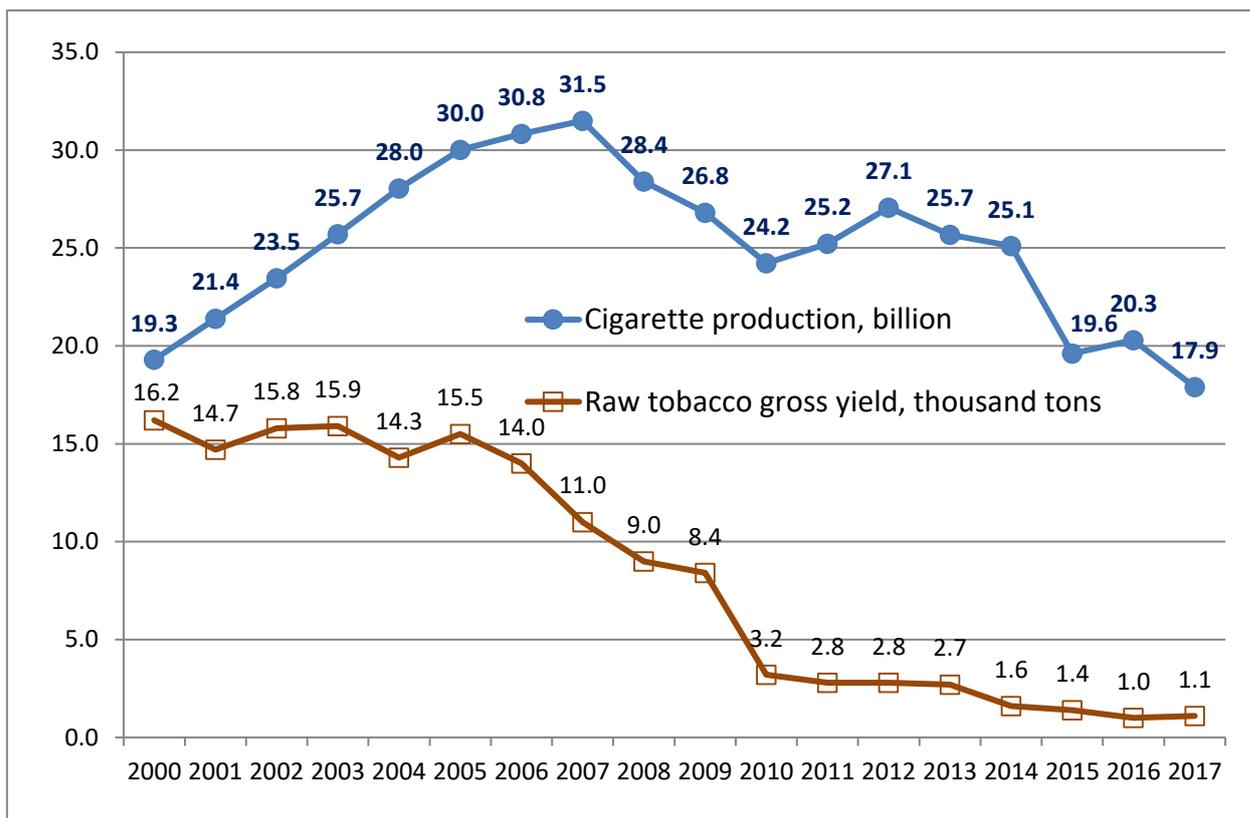
Despite increases in cigarette production, the raw tobacco yield in Kazakhstan (Fig. 1) was rather stable (15 000–16 000 tons per year) between 2000 and 2005, then it gradually decreased to 1100 tons in 2017. The decrease in raw tobacco production took place even in years when cigarette production increased. In 2017, Kazakhstan imported 7,877 tons of raw tobacco and exported 368 tons: cigarettes produced in the country, therefore, contained only about 8.5% of domestic tobacco.

⁶ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=275>

⁷ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=1246>

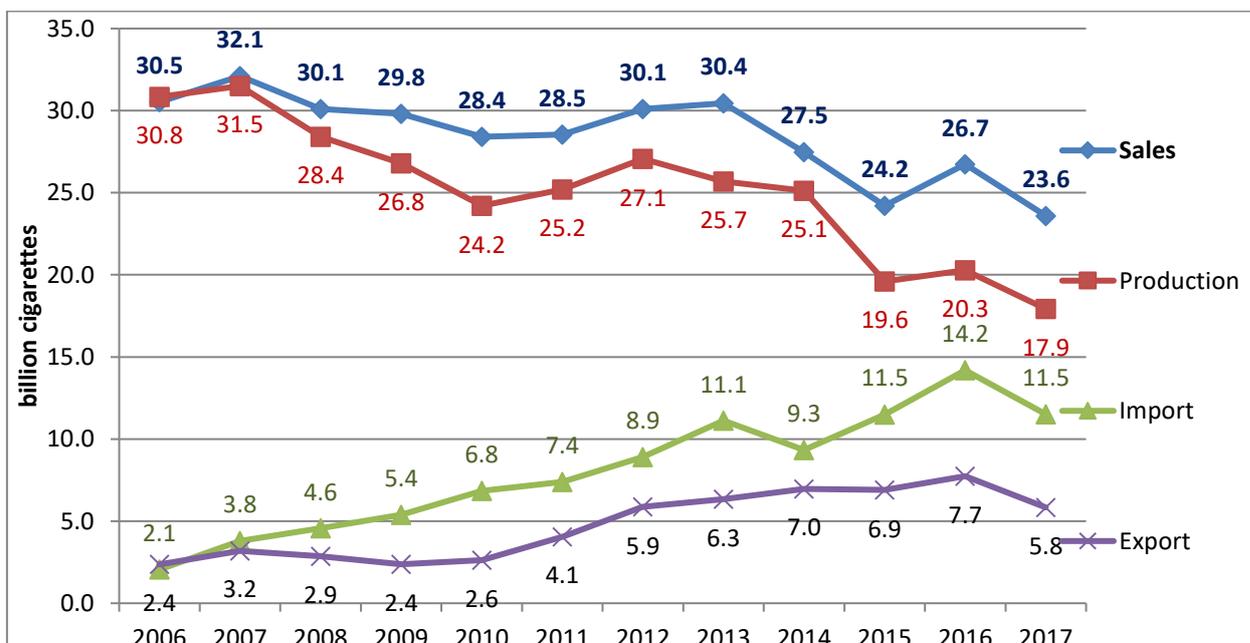
⁸ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=1318>

Figure 1. Tobacco-growing and cigarette production in Kazakhstan, 2000–2016



Cigarette sales or turnover in Kazakhstan were calculated from available statistics data (Fig. 2) using the following equation: $Sales = production + imports - exports$.

Figure 2. Cigarette production, imports, exports and estimated sales in Kazakhstan (billion cigarettes)



Sales were stable between 2006 and 2013 (about 30 billion annually) but declined in 2014/2015.

Imports increased from 2.1 billion cigarettes in 2006 to 11.5 billion in 2017, so the share of imported

cigarettes in total sales volume increased from 10% in 2007 to 49% in 2017. Sales of non-filter cigarettes decreased from 5.25 billion in 2003 to 0.15 billion in 2014 (0.6% of total sales).

Employment at tobacco factories was also stable between 2000 and 2008 (about 2000 people) but decreased from 1900 workers in 2008 to 1200 in 2017 while cigarette production declined to a smaller extent (see Fig. 2).

Cigarette prices

According to Statistics Committee data, the mean price of a pack of 20 filter cigarettes in December 2009 was 82 tenge: by December 2015, it had increased 3.6-fold to 296 tenge. The tobacco excise rate increased 6.5-fold between 2009 and 2015, from 12 to 78 tenge per pack (up by 66 tenge) (Table 2), but the non-tax part of the price (the producer and retailer price (PRP)) increased by 125 tenge.

Table 2. Changes in cigarette prices, 2009–2016

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------|------|------|------|------|------|------|------|------|
| Price of 20 filter cigarettes, tenge | 82 | 131 | 139 | 157 | 194 | 241 | 296 | 324 | 358 |
| Excise, tenge | 12 | 16 | 20 | 25 | 31 | 60 | 78 | 100 | 124 |
| <i>Excise share in the retail price, %</i> | 15 | 12 | 14 | 16 | 16 | 25 | 26 | 31 | 35 |
| VAT, tenge | 9 | 14 | 15 | 17 | 21 | 26 | 32 | 35 | 38 |
| PRP, tenge | 61 | 101 | 104 | 115 | 142 | 155 | 186 | 189 | 196 |
| Inflation rate, % | 1.06 | 1.15 | 1.23 | 1.30 | 1.37 | 1.47 | 1.67 | 1.81 | 1,94 |
| Inflation-adjusted prices, tenge | 77 | 114 | 113 | 120 | 142 | 164 | 178 | 179 | 185 |
| Excise, tenge | 11 | 14 | 16 | 19 | 23 | 41 | 47 | 55 | 64 |
| VAT, tenge | 8 | 12 | 12 | 13 | 15 | 18 | 19 | 19 | 20 |
| PRP, tenge | 58 | 88 | 85 | 88 | 104 | 106 | 112 | 105 | 101 |

Adjusting the price components to inflation rates increases the inflation-adjusted price of the pack from 77 to 178 tenge (up 101 tenge), of which 36 tenge is due to the excise increase, 11 to the VAT increase and 54 to the PRP increase. The increase in cigarette prices in Kazakhstan between 2009 and 2015 was therefore largely due to tobacco corporations' price policy, not the government's excise policy. The recent monograph from the National Cancer Institute and WHO reveals that this phenomenon is also observed in other countries. It states [10]: *"Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone."*

In 2016-2017, however, after the huge decline in cigarette sales over the two previous years (see Fig. 2), the tobacco industry almost did not increase the PRP to maintain its customer base. The real (inflation-adjusted) cigarette price, therefore, decreased in 2016, despite the excise rate increase (see Table 1), which is one of the reasons for the increase in cigarette sales that year.

The excise share in the average retail cigarette price remained stable between 2009 and 2013 (Table 2), despite the excise rate increased. The share increased from 16% to 25% in 2014, saw no real change in 2015, and increased to 31% in 2016 and 35% in 2017.

Kazakhstan introduced a minimum cigarette price in 2007, increased gradually from 50 tenge per pack of 20 filter cigarettes (40 tenge for non-filter) in 2007 to 240 tenge from January 2016 and 300 tenge from January 2017. Taking into account the established minimum price and the adopted excise rate, it can be concluded that the maximum excise share in the retail price in 2016 and 2017 was about 42%.

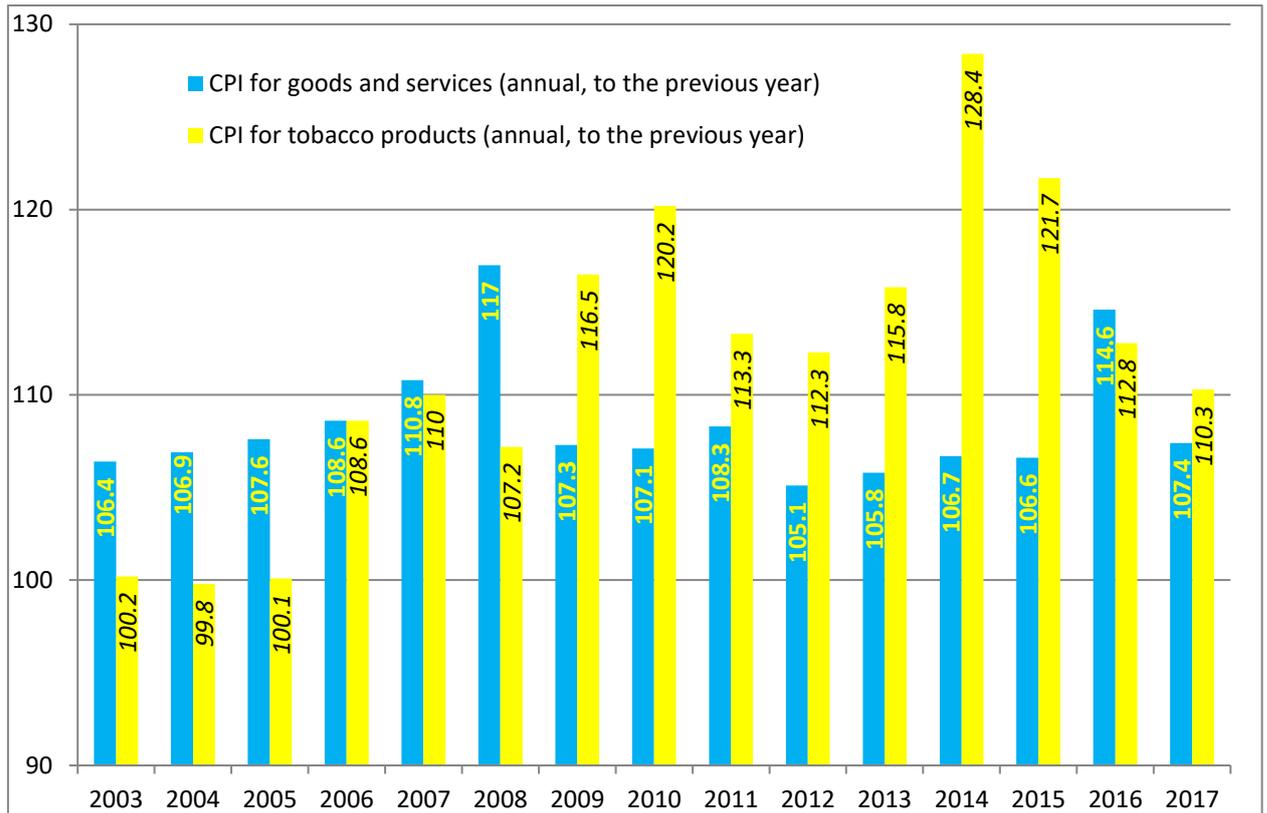
In 2017 the government set⁹ the following minimum prices for a pack of 20 cigarettes: 320 tenge – from October 2017; 340 tenge – from January 2018; 360 tenge – from July 2018 and 380 tenge – from January 2019.

Tobacco affordability

The guidelines for implementation of Article 6 of the WHO FCTC [14] state that: *tax rates should be monitored, increased or adjusted on a regular basis, potentially annually, taking into account inflation and income growth developments in order to reduce consumption of tobacco products.*

Tax rates in Kazakhstan have been adjusted annually since 2005, but the impact on tobacco consumption has depended on inflation and income growth. Tobacco price growth was below inflation between 2003 and 2008 (Fig. 3), but price increases have been above inflation since 2009. Cigarette sales, however, declined only in 2009/2010 and 2014/2015 (see Fig. 2), when tobacco price growth was much greater than inflation. The price increase in 2016 was below the rate of inflation, which could be a factor in the cigarette sales rise.

⁹ <http://egov.kz/cms/ru/law/list/P1700000587>

Figure 3. Consumer price indices (CPI) for all goods and services and tobacco products in Kazakhstan

The guidelines for the implementation of Article 6 state that without price increases above growth in incomes, tobacco products will inevitably become more affordable over time, generally resulting in growing consumption. The guidelines recommend [14]: *When establishing or increasing their national levels of taxation Parties should take into account ... changes in household income, to make tobacco products less affordable¹⁰ over time in order to reduce consumption and prevalence.*

This analysis uses the modified Tobacco Affordability Index (TAI) [15] to estimate changes in tobacco affordability between 2004 and 2017. This is calculated as the annual change in disposable income per capita, divided by the tobacco price increase (CPI_tobacco) minus one and multiplied by 100: $TAI = (\text{income change}/\text{CPI_tobacco} - 1) * 100$.

If the TAI has negative values, it means tobacco has become **less** affordable, and tobacco consumption is expected to decrease. Calculations of the TAI in Kazakhstan are presented in Table 3.

¹⁰ Affordability means price relative to per capita income.

Table 3. Tobacco affordability in Kazakhstan, 2005–2017

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|-------|--------|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| CPI for tobacco products, annual | 100.1 | 108.6 | 110 | 107.2 | 116.5 | 120.2 | 113.3 | 112.3 | 115.8 | 128.4 | 121.7 | 112.8 | 110.3 |
| Disposable household incomes, average monthly, tenge per capita | 9 751 | 13 723 | 16935 | 20 037 | 21 348 | 26 152 | 30 618 | 33 745 | 36 761 | 39 256 | 40 675 | 44198 | 48619 |
| Income annual change, % | 116.3 | 140.7 | 123.4 | 118.3 | 106.5 | 122.5 | 117.1 | 110.2 | 108.9 | 106.8 | 103.6 | 108.7 | 110.0 |
| TAI | 16.1 | 29.6 | 12.2 | 10.4 | -8.5 | 1.9 | 3.3 | -1.9 | -5.9 | -16.8 | -14.9 | -3.7 | -0.3 |

Tobacco affordability increased greatly between 2004 and 2008, which could explain the upward trend in tobacco consumption. Cigarettes became much less affordable in 2009 and, especially, in 2014 and 2015, resulting in reduced tobacco consumption.

Tobacco excise rates

Kazakhstan has been increasing the excise tax rate annually since 2006 but not between 2000 and 2005 (Table 4). Excise rates for non-filter and filter cigarettes have been the same since 2014 [16]. New cigarette excise rates for 2017, 2018 and 2019 were approved on 30 November 2016. The value-added tax (VAT) rate was reduced gradually from 20% in 2001 to 12% in 2008 and remains at 12%.

Table 4. Cigarette excise rates, excise revenue and number of taxed cigarettes

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|------|------|------|------|------|------|-------|-------|-------------------|-------------------|-------------------|-------------------|-------------------|-------|-------|
| Excise rate, tenge per 1 000 filter cigarettes | 180 | 230 | 315 | 400 | 600 | 800 | 1 000 | 1 250 | 1 550 | 3 000 | 3 900 | 5 000 | 6 200 | 7 500 | 8 700 |
| Annual increase, % | 0 | 28 | 37 | 27 | 50 | 33 | 25 | 25 | 24 | 94 | 30 | 28 | 24 | 21 | 19 |
| Excise rate, tenge per 1 000 non-filter cigarettes | 100 | 130 | 180 | 200 | 350 | 500 | 600 | 750 | 950 | 3 000 | 3 900 | 5 000 | 6 200 | 7 500 | 8 700 |
| Annual increase, % | 0 | 30 | 38 | 11 | 75 | 43 | 20 | 25 | 27 | 216 | 30 | 28 | 24 | 21 | 19 |
| Tobacco excise revenues, billion tenge | 5.3 | 6.7 | 10.7 | 12.6 | 18.0 | 22.9 | 29.4 | 37.6 | 45.5 | 78.7 | 96.1 | 121.4 | 137.8 | | |
| Annual increase, % | 14 | 27 | 55 | 21 | 43 | 28 | 28 | 28 | 21 | 72 | 22 | 26 | 14 | | |
| Number of taxed cigarettes, billion | 30.4 | 29.9 | 33.5 | 32.0 | 28.8 | 28.4 | 29.6 | 30.2 | 30.7 ^a | 27.7 ^a | 24.5 ^a | 26.1 ^a | 23.0 ^a | | |
| Annual change, % | 12 | -2 | 12 | -4 | -10 | -2 | 4 | 2 | 1 | -9 | -12 | +6 | -9 | | |

^a As revenue for cigarettes taxed in December is received in January next year, the calculations of taxed cigarettes between 2013 and 2017 are based on revenue received in February–December of the year and January of the next year.

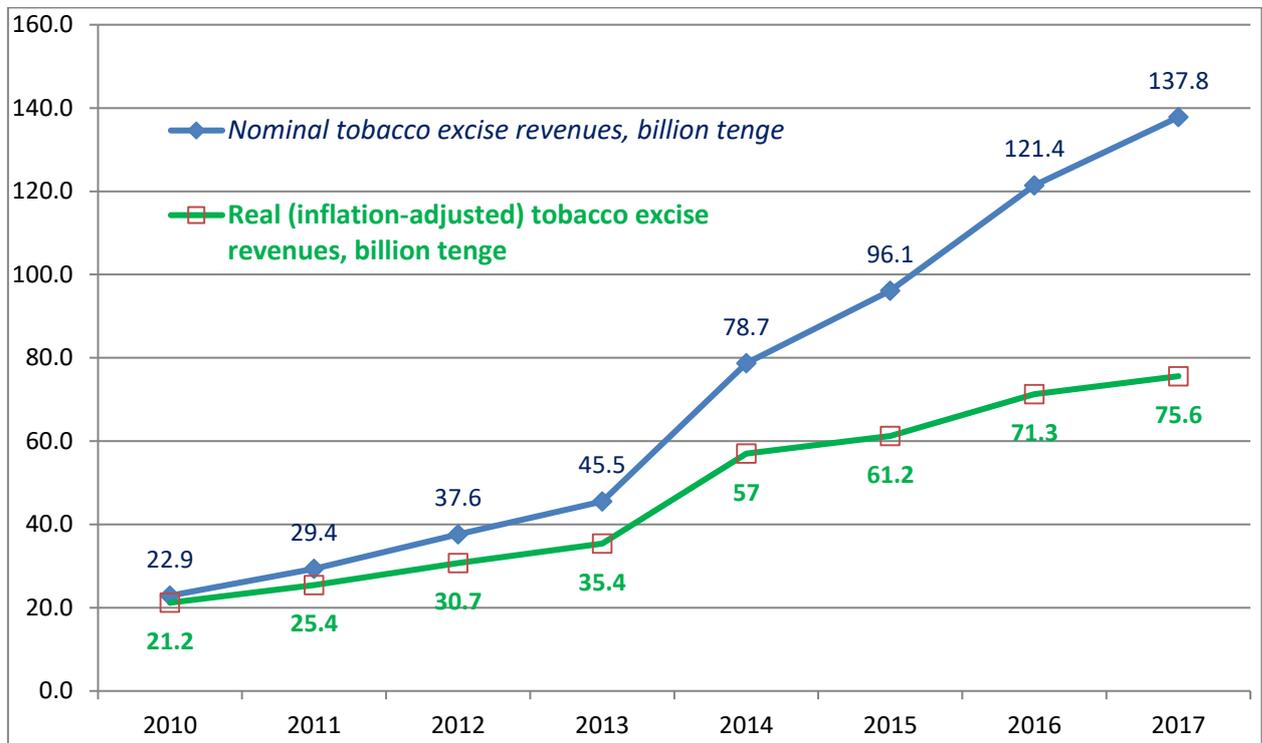
Tobacco excise revenue

Tobacco excise revenues increased between 2005 and 2013 in parallel with the excise rates increase (see Table 4), while cigarette sales remained stable.

The mean annual increase in nominal tobacco revenues between 2010 and 2013 was about 8 billion tenge (Fig. 4), while the increase in 2014 was 33 billion tenge. The sharp tax hike (by 94%) not only

reduced tobacco sales by 9% but also brought an additional 25 billion tenge (about US\$ 150 million) to the national coffers.

Figure 4. Nominal and real tobacco excise revenues in Kazakhstan, 2010–2017



Nominal tobacco excise revenues increased by 17.4 billion tenge (22%) in 2015, while the excise tax rate increase was 30%. Cigarette sales decreased by 3 billion, or 12%, mainly due to the reduction of tobacco affordability. Kazakhstan was experiencing severe economic problems starting from August 2015: by the end of that year, the exchange rate decreased from 187 to 340 tenge to US\$ 1. The resulting incomes reduction caused a substantial decline in cigarette sales: sales declined by 1.5 billion cigarettes in the fourth quarter of 2015, following declines of 1.7 billion in the previous three quarters.

In 2016, nominal tobacco excise revenues increased by 26%, but it was partly caused by the increase of cigarette sales by 6.5% (Fig. 4). In 2017, revenues increased by 14% while sales decreased by 9%.

Real (inflation-adjusted) tobacco excise revenue also had the largest increase in 2014, when they increased by 61% in one year (Fig. 4). In 2011-2013, average annual increase in real revenue was 22%, and in 2015-2017 it was only 11%.

Excise rates and cigarette prices in neighboring countries

The comparison of excise rates and cigarette prices in Kazakhstan and neighboring countries (Table 5) reveals that both taxes and prices in Kazakhstan are a little higher than in Kyrgyzstan and Uzbekistan but more than 2-fold lower than in the Russian Federation.

Table 5. Excise rates and cigarette prices in Kazakhstan and neighboring countries (April 2018)

| | Specific excise rate per 1000 cigarettes | | Ad valorem excise, % | VAT, % | Price of a 20 cigarettes pack of Winston Blue | | Price components (euro) | | |
|-----------------------|--|--------------------|-------------------------------|-----------|---|-------------|----------------------------|-------------|-----------------|
| | National Currency | Euro | | | National Currency | Euro | excise | VAT | Net of taxes |
| Kazakhstan | 7500 | 18,9 | 0 | 12 | 360 | 0,91 | 0,38 | 0,09 | 0,41 |
| Kyrgyzstan | 1250 | 15,0 | 0 | 12 | 60 | 0,72 | 0,29 | 0,08 | 0,34 |
| Uzbekistan | 84222 | 8,6-16 (import) | 0 | 20 | 9000 | 0,92 | 0,32 | 0,15 | 0,43 |
| Russian Federation | 2123 | 34,2 | 14,5 | 18 | 125 | 2,02 | 0,61 | 0,27 | 0,91 |

Price differences can encourage cigarette smuggling from countries with lower prices, but such difference should be high enough to cover the transportation, bribery, and risk. So cigarette **outflow from** Kazakhstan could be much greater than cigarette **inflow to** the country. Price differences are not the only factor in the phenomenon of cigarettes being taxed in one country but smoked in another.

According to the estimates [17], 22 billion cigarettes were consumed in Kazakhstan in 2012, while 30 billion cigarettes were sold (see Figure 2).

The GATS report [9] states that there were 2.4 million daily cigarette smokers in Kazakhstan in 2014, on average smoking 14.9 cigarettes a day. The estimate for a number of cigarettes smoked in 2014, therefore, is as follows: $2.4 \times 14.9 \times 365 = 13$ billion cigarettes. The number of taxed cigarettes in 2014 was much greater (see Table 4), so a large part of the cigarettes taxed in Kazakhstan was eventually smoked in other countries.

Tobacco excise hikes in Kazakhstan therefore not only reduced tobacco consumption within the country but also decreased the total number of cigarettes taxed in Kazakhstan but smoked in other countries.

Over recent years, the cigarette excise rates were increased in the neighboring countries.

In **Kyrgyzstan**, minimum excise rate for filter cigarettes in 2009-2014 was increased 4-fold and the tobacco excise revenue increased 5-fold [18], while in 2014 the only tobacco factory in the country was closed. In 2014-2018, excise rates in Kyrgyzstan increased from 450 soms to 1250 soms per 1000 cigarettes, and tobacco excise revenue increased from 2.86 million soms in 2014 to 4.85 million soms in 2017.

Uzbekistan increased cigarette excise rates by 50% from January 2016, by 30% from January 2017 and by 120% from January 2018.

The average cigarette excise rate in the **Russian Federation** increased 8.5-fold between 2010 and 2017, and annual tobacco excise revenues grew from 108 billion roubles in 2010 to 591 billion in 2017. The cigarette market decreased by 31% (or by 117 billion cigarettes), from 377 billion in 2010 to 260 billion in 2017. Smuggling and counterfeiting, according to the tobacco industry estimates, comprised 2% of the market in 2016, or about 6 billion cigarettes. These changes confirm the general trend that tobacco excise hikes can increase illicit cigarette consumption, but the increase usually is much smaller than the decline in legal consumption, and total cigarette consumption reduces. The Russian Federation increases cigarette excise rates by 10% from July 2018¹¹. Low excise rates in Belarus and Kazakhstan were presented as the main argument against higher excise increases in the Russian Federation, so harmonization of tobacco excise increases has been proposed for these countries.

Eurasian Economic Union

Kazakhstan is a member of the Eurasian Economic Union.

The draft agreement of principles for tobacco excise tax policy implementation in the countries of the Eurasian Economic Union was published in October 2015¹². Article 4 proposes indicative, minimum and maximum cigarettes excise tax rates for 2016–2020, expressed in euro. The proposed rates are presented in Table 6.

Table 6. Excise tax rates proposed in the Eurasian Economic Union draft agreement

| | Indicative rate per 1 000 cigarettes | | <i>Allowed decrease of the indicative rate (%)</i> | Allowed minimum rate, per 1 000 cigarettes | | |
|-------------|---|--------------------|--|--|--------------------|---|
| | Euro | Tenge ^a | | Euro | Tenge ^a | <i>The increase of minimum rate (%)</i> |
| 2016 | 22 | 8800 | 30 | 15.4 | 6160 | - |
| 2017 | 25 | 10000 | 30 | 17.5 | 7000 | 14 |
| 2018 | 27 | 10800 | 25 | 20.25 | 8100 | 16 |
| 2019 | 30 | 12000 | 20 | 24 | 9600 | 19 |
| 2020 | 32 | 12800 | 15 | 27.2 | 10880 | 13 |

^a1 euro = 400 tenge.

¹¹ http://www.consultant.ru/document/Cons_doc_LAW_28165/22201a65e4f59a582714243c15b655989bd57066/

¹² [https://docs.eaeunion.org/sites/storage1/Lists/PublicDiscussions/faa22d1e-150d-4765-ba68-fdf48434bc06/b5c8ba6f-08b6-4e93-9e30-](https://docs.eaeunion.org/sites/storage1/Lists/PublicDiscussions/faa22d1e-150d-4765-ba68-fdf48434bc06/b5c8ba6f-08b6-4e93-9e30-91d461fa3a88_%D0%9F%D1%80%D0%BE%D0%B5%D0%BA%D1%82%20%D0%A1%D0%BE%D0%B3%D0%BB%D0%B0%D1%88%D0%B5%D0%BD%D0%B8%D1%8F%20%D0%BF%D0%BE%20%D0%B0%D0%BA%D1%86%D0%B8%D0%B7%D0%B0%D0%BC%20%D0%BD%D0%B0%20%D1%82%D0%B0%D0%B1%D0%B0%D1%87%D0%BD%D1%83%D1%8E%20%D0%BF%D1%80%D0%BE%D0%B4%D1%83%D0%BA%D1%86%D0%B8%D1%8E.pdf)

[91d461fa3a88_%D0%9F%D1%80%D0%BE%D0%B5%D0%BA%D1%82%20%D0%A1%D0%BE%D0%B3%D0%BB%D0%B0%D1%88%D0%B5%D0%BD%D0%B8%D1%8F%20%D0%BF%D0%BE%20%D0%B0%D0%BA%D1%86%D0%B8%D0%B7%D0%B0%D0%BC%20%D0%BD%D0%B0%20%D1%82%D0%B0%D0%B1%D0%B0%D1%87%D0%BD%D1%83%D1%8E%20%D0%BF%D1%80%D0%BE%D0%B4%D1%83%D0%BA%D1%86%D0%B8%D1%8E.pdf](https://docs.eaeunion.org/sites/storage1/Lists/PublicDiscussions/faa22d1e-150d-4765-ba68-fdf48434bc06/b5c8ba6f-08b6-4e93-9e30-91d461fa3a88_%D0%9F%D1%80%D0%BE%D0%B5%D0%BA%D1%82%20%D0%A1%D0%BE%D0%B3%D0%BB%D0%B0%D1%88%D0%B5%D0%BD%D0%B8%D1%8F%20%D0%BF%D0%BE%20%D0%B0%D0%BA%D1%86%D0%B8%D0%B7%D0%B0%D0%BC%20%D0%BD%D0%B0%20%D1%82%D0%B0%D0%B1%D0%B0%D1%87%D0%BD%D1%83%D1%8E%20%D0%BF%D1%80%D0%BE%D0%B4%D1%83%D0%BA%D1%86%D0%B8%D1%8E.pdf)

Established excise rates in Kazakhstan (see Table 4) in 2016-2019 were below the proposed minimum rates and they are much lower than the indicative rates.

The rates proposed in the draft agreement set the annual increase for the minimum excise rates in the range 13–19% (see Table 6), but even in 2020, the rates will constitute €27.2–35.2 per 1000 cigarettes, while the European Union has a minimum rate of €90 for every member. The experience of Belarus, Kazakhstan, the Russian Federation and other countries reveals that, given their inflation rates, the annual excise increase should exceed 30% to ensure declines in tobacco affordability.

Cigarette smuggling

In 2016 Kazakhstan authorities seized 11.1 million illicit cigarettes¹³, mainly from Kyrgyzstan and Tajikistan. It was admitted that in many cases Kyrgyz cigarettes were just moved via Kazakhstan to Russia, China¹⁴, and other countries.

A representative of British American Tobacco informed¹⁵ that most smuggled cigarettes sold in Kazakhstan were supplied from Kyrgyzstan, but in 2016 illicit cigarettes constituted only 0.7% of the market. He suggested that in 2017 this percentage could increase 2-fold to make 345 million cigarettes. As tobacco industry usually exaggerates volumes of cigarette smuggling into a country, this estimate can be considered as an upper level.

The Nielsen report for Russia¹⁶ (commissioned by the tobacco industry) claimed that in 2015, 8% of illicit cigarettes in Russia were cigarettes from Kazakhstan. In 2016, the share of Kazakhstan cigarettes decreased to 6%¹⁷, but total estimated share of illicit cigarettes on Russian market increased from 1% to 2%, so the number of cigarettes smuggled from Kazakhstan to Russia increased and could be estimated as follows: 300 billion x 1% x 8%= 240 million cigarettes in 2015 and 280 billion x 2% x 6%= 336 million cigarettes in 2016. In 2017, the following Nielsen report claimed¹⁸ that 0.21% of the total cigarette market in Russia were cigarettes smuggled from Kazakhstan, so their number was: 260 billion*0.21%= 546 million cigarettes in 2017.

Kazakhstan is also a transit country for cigarette smuggling. The share of illicit Kyrgyz cigarettes on Russian market is higher than the share of Kazakh cigarettes, but these cigarettes are moved to Russia via Kazakhstan.

¹³ <https://ism.kz/v-kazahstane-stali-izymat-bol-she-nezakonnyh-sigaret>

¹⁴ <https://aqparat.info/news/2016/08/05/8358255-krupnyyu-partiyu-kontrabandnyh-sigaret-i.html>

¹⁵ <https://informburo.kz/novosti/kontrabanda-sigaret-iz-kyrgyzstana-vyros-la-za-god-v-dva-raza.html>

¹⁶ <https://iz.ru/news/599369#ixzz4ZQpLavN8>

¹⁷ <https://www.vedomosti.ru/business/articles/2016/10/12/660540-nelegalnih-sigaret>

¹⁸ <https://ria.ru/society/20171220/1511300539.html>

Kazakhstan is also used for other kinds of transit smuggling. In 2015-2017, according to the official Kyrgyz customs reports¹⁹, about 3.7 billion cigarettes were imported from Serbia to Kyrgyzstan in three years, but Serbian cigarettes are almost absent on Kyrgyz market. It was reported²⁰ that these cigarettes were transferred to Russia via Kazakhstan via duty-free shops. In 2017, according to Nielsen estimates²¹, smuggled Serbian cigarette brand *Fast* held 0.29% of total Russian market (about 750 million cigarettes).

In February 2018, six million cigarette packs (produced in the United Arab Emirates) were seized in the train moving from Kazakhstan to Moscow²². In November 2017, 1.25 million cigarette packs from UAE were seized in a lorry on Kazakh-Russian border²³.

Cigarette smuggling from Serbia and UAE reveals that excise and price differences between countries is just one factor of smuggling. Smugglers use loopholes in current legislation (duty-free sales and others). Stronger international cooperation is needed to close all kinds of loopholes, which encourage tobacco smuggling.

While cigarette smuggling is a problem, it should not be overestimated and used as an argument against further excise increases. The FCTC Article 6 Guidelines state [14]: *The development, implementation and enforcement of tobacco tax and price policies as part of public health policies should be protected from commercial and other vested interests of the tobacco industry, including tactics of using the issue of smuggling in hindering implementation of tax and price policies.*

Perspectives on tobacco excise taxation policies in Kazakhstan in 2019

Earlier, the impact of tobacco taxation in Kazakhstan was modeled in several papers [19-21].

Below, several scenarios of excise tax increases are considered to illustrate their potential. The suggested model estimates the impact of tobacco taxation policy on tobacco consumption and revenue in 2018 and three scenarios of excise-rate increase in 2019:

1. excise rate will increase to 8700 tenge per 1000 cigarettes (as stated by the current legislation), or by 16%;
2. excise rate will increase to 9600 tenge per 1000 cigarettes (the minimum rate proposed in the Eurasian Economic Union draft agreement for 2019), or by 28%; or

¹⁹ <http://www.customs.kg/index.php/ru/custstat/tabiform/139-sravdan/1751--2017>

²⁰ <https://www.pravda.ru/society/04-12-2017/1358317-tobacco-0/>

²¹ <https://ria.ru/society/20171220/1511300539.html>

²² <https://360tv.ru/news/chp/kanal-postavki-kontrabandnyh-arabskij-sigaret-perekryli-sotrudniki-mvd-rf/>

²³

https://total.kz/ru/news/proisshestiya/iz_kazahstana_v_rossiu_vvezli_1_240_500_pachek_kontrabandnih_sigaret_date_2017_11_25_12_23_59

3. excise rate will increase to 12 000 tenge per 1000 cigarettes (the indicative rate proposed in the Eurasian Economic Union draft agreement for 2019), or by 60%, which is still smaller than the successful tax hike of 2014.

The following assumptions are used for the model:

- the inflation rate in 2018 and 2019 is 7.4% (like in 2017)
- the PRP will increase in line with inflation
- the population income increase in 2018 and 2019 will be 7.6% (average for 2013–2017).

Based on these assumptions, average cigarette prices and the tobacco affordability index for 2018 and three options in 2019 were estimated (Table 7).

Table 7. Forecast of tobacco prices and affordability changes, 2018 and 2019

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019-1 | 2019-2 | 2019-3 |
|--|-------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Cigarette pack price, tenge | 194 | 241 | 296 | 324 | 358 | 403 | 447 | 468 | 521 |
| CPI (December to December) | 104,8 | 107,4 | 113,6 | 114,6 | 107,4 | 107,4 | 107,4 | 107,4 | 107,4 |
| Excise, tenge | 31 | 60 | 78 | 100 | 124 | 150 | 174 | 192 | 240 |
| VAT, tenge | 21 | 26 | 32 | 35 | 38 | 43 | 48 | 50 | 56 |
| PRP (producer and retail price), tenge | 142 | 155 | 186 | 189 | 196 | 210 | 225 | 226 | 226 |
| <i>PRP increase</i> | | <i>109,1</i> | <i>120,0</i> | <i>101,6</i> | <i>103,4</i> | <i>107,4</i> | <i>107,4</i> | <i>107,4</i> | <i>107,4</i> |
| Cigarette price increase | | 124,2 | 122,8 | 109,5 | 110,5 | 112,6 | 110,9 | 116,1 | 129,3 |
| Income increase | | 106,8 | 103,6 | 108,7 | 110 | 107,6 | 107,6 | 107,6 | 107,6 |
| TAI | | -14,0 | -15,7 | -0,7 | -0,4 | -4,4 | -3,0 | -7,3 | -16,8 |

As can be seen in 2018 and 2019 (scenario 1), tobacco affordability does not decrease much, leading to expectations of a rather small decline in tobacco consumption. Scenarios 2 and 3 for 2019 provide a much greater decline in tobacco affordability and so have a higher potential for reduction in tobacco consumption.

Tobacco excise revenue for 2018 and each scenario in 2019 was also estimated (Table 8). The model assumes that a high tobacco-affordability reduction will lead to cigarette **outflow out of** the country decreasing and cigarette **inflow into** the country increasing, with both processes reducing the number of taxed cigarettes. As there were no reliable estimates of outflow and inflow, the levels used in Table 8

are assumptions based on the information presented above. Actual levels will depend on enforcement activities against illicit sales, taxation policies in neighboring countries, currency exchange rates, and other factors.

Table 8. Forecast of consumption and revenue impacts of the model taxation policies

| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019-1 | 2019-2 | 2019-3 |
|--|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|
| Consumption, billion cigarettes | 26 | 23 | 22 | 22 | 21 | 20,5 | 20 | 19,5 | 18,5 |
| Smuggling out of the country | 4 | 3,5 | 3 | 2,5 | 2,5 | 2,5 | 2,5 | 2 | 1,5 |
| Smuggling into the country | 0,5 | 0,5 | 0,5 | 0,5 | 1 | 1 | 1 | 1 | 1,5 |
| Taxable sales | 29,5 | 26 | 24,5 | 24 | 22,5 | 22 | 21,5 | 20,5 | 18,5 |
| Excise rate, tenge per 1000 cigarettes | 1550 | 3000 | 3900 | 5000 | 6200 | 7500 | 8700 | 9600 | 12000 |
| Revenue, billion tenge | 46 | 78 | 96 | 120 | 140 | 165 | 187 | 197 | 222 |

Tobacco excise revenue will increase across all options in 2018 and 2019, but option 3 for 2019 provides higher revenue increases and greater declines in tobacco consumption. The possible additional revenue (about 35 billion tenge) could be used for various purposes, including national health insurance. The forecast figures are based on several assumptions, but reveal trends that are very similar to those observed recently in Kazakhstan and other countries.

Conclusions and recommendations

Tobacco taxes contribute to a decline in tobacco consumption if they increase real (inflation-adjusted) prices and reduce tobacco affordability.

Between 2003 and 2008, tobacco prices in Kazakhstan increased by less than the inflation rate and cigarettes became relatively more affordable. This encouraged tobacco consumption.

The policy of annual increases in excise rates by 25–30% between 2010 and 2013 resulted in increased revenues in Kazakhstan, but was not effective in terms of health, as cigarette consumption did not decrease.

Tobacco excise taxes were drastically increased in Kazakhstan from 1 January 2014 and tobacco affordability was substantially reduced resulting in the subsequent decline in tobacco sales and smoking prevalence in the country. Substantial reduction of smoking prevalence in 2014 was demonstrated as by the sixth national healthy lifestyle survey in 2014 and by the GATS and GYTS results.

This decline in consumption could have an effect on tobacco-related mortality in Kazakhstan. Mortality rates of some tobacco-related causes of death substantially declined in Kazakhstan in 2013–2015 among men and women aged 30 to 79 years: by about 20% for acute ischaemic heart disease and stroke and by 30–40% for respiratory tuberculosis and chronic obstructive pulmonary disease [20].

Taxation policy implemented in Kazakhstan in 2014 not only contributed to achieving health-related objectives to reduce tobacco consumption. Tobacco excise revenues more than doubled in two years.

In previous years, however, Kazakhstan followed a policy of moderate tobacco excise increases. Experience showed that the policy ensured neither increased revenues nor a reduction in tobacco consumption.

After a successful policy in 2014, Kazakhstan returned to a policy of moderate tax increases in 2015-2018. The reduction in tobacco affordability in 2015 was caused not only by the excise increase but also the tobacco industry pricing policy and a decline in real incomes. Tobacco consumption in Kazakhstan decreased in 2015, but the revenue increase was smaller than expected.

A moderate excise rise in 2016 and 2017 could not ensure substantial reduction of tobacco affordability and annual tobacco sales in 2015-2017 did not change much.

The country experience shows that a policy of moderate (20–30% annually) excise increases cannot ensure either tobacco consumption reductions or substantial revenue increases. The planned annual cigarette excise increase for 2017–2019, however, is only 19–24%.

Increasing tobacco taxes, which reduces tobacco affordability and tobacco consumption, is an effective way of reducing mortality in the country, especially among middle-aged people. Mortality for some causes of death begins to decline already in the first years after the tobacco consumption reduction. Further increasing tobacco excise rates can reinforce the health benefits.

Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in Kazakhstan in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country.

Kazakhstan has great potential to increase tobacco excise rates in subsequent years to contribute to health objectives aiming to reduce tobacco consumption. The greater the excise tax increase, the larger the reduction in tobacco consumption and the higher tobacco excise revenue growth will be.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Macedonia

Tobacco use in Macedonia

Tobacco use among adults

Among adults aged 15 years and older the prevalence of smoking measured in 1999 was 40% among men, 32% among women and 36% total (1).

Apparently in a survey of 2003 or earlier (2), smoking prevalence in the general Macedonian population was reported to be 34.2%.

According to Eurobarometer (3), the proportion of smokers among people aged 15 years or older in Macedonia in 2009 was 37% while the percentage of ex-smokers was among the lowest in Europe (11%). Among current smokers, 92% smoked manufactured cigarettes daily, 7% smoked manufactured cigarettes occasionally and 1% smoked roll-your-own tobacco daily. Daily cigarette smokers smoked 18.3 cigarettes per day on average; 3% of smokers also used some form of oral tobacco. There were no daily users of water pipe, cigars, pipe and electronic cigarettes in 2009. Among former smokers, 85% used to be daily cigarette smokers before quitting. Among current smokers, 49% responded that the price of tobacco products can encourage them quit smoking.

The Multiple Indicator Cluster Survey (MICS) was conducted in Macedonia several times. However, tobacco use was included in the questionnaire for the first time in 2011 (4). The prevalence of current tobacco use among women aged 15-49 years was reported 30.0%; 51% of women were ever tobacco users; 5.2% were reported to start smoking before age 15. Use of tobacco was higher among women from the richest quintile. Nearly 23% of pregnant women were current users of tobacco. Most tobacco users were smokers of manufactured cigarettes.

According to published international estimates (5), age-standardized smoking prevalence in Macedonia did not change much in 1980-2012: 44.5-47.7% among men and 25.6-27.0% among women. Annual cigarette consumption in 1996-2012 was estimated as 4.4-4.6 billion cigarettes.

In 2017, Dr. Elena Kosevska, Institute of Public Health, informed² that among people aged 15-64 years, 54% of men and 33% of women were smokers.

Tobacco use among youth

Three series of smoking prevalence surveys among youth were conducted in Macedonia: European School Survey Project on Alcohol and other Drugs (ESPAD), Health Behavior School Children Study (HBSC) and Global Youth Tobacco Survey (GYTS).

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² <http://sitel.com.mk/namalen-brojot-na-pushachi-kaj-tinejdzherite>

A survey based of ESPAD questionnaire conducted in 1999 among people aged 16 years (6), revealed that 42% never used tobacco in their life; 17% have taken a cigarette 1-2 times and 20% have used tobacco over 40 times/occasions (Macedonians 22%, Albanians 11%). During the last month, 37% youngsters in Macedonia had taken tobacco.

Health Behaviors in School-aged Children (HBSC) conducted in 2001-2002 documented the prevalence of smoking at least one cigarette per week as 14.6% among boys and 12.7% among girls (1).

The results of Global Youth Tobacco Survey (GYTS) conducted in 2003 (1, 7, 8) showed that the prevalence of current cigarette smoking was 8.5 ± 4.7 among boys and 6.8 ± 3.8 among girls. According to GYTS survey conducted in 2008 (9) 11.8% of students currently smoked cigarettes. 1.4% of students were daily cigarette smokers. This does not reveal significant changes.

A summary of smoking prevalence data among young people in Macedonia is presented in Table 1. The smoking prevalence trends are contradictory and there were no major changes in smoking prevalence among Macedonian teenagers during the last 15 years.

Table 1. Smoking prevalence (%) among adolescents in Macedonia

| HBSC (weekly smoking) | 2002 | 2006 | 2010 | 2014 |
|---|-----------|-----------|------|-------------------|
| Boys 15 years old | 14,5 | 14 | 14 | 11 |
| Girls 15 years old | 12,7 | 14 | 9 | 9 |
| ESPAD (30-days smoking) | 1999 | 2007 | | 2015 |
| Boys, 15-16 years old | 38 | 25 | | 27 |
| Girls, 15-16 years old | 35 | 22 | | 21 |
| GYTS (Current cigarette smoking) | 2003 (10) | 2008 (11) | | 2016 ³ |
| Boys, 13-15 years old | 8.5 | 9.7 | | 13.1 |
| Girls, 13-15 years old | 6.8 | 9.8 | | 8.4 |

Tobacco use among health professionals

A survey of physicians conducted in the 1990s found that 40% of male and 32% of female physicians were smokers (7). No later data could be revealed.

Health burden of tobacco use

The proportion of the burden of DALYs attributable to tobacco in 2002 (1) was estimated as 11.1%. According to the WHO report (12), in 2004, among the population aged 30 years and over, 15% of deaths were caused by tobacco.

Macedonian researchers published several studies regarding specific impacts of tobacco use on population health. These studies are related to lung cancer (13) and surgery-associated problems in

³ <http://sitel.com.mk/namalen-brojot-na-pushachi-kaj-tinejdzherite>

smokers (14). The effects of secondhand smoke exposure were studied in relation to asthma, rhinitis, and eczema in young adolescents (15) and respiratory problems in never-smoking women (16).

Tobacco control policies

Macedonia ratified the WHO Framework Convention on Tobacco Control on June 30, 2006 (1). Below, tobacco control policies adopted in Macedonia are described according to the MPOWER strategies.

PROTECT people from tobacco smoke

Health researchers in Macedonia aimed to attract attention to the issue of secondhand smoke exposure and assessed whether limited measures that were undertaken before 2008 resulted in the changes in smoking prevalence and the prevalence of secondhand smoke exposure (17) and concluded that their findings point out the necessity of more comprehensive policies.

As of recent years, almost all enclosed public places, including bars and restaurants, in Macedonia are smokefree. Smoking violations consist of fines on the establishment and the patron. However, no funds are dedicated to enforcement, and no system is in place for citizen complaints and further investigations.

In July 2017, some MPs from the ruling majority have submitted a bill that aims to ease the current strict ban on public smoking⁴. The announced changes in the smoking law anticipate that cigarettes are to be allowed in all cafés, except where food is served. In the outdoor terraces of restaurants and cafés, regardless of weather conditions - smoking can take place without restrictions⁵. The Ministry of Health countered the proposed changes to the law on smoking, claiming that such changes are harmful to citizens and the Ministry cannot promote such policies⁶. While changes in the law on smoking have been submitted by MPs from the ruling Social Democratic Union of Macedonia (SDSM), the government did not react to their proposal.

OFFER help to quit tobacco use

The Quit and Win Campaign was carried out in 2002 (7).

As reported by 2015 (18, 19), smoking cessation services are available in some health clinics or other primary care facilities. Nicotine replacement therapy can be purchased over the counter in a pharmacy but its cost is not covered, and no toll-free quit line is available.

WARN about the dangers of tobacco

Color pictorial health warnings on tobacco packages became mandatory in September 2009 following EU directive 2001/37/EC. Health warnings are legally mandated to cover 30% of the front and 40% of the rear of the principal display area, whereby 16 health warnings are approved by law (19). They appear on each package and any outside packaging and labeling used in the retail sale, describe the harmful effects of tobacco use on health and include a photograph or graphics. The law also mandates font style, font size, and color for package warnings.

⁴ <http://www.balkaninsight.com/en/article/macedonia-mulls-easing-smoking-ban-07-19-2017>

⁵ <http://24vesti.mk/predlozheni-izmeni-vo-zakonot-za-zashtita-od-pushenje>

⁶ <http://24vesti.mk/se-krchka-nov-zakon-za-pushenje>

ENFORCE bans on tobacco advertising, promotion, and sponsorship

Macedonia has a ban, through a law adopted in 1995 and amended many times since then (the last amendment was in 2010), on most forms of direct and indirect advertising. However, the point of sale advertising and tobacco sponsorship are not banned.

RAISE taxes on tobacco

This range of policies is described in a special section of this report.

Tobacco growing in Macedonia

Macedonia belongs to tobacco-growing countries with 1.7% of agricultural land devoted to tobacco agriculture as of 2002 (7). In 2016, out of 1,267,000 hectares of agriculture areas 16,379 hectares (1.3%) were used for tobacco growing⁷.

Governmental support to tobacco production is stipulated in Article 51 of the Law on tobacco and tobacco products. Since 2005, the production of tobacco in Macedonia has been subsidized by the government (20). In 2005, the subsidy constituted 15 Macedonian denars (MKD) (0.24 euro) per kg of tobacco and then it gradually increased to 60 MKD (0.98 euro) starting from 2009.

As the below evidence from the media coverage shows, this policy has been quite expressed over the recent years. In 2010, the government paid 1.4 billion MKD (22 million euro) as subsidies to the tobacco growers who produced 22,000 tons of dry tobacco in 2009⁸. In 2011, the Ministry of Finance paid 1.2 billion MKD to 27,000 tobacco growers⁹. In 2013, the Ministry of Finance paid 1.6 billion MKD (26 million euro) as subsidies for tobacco produced and sold in 2012¹⁰. In 2014, 1.2 billion MKD were paid to 27,000 farmers as subsidies for tobacco produced and sold in 2013¹¹. In 2015, prime-minister Gruevski mentioned that 25 million euro were paid that year as subsidies for 29 thousand tobacco growers and he expected to continue such policy¹². In 2016, the subsidies payment was over 20 million euro for over 20,000 tons of tobacco¹³. In 2017, the Ministry of Finance received orders for payment of tobacco subsidies in the amount of almost 1.5 billion MKD or nearly 25 million euro¹⁴.

Macedonia is the only country in the region where the tobacco is intensively supported with subsidies. In 2001, subsidies for tobacco farmers were introduced in Moldova, but they were canceled in 2007 (21). There are no subsidies on tobacco growing in Turkey, the subsidies for production of tobacco were last paid in 2009 in Bulgaria and Greece¹⁵. Since 1st January 2010, the EU has not granted any specific subsidies for raw tobacco production¹⁶. Instead, the EU supports rural development programs, particularly in tobacco-growing regions. Macedonian economists (22) consider the subsidies for this crop in the country as a paradoxical governmental decision with purely socio-economic purpose. In their opinion, it is imperative to think of tobacco's adequate replacement in the near future and to begin with gradual introducing of substitute crops with similar socio-economic effects. Such subsidies contradict

⁷ http://www.stat.gov.mk/PrikaziPublikacija_en.aspx?id=34&rbr=674

⁸ <https://seenews.com/news/macedonia-to-pay-up-to-1-39-blm-denars-21-9-mln-euro-in-tobacco-subsidies-this-year-197320#sthash.Gw9dAcea.dpuf>

⁹ <http://www.finance.gov.mk/en/node/2583>

¹⁰ <http://www.finance.gov.mk/en/node/3370>

¹¹ <http://www.finance.gov.mk/en/node/3976>

¹² <http://netpress.com.mk/gruevski-isplateni-25-milioni-evra-subvencii-za-tutun-na-29-iljadi-zemjodelci/>

¹³ <http://mrt.com.mk/node/30585>

¹⁴ <http://www.brif.mk/nikolovski-isplateni-25-milioni-evra-subvencii-za-tutun/>

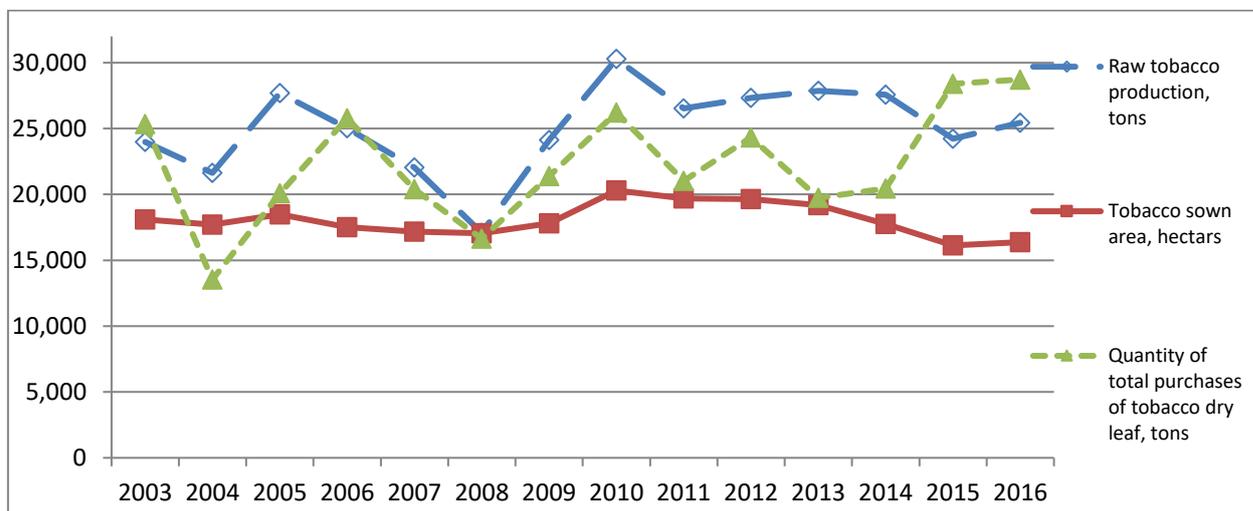
¹⁵ <http://kurir.mk/en/?p=22494>

¹⁶ https://ec.europa.eu/agriculture/tobacco_en

the World Bank policy. Since 1991, the World Bank’s policy has been not to lend, invest in, or guarantee investments or loans for tobacco production, processing, or marketing¹⁷.

In 2010-2017, the government of Macedonia paid about 150 million euro tobacco subsidies, but this money did not increase average annual raw tobacco production. In 2016, the area of tobacco growing was lower, than in 2005 when the subsidies were introduced (Figure 1).

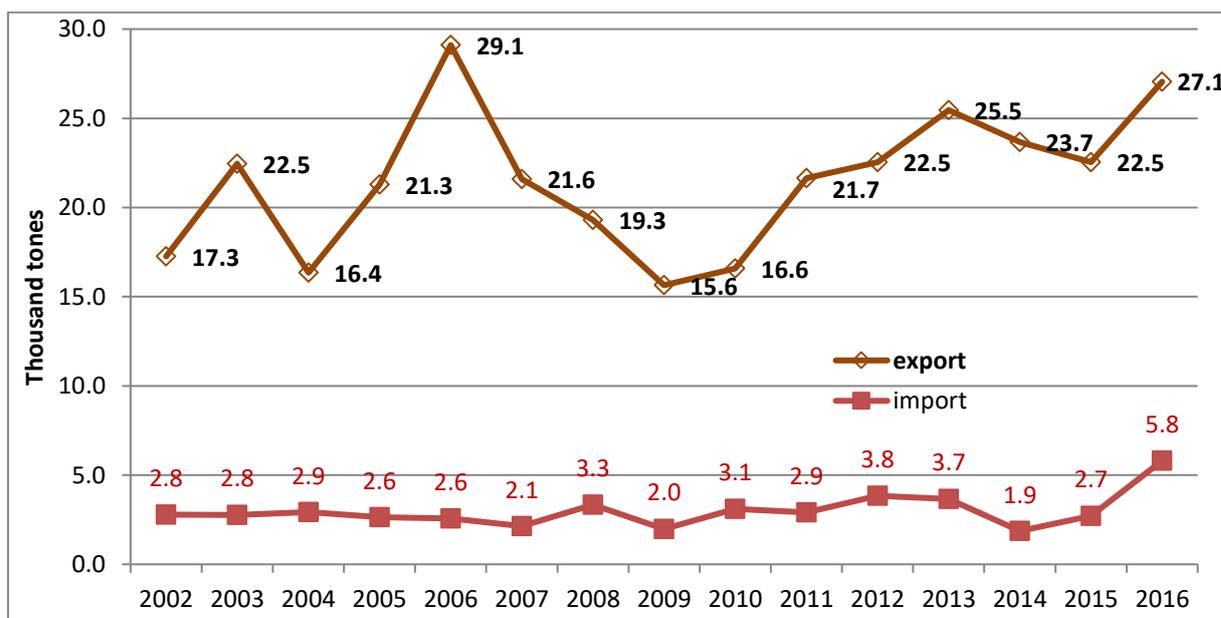
Figure 1. Tobacco growing in Macedonia.



Source: Annual Statistical Yearbooks.

Annually, from 15,600 to 29,100 tons of unmanufactured tobacco are exported from Macedonia and about 3,000 tons are imported into the country (Figure 2). The highest level of raw tobacco export was observed in 2006.

Figure 2. Unmanufactured tobacco (both stemmed or stripped and not stemmed or stripped) export and import



Source: UN database [http://data.un.org/Data.aspx?q=tobacco&d=ComTrade&f= I1Code%3a25](http://data.un.org/Data.aspx?q=tobacco&d=ComTrade&f=I1Code%3a25)

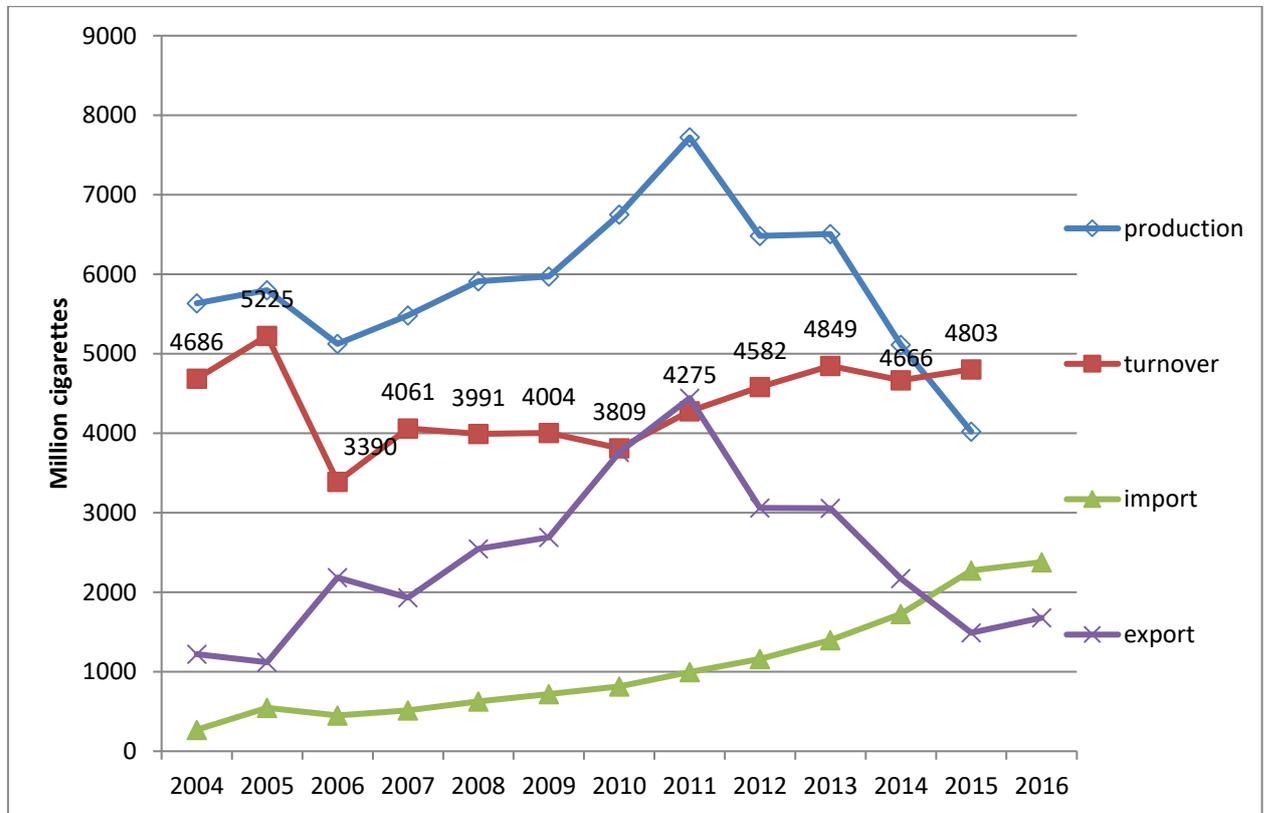
¹⁷ The World Bank and Tobacco Control: The Facts. August 20, 2013 <http://www.worldbank.org/en/topic/health/brief/world-bank-and-tobacco-control-the-facts>

About 80-90% of tobacco, grown in Macedonia, is exported. Over recent five years (2012-2016), the average annual difference between raw tobacco production and raw tobacco export was 2,236 tons, while average annual import of raw tobacco was 3,578 tons. This difference means that cigarettes, produced in Macedonia, contain only 38% of Macedonian tobacco.

Tobacco production and sales

According to the Statistical Yearbooks,¹⁸ cigarette production in Macedonia was the highest in 2011 (7.7 billion cigarettes), but then it declined to 4 billion cigarettes due to the decrease in export and increase in import (Figure 3). Cigarette turnover (production + import – export) was about 5 billion cigarettes in 2004-2005, then it sharply decreased in 2006 and in 2007-2010 average annual turnover was about 4 billion cigarettes. In 2011-2012, the turnover increased and in 2012-2015 the average annual turnover was about 4.7 billion cigarettes.

Figure 3. Cigarette production, import, export and turnover (production + import – export), million cigarettes



Source: Annual Statistical Yearbooks and UN database

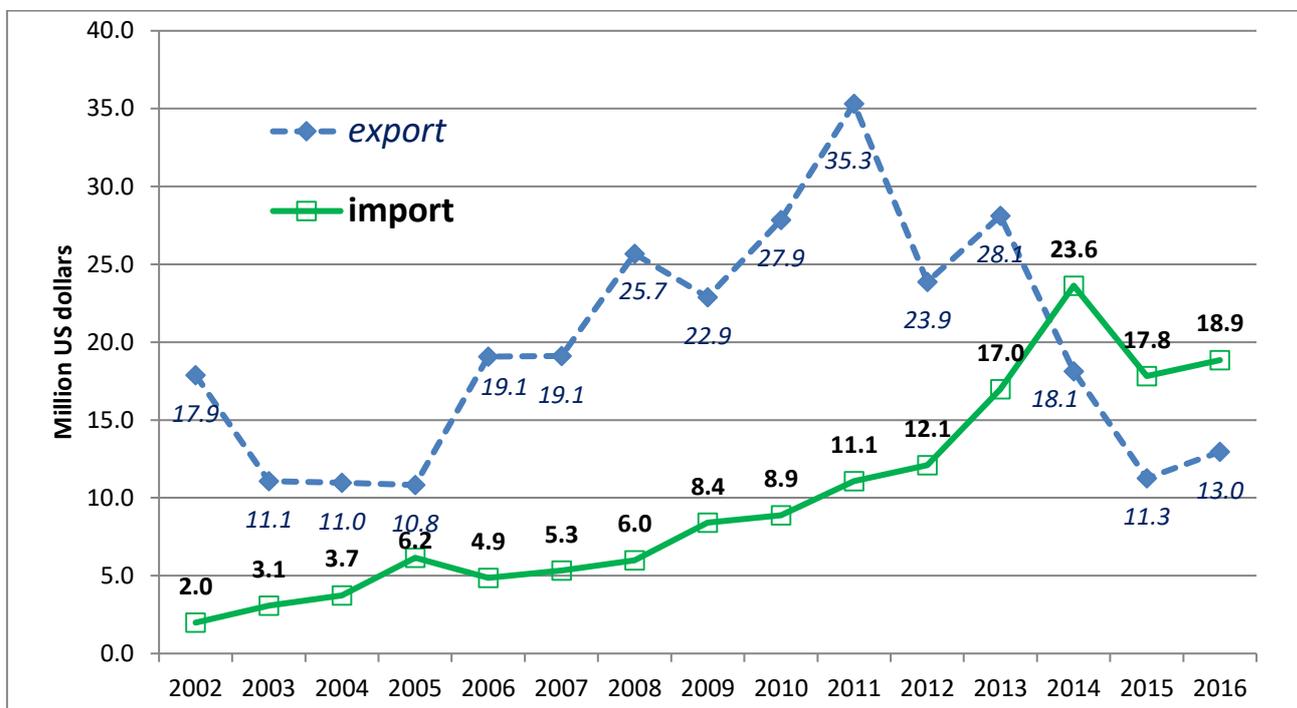
http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=_l1Code%3a25%3bcmdCode%3a240220

The tobacco industry in Macedonia is fully privatized. The only exception was Tutunski Kombinat Prilep, as the government of Macedonia owned a controlling stake in the company, but in 2014 Philip Morris International bought 51% of the stakes. The tobacco industry in Macedonia is highly consolidated, as the top five ranking companies own over 91% of the total cigarettes market. In 2015, Imperial Tobako TKS, a subsidiary of Imperial Tobacco Group Plc, which renamed itself into Imperial Brands Plc in 2016, was the lead player on the cigarette market with a 61% share in 2015 (23).

¹⁸ http://www.stat.gov.mk/PublikaciiPoOblast_en.aspx?id=34&rbrObl=37

Cigarette market in Macedonia is actually controlled by the transnational tobacco corporations. In 2015, 47% of cigarette sold in the country were imported. Since 2014, cigarette import has exceeded the export in monetary terms (Figure 4).

Figure 4. Cigarette export and import (in million US dollars).



Source: Annual Statistical Yearbooks and UN database

<http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=I1Code%3a25%3bcmdCode%3a240220>

Cigarette smuggling

The customs reported that *according to the estimates of producers and importers of tobacco products*, the share of cigarettes the duties for which have not been paid decreased from 25% in early 2006 to about 6% in late 2010¹⁹. No study reports are available to support this claim. However, in 2006, cigarette excise rates and prices increased substantially and cigarette turnover declined (see Figure 3).

Apparently, this decline was mainly caused by the reduction in cigarette consumption and forestalling before the tax increase, but the industry traditionally claimed that any reduction in legal cigarette sales was caused by the increase of cigarette smuggling into the country.

According to Euromonitor estimates (23), cigarette smuggling into Macedonia declined from 0.5 billion cigarettes in 2009 to 270-290 million cigarettes annually in 2011-2015. However, even Euromonitor had to admit that: *“Smokers residing in neighboring countries and those living in the European destinations linked with low-cost airlines tend to purchase significant quantities of cigarettes from Macedonia due to their attractively low prices. This trend is helping cigarettes in Macedonia maintain positive volume growth”*.

¹⁹ <http://www.customs.gov.mk/images/documents/izvestai/godisni-izvestai/EN/annual-report-2010-EN.pdf>

Cigarettes are smuggled from Macedonia by tracks to Greece²⁰ and Bulgaria^{21, 22} and to the UK²³ by planes.

According to the KPMG Project Sun reports (funded by the tobacco industry), cigarette smuggling out of Macedonia to other European countries greatly increased in 2009-2016 (Table 2).

Table 2. Cigarette outflow (billion cigarettes) from Macedonia to some European countries (KPMG estimates)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Bulgaria | | 0,02 | 0,04 | 0,07 | 0,04 | 0,03 | 0,13 | 0,16 |
| Greece | | 0,01 | 0,01 | 0,02 | 0,02 | 0,05 | 0,07 | 0,17 |
| Slovenia | 0,02 | | 0,01 | 0,01 | 0,01 | 0,01 | 0,03 | 0,03 |
| Austria | | | | | | | 0,04 | 0,19 |
| Luxemburg | | | | | | | 0,01 | |
| Croatia | | | | | | | | 0,01 |
| Switzerland | | | | | | 0,02 | 0,02 | |
| TOTAL | 0,02 | 0,03 | 0,06 | 0,10 | 0,07 | 0,11 | 0,30 | 0,56 |

The Customs Administration of Macedonia in 2014 adopted “Strategy on prevention of unauthorized manufacture, traffic, and smuggling of tobacco and tobacco products for the period 2014-2016”²⁴. Numbers of seized cigarettes increased from 642 270 cigarettes in 2014²⁵ to 2.45 million in 2016²⁶. However, in this period, cigarette smuggling out of Macedonia increased 5-fold (Table 2) and at least 560 million cigarettes were sold and taxed in Macedonia, but smoked in other countries.

Tobacco taxation in Macedonia

Tobacco excise rates

In 2001-2007, excise rates for domestic and imported cigarettes were different. In 2001 the Excise law was adopted²⁷ which set ad valorem rate (33%) for domestic cigarettes and specific rate for imported ones (1.35 MKD per 1 cigarette). In 2002, the amendments to the Excise law were adopted²⁸ which set mixed excise system, but effective only since 2005. Initially, it was proposed to decrease ad valorem rates for domestic cigarettes, but in late 2004 the new amendments²⁹ to the Excise law were adopted which increased both specific and ad valorem rates for domestic cigarettes (Table 3). For imported cigarettes, ad valorem rates were introduced, but the specific rate was decreased.

Table 3. Excise rates for cigarettes in 2001-2013

| | 2001-2004 | 2005 | | 2006 | | 2007-June 2013 | |
|---------------------|-----------|-------------------------|--------|-------------------------|--------|-------------------------|--------|
| | | <i>Proposed in 2002</i> | Actual | <i>Proposed in 2002</i> | Actual | <i>Proposed in 2002</i> | Actual |
| Domestic cigarettes | | | | | | | |

²⁰ <http://24vesti.mk/vo-grcija-upaseni-shverceri-so-makedonski-cigari-bez-banderola>

²¹ <http://24vesti.mk/mvr-go-rezreshuva-shvercot-na-cigari-od-makedonija-vo-bugarija>

²² <http://www.pravdiko.mk/tsarinata-zaplени-tsigari-domashna-rakija-i-obleka/>

²³ <http://24vesti.mk/obidi-za-nelegalno-iznesuvanje-na-okolu-28-iljadi-evra-i-110-shteki-cigari>

²⁴ <http://www.customs.gov.mk/images/documents/izvestai/godisni-izvestai/EN/annual-report-2013-EN.pdf>

²⁵ <http://www.customs.gov.mk/images/documents/izvestai/godisni-izvestai/EN/annual-report-2014-EN.pdf>

²⁶ <http://www.customs.gov.mk/images/documents/izvestai/godisni-izvestai/EN/annual-report-2016-EN.pdf>

²⁷ <http://www.slvesnik.com.mk/Issues/DD9C79392724461EA3F4B4395AA6A739.pdf>

²⁸ <http://www.slvesnik.com.mk/Issues/D842D2CF929B4B4E904E9D67A1038266.pdf>

²⁹ <http://www.slvesnik.com.mk/Issues/BB1286A206CF244897CC27D70FA4E7B6.pdf>

| | | | | | | | |
|-------------------------------|------|------|------|------|------|-----|-----|
| Specific, MKD per 1 cigarette | 0 | 0,04 | 0,04 | 0,07 | 0,07 | 0,1 | 0,1 |
| Ad valorem, % | 33 | 30 | 33 | 28 | 34 | 26 | 35 |
| Imported cigarettes | | | | | | | |
| Specific, MKD per 1 cigarette | 1,35 | 1,1 | 1,1 | 0,8 | 0,8 | 0,1 | 0,1 |
| Ad valorem, % | 0 | 5 | 8 | 10 | 19 | 26 | 35 |

Since 2007, excise rates for domestic and imported cigarettes have been harmonized. As a result of this harmonization, domestic companies faced an increased tax burden. To avoid an increase in unit prices, most companies decided to reduce the number of cigarettes in each pack from 20 to 19. Since 2010, 19-stick packs of cigarettes have become more popular, while some brands like Marlboro are still sold in 20-stick packs.

The base of the ad valorem excise is the retail price set by producer or importer and this price should be published in the Official Newspaper.

Excise rates were stable from 2007 up to July 2013, when the specific rate was increased, while ad valorem rate was decreased (Table 4). Additionally, a new minimum specific rate was introduced in 2013. The new amendments to the Excise law³⁰ also set annual increase of both specific rates: by 0.15 MKD per 1 cigarette in July 2014 and July 2015 and by 0.2 MKD per 1 cigarette in July 2016 and in July every next year till July 2023. In January 2015, basic specific rates, which are used for the calculation of the specific tax rate, were increased from ³¹ 1.3 and 1.5 MKD per 1 cigarette to 1.353 and 1.553 respectively, while annual increases of the rates were continued as it was set in 2013.

Table 4. Excise rates for cigarettes in 2013-2017

| | 1 July 2013 | 1 July 2014 | 1 January 2015 | 1 July 2015 | 1 July 2016 | 1 July 2017 |
|---------------------------------------|-------------|-------------|----------------|-------------|-------------|-------------|
| Specific, MKD per 1 cigarette | 1,3 | 1,45 | 1,503 | 1,653 | 1,853 | 2,053 |
| Ad valorem, % | 9 | 9 | 9 | 9 | 9 | 9 |
| Minimum specific, MKD per 1 cigarette | 1,5 | 1,65 | 1,703 | 1,853 | 2,053 | 2,253 |

In 2007, the specific excise rates were introduced for fine-cut tobacco (1500 MKD per 1 kg) and for other smoking tobacco (1350 MKD per 1 kg). From July 1, 2014, to July 1, 2023, the excise rates for both kinds of smoking tobacco will continue to increase by MKD50 each consecutive year.

The VAT rate in Macedonia is set at 18% of the retail price.

Tobacco excise revenue

Data on tobacco excise revenue is available only for some years. In 2010, revenue from excises on tobacco and tobacco products was 4,454 million MKD, which was a decrease of 3.64% compared to 4,622 million MKD in 2009³². In 2011, the revenue increased to 5.04 billion MKD³³. It was also reported that in 2012 tobacco excise revenue increased by 13%³⁴, so it was about 5.7 billion MKD.

³⁰ <http://www.slvesnik.com.mk/Issues/f511dadcb109444ba528c4108dce5faf.pdf>

³¹ <http://www.slvesnik.com.mk/Issues/742eb07a52534e1494167d7b70c44c8f.pdf>

³² <http://www.customs.gov.mk/images/documents/izvestai/godisni-izvestai/EN/annual-report-2010-EN.pdf>

³³ Global Tobacco Control Report, 2013. Table 8.1.

³⁴ <http://www.customs.gov.mk/images/documents/izvestai/godisni-izvestai/EN/annual-report-2012-EN.pdf>

Cigarette prices

The State Statistical Office Annual Statistical Yearbooks³⁵ only report prices of Boss cigarette brand (Table 5). Data on prices of the most popular cigarette brands are also available in the WHO Global Tobacco Control Report, 2017 (24). The sharp increase of the Boss cigarette price was observed only in 2006 when the price increased by 30%. Some increases were also observed in 2005, 2007, 2015 and 2016, while in 2008-2014 the price did not change. The WHO data also reveals a rather small increase in cigarette prices in 2008-2014 (14% in 6 years). Domestic cigarette producers sharply increased their price also only in 2006, while in other years producers' prices usually followed the inflation rates (Table 5).

Table 5. Cigarette prices

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Price of the most popular cigarette brand (MKD per 20 cigarettes) | | | | | 52,63 | | 52,63 | | 54,74 | | 60 | | 66,32 |
| Cigarette price (MKD per 20 cigarettes of Boss brand) | 45 | 50 | 65 | 67,56 | 68,42 | 68,42 | 68,42 | 68,42 | 68,42 | 68,42 | 68,42 | 71,05 | 76,75 |
| Tobacco producer price indices on the domestic market (previous year = 100) | 100 | 100,3 | 134,7 | 99,3 | 98 | 105,6 | 100,6 | 102,9 | 100,2 | 102,7 | 94,3 | 98 | 100,3 |
| Consumer price index, all items (previous year = 100) | 99,6 | 100,5 | 103,2 | 102,3 | 108,3 | 99,2 | 101,6 | 103,9 | 103,3 | 102,8 | 99,7 | 99,7 | 99,8 |
| GDP annual growth in constant prices, % (World Bank database) | 4,7 | 4,7 | 5,1 | 6,5 | 5,5 | -0,4 | 3,4 | 2,3 | -0,5 | 2,9 | 3,6 | 3,8 | 2,4 |

In 2017, prices for some popular cigarette brands were 75-85 MKD per pack³⁶.

Comparison of cigarette prices and taxes in Macedonia and neighboring countries

The WHO Global Tobacco Report, 2017 provides information on cigarette prices and taxes in Macedonia and neighboring countries in 2016 (24) (Table 6).

Table 6. Cigarette prices and taxes in Macedonia and neighboring countries in 2016

| | Price of a 20-cigarette pack of the most sold brand | | | | Taxes as a % of price of the most sold brand | | | | | | Net-of-tax price, US \$ |
|------------------------|---|-------------------|--|------------------------------------|--|-------------------|----------------|---------------------------|---------------|--------------|-------------------------|
| | In reported currency | Currency reported | International dollars (at purchasing power parity) | in US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Import duties | Total tax | |
| Albania | 230,00 | ALL | 5,23 | 1,88 | 47,83 | 0 | 47,83 % | 16,7 | 1,81 | 66,3% | 0,63 |
| Bulgaria | 4,90 | BGN | 7,94 | 2,78 | 28,57 | 38 | 66,57 % | 16,7 | 0 | 83,2% | 0,47 |
| Greece | 4,00 | EUR | 6,62 | 4,45 | 41,25 | 20 | 61,25 % | 19,4 | 0 | 80,6% | 0,86 |
| Serbia | 220,00 | RSD | 5,38 | 1,98 | 28,05 | 33 | 61,05 % | 16,7 | 0 | 77,7% | 0,44 |
| Bosnia and Herzegovina | 4,50 | BAM | 6,61 | 2,56 | 26,67 | 42 | 68,67 % | 14,5 | 1,06 | 84,3% | 0,40 |
| Macedonia | 66,32 | MKD | 3,45 | 1,20 | 46,84 | 9 | 55,84 % | 15,3 | 0 | 71,1% | 0,35 |

In 2016, cigarette prices in Bosnia and Herzegovina and Bulgaria were about 100% higher than in Macedonia. Cigarette price differences with Albania and Serbia also were large enough to encourage

³⁵ http://www.stat.gov.mk/PublikaciiPoOblast_en.aspx?id=34&rbrObl=37

³⁶ <http://doma.com.mk/artikli.aspx?KatID=675&GlavnaID=9&ProdID=1&Filter=0&Strana=2&Sort=1>

cigarette smuggling out of Macedonia to these countries. Total tax share in the cigarette price in Macedonia was lower than in all neighboring countries, except Albania.

We calculated the net-of-tax price of the most popular cigarette brand as follows: Price in USD * (1 – Total tax share). Cigarettes in Macedonia had much lower retail price than in all neighboring countries, while the net-of-tax price does not differ much from such prices in Serbia, Bosnia and Herzegovina and Bulgaria.

The WHO Tobacco Free Initiative compared cigarette affordability in 2016 in different countries by such indicator as % of GDP per capita required to purchase 100 packs of the most sold brand (the higher the %, the less affordable cigarettes are). In Macedonia, cigarettes were more affordable than in neighboring countries, and Macedonia is the only country where cigarettes became more affordable since 2008 (Table 7).

Table 7. Cigarette affordability in Macedonia and neighboring countries

| COUNTRY | Affordability by year | | | | | Trend in cigarette affordability | |
|------------------------|--|-------------|-------------|-------------|-------------|--|---------------------------------------|
| | % of GDP per capita required to purchase 2000 cigarettes of the most popular brand | | | | | Trend growth rate in affordability (least squares growth rate) | Cigarettes less affordable since 2008 |
| | 2008 | 2010 | 2012 | 2014 | 2016 | | |
| Albania | 3,5% | 3,5% | 3,7% | 4,2% | 4,4% | 3,0% | YES |
| Greece | 1,4% | 1,6% | 2,1% | 2,5% | 2,5% | 8,1% | YES |
| Serbia | 1,9% | 1,8% | 2,2% | 3,1% | 3,7% | 9,5% | YES |
| Bosnia and Herzegovina | 3,1% | 3,5% | 4,2% | 5,2% | 5,9% | 8,3% | YES |
| Bulgaria | 3,0% | 4,1% | 4,1% | 4,0% | 3,8% | 2,1% | YES |
| Macedonia | 2,6% | 2,5% | 2,4% | 2,4% | 2,3% | -1,6% | NO |

Discussion

A dilemma between tobacco farming and tobacco use reduction

The Republic of Macedonia is considered a classic example how governments perform conflicting two-track policies on tobacco: strong anti-smoking policies and high tobacco farming subsidies to stimulate production (25).

However, at the country level, there is almost no conflict between public health interests to reduce tobacco consumption and economic interests of tobacco farmers, due to the following factors:

- 1) 90% of tobacco grown in Macedonia is exported to other countries;
- 2) About 50% of cigarettes sold in Macedonia are imported from other countries;
- 3) Cigarettes, produced in Macedonia, have only about 40% of domestic tobacco.

So any decline in cigarette sales in Macedonia will have a rather limited impact on the raw tobacco production in the country. Moreover, the lower is the level of tobacco consumption within the country, the more tobacco it has for export: the highest level of the raw tobacco export was observed in 2006 (29,100 tons, see Figure 2) when cigarettes sales sharply declined within the country (see Figure 3).

Tobacco subsidies

The World Bank research (26) revealed that the Macedonian tobacco subsidy exemplifies the shortcomings of an output subsidy, as its level is very high: about 40 percent of the farm-gate price. The tobacco subsidies cannot be fully justified by their export potential. In 2011, tobacco share of export was 25.5%, but it received 27.2% of subsidies, while vegetables and fruits, which contributed 30 percent

to total agri-food exports in 2011, received only 11 percent of the total direct subsidy support. In 2016, vegetables and fruits share increased to 34.8% of total agricultural exports, while tobacco share decreased to 24%³⁷. Tobacco also requires much more water to produce a ton of agricultural output than do fruits and vegetables. The tobacco subsidy provides the most benefits to small farms but locks them into production activities that do not have a sustainable future (26). Tobacco farming households – many of which are mixed output farms – are likely to face tough choices when Macedonia joins the EU. The EU fully abolished tobacco subsidies. The Macedonian tobacco farmers are likely to be put in a zero subsidy environment once Macedonia joins the EU. So it is recommended to gradually decrease tobacco subsidies and to facilitate farmers' shifting towards more healthy and economically beneficial outputs like fruits and vegetables.

Tobacco taxation policy

The most effective tobacco taxation policy in Macedonia was conducted in 2006: it sharply increased cigarette prices (see Table 5) and decreased cigarette sales (see Figure 3). Then tobacco excise rates were frozen for 6 years. In 2013, the specific rates were increased and then they were slightly increased every year. The ad valorem excise rate was decreased in 2013 from 35% to 9% and was not changed afterward. In 2016 and 2017, the specific rate per pack of 20 cigarettes increased by 4 MKD annually. However, in 2017, the average price for popular cigarette brands was about 80 MKD per pack³⁸, so the excise change by itself can only increase nominal cigarette price by 5% annually, which is not enough to discourage tobacco consumption.

In 2023, the minimum specific excise rate for cigarettes should reach 3,453 MKD (about 57 euro) per 1000 cigarettes, while according to the EU tobacco taxation directive 2011/64 excise duty should not be less than EUR 90 per 1 000 cigarettes irrespective of the weighted average retail selling price.

The minimum specific excise rate introduced in Macedonia in 2013 is currently not effective as it applies only to cigarettes with prices 42 MKD or less per pack of 19 cigarettes, while back in 2015 the lowest price for such pack was 48 MKD³⁹.

The outcomes of the above-described tobacco taxation policy were as follows:

- 1) Cigarettes sales in Macedonia increased: in 2012-2015, the average annual cigarette sales were 20% higher compared to average cigarette sales in 2006-2010 (see Figure 3).
- 2) The increase in cigarette sales was partly caused by growth in cigarette consumption within the country as cigarettes became more affordable in Macedonia (see Table 5).
- 3) Another factor of the increase in cigarette sales was their smuggling out of Macedonia to other countries. In 2016, at least 15% of cigarettes, which were sold in Macedonia, were actually smoked in other countries and it had negative health and economic impact in those countries.

Macedonia has the sovereign right (within gradually meeting EU obligations) to determine and establish its taxation policies, including the level of tax rates to apply, and the structure and system of tobacco taxes, taking into account national circumstances to achieve public health, fiscal and other objectives. To reach both public health and fiscal aims, Macedonia has an opportunity to change its tobacco excise rates in the following ways starting from 2018:

³⁷ <https://www.export.gov/article?id=Macedonia-Agricultural-Sectors>

³⁸ <http://doma.com.mk/artikli.aspx?KatID=675&GlavnaID=9&ProdID=1&Filter=0&Strana=2&Sort=1>

³⁹ <http://vecer.mk/ekonomija/cigarite-poskapuvaat-ova-se-novite-ceni>

- Increase the minimum specific cigarette excise rate in July each year by 0.5 MKD per 1 cigarette (so in 2024 it will reach 5753 MKD per 1000 cigarettes or 90 euros).
- Increase the simple specific cigarette excise rate in July each year by 0.25 MKD and ad valorem cigarette excise rate by 1 percentage point. Such increases will ensure that the minimum specific excise rate would apply to most cigarettes with prices below the average price (85 MKD in 2018) and it will ensure the growth of tobacco revenues, as it increases excise burden for both cheap and expensive cigarettes.
- Set specific excise rate for 1kg of fine-cut tobacco and other kinds of smoking tobacco at the same level as the minimum specific excise per 1000 cigarettes.

Such taxation policy can gradually increase cigarette prices on Macedonia, but they will hardly exceed cigarette prices in the neighboring countries, as currently the price difference is very large and at least some of the neighboring countries will increase tobacco excise rates over next years.

Tax-driven cigarette price increase will make cigarettes less affordable and reduce their consumption in the country. It could also decrease cigarette price difference between Macedonia and other countries and discourage cigarette smuggling out of Macedonia. Cigarette smuggling into Macedonia can hardly increase as all neighboring countries have higher cigarette prices and are likely to increase them over next years.

Conclusions and recommendations

From a public health perspective, tobacco taxation policy in Macedonia was successful only in 2006 as it contributed to the health objectives aimed at reducing tobacco consumption, in line with the FCTC obligations. However, then the tobacco taxation policy was rather weak and tobacco consumption in the country apparently increased as well as cigarette smuggling out of the country. The current tobacco excise policy, which proposes very moderate excise increases in 2018-2023, is not able to either reduce the tobacco consumption or to increase real tobacco excise revenue. Tobacco tax increase is able to reduce tobacco consumption in Macedonia and it will have minimal impact on tobacco growing as only 10% of tobacco grown in Macedonia is used within the country.

Subsidies for tobacco growers in Macedonia are very high, but they were not able to increase raw tobacco production and such subsidies have no perspectives taking into account the process of integration with the EU. Payments, currently used for tobacco growing, could be better used to support much healthier and economically beneficial agricultural products, such as fruits and vegetables.

In 2017, tobacco excises and prices in Macedonia were much lower compared with neighboring countries. Macedonia has a great opportunity to increase tobacco excise rates, which will be beneficial for both public health and governmental revenue. This policy might improve the relations with the neighboring countries as well.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Mexico

Tobacco use in Mexico

Manufactured cigarettes are the most common tobacco product smoked in the country. In 2015, only 0.6% of adults aged 15 and over smoked hand-rolled cigarettes and 0.7% smoked other tobacco products [1].

The international tobacco companies dominate Mexico's cigarette market, holding more than 99% of the market share by volume. In 2015, Cigarros la Tabacalera Mexicana, a Philip Morris International subsidiary, held 66% of market share. It was followed by British American Tobacco with 26.3% and Japan Tobacco with 7.4% of cigarette market share².

Evidence on the prevalence of smoking has been collected periodically since 1988 with the implementation of the **National Addiction Survey (Encuesta Nacional de Adicciones, ENA** in Spanish). This is a repeated cross-sectional household survey which collects information on behaviors related to the use of tobacco, alcohol, and other addictive substances (illegal drugs) amongst people aged 12-65 years. Six ENA surveys were conducted in 1988, 1993, 1998, 2002 [2], 2008 [3] and 2011 [4-6]. As surveys in the 1990s were conducted only in urban areas, we compare results of three last surveys conducted nationwide in Table 1.

Table 1. Smoking prevalence (%) in Mexico, ENA surveys, persons 18-65 years old.

| | 2002 | 2008 | 2011 |
|--|-------------|-------------|-------------|
| Daily smokers | | | |
| Total | 14,6 | 10,8 | 10,3 |
| men | 23,7 | 16,0 | 15,5 |
| women | 7,5 | 6,1 | 5,5 |
| Occasional smokers | | | |
| Total | 12,4 | 12,1 | 13,3 |
| men | 18,6 | 17,6 | 19,1 |
| women | 7,6 | 7,0 | 8,0 |
| Former smokers | 19,9 | 19,6 | 29,7 |
| Number of cigarettes smoked by daily smokers per day | | | |
| Total | 6,5 | 6,0 | 6,5 |
| men | 6,6 | 6,5 | 6,8 |
| women | 7,1 | 5,6 | 5,6 |

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.

² Euromonitor. Cigarettes in Mexico, 2016.

A rather high share of occasional smokers is caused by the used definition of a smoker as “any person who reports having smoked in the last 12 months” [7]. So a person who smoked only once a year is also considered as a smoker.

Daily smoking prevalence declined in 2002-2011 among both men and women, while occasional smoking prevalence slightly increased in 2011. Surprisingly, the share of former smokers sharply (by 50%) increased in 2011: from about 20% to about 30%. Probably smoking prevalence in 2002 and 2007 was underestimated. This also could be due to some changes in the questionnaires.

Analysis [8] of another series of the **national health surveys (ENSA, ENSANUT)** showed that daily smoking prevalence among individuals aged 19 years and above increased from 12.4% in 2000 to 13.3% in 2006 and then decreased to 11.8% in 2012. The number of cigarettes smoked by daily smokers per day declined from 8.2 in 2000 to 7.5 in 2006 and 6.3 in 2012. The estimated total cigarette consumption level (calculated as (daily smoking prevalence) x (an average number of cigarettes smoked per day)) did not change in 2000-2006, but declined by 25% by 2012.

The **Global Adult Tobacco Survey (GATS)** was conducted in Mexico in 2009 and 2015.

Table 2. Smoking prevalence in Mexico, Global Adult Tobacco Survey, 2009 and 2015

| GATS | 2009 | 2015 | | 2009 | 2015 |
|---|------------|------------|------------------------------|------------|-------------|
| Daily smokers, % | | | Former daily smokers, % | | |
| Total | 7,6 | 7,6 | Total | 4,9 | 5,8 |
| men | 11,8 | 11,9 | men | 7,6 | 8,4 |
| women | 3,7 | 3,6 | women | 2,5 | 3,4 |
| Occasional smokers, % | | | Former occasional smokers, % | | |
| Total | 8,4 | 8,8 | Total | 9,8 | 11,7 |
| men | 13,0 | 13,3 | men | 13,5 | 13,6 |
| women | 4,1 | 4,6 | women | 6,4 | 9,9 |
| Number of cigarettes smoked by daily smokers per day | | | | | |
| Total | 9,4 | 7,7 | | | |
| men | 9,7 | 8,0 | | | |
| women | 8,4 | 6,8 | | | |

Both daily and occasional smoking prevalence almost did not change. However, the share of former daily smokers increased in 2015 both in men and women, while the share of former occasional smokers increased only in women. The number of cigarettes smoked by daily smokers per day decreased in 2015 by 18%.

Global Youth Tobacco Survey (GYTS) was conducted nation-wide only in 2011 [9]. However, earlier, GYTS surveys were conducted in several Mexican cities and three times in the capital city (Table 3).

Table 3. Smoking prevalence (%) among 13-15 years old adolescents, GYTS data

| | 2003 Mexico city | 2006 Mexico city | 2011 Mexico city | 2011- National |
|----------------------------|---------------------|---------------------|---------------------|-------------------|
| Currently smoke cigarettes | | | | |
| Total | 24,3 | 27,1 | 21,8 | 14,6 |
| boys | 24,4 | 26,3 | 21,4 | 15,8 |
| girls | 23,2 | 27,1 | 22,8 | 12,9 |
| Have parent(s) who smoke | 54,1 | 50,0 | 41,9 | 32,1 |

In Mexico-city smoking prevalence among teenagers in 2011 was higher than in the whole country, especially for girls. Smoking prevalence in Mexico-city increased in 2006 but declined in 2011. Data on parent(s) smoking is an indirect indicator of smoking prevalence among adults and it decreased in Mexico city between 2003 and 2006 and to a much greater extent in 2011.

Survey called Encuesta Nacional de Consumo de Drogas, Alcohol y Tabaco (ENCODAT) was conducted in 2016 [11] and it demonstrated that current smoking prevalence among adolescents 12-17 years old decreased from 12.3% in 2011 to 7.8% in 2016, while previously it increased from 9.0% in 2002.

In general, we can conclude that smoking prevalence in Mexico decreased in 2000-2015. However, an increase in percentage of former smokers was greater than the decrease of current smokers share. Average numbers of cigarettes smoked by daily smokers per day also decreased, especially after 2011.

Tobacco control policies

Mexico ratified the WHO Framework Convention on Tobacco Control on May 28, 2004. The treaty went into effect on February 27, 2005.

At the federal level, the General Tobacco Control Act (Ley General para el Control del Tabaco, LGCT) 2008, banned smoking in public places such as offices, schools, restaurants, bars and nightclubs [12]. However, the law does not require a 100% smokefree environment for all public places. At the local level, Mexico City and some other states have passed legislation that introduced 100% smokefree policies in public places. In 2015, 44.8% of the Mexican population was protected from exposure to tobacco smoke in public places [13].

The LGCT established new requirements regarding health warnings on all tobacco packages. Since September 2010, the new health warnings have included graphic images (pictograms) that occupy 30% of the front side of the pack, as well 100% of the backside and 100% of one of the lateral sides. The health warnings contain information about health hazards, contents of tobacco products, and a smoking cessation quitline number. Since 2010, Mexico has implemented seven different waves of health warnings.

The law bans most forms of tobacco advertising and promotion but allows advertising and promotion aimed only at adults through adult magazines, personal communication by mail or within establishments exclusively for adult access. There are some restrictions on tobacco sponsorship and the publicity of such sponsorship [14].

In terms of the governance and management, two federal agencies were created and strengthened at the federal level: The National Commission Against Addictions (CONADIC) and the State's role in regulating tobacco control through the Federal Commission for The Protection against Health Risks (COFEPRIS). Additionally, the National Office for Tobacco Control (ONCT) was created to implement the WHO-FCTC in Mexico.

Tobacco taxation in Mexico

Since the 1980s, the tobacco products in Mexico have been taxed with an excise tax in addition to the tobacco companies' income tax and the value-added tax (VAT). This is called the Special Tax on Products and Services (IEPS), first introduced in 1981 with an ad valorem rate of 139.3 percent (of the pre-tax price to the retailer) on filtered cigarettes. Non-filter cigarettes were treated differently with the political justification that they were largely consumed by the poorest. Only in 2000, a 20.6 percent ad valorem tax was imposed on non-filter cigarettes—a rate that was gradually increased until it reached

110 percent in 2005. Afterwards, the special treatment disappeared, with both filter and non-filter cigarettes subjected to the same ad valorem tax rate. In 2015, a majority of manufactured cigarette smokers (98.2%) were purchasing filter cigarettes.

The IEPS ad valorem rate was gradually increased from 100% in 2000, to 105% in 2002, 107% in 2003, 110% in 2004, 140% in 2007, 150% in 2008 and 160% in 2009.

Since 2009 the ad valorem rate has not been changed. In 2016, actual share of the ad valorem excise tax in the final retail price of the most popular cigarette brand was only 38.7%, while in 2008 it was 48.1%³.

The VAT rate was 15% of the price to the consumer, except for cities on the U.S.–Mexico border, where the VAT is 10%. In 2010, the rate was increased to 16% (11% for U.S. border cities). Mexican VAT applies to the final price, including all previous taxes, rights, quotas, interests, overprices, etc.

In January 2010, Mexico added a specific tax of 80 cents per pack of 20 cigarettes. In April 2010, following an insufficient congressional resolution on increased tobacco taxes in 2009, WHO and BI partners and stakeholders assisted the National Office of Tobacco Control (NOTC) to develop a new tobacco tax increase proposal. In October 2010, the tax increase proposal elaborated with the WHO support was approved in both chambers of Congress [15]. In January 2011, the specific excise tax was raised to 7 pesos per pack.

In 2014, a proposal to increase taxes on certain tobacco products was rejected *“on account of the fact that Mexico's tax rates on tobacco are among the highest rates in the world”* [16].

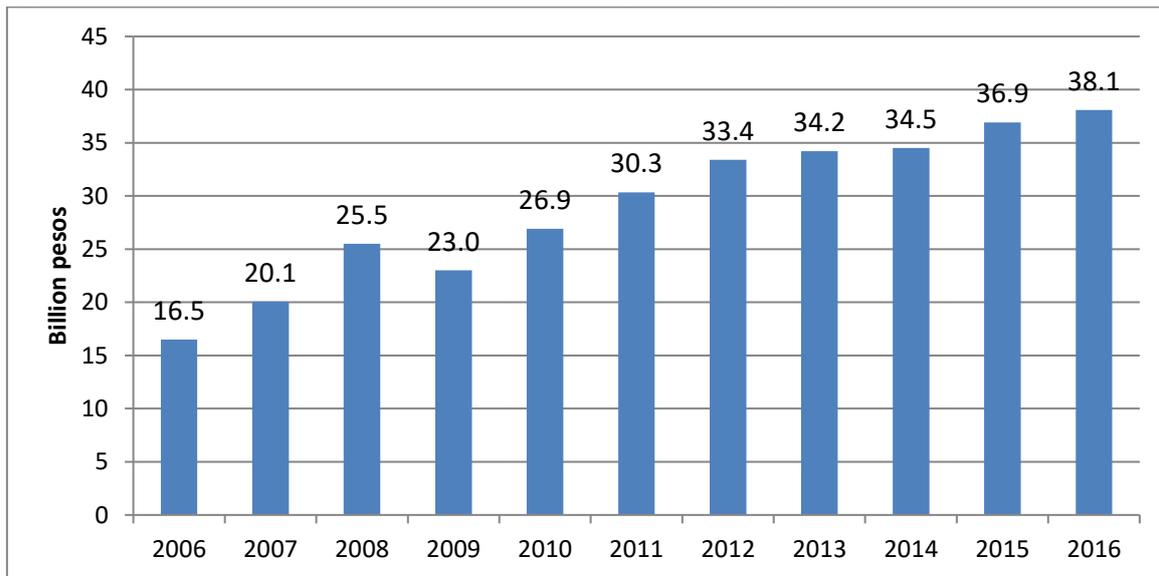
Tobacco tax rates in Mexico have not been changed since January 2011. The main factor of “freezing” tobacco taxes is public perception that tobacco tax increase of January 2011 was a failure. This perception is strongly supported by the tobacco industry. PMI in its Annual report of 2011 declared: *“Past experience has typically shown that whenever large excise tax increases have been implemented, government revenue falls short of expectations, and border sales and illicit trade are encouraged at the expense of the tax-paid market, as was **most notably the case in Mexico in 2011.**”*

Results of the tobacco tax increase of January 2011

Tobacco excise revenue

In 2016, tobacco excise revenue in Mexico exceeded 38 billion pesos [17]. Average annual tobacco excise revenue in Mexico increased from about 25 billion pesos in 2008-2010 to about 34 billion pesos in 2012-2014 or by 35% (Fig. 1).

³ Table 9.1.2 from GTCR, 2017.

Figure 1. Annual tobacco excise revenue in Mexico (billion pesos).

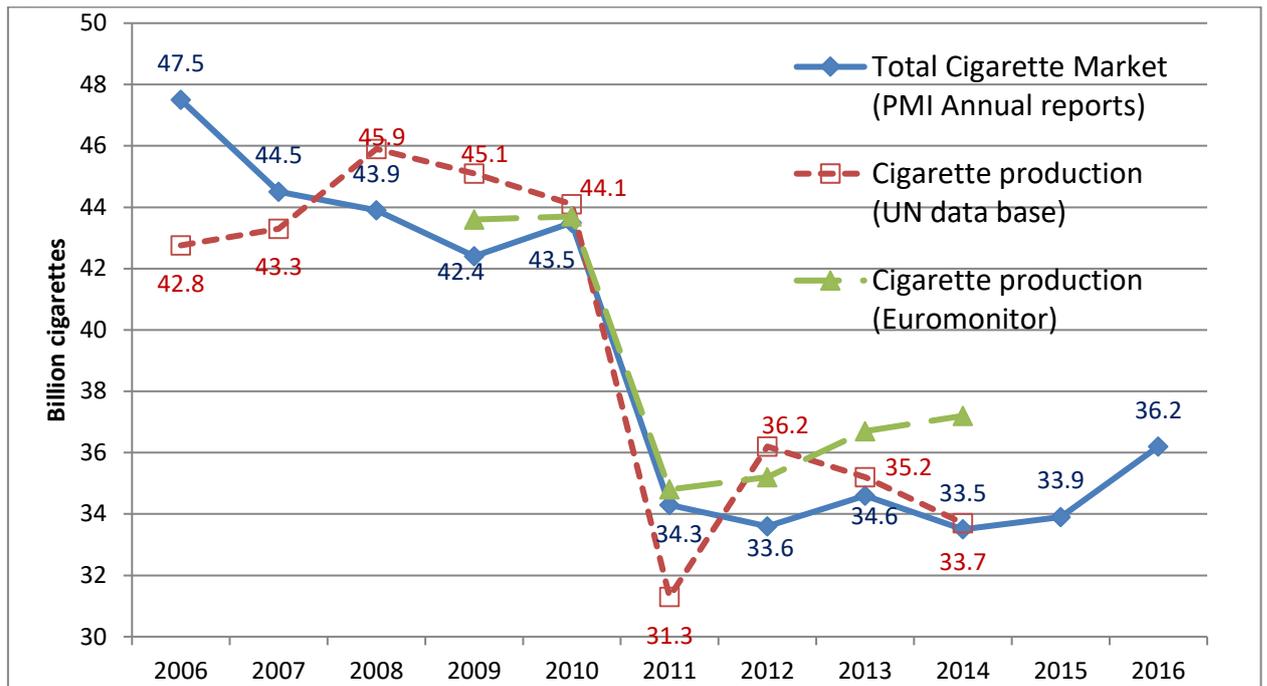
However, the revenue increase in 2011 as compared with 2010 was only 13% (Fig. 1). It was partly caused by forestalling. The Guidelines for the implementation of Article 6 of the WHO FCTC [18] state: *In anticipation of tax increases, manufacturers or importers may attempt to take advantage of the current or lower tax and increase production or stock of products (known as forestalling)*. A review of cigarette sales to retailers showed that the industry built up inventory in late 2010 to avoid paying the increased taxes in early 2011, thereby causing the reduction in expected government revenue [19]. According to the PMI quarterly reports, in 2nd and 3rd quarters of 2010, cigarette market declined compared to the same quarters of the previous year, but in the 4th quarter, it sharply increased by 8.5%. Then in the 1st quarter of 2011, the market declined by 27%, while in the 2nd quarter the decline was 13.2%, which was about half of the decline in the 1st quarter. So, the tax increase adopted by the Congress in October 2010 brought additional revenue in last months of 2010 at the expense of lower revenue in 2011, as the industry increased its domestic production at the end of 2010, to avoid paying taxes as of January 2011. Despite this, during the first half of 2011, 46.9 billion pesos were collected as the special tax on production and services (IEPS) on cigarettes, 15% more in real terms than the revenue obtained in the first half of 2010 [20].

It should be noted that increases in ad valorem rate in 2007, 2008 and 2009 also increased revenue from 16.5 billion pesos in 2006 to average annual 25 billion pesos in 2008-2010.

Cigarette sales

Nearly all tobacco consumption in Mexico is in the form of cigarettes. Cigarette sales (defined as national production plus net imports) in Mexico remained stable in the 1980s and 1990s, with average annual sales of 2.6 billion packs [21]. In 2005 and 2006, the average annual level of sales was 2.4 billion packs (48 billion cigarettes).

Despite some differences in the reported data on cigarette production and sales (Fig. 2) the overall trends are very similar: annual sales were rather stable in 2006-2010 (about 44 billion cigarettes), then sales sharply declined in 2011, while in 2012-2015 sales were stable again with average annual 34 billion cigarettes.

Figure 2. Annual cigarette sales and production in Mexico.

After the tax hike of January 2011, the sales decreased by about 10 billion cigarettes or by 23%. There are three factors, which could contribute to the cigarette sales reduction in 2011: (1) reduction of cigarette consumption within the country; (2) increase of cigarette smuggling into Mexico; (3) decrease of cigarette smuggling out of Mexico.

Changes in cigarette consumption in Mexico

The GATS survey was conducted in Mexico in 2009 and 2015. Daily smoking prevalence did not change between the two surveys (7.6% in both surveys), while the average number of cigarettes smoked per day decreased from 9.4 to 7.7 or by 18%. Estimation of cigarette consumption from the national health surveys showed that in 2012 the consumption was 25% lower than in 2006. Over those years, cigarette sales decreased by 23% and we can assume that the decline in cigarette consumption within the country was the main factor of the sales reduction.

Cigarette bootlegging from Mexico to the USA

In September 2017, average price of the most popular cigarette brand in Mexico was 49 MXN⁴ (=2.7 USD). The price can be even lower in cities on the U.S.–Mexico border, where the VAT is 11%, while it is 16% for the rest of the country. Data on cigarette prices and taxes in the USA states⁵ neighboring Mexico (in effect as of September 1, 2017) are presented in Table 4.

Table 4. Cigarette prices and taxes in Mexico and the neighboring USA states (US dollars).

| | Average Retail Price Per Pack (with all taxes) | Total state and federal taxes |
|---------------|--|-------------------------------|
| California | 7,97 | 4,49 |
| Arizona | 7,08 | 3,39 |
| New Mexico | 6,48 | 3,01 |
| Texas | 6,11 | 2,78 |
| Mexico | 2,72 | 1,70 |

⁴ https://www.numbeo.com/cost-of-living/country_result.jsp?country=Mexico

⁵ <https://www.tobaccofreekids.org/research/factsheets/pdf/0202.pdf>

Cigarettes in Mexico are much cheaper than in US states and so US inhabitants have obvious incentives to buy cigarettes produced and taxed in Mexico.

According to the customs regulations regarding the returning US resident travelers, those over the age of 21 may legally import 200 cigarettes⁶.

The Mackinac Center (which has received funding from tobacco companies since the 1990s⁷) has estimated that the cigarette smuggling (as percentage of total cigarette consumption in the recipient states) from Mexico to the US states was the following in 2014: Arizona - 18.2%; New Mexico - 22.2%; California – 18% and Texas 19%⁸. While the level of smuggling was probably overestimated, as it was done by the tobacco-industry funded organization, it shows the potential of cigarette smuggling from Mexico to the USA.

Connelly et al (2009) [22] estimated a demand function for cigarettes after including a proxy for prices in the bordering states and simple proxies for contiguity with Mexico and Canada. They found that having a border with Mexico lowers sales in the state sizably. The share of Hispanic/Latino population in the state also lowers sales significantly. On the other hand, contiguity with Canada appears to have no significant effect. The lower sales in states bordering Mexico can be explained by cigarette smuggling from Mexico mainly for the Latino population in the USA.

Cigarette excise increase in January 2011 substantially increased cigarette prices in Mexico, for example, the price of Marlboro pack increased from 30 to 38 pesos. This reduced the incentives for cigarette bootlegging from Mexico and so the decline of cigarette sales in Mexico in 2011 could be partly explained by the reduction of cigarette smuggling out of Mexico to the USA.

Cigarette smuggling into Mexico

Tobacco industry observed a large reduction of cigarette sales in Mexico in early 2011 and decided to respond in its usual way by claiming that such reduction could be only caused by a sharp increase in smuggling into the country after the tax-driven price increase.

Already in July 2011, associations of Mexican merchants established “Alliance against Illicit Products”, which was joined by the tobacco companies Philip Morris Mexico and British American Tobacco with the aim, “to strengthen legal trade and to prevent the growth of illegal product sale in the country”⁹.

Soon the Alliance claimed¹⁰ that the illegal cigarette trade changed from 2 to 10% of the legal product market in just one year (from 2010 to 2011). Based on the industry estimates, we can calculate the number of illicit cigarettes. In 2010, according to the PMI Annual report, legal market was 43.5 billion cigarettes, so the illicit market was: $43.5 \times 2/102 = 0.85$ billion cigarettes. In 2011, it was respectively: $34.3 \times 10/110 = 3.1$ billion cigarettes, so the illicit market increased by 2.25 billion cigarettes, while sales declined by 9.2 billion cigarettes, so only 25% of sales reduction can be explained by illicit trade growth.

⁶ https://help.cbp.gov/app/answers/detail/a_id/53/~travelers-bringing-in-tobacco-products-%28cigarettes%2C-cigars%2C-bidis%29-into-the

⁷ <https://www.tobaccofreekids.org/research/factsheets/pdf/0389.pdf>

⁸ <https://www.mackinac.org/23172>

⁹ <http://ntrzacatecas.com/2011/07/14/integran-alianza-contracomercio-y-productos-ilegales/>

¹⁰ <http://eleconomista.com.mx/industrias/2011/10/10/minoristas-conforman-alianza-frenar-venta-productos-ilegales>

In 2012, the Confederation of Industrial Chambers (Concamin) issued a report, which claimed that Illegal cigarettes smuggled into Mexico account for 16.6% of the market after representing just 2% in 2010¹¹.

British-American Tobacco later used this estimate to claim that the illicit cigar market reaches 17% of the market *“as a result of the high increase in tobacco taxes in 2011”*¹². The director of British American Tobacco stressed in the media interview that *“the perverse incentive for the growth of contraband in Mexico was the increase of taxes”*¹³.

Still, in 2012, the size of illicit cigarettes market was estimated by tobacco industry allies as 17% or 340 million cigarette packs¹⁴. The same number (340 million packs) was used by the Federal Commission for the Protection against Health Risks (Cofepris) in July 2017¹⁵. However, in its Annual report of 2013, BAT claimed that *“illicit trade volume reduced”*. In its Annual reports issued in both 2015 and 2016, Philip Morris both wrote about *“lower prevalence of illicit trade”*. Euromonitor also reports that *“in 2016, cigarettes posted 1% retail volume growth favored by a reduction of illicit trade”*¹⁶.

Tobacco industry organizations tend to overestimate cigarette smuggling into any country (and underestimate or better ignore smuggling out of the country). They also manipulate their own data. For example, a thorough analysis of Euromonitor reports [23] showed that in the 2011 report, the illicit market in Mexico was stated to be increasing slowly from 3.5% in 1997 to 6.1% in 2010. The 2012 report shows the illicit market starting at 9.1% in 1997 (nearly three times the magnitude of the previous estimate) and increasing to 21.8% of the total market in 2011.

But even with such manipulated data on illicit sales, Euromonitor has to admit that consumption of legally traded cigars in Mexico decreased by 35% between 2005 and 2013, and after including the contraband market estimates, total cigarette consumption would have declined by 30%¹⁷.

Independent studies report much lower levels of illicit tobacco trade in Mexico. A longitudinal study of adult smokers from the ITC Mexico Survey [24] measured percentage of smokers who reported having bought contraband brands at their last purchase: n=8 of 1644 (0.5%) in 2008, n=12 of 1572 (0.8%) in 2010, and n=33 of 1505 (2.2 %) in 2011. So while some increase of illicit trade did take place in 2011, the real share of illicit cigarettes was much lower than tobacco industry claimed.

According to a recent report [25], the proportion of illicit packs (defined as those which did not have a Mexican tax stamp at the time of purchase) was only 1.5% in 2013.

Cigarette prices and affordability

Mexican statistics bodies do not report average cigarette prices and consumer price indices. So we used prices for Marlboro, which is the most popular brand. According to GATS-2015 report [1], 52.6% smokers purchased Marlboro or Marlboro Light. According to the PMI Annual report, market share of Marlboro exceeded 50% for several recent years. We used the data on prices for the most popular

¹¹ <http://www.thecre.com/cc/?p=2651>

¹² http://www.batmexico.com.mx/group/sites/BAT_9YAAD9.nsf/vwPagesWebLive/DO9YAEV4?opendocument

¹³ <http://www.excelsior.com.mx/nacional/2013/11/20/929617>

¹⁴ <http://www.excelsior.com.mx/nacional/2013/11/20/929617>

¹⁵ <http://www.alianzacontraproductosilegales.mx/alianza/index.php/tabaco/301-en-mexico-se-venden-340-millones-de-paquetes-de-cigarros-de-contrabando-cada-ano-cofepris>

¹⁶ <http://www.euromonitor.com/cigarettes-in-mexico/report>

¹⁷ <http://eleconomista.com.mx/industrias/2015/05/29/negocio-cigarro-se-consume-mexico>

cigarette brand (Marlboro) for 2008-2016 from the bi-annual WHO Global Tobacco Reports and for 2006—from Saenz-de-Miera et al. [26].

In the current analysis, a modified tobacco affordability index (TAI) [27] is used to estimate the changes in tobacco affordability in 2006–2016. TAI is calculated as the percentage annual change in income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{cigarette price increase} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease.

As income indicator, we used “current average quarterly income per household (pesos, nominal prices)” which is reported in the National Household Income and Expenditure Survey (ENIGH in Spanish) undertaken by the National Institute of Statistics and Geography every second year¹⁸.

Table 5. Cigarette prices and affordability in Mexico.

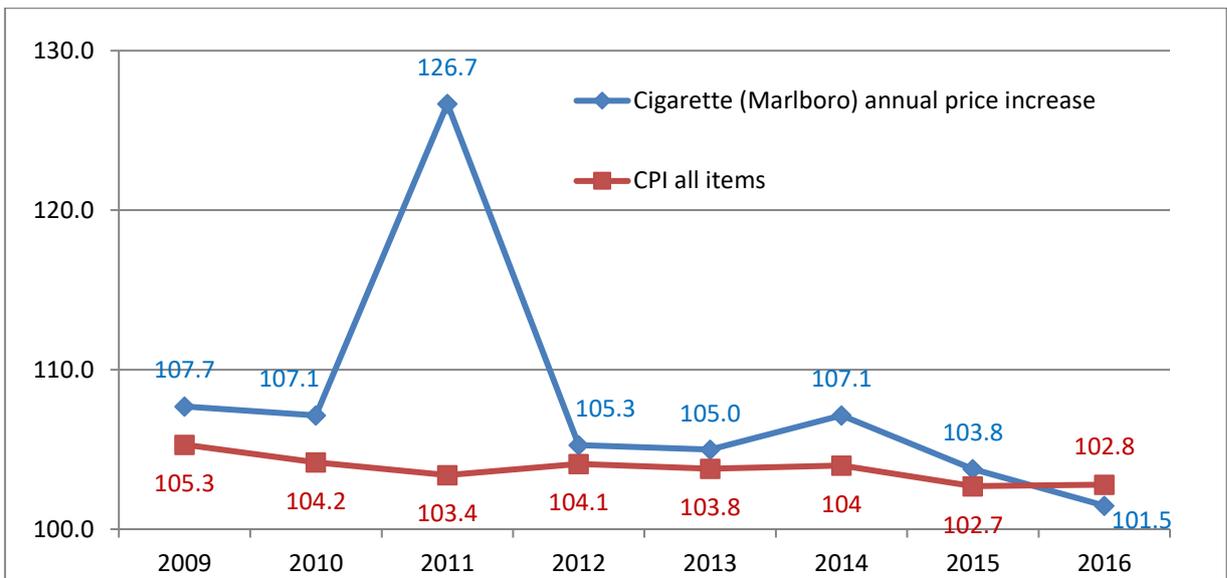
| | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 |
|--|-------|--------------|--------------|--------------|------------|-------------|
| Marlboro price, pesos per pack of 20 cigarettes | 21.3 | 26 | 30 | 40 | 45 | 47.39 |
| Two-year price change (two years ago =100) | | 122.1 | 115.4 | 133.3 | 112.5 | 105.3 |
| Current average quarterly income per household (pesos, nominal prices) | 33861 | 36694 | 34936 | 33746 | 39719 | 46521 |
| Two-year income change (two years ago =100) | | 108.4 | 95.2 | 96.6 | 117.7 | 117.1 |
| Tobacco Affordability Index | | -11.2 | -17.5 | -27.5 | 4.6 | 11.2 |
| Quarterly average monetary expenditure per household on tobacco, (pesos, nominal prices) | | 53 | 55 | 78 | 60 | 56 |

In 2006-2012, cigarette affordability greatly declined in Mexico partly due to the ad valorem excise rate increase from 110% to 160% in 2006-2009 and the introduction of specific tax in 2010, which was substantially increased in 2011. Economic recession, which caused the decline of household income in 2010 and 2012 also contributed to the cigarette affordability reduction over those years. However in 2014 and especially in 2016, cigarettes became more affordable and this could encourage their consumption.

We also used data on inflation (consumer price index - CPI) in Mexico from the World Bank database to compare changes of cigarette price against the inflation (Fig. 3).

Figure 3. Cigarette prices and inflation in Mexico.

¹⁸ <http://www.beta.inegi.org.mx/proyectos/enchogares/regulares/enigh/nc/2016/default.html>



The increase in cigarette price exceeded inflation in all years (except 2016) while the difference was high only in 2011 after the sharp excise increase. Since 2011, cigarette tax rates have not been changed, but the industry continued to increase its prices above the inflation. Pricing policy of the tobacco industry increased their profits on the declining cigarette market, but it also ensured some growth of the governmental revenue, an ad valorem excise and VAT have rather high share in the total cigarette tax.

Comparison of cigarette prices and taxes in Mexico and neighboring countries

The WHO Global Tobacco Report, 2017 has information on cigarette prices and taxes in Mexico and other countries of the WHO Americas Region (AMRO) in 2016 [28] (Table 6).

Table 6. Cigarette prices and taxes in Mexico and some neighboring countries in 2016, WHO report data [28].

| COUNTRY | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of price of the most sold brand | | | | | | % of GDP per capita required to purchase 2000 cigarettes of the most popular brand |
|--------------------------|---|-------------------|------------------------------------|--|-------------------|--------------|---------------------------|-----------|-----------------|--|
| | In reported currency | Currency reported | In US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Total tax | Total tax, US\$ | |
| Belize | 5.00 | BZD | 2.50 | 26.0% | 0.0% | 26.0% | 11.1% | 37.1% | 0.93 | 5.4% |
| Canada | 10.29 | CAD | 7.89 | 57.2% | 0.0% | 57.2% | 9.0% | 66.2% | 5.22 | 1.8% |
| Costa Rica | 1 700 | CRC | 3.09 | 26.6% | 31.2% | 57.9% | 11.5% | 69.4% | 2.14 | 2.7% |
| El Salvador | 2.00 | USD | 2.00 | 22.5% | 18.5% | 41.0% | 11.5% | 52.5% | 1.05 | 4.6% |
| Guatemala | 16.50 | GTQ | 2.18 | 0.0% | 38.3% | 38.3% | 10.7% | 49.0% | 1.07 | 5.2% |
| Honduras | 44.00 | HNL | 1.92 | 19.1% | 0.0% | 19.1% | 15.3% | 34.3% | 0.66 | 7.3% |
| Mexico | 47.39 | MXN | 2.51 | 14.8% | 38.7% | 53.5% | 13.8% | 67.3% | 1.69 | 3.0% |
| Nicaragua | 50.00 | NIO | 1.74 | 22.1% | 0.0% | 22.1% | 13.0% | 35.1% | 0.61 | 8.2% |
| Panama | 4.25 | PAB | 4.25 | 0.0% | 43.5% | 43.5% | 13.0% | 56.5% | 2.40 | 3.1% |
| United States of America | 6.43 | USD | 6.43 | 37.8% | 0.0% | 37.8% | 5.2% | 43.0% | 2.77 | 1.1% |

While Mexico had the second highest (after Costa Rica) total tax share in the cigarette price (67.3%), cigarette prices and taxes (in monetary terms) in Mexico are lower than in Costa Rica, Panama, USA, and Canada. In terms of affordability, cigarettes are more affordable in Mexico than in Belize, El Salvador, Honduras, Guatemala, Panama, and Nicaragua.

Discussion

Tobacco tax increases in Mexico were implemented in 2007-2011: ad valorem excise rate was increased from 110% in 2006 to 160% in 2009 and specific tax was introduced in 2010 and sharply increased in 2011. Such taxation policy gradually reduced tobacco consumption in the country as cigarettes became less affordable. The affordability reduction was reinforced by the economic recession of 2009-2011.

However, tobacco industry managed to promote the perception that the observed decline in cigarette sales in Mexico was only caused by the sharp increase of cigarette smuggling into the country *as a result of the high increase in tobacco taxes in 2011*.

Cigarette smuggling into Mexico was actually greatly overestimated by the tobacco industry, while cigarette smuggling out of Mexico to USA (where cigarettes are much more expensive) was ignored in the tobacco taxation debate in Mexico (though it was promoted by the tobacco industry in the US debates).

Overall, the Mexican tobacco tax reform of 2007-2011 was a great success:

- Tobacco excise annual revenue increased from 16 billion pesos in 2006 to 34 billion pesos in 2012-2015.
- Annual cigarette sales declined from 48 billion cigarettes in 2006 to 34 billion cigarettes in 2012-2015.
- The number of cigarettes smoked daily by smokers declined in 2006-2015.
- The percentage of former smokers in the adult population increased.
- Smoking prevalence among young people declined.

Despite such positive trends, the tobacco tax rates in Mexico have not been changed since 2011. Such taxation policy eventually made cigarettes more affordable and in 2016 cigarette sales (and apparently tobacco consumption) increased. Such taxation policy contradicts to the provision of the FCTC Article 6, which states that each Party should implement tax policies and price policies on tobacco products so as to contribute to the health objectives aimed at reducing tobacco consumption.

Conclusions and recommendations

1. Specific cigarette excise tax in Mexico should be further increased as it occurred to be the most effective tool for the observed reduction of tobacco consumption in Mexico since 2011.
2. The increase of ad valorem rates in 2007-2009 was also effective and the rate could be further increased. The change of the base to calculate ad valorem excise tax should be considered as the tobacco industry can manipulate its ex-factory prices to reduce tax payments.
3. Tobacco excises should be annually increased to ensure tobacco affordability reduction.
4. Some effective anti-forestalling measures should be introduced to ensure that authorities receive extra revenue from tax increases.
5. Tobacco use surveillance and monitoring should be further developed in Mexico, including a regular collection of information on cigarette prices and other economic indicators. Smoking prevalence surveys are recommended to include questions on cigarette packs, which a smoker can show at the time of interview. Such questions were used in the GATS in Ukraine and Poland and they helped to make a more robust estimate of cigarette smuggling into the country.
6. Some collaboration with tobacco control entities in the neighboring US states should be developed to estimate real volumes of cigarette smuggling from Mexico to the USA.
7. Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco control and tobacco taxation in Mozambique

Mozambique is a low-income African country, which signed the WHO Framework Convention on Tobacco Control in 2003, ratified the FCTC on July 14, 2017, and will officially become a Party to the WHO FCTC on October 12, 2017.

Tobacco use

Tobacco use among adolescents

GYTS was conducted in Mozambique in 2002 and 2007 in Maputo City and on selected territories [1] and on a national level in 2013 [2, 3]. Results are shown in Table 1. The prevalence of cigarette smoking was higher among boys than girls. The GYTS results demonstrated some decrease in the prevalence of cigarette smoking among boys and no decrease among girls.

Table 1. Prevalence of tobacco use among adolescents in Mozambique

| | 2002 [1] | 2007 [1] | 2013 [3, 4] |
|-------------------------------|----------------|----------------|-------------|
| Current cigarette smoking (%) | | | |
| Total | 3.1% (2.0–4.7) | 2.7% (1.6–4.7) | 2.3 |
| Boys | 5.0% (2.9–8.5) | 4.5% (2.6–7.9) | 2.1 |
| Girls | 1.4% (0.6–3.3) | 1.2% (0.4–3.5) | 2.3 |

Tobacco use among adults

National household survey, 2003

A representative sample of 12,902 Mozambicans aged 25–64 years participated in a national household survey conducted in 2003 [5]. The prevalence of current tobacco use was 39.9% in men and 18.0% in women. Women consumed predominantly smokeless tobacco (prevalence: 10.1%), especially in the northern part of the country where most of the country's tobacco growing is concentrated. Hand-rolled and manufactured cigarettes were the most frequently consumed among men (prevalence: 18.7% and 17.2%, respectively). Additionally, hand-rolled cigarette consumption predominantly occurred in the northern provinces and rural settings, whereas manufactured cigarette consumption predominated in the south and urban areas.

DHS surveys, 2003 and 2011

Demographics and Health Survey (DHS) conducted in 2003 [6, 7] measured prevalence of tobacco use among people aged 15-49, both men (with 14.1% of men constituting cigarette smokers and 11.9% - other

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.

tobacco smokers) and women (with 1.6% of women constituting cigarette smokers and 5.6% - users of other tobacco). With reported 4.7 cigarettes per day per male smoker and 2.8 per female smoker, if 2005 population data is applied, this makes an estimate of 2.6 bln cigarettes per year.

In 2011 DHS [8, 9], 97% of women aged 15-49 stated that they did not use tobacco in any of the forms, 1% smoked cigarettes and 2% consumed other tobacco products. The percentage of those who smoked cigarettes increased with age from 0.2% among those aged 15-19 to 4.7% among women aged 45-49 and percentage of those who consumed other tobacco products increased from 0.1% to 9.5% respectively.

Among men, 20% were smokers of cigarettes and 13% used other tobacco products. Over 50% of male smokers reported smoking 3-5 cigarettes per day.

Level of tobacco use, especially of other tobacco products than cigarettes, was higher among men and women without education or with lower education, those belonging to lower SES groups and living in rural areas.

Between 2003 and 2011, the level of tobacco use among women decreased. Among women aged 35-49, prevalence of smoking remained on the level of 3.4% to 3.2% while the use of other tobacco products changed from 14.0% to 5.5%. However, among men the prevalence of current cigarette smoking increased from 14% in 2003 to 20% in 2011.

STEPS survey, 2005

STEPS survey on risk factors of non-communicable diseases was conducted in 2005 among 3323 persons aged 25-64 [10]. Daily smoking was reported by 9.1% of women (3.4% of women smoked manufactured cigarettes and 5.6% - hand-rolled) and 33.6% of men (with 18.7% being smokers of manufactured cigarettes and 14.8% of hand-rolled cigarettes). With mean number of cigarettes smoked per day by men smokers equal to 6.7, cigarette consumption in 2005 is estimated as 2.816 bln. cigarettes. If women smokers are assumed to smoke on average one cigarette per day, the estimated consumption is 2.908 bln. cigarettes. Daily manufactured cigarette smoking was significantly more frequent in urban men (14.6%) than rural men (4.3%). Daily hand-rolled cigarette smoking was three- to four-fold more frequent among men and nearly 80% less frequent in urban areas, regardless of sex. The prevalence of daily smokeless tobacco use was 7.4% in women (chew, 6.4%; snuff, 1.0%) and 3.4% in men (chew, 1.6%; snuff, 1.8%) [11].

Global health professions students survey (GHPSS), 2009

Among medical students in 2009 [12], 3.4% of males and 6.8% of females were current smokers.

According to published international estimates [13], age-standardized smoking prevalence in Mozambique almost did not change in 1996-2012 (Table 2) and in 2012 it was 22.3% among men and 4.2% among women.

Table 2. Estimates of smoking prevalence and cigarette consumption in Mozambique [13]

| | 1980 | 1996 | 2006 | 2012 |
|-------------------------------|-------|-------|---------|---------|
| Smoking prevalence (%) Male | 23.3 | 22.7 | 23.2 | 22.3 |
| Smoking prevalence (%) Female | 4.1 | 4.2 | 4.4 | 4.2 |
| Smoking prevalence (%) Both | 13.2 | 12.6 | 13.0 | 12.6 |
| # Smokers (thousands), Male | 711.4 | 884.3 | 1,156.2 | 1,274.0 |

| | | | | |
|---|---------|---------|---------|---------|
| # Smokers (thousands), Female | 125.9 | 172.4 | 224.3 | 241.3 |
| # Smokers (thousands), Both | 837.3 | 1,056.7 | 1,380.4 | 1,515.2 |
| Total cigarette consumption (millions) | 1,328.4 | 1,340.3 | 2,206.9 | 2,971.3 |
| Mean Annual cigarettes consumption Per Capita | 195 | 145 | 186 | 216 |
| Mean Daily cigarette consumption Per Smoker | 4.3 | 3.5 | 4.4 | 5.4 |

The estimated annual cigarette consumption increased more than 2-fold in 1996-2012, mainly due to the population growth. In 2012, the estimated consumption was about 3 billion cigarettes. Estimated mean daily cigarette consumption per smoker in 1996-2012 is rather low and in 2012 it was 5.4 cigarettes per smoker.

Tobacco production and sales

According to the UN database, annual cigarette turnover (= production + import – export) in Mozambique in 2006-2010 was about 2.5 billion cigarettes, then it substantially increased to more than 3.7 billion cigarettes in 2012-2013 and then declined to 3.4 billion cigarettes in 2014.

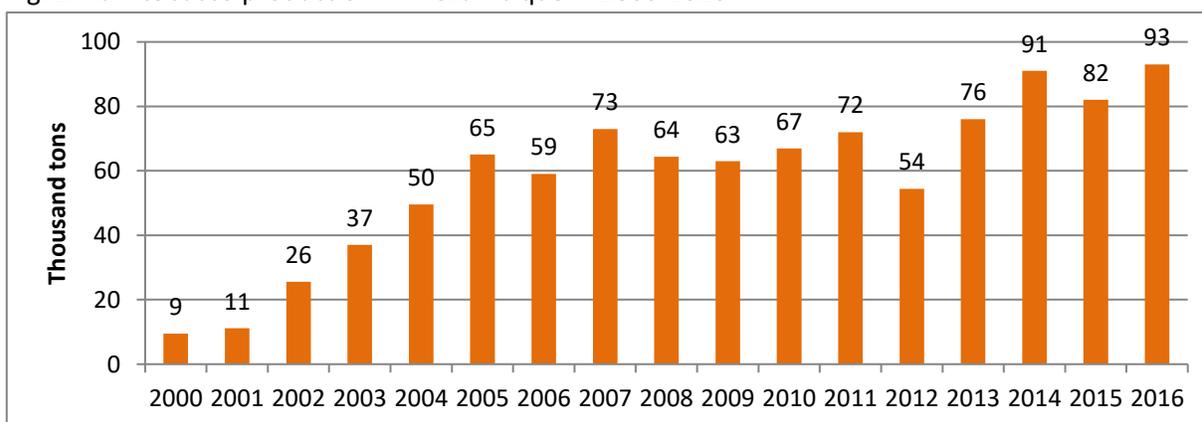
Table 3. Cigarette production, import, export and turnover in Mozambique

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|------------|------|------|------|------|------|------|------|------|------|------|
| Production | 2179 | 2312 | 2725 | 2316 | 2700 | 3145 | 3296 | 2326 | 2557 | |
| Import | 127 | 159 | 120 | 70 | 92 | 107 | 467 | 1386 | 822 | 940 |
| Export | | 49 | 138 | 97 | 154 | 213 | | 1 | | 14 |
| Turnover | 2306 | 2422 | 2707 | 2289 | 2638 | 3039 | 3763 | 3711 | 3379 | |

<http://data.un.org/Search.aspx?q=cigarettes>

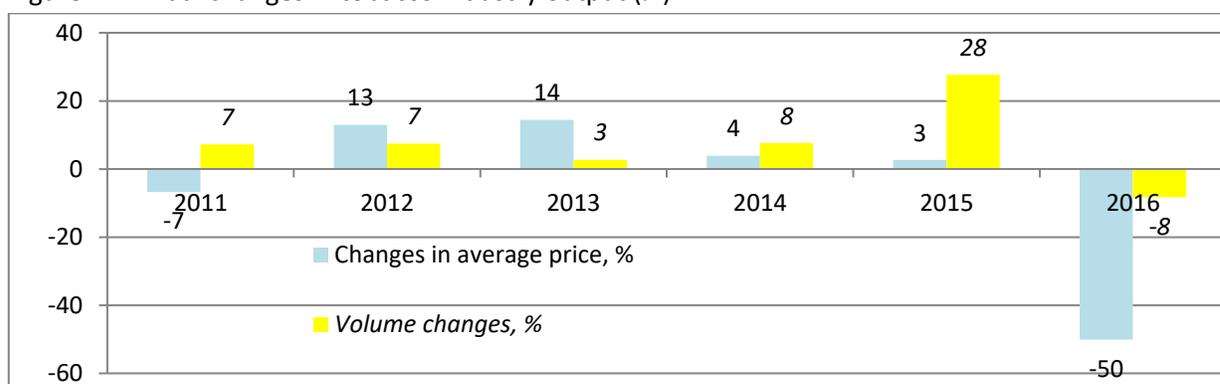
According to the FAO statistics [14] and the National Statistics Institute Annual reports [15], raw tobacco production in Mozambique increased from 9 thousand tons in 2000 to 65 thousand tons in 2005, and then to 91 thousand tons in 2014 (Fig. 1). In 2014-2016, annual raw tobacco production was about 90 thousand tons.

Fig. 1. Raw tobacco production in Mozambique in 2000-2016.



The National Statistics Institute annual reports [15] also provide information on tobacco industry trends in the country (Fig. 2).

Figure 2. Annual changes in tobacco industry output (%).



Source: Statistical Yearbooks of the National Statistics Institute.

In 2011-2015, the volume of tobacco industry production increased every year, but in 2016 it declined by 8%. In total, the volume increased by 49% over 2011-2016. Average price of tobacco industry production increased in 2012-2015, but in 2016 it suddenly decreased by 50%.

Tobacco taxation

In 2009, the Excise Tax Code was adopted [16] and it introduced specific tax rates for cigarettes and ad valorem (75%) and specific rates for cigars, cigarillos and other tobacco (effective since 2010). In 2013, the excise rates were changed [17] with subsequent annual increases in 2014 and 2015 (Table 4).

Table 4. Specific excise rates for cigarettes and other tobacco products (in MZN per 1000 sticks)

| | 2010 | 2013 | 2014 | 2015 |
|---|------|------|------|------|
| Cigars and cigarillos | 300 | 400 | 428 | 458 |
| Cigarettes in soft packs (20 cigarettes) with retail price below 50 MZN (41 MZN* in 2010) | 120 | 190 | 245 | 295 |
| Cigarettes in soft packs (20 cigarettes) with retail price equal or above 50 MZN (41 MZN in 2010) | 260 | 350 | 357 | 400 |
| Cigarettes in hard packs | 300 | 390 | 445 | 487 |
| Other tobacco (per kg) | 300 | 400 | 428 | 458 |

*MZN - Mozambican metical (plural: meticais), currency used in Mozambique

Over 2010-2015, specific excise rate for the cheapest cigarettes increased more than 2-fold and for cigarettes in hard packs – by 60%.

According to the WHO Global Tobacco Report, 2017 [4, 18] tobacco excise revenue increased from 3.2 billion MZN in 2012 to 3.75 billion MZN in 2015.

Tobacco prices

According to the WHO Global Tobacco Report, 2017 [4, 18] price of the most popular (and the cheapest) cigarette brand (Safari) substantially increased over the recent years: 15 MZN in 2008; 20 MZN in 2010; 25 MZN in 2012; 30 MZN in 2014; 35 MZN in 2016.

According to some international sites,^{2 3 4} in 2017, price of international cigarettes brands (20 cigarettes pack) in Maputo ranged 80-150 MZN (100 MZN on average).

According to the National Statistics Institute data⁵ consumer price indices substantially increased in 2013-2016 (Table 5).

Table 5. Consumer price index (CPI) in December each year (December previous year = 100)

| | 2013 | 2014 | 2015 | 2016 |
|---|-------|-------|-------|-------|
| CPI total | 103,5 | 101,9 | 110,6 | 125,3 |
| CPI tobacco | 118,0 | 104,2 | 109,1 | 138,0 |
| GDP annual growth (in constant local currency per capita) | 104,1 | 104,4 | 103,6 | 100,9 |

Data source: CPI - National Statistics Institute; GDP - World Bank database <http://data.worldbank.org>

In 2013-2016 combined, tobacco prices in Mozambique increased by 85% or by 27% in inflation-adjusted terms. Over those years, inflation-adjusted GDP per capita increased by 14% and so we can assume that cigarettes became less affordable, probably due to the excise tax increase in those years.

² <https://www.expatistan.com/price/cigarettes/maputo>

³ <https://www.numbeo.com/cost-of-living/in/Maputo>

⁴ <http://www.combien-coute.net/cigarette/mozambique/>

⁵ <http://www.ine.gov.mz/estatisticas/estatisticas-economicas/indice-de-preco-no-consumidor/quadros/nacional>

Comparison of cigarette prices and taxes in Mozambique and neighboring countries

The WHO Global Tobacco Report, 2017 [4] has information on cigarette prices and taxes in Mozambique and neighboring countries in 2016 (Table 6).

Table 6. Cigarette prices and taxes in Mozambique and neighboring countries

| | 20-cigarette pack of the most sold brand, 2016 | | | | | Prices in 2016, USD | | Current specific excise rates (per pack of 20 cigarettes) | |
|-------------------|--|---------------|--------------------|------------------------------|--|---------------------|------------------|--|--|
| | Price, Local currency | Price, USD | Excise share, % | Total taxes as % of price | % of GDP per capita required to purchase 100 packs | Cheapest brand | Premium brand | Local currency | USD |
| Mozambique | 35 | 0,51 | 16,86 | 31,39 | 14,6 | 0,51 | 0,87 | 5,9 8,0 9,74 | 0.1 0.13 0.16 |
| Malawi (in 2014) | 800 | 2,01 | 14,53 | 20,68 | 54,8 | 1,00 | 3,01 | | 0,30 ⁶ |
| South Africa | 33 | 2,33 | 40,12 | 52,40 | 4,3 | 1,27 | 2,61 | 14,3 | 1,10 ⁷ |
| Swaziland | 36 | 2,54 | 36,78 | 49,06 | 7,3 | na | 2,69 | | 1,10 |
| Tanzania | 3000 | 1,38 | 18,68 | 33,94 | 14,2 | na | 3,02 | 237 560 1004 | 0.1 0.25 0.45 ⁸ |
| Zambia | 17 | 1,66 | 23,53 | 37,32 | 12,9 | 0,58 | 2,63 | 4,8 | 0,54 ⁹ |
| Zimbabwe | na | 1,75 | 22,86 | 35,90 | 17,9 | 1,00 | 2,30 | | 0,40 ¹⁰ |

⁶ <http://www.mra.mw/press-releases/amendments-to-customs-excise-tariffs-order>

⁷ <http://www.sars.gov.za/AllDocs/LegalDoclib/SCEA1964/LAPD-LPrim-Tariff-2012-05%20-%20Schedule%20No%201%20Part%202A.pdf>

⁸ <http://taxsummaries.pwc.com/ID/Tanzania-Corporate-Other-taxes>

⁹ <http://say-zambia.org/wp-content/uploads/2016/11/2017-BUDGET-HIGHLIGHTS.pdf>

¹⁰

https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0ahUKEwjMKOck5rVAhVMEJoKHcHdB78QFggoMAE&url=http%3A%2F%2Fwww.zi.mra.co.zw%2Findex.php%3Foption%3Dcom_phocadownload%26view%3Dcategory%26id%3D25%3Astatutory-instruments%26download%3D561%3Astatutory-instrument-169-customs-and-excise-tariff-amendment-notice-2014-no.-14%26Itemid%3D1&usg=AFQjCNHBBDrO08yuMT_5dB_T_Eh7T_yrQA

In 2016, cigarette prices in Mozambique were 3-4 times lower than in all neighboring countries. Specific excise rates were also lower. Only Tanzania also had multi-tiered specific taxes, while other countries had uniform specific excise rates.

The WHO Tobacco Free Initiative compared cigarette affordability in 2016 in different countries by such indicator as % of GDP per capita required to purchase 100 packs of the most sold brand (the higher the %, the less affordable cigarettes are). In Mozambique, cigarettes were less affordable than in other neighboring countries except Malawi and Zimbabwe.

Tobacco smuggling

In accordance with article 6 of Decree no. 69/2009, of 11 December 2013, use of tax stamps in Mozambique was made compulsory¹¹. As seen from the interviews with tobacco industry representatives¹², the situation at the tobacco market (and alcohol as well) was presented as that suffering from contraband goods appearing at the market. It was probably suggested that the tobacco excise revenue is not as high as expected because of illicit cigarette sales. In an attempt to reduce contraband, in 2017 the Mozambican Tax Authority (AT) has banned the production, import and sale of tobacco products that do not carry an official fiscal stamp¹³. The deadline for placing the fiscal stamps on tobacco products was July 1, 2017. The companies that produce or import tobacco have to purchase the fiscal stamps. The stamps for locally produced cigarettes cost 7.5 euros (about 8.6 US dollars) per 1,000 stamps. For imported cigarettes, the cost is much higher – 17.22 euros per thousand. The price of the stamps is fixed in euros, rather than in the Mozambican currency, meticais, because they are produced in the UK. That decision was taken in order to ensure security features on the stamps to avoid forgery. Any products found without the fiscal stamps after the deadline were to be seized¹⁴. In early July 2017, the Mozambican Customs inspected local markets and seized 5,431 packs of cigarettes of various brands, which did not have excise stamps.

However, the presence of illicit cigarettes on local markets does not mean that cigarette excise taxes in the country are too high, because the contraband cigarettes can be more expensive than licit cigarettes. Recent report [19] compared prices for licit and illicit cigarettes in 14 middle- and low-income countries and in several countries including Bangladesh, India, Pakistan, Philippines, Thailand, and Vietnam, illicit cigarettes tend to be more expensive than legal cigarettes in retail settings.

In 2012, tobacco industry estimated the size of illicit cigarettes trade in Mozambique as only 1% to 2% of total consumption [20], while in most other countries of South African region it was estimated at the level of 10-23%. Such situation is not surprising, because all neighboring countries have cigarette prices and taxes much higher than Mozambique (see Table 6) so there is no sense for cigarette bootlegging into Mozambique, while purchasing cigarettes in Mozambique to sell them illegally in other country could be quite profitable. Numerous cases of cigarette smuggling out of Mozambique were registered in South

¹¹ <http://www.opsecsecuritymozambique.com/tax-solution.html>

¹² <https://furtherafrica.com/2017/03/21/mozambique-control-stamps-obligatory-for-tobacco/>

¹³ <https://furtherafrica.com/2017/03/21/mozambique-control-stamps-obligatory-for-tobacco/>

¹⁴ <http://clubofmozambique.com/news/watch-cigarettes-without-fiscal-stamp-will-be-seized-tax-authority-of-mozambique/>

Africa¹⁵ 16 and Swaziland¹⁷ 18. Mozambique is also a transit route for illicit cigarettes from Zimbabwe and from the Middle East [20]. Cigarettes were seized when they were smuggled from Zimbabwe to South Africa via Mozambique [21, 22]. In 2002, the tobacco corporation Gallaher imported cigarettes from the UK to Mozambique, but later those cigarettes were found in Romania¹⁹.

Tobacco control policies

Mozambique has specific national government objectives in tobacco control [18], which were expressed in the Regulation of Consumption and Marketing of Tobacco adopted in 2007 [23]. The National Strategic Plan for the prevention and control of NCDs [24] is also to contribute to these goals.

With regard to protection of the population against the secondhand smoke exposure, in the regulation adopted in 2007 [23], it was stated that the consumption of tobacco in public places and collective environments is prohibited, and the proprietors of all public spaces must define smoking and non-smoking areas. It became illegal to smoke in any public place, including all state institutions, restaurants, schools, libraries, hospitals, airports, train stations and all forms of public transport. However, as the media emphasized [25], in most of these places, smoking had already been frowned upon, if not completely banned, long before these regulations were published. The mentioned regulation introduced a long list of indoor areas where smoking is prohibited, while Article 5 of this same regulation specified an even longer list of premises where smoking is allowed including establishments for smokers; bars, discotheques, restaurants and other public spaces where the main activity is the sale of alcoholic drinks; night clubs, casinos and other spaces where the main activity is the provision of entertainment; hotels, pensions, lodgings, guest houses and other spaces where the accommodation is offered by way of rent; boats, ferries, trains, airports, ports and railways stations, bus stations, workplaces. With regard to this list of places, it was specified that the area for smokers must not exceed 25% of the total area of the public space [23]. As a result, in the Mozambique country profile of the 2017 WHO report on the global tobacco epidemic [18], it is specified that only governmental facilities are currently smoke-free and that national law requires fines for smoking which are levied on smokers.

Regarding smoking cessation help, it is provided just in some health facilities, no first-line stop smoking medicines are available in the country and no health insurance coverage is applicable to smoking cessation [18].

Warning about the dangers of tobacco use is not widely developed. The 2007 regulation [23] contained Article 7 "Misleading Advertising and Contents of packaging and packets for Tobacco products" which specified that each unit of packaging or packet containing tobacco products must contain advertising describing the harmful effects of tobacco consumption. Health warnings on packaging units and tobacco product packets must be ample, clear, visible and legible; take up to 30% or more of the front part of the packaging and 25% of the back part; and must be written in Portuguese. Each packaging unit must contain

¹⁵ <http://bulawayo24.com/index-id-news-sc-africa-byo-72730.html>

¹⁶ <http://www.ann7.com/illicit-cigarettes-cost-sa-r4bn/>

¹⁷ <http://www.times.co.sz/News/81942.html>

¹⁸ <http://www.observer.org.sz/news/86591-two-moza-men-nabbed-smuggling-cigarettes-into-swaziland.html>

¹⁹ http://www.tobaccotactics.org/index.php?title=Ocean_Traders

information on the components and relevant emissions of the tobacco products, as defined by the competent national authorities.

With regard to the bans on tobacco advertising, promotion, and sponsorship, the 2007 anti-smoking regulations aimed to effectively outlaw all advertising of cigarettes and other tobacco products. All the public media were banned from advertising tobacco products - which formalized what was already the standard practice on Radio Mozambique and Mozambique Television (TVM) [26].

Discussion

Tobacco excise rates were substantially increased in Mozambique in 2013-2015 and it was one of the factors of the substantial tobacco price increase, which reduced tobacco affordability and probably reduced tobacco consumption and sales in the country. Tobacco excise revenue also increased in 2012-2015.

However, all neighboring countries have cigarette prices and taxes much higher than Mozambique. In such situation, cigarette smuggling out of Mozambique is rather common, while cigarette smuggling into Mozambique is very unlikely; even in the report commissioned by the tobacco industry, percentage of contraband cigarettes at the Mozambican market was estimated as 1-2% of total consumption.

Recent tobacco excise increases in Mozambique could reduce incentives for cigarette smuggling out of the country, while it also could reduce taxable cigarette sales in Mozambique. Paradoxically, after taxes are increased, and numbers of cigarettes purchased for smuggling out of the country falls down, government can receive more revenue even from the remainder of smuggled cigarettes, if the percentage increase of excise rates is higher, than the percentage reduction of taxable cigarettes smuggled out of Mozambique. Anyway, overall cigarette consumption in the region will decline if cigarette prices in Mozambique become closer to prices in the neighboring countries.

While cigarette price difference between countries can be an incentive for smuggling, tobacco industry never proposes to increase tax rates in a country with low taxes to reduce such difference. The industry deliberately overestimates tobacco smuggling into countries, but usually does not even mention smuggling out of countries, while both kinds of smuggling can only exist in combination. Tobacco industry tries to influence tobacco taxation policy in Mozambique and other countries, using some institutions, which pretend to be independent. For example, representatives of the International Tax and Investment Center (ITIC) took part in the 7th Africa Tax Dialogue in Maputo, Mozambique 17-19 November 2015²⁰. ITIC has a longstanding history of facilitating the tobacco industry's access to government officials²¹.

Mozambique has already ratified the Framework Convention on Tobacco Control. The Guidelines for implementation of Article 6 of the WHO FCTC [27] clearly state: *The development, implementation and enforcement of tobacco tax and price policies as part of public health policies should be protected from commercial and other vested interests of the tobacco industry, including tactics of using the issue of smuggling in hindering implementation of tax and price policies, as required under Article 5.3 of the WHO FCTC.*

²⁰ http://www.tobaccotactics.org/index.php?title=International_Tax_and_Investment_Center#cite_note-ITICMay-45

²¹ http://www.tobaccotactics.org/index.php?title=International_Tax_and_Investment_Center_-_A_History_of_Tobacco_Industry_Facilitation

It is also worth mentioning that Mozambique is characterized by a pattern of tobacco use where manufactured cigarettes constitute only a part of tobacco consumption. As a population of a tobacco-growing country, Mozambican men in rural areas more likely use hand-rolled cigarettes and rural women use tobacco in a smokeless form. Thus, excise measures are expected to have an impact on tobacco consumption of the urban population where users of manufactured cigarettes are more prevalent. Use of locally grown tobacco by rural population needs to be addressed with other policies including targeted education campaigns.

Conclusions and recommendations

Tobacco excise increases implemented in Mozambique in 2013-2015 reduced tobacco affordability in the country and could contribute to the tobacco consumption reduction. However, cigarette prices and excise tax rates are still much lower in Mozambique than in all neighboring countries and should be further increased.

As a first step, cigarette specific excise rates should be unified for all kinds of cigarettes at the level currently used for hard pack cigarettes. Then the unified rate should be annually increased to make tobacco products less affordable over time in order to reduce consumption and prevalence in line with FCTC provisions.

The issue of cigarette smuggling should not be used in hindering implementation of tax and price policies. Increase of cigarette taxes and prices in Mozambique would reduce cigarette smuggling out of the country and it would reduce tobacco consumption in the neighboring countries.

Tobacco control monitoring, including economic information of tobacco products sales, prices and other indices, should be much improved in the country to support more precise forecasts of the outcomes of the current and future tobacco control activities.

To address the use of locally-produced non-manufactured tobacco, it is necessary to launch specific awareness campaigns which take into account both the peculiarities of rural life in Mozambique and patterns of tobacco use in various age and gender groups.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Myanmar

Tobacco control legislation

Myanmar ratified the WHO Framework Convention on Tobacco Control on April 21, 2004, and it entered into force on February 27, 2005. Myanmar signed the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products in 2013 but did not ratify it yet.

The Control of Smoking and Consumption of Tobacco Product Law was enacted in 2006, repealing the Law of the Prohibition of Smoking at the Entertainment Building Act, 1959. The Ministry of Health issued two notifications specifying requirements of smoke-free places. These notifications are as follows: (1) Ministry of Health Notification No. 5/2014, Order Stipulating the Caption, Sign and Marks Referring to the “No-Smoking Area”; and (2) Ministry of Health Notification No. 6/2014, Order Stipulating the Requirements to be managed at the Specific Area where Smoking is allowed. In addition, the President’s Office issued a letter with instructions on tobacco use in government offices. Ministry of Health Proclamation No. 11/2016, Order of Printing Warning Messages and Texts on the Packaging of Tobacco Products prescribes the requirements of the graphic health warnings that must appear on product packaging [1].

However, the tobacco control and prevention policies in Myanmar have recently been subjected to critique. They are assessed to be insufficiently developed and "in their nascent stage" [2]. Myanmar is also considered to be vulnerable to tobacco industry interference [3]. Encouraging foreign investments including those from tobacco industry opens the country to the tobacco industry interference despite tobacco control efforts from the Ministry of Health and Sport. Myanmar does not have an overall policy to implement the FCTC Article 5.3.

Smoke-free places

Smoking is prohibited in most indoor public places, indoor workplaces, and on public transportation. Smoking is allowed, however, in private rooms and offices in office buildings, factories, places of lodging, public transportation terminals, trains and vessels, and restaurants. In places where smoking is allowed in private rooms and offices, smoking is also permitted in designated smoking areas, but these areas must be outside and at least ten meters away from the building entrance [1].

Tobacco advertising, promotion, and sponsorship

Most forms of tobacco advertising and promotion are prohibited, especially through the mass media and other means of wide distribution, including outdoor advertising. There are some restrictions on tobacco sponsorship and the publicity of such sponsorship [1].

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

Although Myanmar has a comprehensive ban on tobacco advertising promotion and sponsorship, in October 2016, JTI ran a half page colored advertisement of its prominent brands in a local newspaper supposedly meant to be a “public notice” to inform its customers about new pictorial health warnings on cigarette packets. JTI claimed it had approached the Department of Health and obtained permission to publish the “public notice” that the announcement as it appeared in the newspaper “was formally approved by the Deputy Director General of the Public Health Department.” However, a Senior Public Official from the Department of Health refuted the department giving permission, calling JTI “liars” and referring to the “public notice” as opportunistic advertising. When a journalist attempted to get a copy of the written permission from JTI, it did not respond to the journalist’s request. Clearly, JTI had used this opportunity to do some advertising and had taken advantage of the department’s lack of experience [3].

Tobacco packaging and labeling

Rotating health warnings comprised of text and images are required to cover at least 75 percent of the main surfaces of the unit and outside packaging and labeling. Misleading terms such as “light” and “low” are prohibited on tobacco product packaging [1].

The Order of Printing Warning Images and Texts on the Packaging of Tobacco Products contains 10 images with corresponding text messages. Each health warning is to appear on packaging for 12 months before rotating to the next health warning in the series. Of the 75%, the image is to occupy 50% and the text message is to occupy 25%. On the top of cigarette packages, the message "Smoking can severely harm your health" must be printed. On the left side of the package, the message "Cigarettes contain Nitrosamine, Benzopyrene, and others which are the compounds that can cause cancer. Stop smoking." On the right side of the package, the message "Nicotine, tar, and carbon monoxide contained in cigarettes can cause heart and lung failure. Stop smoking." must be printed. Cigar and cheroot packages must display the warning "Smoking can cause you cancer. Stop smoking" on the sides (if square) or opposite surfaces (if cylindrical)².

In February 2016, Myanmar approved legislation for pictorial health warnings (PHW) on cigarette packs to come into effect September 1, 2016. In March, JTI Myanmar, along with BAT, met with the Myanmar Investment Commission about delaying the PHW [3]. The deadline for cigarette companies to put gruesome images alongside health warnings on their products has been extended by six months after the tobacco industry complained it would be too difficult to recall packs without the new warnings in time. The new law still applied to products manufactured after September 1st, 2016 – only unsold packs manufactured before that date were subject to the six-month extension. Anyone involved in the sale of a tobacco product without a warning after the amnesty period ends is subject to a fine of between K10,000 and K30,000 for the first offense, and up to a year in prison and a K100,000 fine for subsequent offenses³.

In 2015 [4], tobacco control policies in Myanmar were assessed at 22 out of 37 points. In 2018, Myanmar received the lowest tobacco control score (43 out of 100) among the 10 ASEAN countries [5].

Health care costs of tobacco use

The cost of smoking in Myanmar for 1999 was estimated at between USD19.6 million (123 million Myanmar kyats [MMK]) and USD24.8 million (MMK 156 million), which was 0.2–0.3% of GDP.

² <https://www.tobaccocontrolaws.org/legislation/country/myanmar/pl-health-warnings>

³ <https://www.mmbiztoday.com/articles/tobacco-companies-get-extra-time-put-graphic-health-warnings-their-products>

Outpatient costs included nonmalignant respiratory illness and hypertension treatment, totaling USD11.3 million (MMK 71 million). Inpatient care accounted for USD13.5 million (MMK 85 million), or between 55% and 70% of the total cost. The distribution of inpatient costs by disease category was tuberculosis, 53.4%; ischemic heart disease, 14%; stroke, 8%; hypertension, 6.7%; head and neck cancer, 5.7%; lung cancer, 4.9%; other nonmalignant respiratory disease, 4.5%; and COPD, 2.8% [6, 7].

Tobacco use among adults

Smoking tobacco use

Besides cigarettes, cheroots [8, 9] which are cigars with both ends open is a form of tobacco use widespread in Myanmar.

According to World Health Survey conducted in Myanmar in 2003 among people aged 18 years and older, among men, 35.6% were daily and 48.9% current smokers; among women, 10.4% and 13.7% respectively [10, 11].

Tobacco use was addressed in STEPS surveys conducted in Myanmar in 2004 [12-14], 2009 [15] and 2014 [16, 17].

Table 1. Smoked tobacco use in Myanmar, %, STEPS surveys

| | | 2004 | | | 2009 | 2014 |
|--|--------|------|-------|-------|------|------|
| | | | Urban | Rural | | |
| Current tobacco smoking | Male | | 40.24 | 45.62 | 44.8 | 43.8 |
| | Female | | 10.00 | 19.25 | 7.8 | 8.4 |
| | Total | | | | 22.0 | 26.1 |
| Daily tobacco smoking | Male | 38.3 | 34.83 | 38.23 | 33.6 | 34.0 |
| | Female | 13.1 | 8.73 | 16.46 | 6.1 | 7.4 |
| | Total | 24.4 | | | 16.7 | 20.7 |
| Percentage smoking manufactured cigarettes among current tobacco smokers | Male | 34.3 | 58.0 | 12.15 | 27.4 | 33.4 |
| | Female | 10.6 | 25.2 | 12.38 | 1.4 | 3.5 |
| | Total | 27.3 | | | 21.5 | 28.1 |

The disaggregation of data collected in 2004 shows that the prevalence of smoking is higher among the rural population. However, the share of those who smoke manufactured cigarettes is higher among the urban dwellers.

According to the available STEPS reports, the prevalence of current smoking among women increases with age. The proportion of daily smokers among current smokers clearly increases with age, both among men and women. Among men, the prevalence of current smoking was higher among those aged 25-34 years (47.5%) and 45-54 (49.5%). The peaks in younger groups probably reflect the spread of manufactured cigarettes.

Manufactured cigarettes are used by about 1/5 to 1/4 of smokers. Cheroots (cigars) are used by most smokers.

A decrease was noticed in smoking among men in all age groups except 35-44 years while among women a decrease was noticed in age groups 25-44 and 35-44 years, nevertheless there was no reduction in overall smoking and rather an increase was noticed in all age groups [2].

Subnational studies have indicated a decrease in smoking and an increase in smokeless tobacco use prevalence among adults during 2001-2007 [2].

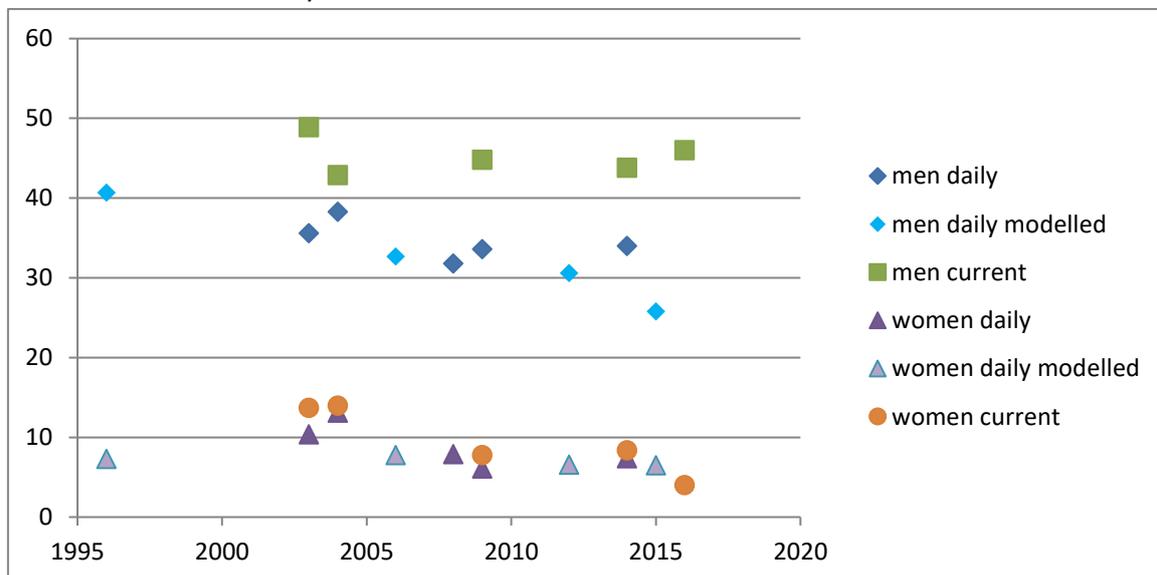
In 2009 publication [18], the prevalence of daily smoking cigarettes was reported to be 31.8% among men and 7.9% among women.

According to published international estimates [19], the age-standardized adult smoking prevalence in Myanmar decreased from 24% in 1980 to 18% in 2012. In 2012, the prevalence was 30.6% among men and 6.6% among women.

In 2015, age-standardized prevalence of daily smoking in Myanmar was reported to be 25.8% (23.5-28.4) among men and 6.5% (5.0-8.4) among women. The annualized rate of change in 2005-2015 was -1.3 among men and -2.7 among women [20].

In the Demographic and Health Survey [21] conducted in Myanmar in 2015-2016, 2% of women and 32% of men were found to smoke cigarettes, while 2% of women and 14% of men smoked pipes or cheroots, and 18% of women and 59% of men chew betel quid. Smoking of cigarettes and pipes or cheroots and chewing of betel quid is more prevalence among the women of older age groups. Among men, cigarette smoking is most prevalent (37% to 38%) in younger age groups (age 20-29) while smoking of pipes or cheroots is mostly found (21% to 22%) in older age groups (age 40-49). Smoking does not vary among women by maternity status, and betel quid chewing also remains as high among pregnant women and breastfeeding mothers as among other women (18-22%). Tobacco use is slightly more prevalent among rural women than among urban women (5% versus 1%). Men in urban areas are more likely to smoke cigarettes (35%) than men in rural areas (30%), whereas rural men are more likely to smoke pipes or cheroots (16%) and use other tobacco products (3%) than urban men (11% and 1%, respectively).

Figure 1. Prevalence of smoked tobacco use among the adult population of Myanmar according to the results of available surveys



As seen from the graph, the prevalence of smoking was rather stable in recent years. Among men, a slight decrease in daily smoking is seen while the level of current smoking did not change. Notably, the level of modeled age-standardized daily smoking among men decreases faster than the level of measured prevalence. Among women, the decrease is more obvious in current than in daily smoking.

Tobacco use among youth

The Global Youth Tobacco Survey (GYTS) was conducted in Myanmar at the national level in 2001 [22-24], 2004 [10], 2007 [8], 2011 [6, 24, 25] and 2016 [16, 26].

Table 2. Prevalence of tobacco-related behaviors among adolescents aged 13-15 years in Myanmar, %, GYTS

| | 2001 | 2004 | 2007 | 2011 | 2016 |
|---|-------------|------|-------------|-------------|-------------|
| Currently used any tobacco product (at least once during the last 30 days) | 20.5 | | 15.3 | 18.6 | 13.6 |
| <i>boys</i> | 37.3 | 21.8 | 22.5 | 30.0 | 26.3 |
| <i>girls</i> | 4.7 | 5.8 | 8.2 | 6.8 | 3.7 |
| Currently smoked cigarettes (at least once during the last 30 days) | 10.2 | | 4.9 | 6.8 | 8.3 |
| <i>boys</i> | 19.0 | 11.4 | 8.5 | 13.0 | 17.0 |
| <i>girls</i> | 3.2 | 3.1 | 1.3 | 0.5 | 1.5 |

Between 2011 and 2016, the prevalence of current smoking of ANY tobacco products decreased, while current cigarette smoking increased. Probably cigarette smoking and smoking of other tobacco products (mainly cheroots) have opposite trends among adolescents in Myanmar.

The Global School-based Health Survey (GSHS) was conducted in Myanmar in 2007 [27]. The prevalence of current smoking (defined as smoking cigarettes on one or more days in the past 30 days) was 3.4% ± 1.2% among boys and 0.6% ± 0.6% among girls.

The survey of university students [28] found that 2.4 (1.0, 5.6) reported current use of any tobacco product.

Tobacco use among health professionals

The study among 400 medical students (186 males) from a medical university, Yangon, and 410 community youths (244 males) 15 to 24 years of age revealed that among medical students, 12.8% smoked compared to 28.8% among community youth. Among male respondents, the smoking rate was significantly higher among community youths (46.7%) than among medical students (26.9%) [29].

Global health professions student surveys (GHPSS) were conducted in Myanmar in 2006 and 2009. Between the two surveys, the prevalence of "other tobacco products use" increased among males from 19.8 (18.6–21.0) to 22.5 (21.0–24.1) and decreased among females from 2.7 (2.3–3.2) to 0.7 (0.4–1.2) as well as "Current use of any tobacco products" among females from 3.3 (2.9–3.9) to 1.8 (1.3–2.4). The prevalence of current cigarette smoking has not changed significantly and in 2009, constituted 23.6 (22.0–25.2) among males and 1.1 (0.7–1.6) among females [30, 31].

Smokeless tobacco use

The use of smokeless tobacco is deeply rooted in Myanmar culture in both rural and urban areas [32, 33], and there is also a widespread belief that it is not as dangerous as smoking.

The prevalence of smokeless tobacco use among men in Myanmar is the highest among ASEAN countries [34] as well as across the globe [35].

A variety of smokeless tobacco products used together with betel chewing poses a challenge. Betel quid chewing usually starts at younger ages. Sale, marketing, and advertising of smokeless tobacco are not under control and thus, road-side kiosks selling betel quid with smokeless tobacco have become rather widespread. A considerable trade of smokeless tobacco products by illegal and legal means created an increase in access and availability. Low cost of smokeless tobacco encourages the use, even for the poor families [32]. As concluded in 2012 [33], smokeless tobacco use was growing in Myanmar.

In 2003, among the urban population, 31.3% of men and 10.5% of women in Myanmar were daily smokeless tobacco users while among the rural population, 36.4% and 15.7% respectively were daily smokeless tobacco users [36].

Based on the data from STEPS 2009 survey, 51.4% of men and 16.1% of women in Myanmar were current users of smokeless tobacco [37]. Among male tobacco users in Myanmar, 39% reported smoking only, 30% smokeless only and 31% dual use. Among female tobacco users, the respective proportions were 24%, 63%, and 13%. Other results of the STEPS are presented in Table 3.

Table 3. Smokeless tobacco use in Myanmar, STEPS surveys

| | | 2004 | | 2009 | 2014 |
|--|--------|-------|-------|------|------|
| | | Urban | Rural | | |
| Current smokeless tobacco use | Male | 37.90 | 49.75 | 51.4 | 62.2 |
| | Female | 14.01 | 22.14 | 16.1 | 24.1 |
| | Total | | | 29.7 | 43.2 |
| Betel quid use among smokeless tobacco use | Male | 83.61 | 73.21 | | |
| | Female | 72.97 | 68.77 | | |
| | Total | | | | |

In 2014 [17], the overall prevalence of the use of smokeless tobacco was 43.2%, the figures being 62.2% for males and 24.1% for females. Nearly 49% of the smokeless tobacco users were daily users. Nearly 94% of smokeless tobacco users were using betel quid.

A local survey conducted in 2015 among 420 adult study subjects [38] revealed that the prevalence of chewing was higher among men, people without education or very low education and was associated with current alcohol drinking.

According to the Demographic and Health Survey [21] conducted in Myanmar in 2015-2016, 18% of women and 59% of men age 15-49 chew betel quid (which contains betel leaf, areca nut, and slaked lime, and may contain tobacco). Among those who chew betel quid, more than 1 in 5 women and about 2 in 5 men chewed 10 or more pieces daily. The prevalence of betel quid chewing is higher among rural women (20%) and rural men (60%) than among their urban counterparts (13% and 57%, respectively).

A national study showed smokeless tobacco use among adolescents aged 13–15 years has increased by nearly 50% between 2007 and 2011 [2]. According to GYTS 2011 [25], 9.8% of adolescents currently used any smokeless tobacco products (Boys = 15.2%, Girls = 4.0%); in 2016 [16, 26] the prevalence of smokeless tobacco use decreased to 11.0% among boys and 1.5% among girls.

Tobacco production and sales

Estimated cigarette production in Myanmar constituted 1.5 billion pieces in 1970, 2.5 in 1980, then decreased to 0.7 in 1990 and again increased to 2.5 in 2000 [39]. In 1996-1999, about 2 billion cigarettes were produced in Myanmar annually [7]. In 2000-2009, annual production was about 2.5-3 billion cigarettes, and then it increased every year reaching almost 9 billion cigarettes in 2016, while in 2017 it decreased to 8.5 billion cigarettes (

Table 4). Cigarette turnover or sales also substantially increased. In 2015 and 2016, about 10 billion cigarettes were annually sold in Myanmar with some decrease in 2017.

Table 4. Cigarette production and sales in Myanmar, million cigarettes

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------|------|------|------|------|------|------|------|------|------|-----------|-----------|------|
| Production | 3199 | 2822 | 2755 | 3038 | 2352 | 3955 | 4330 | 5604 | 5741 | 6594 | 8006 | 8953 | 8524 |
| Import | | | | | | 50 | 31 | 26 | 53 | 58 | 86 | 1616 | |
| Export | | | | | | 1 | | 1 | 185 | 5 | 49 | 282 | |
| Turnover (Production + Import – Export) | | | | | | 4004 | 4361 | 5629 | 5609 | 6647 | 8043 | 1028 7 | |
| Sales (Euromonitor) | | | | | | | | 6157 | 7881 | 9299 | 1050 8 | 9983 | 9583 |

Sources: Production - Statistical Yearbooks⁴, data for financial years (from 1 April to 31 March next year); Import and Export – UN database⁵; Sales – Euromonitor International.

Cigarette manufacturers, such as British American Tobacco (BAT), were forced to leave Myanmar in the early 2000s by a combination of the direct stipulations of international sanctions and the broader reputational issues relating to involvement with Myanmar’s political system of the time. However, following democratization and economic liberalization, the international manufacturers are steadily ramping up activities in the country. BAT re-entered the market in 2013 and has invested heavily in the intervening years in combination with a local company, IMU Enterprise. Japan Tobacco has also been expanding its presence in the past years, building a new factory for its local subsidiary, Japan Tobacco Myanmar, in conjunction with local partner Kyaw Win⁶.

Sales of imported cigarettes remain officially illegal in Myanmar other than via duty-free stores and hotels. However, this ban is not enforced at a retail level, with the government merely seeking to block smuggling at the borders and imported brands remaining widely available.

The company “Rothmans of Pall Mall Myanmar” remains the leading player in cigarettes (50% of the cigarette market in 2017) with this company's Red Ruby brand, followed by British American Tobacco (21%) and Japan Tobacco International (18.5% of the market) [40].

Cheroot production data is very limited. According to the official reports, cheroot production decreased from 2856 million in 1988 to 2298 million in 1994 [7]; further on, the official statistics do not provide information on cheroot production. The media have recently reported that there were 5 billion cheroots produced in Myanmar in 1991 and only 1 billion “modern” cigarettes; in 2016, traditional factories only churn out 2 billion cheroots a year, while modern cigarettes production was around 9 billion⁷. The majority of the tobacco industry in Myanmar is made up of factories and cottage industries that produce cheroots [7]. It has been estimated that there are around 2,500 cheroot making businesses in the country, most of which are located in the Myin Gyan district of the Mandalay region [40].

Tobacco growing

According to the FAO database [41], raw tobacco production in Myanmar decreased from 74,122 tons in 1986 to 27,352 tons a year in 2016, and the area harvested for tobacco decreased from 61,489 hectares

⁴ http://mmsis.gov.mm/sub_menu/statistics/fileDb.jsp?code_code=001

⁵ http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=_l1Code%3a25%3bcmdCode%3a240220

⁶ <https://www.tobaccoreporter.com/2017/03/demographic-boost/>

⁷ <https://www.mmmtimes.com/lifestyle/27203-will-the-cheroot-tradition-go-up-in-smoke.html>

in 1985 to 14,916 hectares in 2016. In 2010, land devoted to tobacco growing was 0.13% of agricultural land [42] which was a decrease from 0.31% in 2000.

Tobacco taxation

There is no VAT in Myanmar. The so-called commercial tax is similar to the VAT in other jurisdictions, but services are not generally subject to commercial tax. Commercial tax applies to the sale of goods produced by a domestic manufacturer, and to the resale and the import of goods.

Specific Goods Tax (SGT) is the same as excise tax elsewhere. The SGT applies to a list of specific goods that are imported into Myanmar, manufactured in Myanmar, or exported to a foreign country. The list of specific goods includes cigarettes, tobacco leaves, virginia leaves, cheroots, cigars, pipe tobaccos, and betel-chewing tobacco. Tobacco products are subject to the SGT (which varies for different tobacco products), 5% commercial tax (similar to VAT), and income tax (on tobacco producers)⁸.

No commercial tax is applied to the local production of tobacco, cheroots, and cigars for sales up to kyats 20 million (yearly sales made by the tobacco enterprise)⁹.

The tax structure did not change for more than two decades¹⁰: the tax rates were 75% for cigarettes, 10% for cheroots, 20% for cigars and 25% for smokeless tobacco. Since April 2012, the rates have been increased to 100% for cigarettes and 50% for other tobacco products. In 2015, the rates were increased to 120% and 60% respectively¹¹. The tax base for ad valorem tax is ex-factory price.

In 2016, the excise tax for domestic cigarettes was changed from ad valorem to specific with 4 tiers.

The government proposed the draft law with the following rates: a packet of 20 cigarettes which is priced at Kyat (Ks) 300 will be taxed K3 per cigarette, Ks14 per cigarette for Ks500 to Ks1,000 priced packets, Ks29 for K1,001-K2,000, Ks48 for Ks2,001-Ks3,000, and for packets priced over Ks3,000 and imported foreign cigarette packets the tax would be 120 percent of the price.¹² However, for more expensive cigarettes much lower rates were eventually approved¹³ (see Table 5).

Table 5. Excise rates for tobacco products in Myanmar

| | 2011 | 2012 | 2015 | 2016 | | 2017 | | 2018 | |
|---|------|------|------|---|-----------|----------------|-----------|----------------|-----------|
| Cigarettes | 75% | 100% | 120% | Tax (Ks) per 1 stick for cigarettes with the price for a pack with 20 sticks: | | | | | |
| | | | | up to 400Ks | 3 | up to 400Ks | 4 | up to 500Ks | 4 |
| | | | | 401-600 | 8 | 401-600 | 9 | 501-700 | 9 |
| | | | | 601-800 | 12 | 601-800 | 13 | 701-900 | 13 |
| | | | | 801Ks and more | 15 | 801Ks and more | 16 | 901Ks and more | 16 |
| Tobacco | 25% | 50% | 60% | 60% | | 60% | | 60% | |
| Cigars, pipe tobacco, betel chewing preparation | 20% | 50% | 60% | 60% | | 80% | | 80% | |

⁸ http://untobaccocontrol.org/kh/taxation/wp-content/uploads/sites/3/2017/09/Report_SEATCA_HR_09.17.pdf

⁹ http://www.vdb-loi.com/wp-content/uploads/2017/04/Myanmar-Tax-Booklet_2017.pdf

¹⁰ <http://www.searo.who.int/tobacco/documents/2009-pub2.pdf>

¹¹ https://www.dica.gov.mm/sites/dica.gov.mm/files/document-files/union_tax_law_2015_eng.pdf

¹² <https://www.mmbiztoday.com/articles/booze-and-cigarette-taxes-change-april>

¹³ <https://www.lincolnmyanmar.com/wp-content/uploads/2016/11/25-Jan-2016-Union-Tax-Law-2016.pdf>

| | | | | | | | |
|----------|-----|-----|-----|-----|----------------------|--------------------|---------------------|
| Cheroots | 10% | 50% | 60% | 60% | price up to 10 Ks | 0,5 Ks per 1 stick | 0,25 Ks per 1 stick |
| | | | | | price 11 Ks and more | 1 Ks per 1 stick | |

In 2017, all four rates for cigarettes were increased by 1 Ks, ad valorem rate for cigars and pipe tobacco was increased from 60% to 80% and specific excise rates were introduced for cheroots: 0.5 Ks per 1 stick for cheroots with price 10 Ks per 1 stick or lower and 1 Ks per 1 stick for cheroots with price 11 Ks per 1 stick or higher¹⁴.

In 2018, the excise burden was decreased. For all kinds of cheroots specific excise was reduced to 0.25 Ks per 1 stick. For cigarettes, the rates remained the same, but price limits for different tiers were increased and it reduced the excise burden for some cigarette brands¹⁵. For example, the most popular cigarette brand Ruby Red has price 850 Ks per pack¹⁶ and this brand was moved from 4th tier to 3rd tier, so in 2017 the excise was 16*20=320 Ks, while from April 2018 it is 13*20=260Ks.

In 2012, according to the Foreign Investment Law, whoever obtained a permit from the Myanmar Investment Commission could then enjoy a five-year corporate tax holiday¹⁷. So Myanmar gave tax incentives to cigarette manufacturers. The new investment law, passed in October 2016, restricted tax holidays to certain areas and gave the government more discretion over granting them.

Cigarette and cheroots prices and affordability

The Internal Revenue Department (IRD) determines the prices of tobacco products (based on manufacturers info and their own market survey), and the price determines the tax rates. Price is subject to review by IRD¹⁸.

Local brands dominate the market due to the distinct price differential with imported brands. Red Ruby is the most popular brand, accounting for an estimated 40 percent of the market by volume. It is followed by BAT’s London brand, which accounts for 20 percent of sales volume. Other leading brands are Duya, Red & Blue and 555¹⁹.

According to the WHO Global tobacco control reports, the price of the Red Ruby cigarette pack was stable in 2010-2014 – 650 Kyats, while in 2016 it increased to 850 Kyats.

Current cigarette and cheroot prices were taken from two Internet shops^{20 21}. We calculated current taxes²² for these brands (Table 6).

¹⁴ <https://www.lincolnmyanmar.com/wp-content/uploads/2017/03/Union-Tax-Law-2017-2.pdf>

¹⁵ <https://www.lincolnmyanmar.com/wp-content/uploads/2018/04/Union-Tax-Law-2018-.pdf>

¹⁶ https://www.citymall.com.mm/citymart_en/citymart/liquor-n-tobacco-283518/cigarettes-283562/local-cigarette-2835317

¹⁷ <https://www.mmbiztoday.com/articles/tax-incentives-alcohol-tobacco-were-big-mistake>

¹⁸ http://untobaccocontrol.org/kh/taxation/wp-content/uploads/sites/3/2017/09/Report_SEATCA_HR_09.17.pdf

¹⁹ <https://www.tobaccoreporter.com/2017/03/demographic-boost/>

²⁰ https://www.citymall.com.mm/citymart_en/citymart/liquor-n-tobacco-283518/cigarettes-283562/local-cigarette-2835317

²¹ <https://www.shop.com.mm/en/cigarettes-cigars/>

²² <https://www.lincolnmyanmar.com/wp-content/uploads/2018/04/Union-Tax-Law-2018-.pdf>

Table 6. Prices and taxes for cigarettes and cheroots in Myanmar

| Cigarette brand | Price, Kyats per pack | Special Goods Tax, Kyats | Commercial tax (5%), Kyats | Tax Share (%) |
|--|-----------------------|--------------------------|----------------------------|---------------|
| Duya, 20 cigarettes | 400 | 80 | 20 | 25,0 |
| London, 20 cigarettes | 600 | 180 | 30 | 35,0 |
| Red Ruby, 20 cigarettes | 850 | 260 | 42,5 | 35,6 |
| Mevius, 20 cigarettes | 1550 | 320 | 77,5 | 25,6 |
| Golden Lion Cheroot ²³ , 50 sticks | 1700 | 12,5 | 85 | 5,7 |
| Average cheroot price ²⁴ , 100 sticks | 1515 | 25 | 76 | 6,7 |

Total tax (SGT + commercial tax) share is only 25-35% of the final cigarette retail price. For cheroots, the tax share is less than 7%.

The Central Statistical Organization published Statistical Yearbooks²⁵ which report average retail prices of selected commodities at Yangon, including prices of Duya cigarettes and Cheroots. It also published Selected Monthly Economic Indicators²⁶ including cheroot prices.

In Yangon, nominal prices for 20 Duya cigarettes increased from 100 Ks in 2005 to 362 Ks in 2015 and for cheroots (100 sticks) from 641 Ks to 1786 Ks respectively. In 2016, one Duya cigarette and one cheroot stick had almost the same price, about 18 Ks.

Myanmar is one of the fastest growing economies in the East Asia and Pacific region and globally²⁷. In 2015, thanks to improved economic performance, Myanmar moved from the World Bank low-income countries group to the lower middle-income countries. So, the increase in nominal prices should be compatible with income growth.

The Guidelines for implementation of Article 6 of the WHO FCTC [43] recommend: *“When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”*. In the Guidelines, “affordability” means price relative to per capita income.

In the current analysis, a modified tobacco affordability index (TAI) [44] is used to estimate the changes in affordability in Myanmar. TAI is calculated as the percentage annual change in nominal average income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. For the TAI calculations, we used as an income proxy the World Bank indicator “Annual percentage growth rate of GDP per capita based on constant local currency”²⁸. As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator is also expressed in real (inflation-adjusted) terms. In this case, the TAI is calculated as GDP annual change divided by the (inflation-adjusted) tobacco price increase minus 100: (GDP growth

²³ https://www.citymall.com.mm/citymart_en/citymart/liquor-n-tobacco-283518/cigarettes-283562/cigarncheroot-2835316

²⁴ http://mmsis.gov.mm/sub_menu/statistics/fileDb.jsp?code_code=002#

²⁵ http://mmsis.gov.mm/sub_menu/statistics/fileDb.jsp?code_code=001

²⁶ http://mmsis.gov.mm/sub_menu/statistics/fileDb.jsp?code_code=002

²⁷ <http://www.worldbank.org/en/country/myanmar/overview>

²⁸ <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

* $CPI_all_items / CPI_tobacco - 100$). The results of the Tobacco Affordability Index calculations for cigarettes and cheroots are presented in Table 7.

Table 7. Affordability of cigarettes and cheroots in Myanmar

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|------|-------------|------------|------------|------------|-------------|-------------|-------------|-------------|------------|------------|-------------|-------------|
| Cigarettes Duya, average retail price (Kyats) for 20 cigarette pack in Yangon | 100 | 118 | 168 | 224 | 232 | 218 | 250 | 266 | 302 | 319 | 362 | | |
| Annual change, previous year = 100 | | 118,4 | 141,7 | 133,7 | 103,2 | 94,0 | 114,8 | 106,3 | 113,7 | 105,4 | 113,6 | | |
| Cheroots, the Average price for 100 sticks ²⁹ | | | | | | 1620 | 1553 | 1503 | 1422 | 1467 | 1617 | 1627 | 1506 |
| Annual change, previous year = 100 | | | | | | | 95,9 | 96,8 | 94,6 | 103,2 | 110,2 | 100,6 | 92,6 |
| GDP per capita growth (annual %) | 12,6 | 12,2 | 11,3 | 9,6 | 9,8 | 8,9 | 4,8 | 6,4 | 7,5 | 7,0 | 6,0 | 4,9 | 5,4 |
| Inflation, consumer prices (annual %) ³⁰ | 9,4 | 20 | 35 | 26,8 | 1,5 | 7,7 | 5,0 | 1,5 | 5,5 | 5,5 | 9,5 | 7,0 | 5 |
| TAI cigarettes | | 13,7 | 6,1 | 3,9 | 8,0 | 24,8 | -4,2 | 1,6 | -0,2 | 7,1 | 2,2 | | |
| TAI cheroots | | | | | | | 14,8 | 11,6 | 19,9 | 9,4 | 5,3 | 11,6 | 19,6 |

In 2006-2010 cigarettes became more affordable, while in 2011-2015 cigarette affordability did not change much. On the other hand, cheroots became much more affordable in 2011-2017.

The WHO Global Tobacco Report, 2017 [16], shows that cigarettes became much more affordable in Myanmar in 2008-2014, while in 2014-2016 cigarettes affordability was slightly reduced.

According to the report published in 2014 [32], Myanmar version of betel quid (Kun Yar) using local tobacco was sold for 100 Kyats (price for four pieces, or 25 per piece). Each consumer of smokeless tobacco can ask the vendors for a particular amount and type of tobacco for preparation of their own preferred product. For vendors, the baseline cost of each piece of Kun Yar is around 10-12 Kyats. If lime, betel nuts, tobacco, and other ingredients are added, the overall vendor cost of a basic piece of Kun Yar was estimated to be around 15-20 Kyats.

According to surveys conducted by the Central Statistical Organization, the share of tobacco expenditures decreased in Myanmar from 2.73% in 1989 to 0.46% in 2012 (Table 8). However, it can be caused not by the reduction in tobacco consumption, but by increased affordability of tobacco products.

Table 8. Average monthly household expenditures, kyats

| | 1989 | 1997 | 2001 | 2006 | 2012 |
|---|-------------|-------------|-------------|-------------|-------------|
| Size of Household | 5,27 | 5,25 | 5,37 | 4,72 | 4,72 |
| Total expenditure | 1796 | 13785 | 29310 | 97700 | 167434 |
| Per capita | 341 | 2626 | 5458 | 20699 | 35473 |
| Tobacco | 49 | 155 | 213 | 470 | 770 |
| Per capita | 9 | 30 | 40 | 100 | 163 |
| A share of tobacco expenditures, % | 2,73 | 1,12 | 0,73 | 0,48 | 0,46 |

²⁹ http://mmsis.gov.mm/sub_menu/statistics/fileDb.jsp?code_code=002

³⁰ <https://data.worldbank.org/indicator/FP.CPI.TOTL.ZG?locations=MM>

Tobacco revenue

Official reports on tobacco tax revenue are not available.

In 2000, the revenue from the commercial tax was 153 million Kyats for cigarettes and 8 million Kyats for cheroots. Other taxes (including customs duty for imported cigarettes) were 110 million Kyats [7].

Tax revenues for the three tobacco products have increased annually from 2009 to 2014³¹ partly due to the increase in excise rates (see Table 5) and also due to the increase in cigarette sales (see

Table 4).

Cigarette tax revenue in the 2014-15 fiscal year amounted to Ks8.185 billion while Ks15.572 billion was collected in 2015-16 fiscal year. In the following financial year, a specific excise was imposed on cigarettes, resulting in an increase in tax revenue to Ks44.476 billion until the end of December 2016³².

In the 2015-2016 financial year, the increase of the cigarette excise revenue was mainly caused by the increase of excise rate from 100% to 120%. In the 2016-2017 financial year, the excise system for cigarettes was changed from ad valorem to a specific one, and it was beneficial for the governmental revenue.

Cigarette smuggling

Estimates of cigarette smuggling in Myanmar are very controversial. In 2017, Tobacco Reporter wrote, *“estimates by industry representatives suggest that illegal sales are double those of duty-paid cigarettes”*³³. On the other hand, the Oxford Economics (OE) reported that *“an estimated 0.5% of Total Consumption in 2016 was composed of Non-Domestic Illicit products”*³⁴. The OE also claimed that in 2013 the illicit incidence was estimated at 22%. The following year, it declined to just 1.3%.

It should be noted that the Oxford Economics reports on illicit cigarette sales were funded by the Philip Morris and they received strong critique [45]. In any case, such sharp reduction of illicit cigarette sales in 2012-2013 looks incredible. Such “estimates” seemingly serve the aim to demonstrate “beneficial” impact of the transnational tobacco re-entering Myanmar in 2013. Euromonitor later wrote, that “The main reason for this shift was the introduction of domestic production for international cigarette brands from 2013, with British American Tobacco and Japan Tobacco launching local manufacturing for some of their most popular international brands”. The actual reason for the “shift” was a very high overestimation of illicit sales in 2012, as cigarette production in 2013 almost did not increase (see

Table 4). So any estimates of illicit sales made by such agencies as Oxford Economics or Euromonitor should be treated with great caution as they tend to overestimate smuggling into a country in particular years.

However, Euromonitor had to admit that there was also extensive smuggling of locally manufactured cigarettes from Myanmar to neighboring countries, particularly to India and Bangladesh.

³¹ <https://www.mmtimes.com/national-news/16590-health-groups-call-for-higher-tobacco-tax.html>

³² <https://www.mmtimes.com/national-news/25028-over-k100b-alcohol-cigarette-tax-collected-in-nine-months.html>

³³ <https://www.tobaccoreporter.com/2017/03/demographic-boost/>

³⁴ <http://illicittobacco.oxfordeconomics.com/markets/myanmar/>

In 2016-2018, **Indian** customs regularly seized huge consignments of cigarettes smuggled from Myanmar^{35 36 37}.

In 2018, **Thailand** authorities seized on the Thai-Myanmar border 50 cartons of foreign brand cigarettes, 99,200 packets of Myanmar-grown tobacco and 720 tins of chewing tobacco from Myanmar³⁸.

Investigations reveal that smugglers are bringing into **Bangladesh** huge quantities of cigarettes from Myanmar through the hill tracts region³⁹. Smuggled 'LONDON' brand cigarettes from Myanmar (produced by the BAT) have flooded the market in Bangladesh⁴⁰.

Euromonitor also reported that many cigarettes are smuggled to Myanmar from China, including a large volume of counterfeit brands. However, Myanmar is mainly a transit country for smuggled cigarettes.

A recent report by the UN's drugs agency on transnational crimes stated that cigarettes follow the same routes used to smuggle other contraband, including illicit narcotics and counterfeit goods. One of the routes goes from China to Myanmar, and then onto South Asian nations⁴¹.

Indian authorities report that smugglers prefer bringing cigarettes manufactured in China and Korea first to Myanmar and then to smuggle them into India⁴².

Transnational tobacco corporations have a long history of facilitating cigarette smuggling via Myanmar. In 1992 and 1993, for example, smugglers, whose activities were known to the BAT, faced particular difficulties in getting cigarettes into Bangladesh through Myanmar because of "(a) Increased customs surveillance in Chittagong/Cox's Bazaar; (b) border confrontation between Bangladesh and Myanmar over the Rohingya Moslem refugee crisis." The same report also promised that BAT would "strive to improve this situation by developing land routes via Myanmar and optimizing duty-free leakage."⁴³

Comparison of cigarette prices and taxes in Myanmar and neighboring countries

The WHO Global Tobacco Report, 2017 shows information on cigarette prices and taxes in Myanmar and other countries of the WHO South-East Asia Region (SEARO) in 2016 [16] (Table 9).

Table 9. Cigarette prices and taxes in Myanmar and other SEARO countries

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of the price of the most sold brand | | | | | |
|------------|---|-------------------|--------|--|-------------------|--------------|----------------|------------------------|-----------|
| | In reported currency | Reported currency | In USD | Specific excise | Ad valorem excise | Total Excise | VAT/ Sales tax | Other taxes and duties | TOTAL TAX |
| Bangladesh | 100 | BDT | 1,28 | 0,00% | 62,00% | 62,00% | 15,00% | 0,00% | 77,00% |
| India | 158 | INR | 2,36 | 26,46% | 0,00% | 26,46% | 16,67% | 0,00% | 43,12% |
| Indonesia | 21 667 | IDR | 1,65 | 44,31% | 4,43% | 48,74% | 8,70% | 0,00% | 57,44% |

³⁵ https://www.telegraphindia.com/1160718/jsp/northeast/story_97311.jsp

³⁶ http://www.dy365.in/news_details.php?aID=6051&subC=2

³⁷ <http://www.assamtribune.com/scripts/detailsnew.asp?id=apr0417/city052>

³⁸ <https://www.bangkokpost.com/news/crime/1410931/smuggled-cigarettes-tobacco-seized-in-north-south>

³⁹ <http://www.theindependentbd.com/arcprint/details/76659/2017-01-16>

⁴⁰ <https://www.thedailystar.net/news/smuggled-cigarettes-from-myanmar-flood-market>

⁴¹ <http://www.atimes.com/article/chinese-cigarette-smugglers-keep-southeast-asia-lit/>

⁴² <https://timesofindia.indiatimes.com/city/patna/chinese-and-korean-manufactured-smuggled-cigarette-seized-in-patna/articleshow/62487561.cms>

⁴³ <https://www.icij.org/investigations/big-tobacco-smuggling/global-reach-tobacco-companys-involvement-cigarette-smuggling-exposed-company-papers/>

| | | | | | | | | | |
|----------------|------------|------------|-------------|---------------|--------------|---------------|--------------|--------------|---------------|
| Maldives | 47 | MVR | 3,05 | 0,00% | 0,00% | 0,00% | 0,00% | 53,19% | 53,19% |
| Myanmar | 850 | MMK | 0,72 | 35,29% | 0,00% | 35,29% | 0,00% | 0,00% | 35,29% |
| Nepal | 180 | NPR | 1,68 | 14,84% | 0,00% | 14,84% | 11,50% | 0,00% | 26,35% |
| Sri Lanka | 1 000 | LKR | 6,86 | 47,50% | 3,93% | 51,43% | 10,71% | 0,00% | 62,15% |
| Thailand | 86 | THB | 2,47 | 2,16% | 64,77% | 66,93% | 6,54% | 0,00% | 73,48% |
| Timor-Leste | 1,50 | USD | 1,50 | 25,33% | 0,00% | 25,33% | 2,44% | 0,23% | 28,01% |

Cigarettes in Myanmar had the lowest price in the Region. The tax share in Myanmar is the third lowest (after Nepal and Timor-Leste).

Discussion

Smoking habits in Myanmar have two different trends: cigarette smoking increased, while traditional smoking of cheroot declined.

Cheroots

Cheroots smoking prevalence is higher among old rural women. Young people think that the cheroot is a thing of the past⁴⁴. Recent GYTS surveys (see Table 2) revealed that smoking of any tobacco product declines among adolescents, while cigarette smoking prevalence increased. So many young people switch from cheroots to cigarettes or quit (or do not start) smoking cheroots. Cheroots, previously a staple of Myanmar's smokers, are close to extinction⁴⁵. Cheroot production substantially decreased over recent years, and it has low chances to survive. The main problem for the cheroot industry is the shortage of workers. Previously, there was no career choice: boys would work in the farms, girls would roll the cheroot. It is no longer the case as girls have much more job opportunities at present and working conditions in modern factories are better than in cheroot industry. Local cheroot producers believe that prospects for the traditional industry are grim and in five years most of the factories will be closed⁴⁶. In Malaysia, cheroot making business is also drying up⁴⁷.

The government tries to slow down the decline of cheroot-smoking epidemic in the country; however, there is no public health justification. World Health Organization emphasizes the harm associated with any use of any tobacco product⁴⁸.

The Local Cheroot Manufacturers and Distributors Association successfully lobbied the reduction of special goods tax (SGT) on cheroots. In March 2018, the Myanmar parliament reduced the SGT on cheroots to MMK0.25/unit, down from the previous MMK0.50-1.00/unit. However, as the average cheroot stick price is 15 MMK and the current SGT is only 1.7% of the price, recent tax reduction could hardly rescue the cheroot consumption. Recently, cheroots have become much more affordable in Myanmar (see Table 7), but their consumption reduced anyway.

The government has a much better option: to substantially increase the SGT for cheroots, for example to 4 MMK per stick, which is currently the excise rate for the cheapest cigarettes as cheap cigarettes and average cheroots have similar retail prices. The average cheroot stick price will increase to about 20MMK or by 30%, and such price increase can only partly compensate for the increase of cheroot affordability over recent years. The World Bank study conducted in 2004 [46] estimated price elasticity

⁴⁴ <https://www.mmtimes.com/lifestyle/27203-will-the-cheroot-tradition-go-up-in-smoke.html>

⁴⁵ <https://www.tobaccoreporter.com/2017/09/costs-taxing-cheroot-makers/>

⁴⁶ <https://www.mmtimes.com/lifestyle/27203-will-the-cheroot-tradition-go-up-in-smoke.html>

⁴⁷ <https://www.nst.com.my/news/2016/01/123701/cheroot-making-business-drying>

⁴⁸ http://www.who.int/tobacco/communications/events/wntd/2006/Tfi_Rapport.pdf

of demand for cheroots as -0.36; a 10% cheroot price increase would decrease cheroots consumption by 3.6%. Results of the estimation by income groups show that low-income individuals are the most responsive to a price increase. An increase of 10% in the price of cheroots would reduce cheroot consumption by 5% among the poorest users. So, the increase of cheroot taxes would be most beneficial for poor users.

Then the government can use cheroot excise revenue to support the economically viable alternatives for those women who currently work in cheroot factories in line with Article 17 of the FCTC.

Cigarettes

Annual cigarette sales in Myanmar increased from about 3 billion sticks in 2005-2010 to about 10 billion sticks in 2015-2016. The following factors promoted this increase:

- An increase of population income made cigarettes more affordable;
- Some part of smokers switched from cheroots to cigarettes;
- Transnational tobacco corporations re-entered the country in 2013 and used different promotional activities to increase sales;
- Cigarettes in Myanmar are much cheaper than in neighboring countries, and this situation encourages cigarette smuggling from Myanmar to India, Thailand, and Bangladesh, while cigarette smuggling into Myanmar is very low. Actual cigarette consumption in Myanmar is much lower than the volume of cigarette sales in the country.

The taxation policy can discourage cigarette smoking epidemic in Myanmar. The increase of cigarette taxes in 2015-2017 already had some positive results: (1) cigarette affordability did not increase in recent years (see Table 7); (2) in 2017 cigarette sales reduced (see

Table 4); (3) cigarette excise revenue increased.

Unfortunately, in 2018 cigarette excise rates were actually decreased, and this can make cigarettes more affordable again and increase their consumption and smuggling.

The governmental officials already claimed that the goal was to collapse the four specific tiers into one tier [46]. It is possible to achieve in three years, eliminating one tier each year, starting from the lowest one. However, excise rates for remaining tiers should substantially increase, because the current tax share in cigarette price is only 25-35%. It means that Myanmar smokers pay only one-third of the money they spend on cigarettes to the government, and the transnational and local tobacco corporations receive the rest.

For example, if the lowest tier is eliminated and cheap cigarettes are taxed by 9 Ks per one stick instead of 4 Ks now, it will increase the price of the popular brand Duya from 400 Ks to 500 Ks per pack (by 25%), but the tax share will be 41%. If the tax rate for most expensive cigarettes is increased by 100% (from 16 to 32 Ks per stick) it will increase the price of the most popular brand Red Ruby from 850 Ks to 1250 Ks per pack (by 47%), but the tax share will be 56%. Even after such price increase cigarettes in Myanmar will still be cheaper than in the neighboring countries and so they will be smuggled out of the country.

According to the World Bank estimates [46], the price elasticity of cigarettes for the whole population of Myanmar is -0.25. The income groups most sensitive to a price increase in cigarettes are the middle groups, which have the highest prevalence of cigarette smoking compared to the other two groups. So, if after the proposed excise increase the average cigarette price increases by 40%, cigarette

consumption will decrease by 10%. As the proposed SGT rate increase is about 100%, it means that the government revenue will increase by about 90%.

Smokeless tobacco

The third important component which defines the tobacco epidemic in Myanmar is smokeless tobacco predominantly used in the form of betel quid. The analyzed surveys show that the use of smokeless tobacco is very high and is still growing. However, currently, it is not clear whether this form of tobacco use is subject to any governmental regulation and if tobacco taxes are applied to all kinds of smokeless tobacco products available at the market. It is obvious that the use of smokeless tobacco by rural people who grow it is difficult to regulate. Still, as smokeless tobacco use is also prevalent among the urban population, some market relations probably exist between those who produce and who consume this product and smokeless tobacco sellers might be obliged to pay taxes similarly to other tobacco products. If administration of smokeless tobacco taxation does not appear realistic, the first step of regulation could be the requirement of placing graphic health warnings on posters at points of smokeless tobacco sales.

Conclusions

Overall smoking tobacco use did not change much over recent years, while the structure of smoking tobacco use did change: smoking of traditional cheroots declined, while cigarette smoking increased.

The governmental tobacco control policies, especially new cigarette health warning and the increase of tobacco taxes managed to stop the increase in cigarette sales observed in 2010-2016.

The raised tobacco tax rates substantially increased government revenue over recent years.

However, in 2018 the government decreased tax burden for cheroots and cigarettes, and this can have negative consequences for both public health and governmental revenues.

Recommendations

- The number of specific tax tiers for cigarettes should be annually decreased to tax all cigarettes by the unified tax in three years. The unified tax makes the tax administration much easier as the government has to control only the number of cigarettes and not their prices.
- Specific excise rates for cigarettes should be increased annually by at least 50% in first three years and by at least 20% later, to ensure the reduction in tobacco affordability and the increase in the excise revenues.
- Tax rates for cheroots and other tobacco products (including smokeless tobacco) should be substantially increased to further discourage their consumption and use the additional revenue to support economically viable alternatives for those currently employed in cheroot and other tobacco production.
- Tobacco use surveillance and monitoring should further develop in Myanmar, including a regular collection of information on smoking prevalence, tobacco consumption, licit and illicit cigarette sales, prices and other economic indicators.
- Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which should be ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Nicaragua

Nicaragua became a Party to the WHO Framework Convention on Tobacco Control on July 8, 2008. Nicaragua was the first country in the world which ratified (in 2013) the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products. The President of Nicaragua, Daniel Ortega Saavedra strongly supported ratification of the Protocol².

Tobacco control legislation

In 1996, the National Assembly passed the Law to Protect the Human Rights of Non-Smokers. In 2010, the Tobacco Control Law (No 727³) was approved by the parliament of Nicaragua. In 2011, regulations of the Tobacco Control Law were adopted (Decree No 41-2011⁴).

Smoking is banned in healthcare, educational, governmental facilities and public transport (Article 6 of the law), but not in bars, restaurants, hotels, clubs, and airports, where special smoking rooms are allowed (Article 8 of the law).

There are six different and annually rotating health warnings that cover 50% of both front and back sides of tobacco packs. From January 2015, health warnings should include a pictorial⁵.

Tobacco advertising is banned on national TV and radio, as well as on billboards, while tobacco advertising is still allowed in local newspapers and magazines and at points of sale. Tobacco sponsorship and promotion are not restricted.

As of 2015 [1], tobacco control policies in Nicaragua were assessed at 14 out of 37 points.

Tobacco consumption

Per capita cigarette consumption among adults (>15 years of age) in Nicaragua was estimated as 1380 cigarettes per year in 1970-72 [2], 1440 in 1980-82 [2], 1380 in 1985 with a growth of 10% in 1970-1985

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² <http://www.who.int/fctc/protocol/about/Nicaragua.pdf>

³

<http://legislacion.asamblea.gob.ni/normaweb.nsf/3133c0d121ea3897062568a1005e0f89/c869b6ad20d89d5a062577a5006c15d5?OpenDocument>

⁴

<http://legislacion.asamblea.gob.ni/normaweb.nsf/9e314815a08d4a6206257265005d21f9/642b2ad34c9827df0625791000538ca8?OpenDocument>

⁵

http://iris.paho.org/xmlui/bitstream/handle/123456789/28393/9789275118863_eng.pdf?sequence=1&isAllowed=y&ua=1

[3], and 1460 in 1990-92 [2]. The estimated cigarette consumption per capita in 2014 was 14.4% above the 1990 levels⁶.

According to published international estimates [4], the age-standardized adult smoking prevalence in Nicaragua decreased from 17% in 1980 to 11% in 2006-2012 and in 2012 it was 17.3% among men and 5.6% among women. The estimated annual cigarette consumption decreased from 2.7 billion cigarettes in 1980 to 1.2 billion cigarettes in 1996 but then increased to 2.6 billion cigarettes in 2012. Estimated mean daily cigarette consumption per smoker was about 16 cigarettes in 2012.

Tobacco use among adults

There were no representative surveys on tobacco use among the adult population of Nicaragua.

In 1988, a non-representative survey was conducted in Northern Nicaragua among 520 young (18 years and older) employed people, and it reported that the prevalence of current smoking was 51% among men and 16% among women [3, 5].

According to Demographic and Health survey (ENDESA) conducted in 2001 [6], 95% of Nicaraguan women aged 15-49 years did not smoke. Prevalence of smoking cigarettes was higher among older women (8.3% - 25-49 years) than among younger ones (2.6% among those aged 15-19 years and 4.6% among those aged 20-34 years) and among urban and more educated women than among rural and less educated women. This pattern could predict further increase in cigarette smoking in Nicaraguan women. However, there was no opportunity to estimate the trend as there were no questions on tobacco use in the next ENDESA surveys in 2006/2007⁷ and 2011/2012⁸.

According to the data collected by the Central American Diabetes Initiative in 2003 [7], the prevalence of smoking among adults constituted 21.0% (32.9% among men and 7.8% among women).

A cross-sectional study of 1 355 participants aged 20–60 years from six communities in Nicaragua was conducted in September 2007–July 2009 [8] and revealed that 31.3% of participants (57.2% of men and 11.4% of women) reported ever smoking tobacco.

In 2016, the Institute of Alcoholism and Drug Addiction conducted a survey in 16 Rehabilitation Centers of the country, in which 516 patients (93% male) were approached⁹: 23.5% of survey participants reported that they used tobacco.

Tobacco use among adolescents

In a survey of 468 high school students aged 15-18 years in Managua in 1988, 40% male participants and 52% female participants were reported to be smokers [3].

In a study conducted in 1994 [9], 7.5% of adolescents aged 12-19 years were found to be ever tobacco smokers.

⁶ <https://www.marketresearch.com/Canadean-Ltd-v132/Cigarettes-Nicaragua-10317266/>

⁷ <http://apps.who.int/medicinedocs/documents/s18997es/s18997es.pdf>

⁸

http://www.inide.gob.ni/endesa/Endesa11_12/HTML/endesa11/assets/common/downloads/InformePreliminar.pdf

⁹

<http://www.hacienda.gob.ni/hacienda/ppresupuesto2018/mpmp/238.InstitutoContraAlcoholismoDrogadiccion.pdf>

According to the surveys conducted among adolescents aged 10-18 years in 1999-2000 within PACARDO research project [10], 34% of study participants in Nicaragua were tobacco users (probably at least once in their lifetime).

The prevalence of current smoking among young people aged 11-22 years in 2001 was reported as 49.6% among males and 23.9% among females [5].

Global Youth Tobacco Survey was conducted in Nicaragua only in 2003. There was no national data, but data for five regions (Table 1). However, in some papers, the prevalence is summarized as 20.4% among boys and 12.8% among girls [11].

Table 1. Current tobacco use among adolescents (13-15 years old) in the regions of Nicaragua in 2003

| Regions | Centro Managua | Atlantico Puerto Cabezas | Pacifico | Atlantico Bluefields | Centro |
|--|----------------|--------------------------|-------------|----------------------|-------------|
| Currently use any tobacco product | 25,1 | 23,9 | 21,5 | 20,2 | 19,1 |
| boys | 30,4 | 29,2 | 25,9 | 23,2 | 26,1 |
| girls | 20,5 | 20,0 | 16,4 | 18,0 | 13,3 |
| Currently smoke cigarettes | 21,2 | 20,0 | 17,6 | 16,7 | 14,2 |
| boys | 25,6 | 25,4 | 23,1 | 16,5 | 21,1 |
| girls | 17,4 | 15,7 | 12,1 | 16,4 | 9,4 |
| Currently use other tobacco product | 9,6 | 9,3 | 7,8 | 6,7 | 7,6 |
| boys | 12,8 | 9,3 | 9,0 | 11,0 | 9,8 |
| girls | 6,7 | 8,9 | 6,3 | 3,9 | 5,5 |

The highest smoking rates were observed in the Centro Managua region¹⁰ and the lowest – in the Centro region¹¹. However, there were no large differences between the regions and in 2003 about 27% of boys and 18% of girls were current (at least once during the last 30 days) tobacco users.

Tobacco use among medical students

The survey conducted among medical students in 2008 in Leon, Nicaragua [12] found that 25.4% were current tobacco users (20% among female students and 64% among male students) with 18.2% being daily smokers and 7.1% occasional smokers. The prevalence increased with age from 19.8% among those aged 15-19 years to 31.0% among those aged 25-29.

The survey conducted in the same university in 2009 [13] found that 34.2% used tobacco within last year and 29.6% within last month.

Tobacco growing

As estimated in 1983, 0.2% of arable land in Nicaragua was used for tobacco growing [3].

According to the FAO database [14], annual production of unmanufactured tobacco was about 2,000 tons in 2000, then it gradually increased and in 2011-2016 average annual production was about 5,000 tons. In 2011-2016, more than 3,000 hectares were used to grow tobacco.

¹⁰ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=386>

¹¹ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=385>

According to the official statistics, about 800 tons of raw tobacco was exported annually in 2012-2016¹². The rest was being used for cigar production.

Cigar industry

The history of Nicaraguan cigars begins in 1959 with the exodus of the Cuban cigar makers. Cigarette tobacco had been cultivated in Nicaragua for years, but cigar tobacco had not been supported until the Somoza government decided to finance it as a new industry for Nicaragua. Up until the fall of the Somoza's dictatorship to the Sandinistas in 1979, Nicaragua was producing premium cigars. During the Sandinistas' reign, the farms and factories of the tobacco region were liquidated and the property redistributed under the new socialist government. In 1984, the US imposed a commercial embargo on Nicaragua, making it impossible to sell cigars in their largest market. Most of the production was redirected toward burley cigarette tobacco for Eastern European markets. With the end of the civil war in 1990, the cigar factories started working again until 1998, when Hurricane Mitch devastated the country and affected the tobacco farms and factories. Currently, Nicaragua is becoming an essential actor in the cigar industry¹³.

Most of the produced cigars are exported and only a small part is used for local consumption.

The secretary of the Association of Nicaraguan Cigar makers, Leonel Raudez, said that exports had grown rapidly, from 16 million in 1996 to 102 million in 2011¹⁴. The USA was the main market, where 95% of production went. Raudez said that there were 25 cigar factories that created 15,000 direct jobs and 22,000 indirect jobs, mostly in the northern region, in Esteli in particular. Cigar factories were operating within the tax-free zone¹⁵. In 2016, foreign sales of cigars grew by 11% over 2015, reaching \$178 million, of which 84% were destined for the USA market¹⁶.

In November 2015, the Government representatives noted that the 1000 square meter cigar production plant was going to operate under the free zone regime, employing 400 people¹⁷. British American Tobacco announced that it would be investing \$4.5 million in the construction of offices and a distribution center measuring 17 thousand square meters, which was to start operating in June 2018¹⁸.

Cigarette production

According to the official statistics report¹⁹, about 1.6 billion cigarettes were annually produced in Nicaragua in 1991-1998, but in 1999 only 0.78 billion cigarettes were produced. No consistent data is available on cigarette production in Nicaragua in the 2000s. In the mid-1990s, BAT consolidated six independent companies in Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama into one large factory in Honduras [15].

Cigarette import

Currently, the cigarette market in Nicaragua is entirely supplied through imports, originating mainly from either Honduras or Guatemala (starting from 2013, from Costa Rica, after the PMI's closure of its

¹² http://www.bcn.gob.ni/publicaciones/periodicidad/anual/anuario_estadistico/anuario_estadistico_2016.pdf

¹³ <http://www.tobaccoasia.com/features/nicaragua-cigar-terroir-for-the-21st-century/>

¹⁴ https://www.centralamericadata.com/en/article/home/More_and_More_Cigars_Exported_from_Nicaragua

¹⁵ https://www.centralamericadata.com/en/article/home/The_Cigar_Industry_in_Nicaragua

¹⁶ https://www.centralamericadata.com/en/article/home/Nicaragua_Tobacco_Exports_Up_11

¹⁷ https://www.centralamericadata.com/en/article/home/Nicaragua_Investment_in_Tobacco_Plant

¹⁸ https://www.centralamericadata.com/en/article/home/Nicaragua_Investment_in_the_Tobacco_Industry

¹⁹ http://www.inide.gob.ni/bibliovirtual/publicacion/comp90_99.pdf

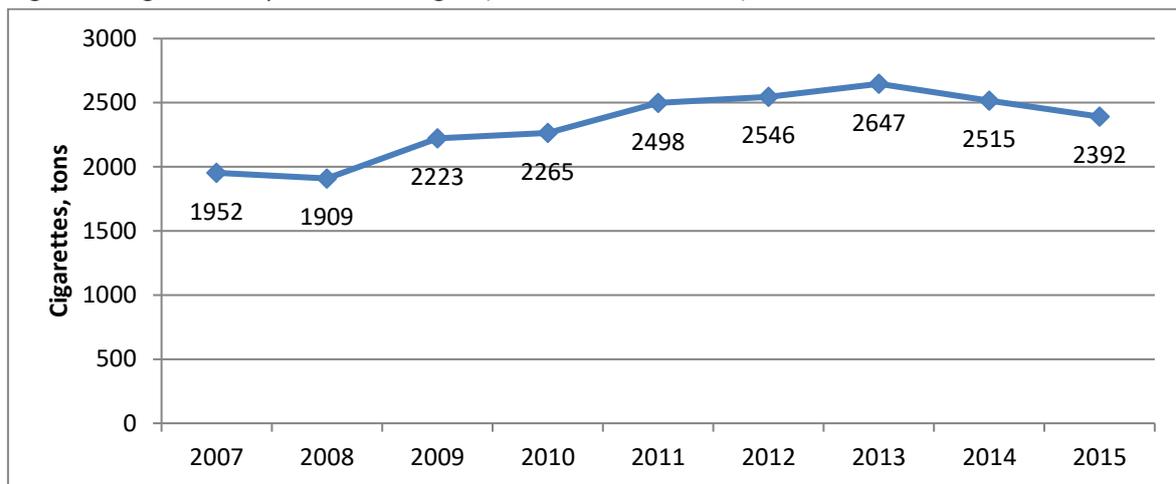
Guatemala factory) and, to a lesser extent, Panama, Mexico, and Chile. BAT took over 80% of the market in 2014 whilst PMI took less than 20%.

Cigarette import in Nicaragua was estimated at the level of 134 metric tons in 1970; 1 in 1980; 25 in 1995; 24 in 1996; 37 in 1997; 100 in 1998; 1051 in 1999 and 1924 in 2000 [16].

It was reported that in 2004–06 Nicaragua’s cigarette imports averaged about 2.2 billion pieces compared with 2.07 billion pieces during 2003²⁰.

According to UN database²¹, cigarette import to Nicaragua in 2011-2015 was about 2,500 tons annually (Fig. 1).

Figure 1. Cigarette import to Nicaragua (source: UN database).



Cigarette sales

KPMG Project Frost study²² (commissioned by British American Tobacco) reported that legal cigarette sales in Nicaragua increased from 1.6 billion cigarettes in 2010 to 2.0 billion in 2012 and then declined to 1.8 billion in 2014.

Tobacco taxation

In the 1990s - early 2000s, Nicaragua applied ad valorem excise tax for cigars and cigarettes. The base for calculation of ad valorem excise was retail price set and published by tobacco producers or importers [17].

In 1994, the Decree on the consumption tax was adopted. In its Annex 1, the Decree set²³ ad valorem rate for all tobacco products as 40%. Later, the rate was increased to 59%, but from July 1998, it was decreased to 57% (Law 257 of 15 May 1997).

In 1999, (Law No 303 of 12 March 1999²⁴) the ad valorem rate was set as 61%, but it was established that from January 2001 this rate would be reduced by 3% annually to 56%. However, in April 2000 (Law

²⁰ <http://www.tobaccointernational.com/1007/feature2.htm>

²¹ http://data.un.org/Data.aspx?q=cigarettes&d=ComTrade&f=_l1Code%3a25%3bcmdCode%3a240220

²² https://cigarroilicito.weebly.com/uploads/1/0/9/4/109477265/project_frost_final_spanish_26_06_2015.pdf

²³ <http://sajurin.enriquebolanos.org/vega/docs/G-1994-06-17.pdf>

²⁴

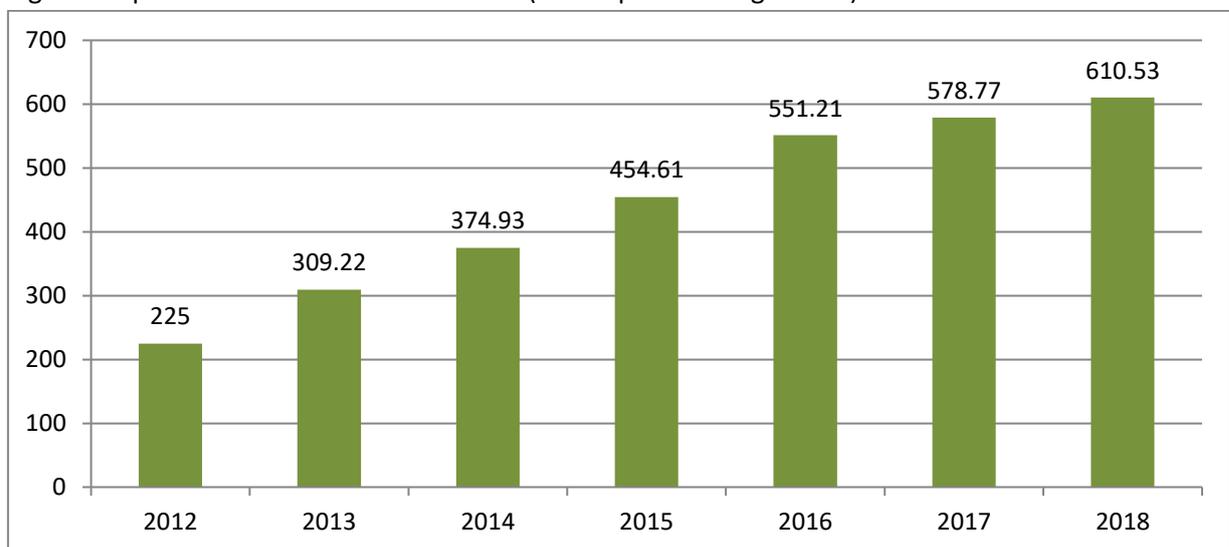
<http://legislacion.asamblea.gob.ni/normaweb.nsf/b92aeea87dac762406257265005d21f7/f3eecba16cfad84906257229005b9233?OpenDocument>

No 343²⁵), the rate was decreased to 40% and it was announced that from January 2002 this rate would be reduced by 1% annually to 38%. In 2002 (Law No 439 of 14 August 2002), the ad valorem rate was changed to 39%. In February 2003, the ad valorem rate for imported cigars and cigarillos was set at 43% (Law No 447²⁶).

In December 2009, the parliament (law No 712²⁷) canceled ad valorem excise and set specific excise rates for cigarettes (225 NIO per 1000 cigarettes).

In November 2012, the parliament adopted new taxation law (No 822) which set specific excise rates for cigarettes for 2012-2016 (Figure 2). According to the article 191 of the law from January 1, 2017, the specific excise rate will be updated annually, taking into account the annual devaluation of the official exchange rate the Cordoba (NIO) to the United States Dollar, published by the Central Bank of Nicaragua (BCN), and the annual inflation rate by the Consumer Price Index (CPI) published by the Institute for Information and Development (INIDE), observed in the last twelve months available.

Figure 2. Specific excise rates in 2012-2018 (in NIO per 1000 cigarettes)



The updated cigarette excise rate is calculated and published by the Ministry of Finance and Public Credit by a ministerial order during the first twenty days of the month of December of the year prior to its entry into force. In 2017, the Ministry of Finance increased the rate by 5% (Order No 31-2016²⁸) and in 2018 by 5.5% (Order No 28-2017²⁹).

The VAT rate in Nicaragua is 15%.

²⁵ <https://www.dga.gob.ni/ley/LEY%20No%20343%20-Reforma%20a%20la%20Ley%20257.pdf>

²⁶ <https://www.tobaccocontrollaws.org/files/live/Nicaragua/Nicaragua%20-%20Specific%20Consumption%20Tax%20Rates%20-%20national.pdf>

²⁷ <http://sajurin.enriquebolanos.org/vega/docs/G-2009-12-21.pdf>

²⁸ http://www.hacienda.gob.ni/Ministerio/direccion-superior/DespachoViceministra/Acuerdo%20Ministerial%2031_19dic2016_Impuesto%20Selectivo%20de%20Consumo%20a%20Cigarrillos.pdf/view

²⁹ <http://www.hacienda.gob.ni/documentos/documentos-mhcp/Documentos-DespachoViceministra/Acuerdo-Ministerial-28-2017-actualizacion-tarifa-IEC.pdf/view>

Tobacco excise revenue

According to the OECD database³⁰, cigarette excise revenue in Nicaragua gradually increased from 100 million NIO in 2001 to 177 million NIO in 2008, but then it decreased to 39 million NIO in 2010. In subsequent years, the recorded cigarette revenue was 0 (except 2013, when it was 174 million NIO) because the Nicaraguan tobacco company stopped producing and the tax was collected by Customs as an excise on import products³¹. Revenue from excise on import increased from 55 million NIO in 2008 to 156 million NIO in 2010, but then gradually decreased to 117 million NIO in 2016. It should be noted that total revenue from customs duty (for all kinds of products) increased from 908 million NIO in 2009 to 2,631 million NIO in 2016.

According to the WHO Global tobacco control reports, in 2015 tobacco excise revenue in Nicaragua were 453 million NIO, a decrease from 500 million NIO in 2011.

However, taking into account that specific excise rate for cigarettes increased in 2012-2015 by 102% (see Figure 2), and cigarette import decreased in those years by about 10% (see Figure 1), cigarette excise revenue should have substantially increased in 2013-2015.

Cigarette prices

According to national statistics reports, the price for a pack of 20 most popular cigarettes (Belmont) increased from 3.29 NIO in 1992 to 9.77 NIO in 1999³² and then to 11.94 NIO in 2002³³. No information on cigarette prices for the subsequent years is available in the official statistics reports.

According to the WHO Global tobacco control reports, the price of Belmont cigarette pack increased from 21 NIO in 2008 to 28 NIO in 2010 and 2012, then to 39 NIO in 2014 and 50 NIO in 2016. In 2008-2012, the price increased by 33%, while the inflation rate for those four years was 27%. In the next four years (2012-2016), cigarette price increased by 79%, while the inflation rate was 22%. Price of the most popular cigarettes increased by 22 NIO in 2012-2016, while specific excise rate increased only by 6.5 NIO (from 4.5 to 11 NIO per pack of 20 cigarettes). So the cigarette price increase was mainly caused by pricing policy of tobacco industry, but not by the governmental taxation policy.

According to the World Bank database (Table 2), GDP per capita based on constant local currency increased in 2008-2012 by 9% and in 2012-2016 by 15%. As cigarette price growth much exceeded both inflation and GDP growth in 2012-2016, cigarettes became less affordable in Nicaragua in these years; yet, in 2008-2012 cigarette affordability did not change much.

Table 2. Inflation and GDP growth in Nicaragua

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Inflation, consumer prices (annual %) | 11,1 | 19,8 | 3,7 | 5,5 | 8,1 | 7,2 | 7,1 | 6,0 | 4,0 | 3,5 |
| GDP per capita growth (annual %) | 3,7 | 2,1 | -4,5 | 3,1 | 5 | 5,2 | 3,7 | 3,6 | 3,7 | 3,5 |

Source: World Bank database.

³⁰ <https://stats.oecd.org/Index.aspx?DataSetCode=REVNIC>

³¹ <https://www.elnuevodiario.com.ni/economia/307233-industria-fiscal-aporta-mas/>

³² http://www.inide.gob.ni/bibliovirtual/publicacion/comp90_99.pdf

³³ <http://www.inide.gob.ni/compendio/pdf/inec631.pdf>

Cigarette smuggling

In 2001-2002, illicit cigarette market in Nicaragua was estimated as 10% [18], while the methods of estimation were not disclosed.

In May 2015, KPMG agency issued a report called "Project Frost" [19] funded by British American Tobacco (BAT). The purpose and scope of this study were established through an agreement with the BAT. The study had to consider the smuggling and the counterfeit segments of the tobacco market in 16 Latin American markets (including Nicaragua) and Canada (with a focus on Ontario). According to this agreement, KPMG had to show the country-specific preliminary results for each of the markets included in the study to the BAT administration teams in order to obtain feedback and comments before finalizing the results. Most data for the study (sales, prices, taxes) were provided by the BAT. The estimates of illicit sales were based on so-called empty pack surveys (EPS). The results of EPS were provided to KPMG by the BAT.

According to the EPS results shown in the 'Project Frost' report [19], contraband cigarettes accounted for 5.3% of cigarettes consumed in Nicaragua in 2014. Almost all contraband cigarettes in Nicaragua were labeled Panamanian. In 2014, the average price of a legal tobacco pack in Nicaragua was \$1.29 compared to \$4.08 in Panama. However, the report claims that the empty Panamanian packs found in Nicaragua were Chinese brands from the free zone of Panama and were likely to have lower prices. No counterfeit packs were identified in the EPS.

The number of collected packs for the EPS in Nicaragua is not disclosed, but only two illicit brands were found: Silver Elephant (90% of all illicit empty packs) and Marshal (10%). Such results make us suspect that the number of empty packs collected by BAT team was very small and limited to some areas, where consumption of illicit cigarettes was most probable.

The KPMG report had to admit that some cigarettes legally sold in Nicaragua are smuggled out of the country to Honduras. This kind of smuggling was confirmed by police reports. For example, in November 2017, Honduras police reported that it seized 76,000 cigarettes of Nicaraguan origin³⁴.

Comparison of cigarette prices and taxes in Nicaragua and neighboring countries

The WHO Global Tobacco Report, 2017 [20], contains information on cigarette prices and taxes in Nicaragua and other countries of the WHO Americas Region (AMRO) in 2016 (Table 3).

Table 3. Cigarette prices and taxes in Nicaragua and some neighboring countries in 2016, WHO report data [20]

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of the price of the most sold brand | | | | | |
|-------------|---|-------------------|------------------------------------|--|-------------------|--------------|---------------------------|-----------|-----------------|
| | In reported currency | Currency reported | In US\$ at official exchange rates | Specific excise | Ad valorem excise | Total excise | Value added tax/sales tax | Total tax | Total tax, US\$ |
| Belize | 5.00 | BZD | 2.50 | 26.0% | 0.0% | 26.0% | 11.1% | 37.1% | 0.93 |
| Canada | 10.29 | CAD | 7.89 | 57.2% | 0.0% | 57.2% | 9.0% | 66.2% | 5.22 |
| Costa Rica | 1 700 | CRC | 3.09 | 26.6% | 31.2% | 57.9% | 11.5% | 69.4% | 2.14 |
| El Salvador | 2.00 | USD | 2.00 | 22.5% | 18.5% | 41.0% | 11.5% | 52.5% | 1.05 |
| Guatemala | 16.50 | GTQ | 2.18 | 0.0% | 38.3% | 38.3% | 10.7% | 49.0% | 1.07 |
| Honduras | 44.00 | HNL | 1.92 | 19.1% | 0.0% | 19.1% | 15.3% | 34.3% | 0.66 |

³⁴ <http://www.trincheraonline.com/2017/11/27/capturan-millonario-contrabando-cigarrillos-nicaragua/>

| | | | | | | | | | |
|--------------------------|--------------|------------|-------------|--------------|-------------|--------------|--------------|--------------|-------------|
| Mexico | 47.39 | MXN | 2.51 | 14.8% | 38.7% | 53.5% | 13.8% | 67.3% | 1.69 |
| Nicaragua | 50.00 | NIO | 1.74 | 22.1% | 0.0% | 22.1% | 13.0% | 35.1% | 0.61 |
| Panama | 4.25 | PAB | 4.25 | 0.0% | 43.5% | 43.5% | 13.0% | 56.5% | 2.40 |
| United States of America | 6.43 | USD | 6.43 | 37.8% | 0.0% | 37.8% | 5.2% | 43.0% | 2.77 |

Cigarette prices and taxes (in monetary terms) in Nicaragua were the lowest among all countries of the region. Total tax share in Nicaraguan cigarettes was just 35%, just a little more than in Honduras, but much lower than in other countries.

Discussion

Data on smoking prevalence and tobacco consumption in Nicaragua are scarce and it is difficult to estimate recent tobacco consumption trends.

In 2009, Nicaragua switched from ad valorem to specific excise system for cigarettes. The specific rates increased by 145% in 2012-2016, while cigarette prices increased by 79% over the same time. Available data demonstrate some decline in cigarette sales in Nicaragua from 2012, as cigarettes became less affordable after the price increase. So, the taxation policy was beneficial for public health. However, the sales decline was rather moderate (about 10%), thus governmental tobacco excise revenue should have increased. Unfortunately, the data on tobacco excise revenue for recent years are not available.

The tobacco industry used the excise hikes of 2013-2016 to increase net-of-tax cigarette price to get additional profits. However, even after these tax and price increases, cigarette prices in Nicaragua are the lowest in the region. This demonstrates that the government still has substantial potential for further excise tax increase.

Specific excise rates in 2017 and 2018 were increased by only 5% annually. This is insufficient both for the reduction of tobacco affordability and for the increase of the governmental revenue.

As to cigarette smuggling into Nicaragua, the only available relatively recent estimate (5% of the cigarette market) is fully based on the empty pack survey conducted by the BAT in 2014. Further on, this estimate was used in the KPMG Project Frost report. Later on, the CID Gallup agency issued a presentation called *THE ILLICIT TRADE OF CIGARETTES IN CENTRAL AMERICA - From ant smuggling to an elephant in the market*³⁵. This presentation contains footnotes that KPMG Frost is the source of estimates, but BAT is not mentioned at all. Then CID Gallup manager for Latin America, Esteban Álvarez, presented these results as a CID Gallup own study, commissioned by the North American Costarican Chamber of Commerce (AmCham)^{36 37}. At this stage, not only BAT but even KPMG was not mentioned. The whole process looks like “data laundering” as BAT was probably aware that their survey results would not look credible.

So, we can assume that BAT estimate of cigarette smuggling into Nicaragua is much exaggerated while smuggling out of Nicaragua to Honduras and Costa Rica might have substantial extent, as Nicaragua has the lowest cigarette prices in the Region.

³⁵

https://cigarroilicito.weebly.com/uploads/1/0/9/4/109477265/16_10_19_estudio_completo_contrabando_cid_gallup.pdf

³⁶ <http://www.eleconomista.net/2016/10/20/cigarrillos-ilegales-un-peligroso-elefante-del-mercado-en-ca>

³⁷ <http://www.panamaamerica.com.pa/economia/en-panama-el-67-de-los-cigarrillos-son-de-marcas-ilegales-1047440>

Conclusions

1. In 2013-2016, Nicaragua substantially increased specific cigarette excise rate and this caused some decrease in tobacco consumption as cigarettes became less affordable. Tobacco excise revenue also apparently increased in 2013-2016. However, cigarettes in Nicaragua still have the lowest prices among the Central American countries.
2. The tobacco taxation policy conducted in 2017 and 2018 (annual increase of the specific excise rate by 5%) is able to increase real governmental tobacco excise revenues only in case of tobacco consumption growth.
3. The current legislative norm on annual excise increase by inflation level should be reconsidered. For further reduction of tobacco affordability, the extent of excise increase should be substantially higher than the levels of inflation and income increase combined.
4. Tobacco taxation policy within the country has no impact on tobacco growing and cigar production, as raw tobacco and most produced cigars are exported.
5. There were no factors which could substantially increase cigarette smuggling into Nicaragua in recent years and the estimates of smuggling levels made by the tobacco industry and its allies are usually misleading.

Recommendations

- Specific excise rate for cigarettes should be annually increased by at least 20% to ensure the reduction in tobacco affordability and the increase in the excise revenues.
- Tobacco use surveillance and monitoring should be developed in Nicaragua, including a regular collection of information on smoking prevalence, tobacco consumption, cigarette sales, prices and other economic indicators.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Papua New Guinea

Tobacco control legislation

Papua New Guinea (PNG) became a Party to the WHO Framework Convention on Tobacco Control on August 23, 2006.

PNG was an early adopter of tobacco control measures with the introduction of the Tobacco Product (Health Control) Act in 1987, and the development of a National Policy on Tobacco Control in 2004. However, the implementation of these measures has been challenging due to lacking enforcement and regulation [1]. Smoking has been banned in public motor vehicles, cinemas and theaters, buildings and offices of educational, health and governmental institutions since 1991². However, the enforcement was rather poor. In 2016, 71% of 13-15 years old students responded that they had seen someone smoking inside the school building or outside of the building on the school territory during the past 30 days [2]. In 2017, the media reported³ that Papua New Guinea did not apply any policies against tobacco use in public spaces, meaning that people can smoke everywhere, even on Public Moving Vehicles.

On November 3, 2016, the parliament unanimously adopted the Tobacco Control Act 2016 [3], which repealed the Tobacco Product (Health Control) Act of 1987⁴. However, the Act of 2016 is rather declarative, as numerous regulations should be developed and adopted for the implementation and enforcement of its provisions. In February 2018, Health and HIV/AIDS Minister said that the regulations for the Act were developed in 2017 and were expected to be fully implemented in 2018⁵; however, there was no other information in the media regarding these regulations.

Smoke-free areas can be designated by the order of the Minister of Health in any building or part of a building to which members of the public have access (Article 8 of the Act), but it means that smoking cannot be prohibited in any areas outside of buildings, except for public transport. Article 9 of the Act declares that smoking in the workplaces is prohibited, while Article 12 states that in some workplaces, smoking can be permitted under the Act.

Tobacco advertising is banned by the Article 14 of the Act, but Articles 15, 16 and 17 contain numerous exceptions, for example, point-of-sale advertising is permitted. In March 2017, the British American Tobacco (BAT) conducted a premium launch of its two brands in Port Moresby with wide media coverage⁶.

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² <https://www.tobaccocontrolaws.org/files/live/Papua%20New%20Guinea/Papua%20New%20Guinea%20-%20SF%20Declaration%20-%20national.pdf>

³ <https://postcourier.com.pg/second-hand-cigarettes-dangerous-health/>

⁴ <http://www.looppng.com/content/new-tobacco-bill-passed>

⁵ <https://www.thenational.com.pg/law-address-illegal-sale-tobacco-underage-smoking/>

⁶ <https://postcourier.com.pg/bat-brings-back-legendary-brands/>

Health warnings (Article 28 of the Act) should be placed on tobacco packages in accordance with regulations and should take up a minimum 50% of the principal display areas and may be in the form of, or include, pictures or pictograms (Article 28 of the Act). Currently, cigarettes are sold with text-only (in English and local language) warnings which take about 30% of the upper side of a cigarette pack; however, it is not clear if any document regulates these warnings. The regulations required by the Article 28 of the Tobacco Control Act of 2016 have not yet been issued. Cigarettes with Philippine's health warnings were recently sold in the online shop in Papua New Guinea⁷.

According to the media reports, the most prominent provision of the Tobacco Control Act is Article 24 which prohibits the sale of cigarettes in packets with less than 25 sticks and the sale of packages of loose tobacco smaller than 25 grams.

In March 2017, Health Secretary said⁸ that he directed *"his department to act immediately to draft a National Executive Council submission and an instrument for the consideration of the Governor-General who has the power to issue a Notice under the Act nominating a date Section 24 comes into operation"*. This date would be made 12 months from the date of the Gazette Notice and so the affected companies would have enough time to prepare for the reform. However, the regulations have not been issued. Health Secretary has said that *"the purpose of such measure is to discourage young people from buying tobacco products or to make them less attractive to young people. It is the smaller and therefore cheaper packages of tobacco product which tend to be more likely to be bought by young people who often have less available money to spend"*⁹. However, a media report¹⁰ said that young people do not necessarily have to purchase packs from shops, as there are many street vendors who readily sell single cigarettes to people of any age. Cigarettes in small (5 or 10 cigarettes) packs were almost not sold in the country, and for children, there is no big difference between the packs of 20 and 25 cigarettes.

The most concerned stakeholder for the implementation of the 20-cigarettes packs' ban appeared to be the British American Tobacco. Already in March 2017, BAT reported to the media¹¹ that it had complied with the new tobacco law by removing from the market one of its brands with 20 cigarettes in a pack. In April 2018, BAT-PNG external affairs manager George Panao said: *"Unfortunately, the progress has been slow with respect to the enforcement of the Tobacco Control Act 2016 and the minimum pack size of 25"*¹². There is an impression that the provision to ban 20-cigarette packs was inspired by BAT: firstly, to fight its competitors and, secondly, to create the impression that tobacco control is being implemented by promoting the policy which hardly has any impact on tobacco consumption.

Tobacco use among adults

According to published international estimates [4], the age-standardized adult smoking prevalence in Papua New Guinea was rather stable in 1980-2012: 36.7-37.5% among the total population (about 52% among men and 22% among women).

According to the STEPS-2007 survey covering people aged 15-64 years, 44% of respondents were current smokers (60% of men and 27% of women). Almost all smokers were daily smokers, but on average they smoked only 3.3 cigarettes a day [5, 6].

⁷ <https://www.fortunaonline.net/supermarket/tobacco-products/cigarettes/marlboro-ice-blast.html>

⁸ <https://newslinkpng.wordpress.com/2017/03/02/parliament-act-to-ban-cigarette-sale/>

⁹ <https://postcourier.com.pg/tobacco-control-act-effective-next-year/>

¹⁰ <https://www.thenational.com.pg/tobacco-heart-disease/>

¹¹ <https://postcourier.com.pg/bat-removes-dunhill-20-product-from-shelves/>

¹² <https://www.thenational.com.pg/untaxed-tobacco-products-hitting-govt-revenue/>

The next survey (Household Income & Expenditure Survey (HIES) conducted in 2009-2010 reported that 26.3% of adults were current tobacco smokers (37.3% of men and 14.5% of women)¹³ [7].

The detailed analysis of the HIES data [8] (conducted by World Bank specialists) revealed that the prevalence of smoking among people aged 18 and over was the highest in terms of both current smoking and ever smoking among the poorest quartile, measured as 42% and 49% respectively. The prevalence of current smoking and ever smoking in the wealthiest quartiles was 35% and 39%, respectively. For households in the poorest quartile, tobacco consumption accounted for 6.6% of total household expenditures as compared with 4.9% for the entire sample. People from rural areas were more likely to smoke than people from urban areas.

Smoking of unprocessed tobacco is quite common across all income quartiles in PNG, but individuals in the wealthier quartiles, younger ones and those living in urban areas are more likely to consume manufactured cigarettes than those poorer, older and rural dwellers.

A cross-sectional survey of people aged 15-65 years was conducted in 2013-2014 [9]. The measured prevalence of daily tobacco smoking constituted 48% (69% among men and 29% among women). Among all smokers, 12% reported smoking filter cigarettes, 19% - unfiltered dark tobacco (spear/mutrus), 69% - home-grown tobacco (brus).

The Demographic and Health Survey was conducted in Papua New Guinea in 2016-17 and measured various indicators including tobacco use. However, the results have not been yet published. Earlier conducted DHS [10] did not measure tobacco use.

Tobacco use among youth

In the NCD and Manus survey conducted in 1996-97 [11], the prevalence of smoking among young people aged 8-10 years was 10% and 7% in NCD and Manus respectively; among those aged 11-12 years - 12% and 11%; among those aged 13-14 years - 16% and 13%; among those aged 15-16 years - 18% in both survey parts.

The 2002 Education Welfare Study of students in upper primary (grades 7-8) and secondary (grades 9-12) school revealed that 10% of grade 7, 18% of grade 9 and 26% of grades 11 were smokers [1].

The Global Youth Tobacco Survey (GYTS) was conducted in 2007 [12] and 2016 [2].

¹³ http://www.who.int/tobacco/surveillance/policy/country_profile/png.pdf

Table 1. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in Papua New Guinea, %, GYTS

| | 2007 | 2016 |
|---|-------------|-------------|
| Currently used any tobacco product | 47,7 | 33,3 |
| boys | 55,4 | 40,1 |
| girls | 40,3 | 28,3 |
| Currently smoked cigarettes | 43,8 | 20,7 |
| boys | 52,1 | 29,9 |
| girls | 35,8 | 13,6 |
| Current smokeless tobacco users | | 12,2 |
| boys | | 10,9 |
| girls | | 13,6 |
| Lived in homes where others smoked in their presence | 73,9 | 57,5 |
| Had at least one parent who smoked | 36,4 | |

Comparison of results of GYTS conducted in 2007 and 2016 showed that some decline in tobacco use (especially cigarettes) was achieved. However, in 2016, 20% of boys and 19% of girls used electronic cigarettes during the past 30 days. Smokeless tobacco use was more prevalent among girls.

The percentage of teenagers, who lived in homes where others smoked in their presence, also decreased from 73.9% in 2007 to 57.5% in 2016, and this can be considered an indirect indicator of changes in smoking behavior among adults. In 2007, 36% of children had at least one parent who smoked. It is an indirect estimate of smoking prevalence among adults.

According to the HIES, in 2010 the smoking prevalence among the youth aged 11-17 years was 5.5% (8% among boys and 2.8% among girls) [8].

Tobacco growing

The FAO database [13] does not have information on raw tobacco production in PNG.

All the tobacco leaf used for manufacturing cigarettes in PNG was imported from abroad [1]. The only small-scale local tobacco cultivation by an Australian-based tobacco company was abandoned in the 1980's. However, tobacco is grown widely in PNG by rural dwellers for their own use and is often sold at local markets in the form of dried leaves called "brus".

In 2016, British American Tobacco PNG announced that it would buy locally produced tobacco leaves for its cigarette products¹⁴. BAT General Manager Michael Penrose said it was the first time ever in the company's 50-year history in PNG to purchase locally grown tobacco leaves for its local factory.

Tobacco production and sales

A traditional tobacco product in Papua New Guinea is called "brus". It is an unbranded loose tobacco grown in the country and sold by informal businesses which do not pay excise taxes [3]. This tobacco product is still popular, especially in Western Highlands Province¹⁵. Some people grow "brus" for their own consumption, but the majority grows it for income purposes.

From 1960 to 1979, the total annual consumption of tobacco (all kinds of taxable tobacco products and non-taxed brus) in Papua New Guinea increased from 573 to 1800 metric tons [14]. In the 1960s, cigarette smoking became popular in Papua New Guinea. The year 1969 was the first one when PNG

¹⁴ <https://postcourier.com.pg/bat-to-buy-locally-produce-tobacco-leaves/>

¹⁵ <https://postcourier.com.pg/tobacco-thriving-business-whp/>

smokers consumed more cigarettes than brus, but by 1979 the sales of cigarettes accounted for 71% of total tobacco consumption [15]. Between 1973 and 1979, the consumption of locally made cigarettes rose from 692,000 kg to over 1 million kg [16]. Non-cigarette taxable tobacco was also widely used in the country: in 1973-1986 reported cigarette consumption was 0.22-0.44 kg per capita and non-cigarette (taxable) tobacco consumption was 0.24-0.53 kg per capita [17].

British American Tobacco is the main cigarette manufacturer in the country. BAT owns a plant in Madang; back in 1999, it closed the tobacco and cigarette factory in Goroka following the worldwide merger of the former Rothmans of Pall Mall and Wills into BAT.

In the 2000s, BAT was the only tobacco manufacturer in the country¹⁶. However, in recent years, two small cigarette manufacturers also operated in PNG: Golden Borough Limited and the manufacturer and distributor of Rave cigarettes¹⁷.

The official data on cigarette production, import, export, and sales in the country are not available.

The media reported that in 2011, British American Tobacco sold on average 100 million cigarettes per month and 1.2 billion cigarettes per year¹⁸.

Tobacco taxation

Since the 1999 tax and tariff reform PNG has been using specific excise rates for tobacco products. The excise rates for tobacco products were indexed by 4% every six months from May 1, 2003. However, the 2004 Budget froze the indexation for 12 months until November 31, 2004. From December 1, 2004, the excise indexation for tobacco products resumed at 2.5% [18]. From December 1, 2005, the excise indexation for tobacco products became the lesser of 2.5% and the increase in the Consumer Price Index (CPI) which had to be applied every six months [19]. This means that if the CPI was above 2.5%, then a maximum of 2.5% was applied. However, if the CPI was less than 2.5%, then the excise had to be adjusted to the CPI inflation rate.

Further on, in some years, the rates were indexed bi-annually. However, in some cases, the rates were increased to a higher extent. The excise rates for several periods during 2004-2017 were found in the official documents published on sites of the Treasury¹⁹ or the Parliament²⁰, and they are presented in Table 2.

¹⁶ <https://www.thenational.com.pg/bat-no-hike-in-prices-of-tobacco-items/>

¹⁷ <https://postcourier.com.pg/fake-cigarettes-a-concern/>

¹⁸ <https://www.thenational.com.pg/probe-bat%E2%80%99s-%E2%80%98corporate-greed%E2%80%99/>

¹⁹ <http://www.treasury.gov.pg>

²⁰ <http://www.parliament.gov.pg>

Table 2. Excise rates for tobacco products in Papua New Guinea, in Papua New Guinea Kina (PGK)

| | 2004 | 1 Dec 2008 | 1 Dec 2011 | 1 Jan 2012 | 30 Nov 2012 | 1 Dec 2014 | 1 Dec 2015* | 1 Dec 2016* | 1 Jan 2017 | 1 June 2017* | 1 Dec 2017* | 1 June 2018* |
|---|--------|------------|------------|------------|-------------|------------|-------------|-------------|------------|--------------|-------------|--------------|
| Cigars per 1 kg | 135,46 | 150,9 | 182,02 | 208,17 | 232,51 | 259,13 | 285,69 | 314,98 | 362,23 | 380,34 | 399,36 | 419,33 |
| Regular cigarettes per 1000 sticks | 135,46 | 150,9 | 181,02 | 208,17 | 232,51 | 259,13 | 285,69 | 314,98 | 362,23 | 380,34 | 399,36 | 419,33 |
| Spear cigarettes without filter per 1000 sticks | 67,73 | 75,45 | 90,51 | 104,09 | 116,26 | 129,58 | 142,86 | 157,51 | 181,14 | 190,20 | 199,71 | 209,69 |
| Smoking, chewing and other tobacco per 1 kg | 45,15 | 50,3 | 60,36 | 69,41 | 77,53 | 86,4 | 95,26 | 105,02 | 120,77 | 126,81 | 133,15 | 139,81 |
| Coarse shredded tobacco for RYO cigarettes per 1 kg | X | 29,18 | 29,18 | 33,56 | 37,48 | 41,78 | 46,06 | 50,78 | 58,39 | 61,31 | 64,37 | 67,59 |

*Excise rates calculated by authors, based on the provisions on excise rate indexation.

As the real value of excise rates on tobacco products had been eroded by inflation (because the annual indexation of rates could not exceed 5%), the one-off increase in excise rates by 15% from 1 January 2012 was adopted to compensate for around 4 years of this erosion²¹. In December 2012, the excise rate was additionally increased by 10%²². From December 1, 2014, the excise indexation was increased to 5% biannually (10% annually)²³. Excise rate on tobacco products was additionally increased by 15% as of 1 January 2017, following the normal fixed 5% bi-annual index increase²⁴.

For imported tobacco products, import duty is also paid. In 2002, the duties were decreased²⁵ (Table 3). In 2018, the duty rate was substantially increased²⁶, as reported, “to assist domestic manufacturers²⁷”.

Table 3. Import duty rates for tobacco products, in PGK

| | 2001 | 2002 | 1 December 2002 | 1 January 2015 | 1 January 2018 |
|---|------|------|-----------------|----------------|----------------|
| Cigars per 1 kg (from 2018 - per 1000 sticks) | 60 | 50 | 45 | 45 | 200 |
| Cigarettes per 1000 sticks | 90 | 80 | 65 | 75 | 200 |
| Smoking tobacco per 1 kg | 60 | 50 | 45 | 45 | 100 |

Goods and services tax (GST) rate is 10%; it applies to most goods and services in Papua New Guinea, including tobacco products.

²¹http://www.treasury.gov.pg/html/national_budget/files/2012/budget_documents/Volume1/chapters/vol1.chapter6.pdf

²² <https://www.thenational.com.pg/k2-549-budget-deficit-a-concern/>

²³ http://www.treasury.gov.pg/html/national_budget/files/2015/Vol1-Economic%20and%20Development%20Policies.pdf

²⁴ <https://home.kpmg.com/content/dam/kpmg/xx/pdf/2016/11/tnf-png-november-3-2016.pdf>

²⁵http://www.treasury.gov.pg/html/national_budget/files/2008/budget_documents/Tax%20Amendment%20Bills/Customs%20Tariff%20Amendment%20Bill/CustomsTariff_Ch23-28.pdf

²⁶ <http://customs.gov.pg/wp-content/uploads/2018/08/PNG-Customs-Tariffs-HS-2017.pdf>

²⁷[http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2018%20Mid-Year%20Economic%20and%20Fiscal%20Outlook%20\(MYEFO\)%20Report.pdf](http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2018%20Mid-Year%20Economic%20and%20Fiscal%20Outlook%20(MYEFO)%20Report.pdf)

Tobacco excise revenue

According to the WHO [20], in 2011, the tobacco excise revenue was 215 million PGK.

The treasury annually publishes budget reports with information on revenue from domestic excise, import excise, and import duty, but for all kinds of excise goods combined, including alcohol and tobacco. In 2009–2017, domestic excise revenue increased from 355 million PGK to 757 million PGK, import excise – from 139 million to 348 million and import duty from 144 million to 246 million. In these eight years, total excise revenue increased more than 2-fold.

In the first half of 2018, Import Duty and Import Excise revenues decreased. The volume of tobacco imports reduced by 44% compared to the first six months of 2017. The treasury report²⁸ suggested that the lower half-year collection is linked to a higher than expected impact of the increase in import duty, which appears to have resulted in the substitution of imported excisable products in favor of local excise products. However, it should be noted that in the first half of 2017 import excise revenue was 142 million PGK²⁹, while in the second half of 2017 it was 206 million PGK (45% more). Actual import excise revenue in 2017 was 348 million PGK, while only 300 million PGK were planned in the budget. Alcohol import duty rates were not changed in 2018, while tobacco import duty was substantially increased (Table 3). Tobacco industry sharply increased the volumes of imported cigarettes in the last months of 2017 to pay the duty at a lower rate and then in the first months of 2018 the import declined as there were enough cigarettes in stocks.

BAT reported to the media that it contributed more than 250 million PGK in excise revenue to the Government in 2014³⁰ and over 400 million PGK in 2017³¹.

Cigarette prices

At the webpage of the National statistical office (NSO), no regular data on cigarette prices is available. Consumer price indices are usually reported for alcohol, tobacco and betel nut combined³². However, NSO reported that between June 2012 and March 2013, cigarette prices increased by 29.8%³³, while the inflation rate was 4.9%. In June 2014 – June 2015, cigarette prices increased by 44.6%, while the inflation rate was 5.7%³⁴.

The media reported that in August 2012, the price of Pall Mall pack (25 cigarettes) increased from 14 to 18.7 PGK³⁵; however, in late 2011, the price was 11.95 PGK³⁶.

WHO [21] provided data on prices for the most popular cigarette brand (Pall Mall) in 2008, 2012, 2014 and 2016. These prices are presented in Figure 1. For 2015, we took prices from the Treasury report³⁷. Then we took excise rates from Table 2 and calculated the net-of-tax price as Price – Excise – GST.

²⁸[http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2018%20Mid-Year%20Economic%20and%20Fiscal%20Outlook%20\(MYEFO\)%20Report.pdf](http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2018%20Mid-Year%20Economic%20and%20Fiscal%20Outlook%20(MYEFO)%20Report.pdf)

²⁹http://www.treasury.gov.pg/html/national_budget/files/2013/budget_documents/Related%20Budget%20Documents/2017%20Mid-Year%20Economic%20and%20Fiscal%20Outlook%20Report.pdf

³⁰ <https://www.thenational.com.pg/k26-3m-lost-to-illegal-tobacco/>

³¹ <https://www.thenational.com.pg/untaxed-tobacco-products-hitting-govt-revenue/>

³² <https://www.nso.gov.pg/index.php/economics/consumer-price-index>

³³ <https://www.nso.gov.pg/index.php/document-library?view=download&fileId=132>

³⁴ <https://www.nso.gov.pg/index.php/document-library?view=download&fileId=130>

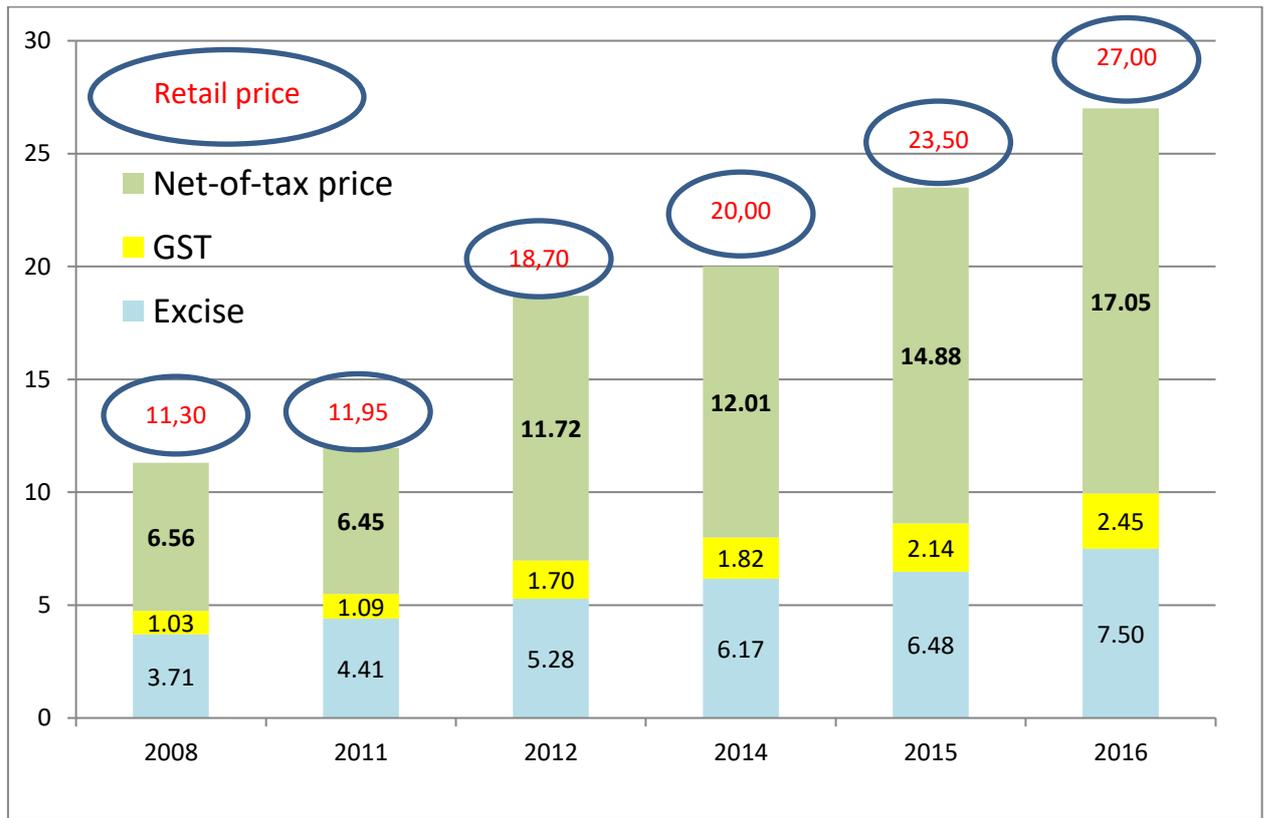
³⁵ <https://www.thenational.com.pg/cigarette-prices-rise-in-the-city/>

³⁶ <https://www.thenational.com.pg/bat-no-hike-in-prices-of-tobacco-items/>

³⁷

http://www.treasury.gov.pg/html/media_releases/files/2016/Tax%20Review%20Final%20report%20Vol%202.pdf

Figure 1. Retail price and its components of 25 cigarettes pack of the most popular brand, PGK



In 2008-2016, cigarette price increased by 139%. Cigarette excise rate increased by 102%. Net-of-tax price increased by 160% while the inflation rate for these eight years combined was 54%. Tax (excise + GST) share in cigarette price decreased from 46% in 2011 to 37% in 2016.

The WHO Global Tobacco Report 2017 shows information on cigarette prices and taxes in Papua New Guinea and other countries in 2016 [21] (Table 4).

Table 4. Cigarette prices and taxes in Papua New Guinea and neighboring countries

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of price of the most sold brand | | | | | | Total tax, USD | <i>Net-of-tax part of the price, USD</i> |
|----------------------------------|---|-------------------|-------------|--|-------------------|--------------|----------------|------------------------|--------------|----------------|--|
| | In reported currency | Reported currency | In USD | Specific excise | Ad valorem excise | Total Excise | VAT/ Sales tax | Other taxes and duties | TOTAL TAX, % | | |
| Australia | 21,00 | AUD | 15,8 | 51,2% | 0,00% | 51,2% | 9,1% | 0,0% | 60,3% | 9,52 | 6,28 |
| Cook Islands | 21,70 | NZD | 15,4 | 63,6% | 0,00% | 63,6% | 10,4% | 0,0% | 74,0% | 11,42 | 4,01 |
| Fiji | 12,00 | FJD | 5,77 | 30,3% | 0,00% | 30,3% | 8,3% | 0,0% | 38,5% | 2,22 | 3,55 |
| Kiribati | 6,00 | AUD | 4,51 | 35,0% | 0,00% | 35,0% | 7,0% | 0,0% | 42,0% | 1,90 | 2,61 |
| Marshall Islands | 2,50 | USD | 2,50 | 0,0% | 0,00% | 0,0% | 3,9% | 40,0% | 54,1% | 1,35 | 1,15 |
| Micronesia (Federated States of) | 2,50 | USD | 2,50 | 0,0% | 0,00% | 0,0% | 20,0% | 40,0% | 60,0% | 1,50 | 1,00 |
| Nauru | 11,00 | AUD | 8,27 | 0,0% | 0,00% | 0,0% | 0,0% | 50,5% | 50,5% | 4,18 | 4,09 |
| Niue | 13,00 | NZD | 9,24 | 0,0% | 0,00% | 0,0% | 10,8% | 58,1% | 84,2% | 7,78 | 1,46 |
| Palau | 6,75 | USD | 6,75 | 74,1% | 0,00% | 74,1% | 0,0% | 0,0% | 74,1% | 5,00 | 1,75 |
| Papua New Guinea | 21,60 | PGK | 6,81 | 27,8% | 0,00% | 27,8% | 9,1% | 0,0% | 36,9% | 2,51 | 4,30 |
| Samoa | 11,50 | WST | 4,52 | 38,5% | 0,00% | 38,5% | 13,0% | 0,0% | 51,6% | 2,33 | 2,19 |
| Solomon Islands | 32,00 | SBD | 4,04 | 19,8% | 0,00% | 19,8% | 9,1% | 0,0% | 28,9% | 1,17 | 2,87 |
| Tonga | 12,00 | TOP | 5,43 | 63,3% | 0,00% | 63,3% | 1,9% | 1,9% | 67,2% | 3,65 | 1,78 |
| Tuvalu | 3,50 | AUD | 2,63 | 0,0% | 42,81% | 42,8% | 2,0% | 5,8% | 50,6% | 1,33 | 1,30 |
| Vanuatu | 720,00 | VUV | 6,60 | 44,4% | 0,00% | 44,4% | 6,2% | 1,8% | 52,5% | 3,46 | 3,14 |
| Indonesia | 21 667 | IDR | 1,65 | 44,3% | 4,43% | 48,7% | 8,7% | 0,0% | 57,4% | 0,95 | 0,70 |

We calculated the net-of-tax price of the most popular cigarette brand as follows: Price in USD * (1 – Total tax share). Cigarettes in PNG had the 5th highest prices among 15 listed countries of the Western Pacific Region but, paradoxically, the second lowest tax share percentage (after the Solomon Islands). It was caused by a very high net-of-tax cigarette price in PNG; only Australia has a higher net-of-tax price.

Cigarette smuggling

In October 2015, official “Papua New Guinea Taxation Review” was published [22]. The review admitted: *“anecdotal evidence suggests that there is significant smuggled tobacco sold in the market and streets of PNG”* and stated that Customs Service should improve its efforts to restrict illicit tobacco trade.

Tobacco Control Policy report published by the National Department of Health in 2015 [1] stated: *“large numbers of cigarettes are known to be brought illegally over the Indonesian border”*.

There are no official estimates of tobacco smuggling into PNG.

All available estimates of cigarette smuggling were presented by the BAT.

In 2012, BAT stated that Illicit tobacco was three million sticks a month (36 million cigarettes annually), and with the current excise rate of 0.20 PGK per stick, it translated to a loss of 7.2 million PGK in annual government revenue³⁸.

In 2013, KPMG issued a report for the BAT and estimated that 11% of cigarettes consumed in PNG were illegal³⁹. Later, BAT manager said this translates into over 100 million cigarettes, and the Government lost around PGK26.3 million each year in excise revenue because of the smuggling of illegal cigarettes⁴⁰.

Then, in 2013, the General Manager of British American Tobacco Michael Penrose claimed that the illicit trade had grown over recent years to be approximately 14% of the legal cigarette market⁴¹.

BAT said that illicit tobacco trade in Papua New Guinea in 2014 caused the total revenue loss of 96.1 million PGK⁴². Taking into account that in 2014 the average cigarette excise rate was about 240 PGK per 1000 cigarettes, the estimated volume of smuggled cigarettes was: $96.1 / 0.24 = 400$ million cigarettes.

In November 2016, BAT PNG spokesperson George Panao said⁴³ that 30% of all tobacco currently consumed in PNG was illegal. He said that the tobacco industry was hit with two ad hoc excise increases – 15% in January 2012 and 10% in December 2012, and these increases resulted in illicit tobacco growing from less than 10% in 2012 to almost 30% in 2016. He said: *We've had record levels of illegal tobacco over the last few years due to excise increases driving prices up*. British American Tobacco PNG stated that if the Government introduced a further round of large ad hoc tobacco excise, it would further fuel the tobacco black market.

In September 2017, British American Tobacco (BAT) director Naved Manzoor said that illicit cigarette trading alone was causing the PNG economy 250 million PGK in lost revenue annually⁴⁴.

In August 2018, External Affairs Manager of BAT PNG David Towe in his presentation on “Illegal trade in tobacco products: The tobacco industry’s experience” at the Sub Committee on Customs Procedures Dialogue in Port Moresby announced that about 600 million sticks equating to 150 million PGK had been lost in excise tax revenue because of “illegal trade in tobacco products”⁴⁵.

BAT urges to involve various governmental bodies into mutual agreements “to combat the illegal trade of cigarettes into PNG”. In 2011, Papua New Guinea Customs Services and British American Tobacco signed a memorandum of understanding to work together and to stop buying and selling of illicit tobacco in the country⁴⁶. In September 2017, BAT PNG signed a Memorandum of Agreement with the Royal Papua New Guinea Constabulary after the two organizations agreed to work together⁴⁷. Currently, BAT recommends setting up an “Anti-Illicit Trade Taskforce” to combat the illegal trade of cigarettes into PNG⁴⁸.

³⁸ <https://www.thenational.com.pg/bat-k7-2m-lost-in-illegal-tobacco-trade/>

³⁹ <https://emtv.com.pg/illegal-tobacco-in-png/>

⁴⁰ <https://www.thenational.com.pg/k26-3m-lost-to-illegal-tobacco/>

⁴¹ <http://news.pngfacts.com/2013/08/contraband-cigarettes-costing-png.html>

⁴² <http://www.solomonstarnews.com/index.php/news/business/item/3172-png-govt-looses-k100m-in-illicit-trade>

⁴³ <https://postcourier.com.pg/govt-to-lose-k90m-to-illicit-trade/>

⁴⁴ <https://postcourier.com.pg/deal-help-fight-illicit-trade/>

⁴⁵ <https://postcourier.com.pg/illegal-trade-hits-tax-bat/>

⁴⁶ <https://www.thenational.com.pg/mou-signed-to-curb-illegal-tobacco-trade/>

⁴⁷ <https://postcourier.com.pg/combating-illegal-tobacco-trade/>

⁴⁸ <https://postcourier.com.pg/illegal-trade-hits-tax-bat/>

There are some media reports about seizures of smuggled cigarettes. Back in 2007, PNG Customs officials seized a container holding 400 cartons of cigarettes that had fake Pall Mall and 'Made in PNG' labels on them but originated in China⁴⁹. In 2017, the Royal Papua New Guinea Constabulary seized 137 cartons of smuggled cigarettes "Double Happiness" which then were officially burnt⁵⁰.

However, some media reports on cigarette smuggling are contradictory as it is not always clear which cigarettes are illegal. In November 2017, Customs Chief Commissioner Ray Paul said⁵¹ that there was no restriction on the importation of genuine cigarette products. Responding to claims that foreign-brand cigarettes like Double Happiness, Golden Bridge and Brus were allowed to be imported and openly sold on the streets, Paul said that there was a public misconception that they were illegal or fake products. Paul said that such cigarette brands had not been registered with PNG Customs under its Recordation and Intervention system as possible intellectual property rights infringing goods, so PNG Customs could not stop their entry into the country. This means that anyone can import and sell these products in PNG.

Such brands as Golden Bridge and Brus (made in Malaysia but with health warnings identical to the warnings on cigarettes made in PNG) were actually openly sold at the online shop with the address in Port Moresby⁵² at prices lower than the current excise rates. It means that this online shop found some ways to evade taxes. This online shop also sold rather cheap Marlboro cigarettes made in the Philippines with new and old Philippine health warnings⁵³ or without health warnings⁵⁴.

Discussion

Tobacco control policies in Papua New Guinea are rather weak. Evidence suggests that pervasive tobacco industry interference serves to undermine tobacco control and public policy in several Pacific countries including Papua New Guinea [23].

The exception among other tobacco control policies is the tobacco taxation policy: in 2008-2017, specific excise rates for cigarettes and other tobacco products increased by 165% (see Table 2) while the inflation rate for these 9 years combined was 62%. In 2015 and 2018, the import duty for cigarettes was also increased (by 208% combined – see Table 3). The government increased tobacco excise rates claiming that it was necessary given the high health risks tobacco poses on the people and as a means to raise additional revenue accounting for the behavioral effects related to the reduction in smoking⁵⁵.

Prices for cigarettes also substantially increased, especially in 2012-2016. The price of a 25-cigarette pack of the most popular brand increased from 12 PGK in 2011 to 27 PGK in 2016 (by 15 PGK or by 126%). However, the excise tax increased only from 4.5 to 7.5 PGK, or by 3 PGK (Figure 1). The main factor of the price increase was the pricing policy of the tobacco industry: the net-of-tax part of the cigarette price increased from 6.5 to 17 PGK (by 10.5 PGK or by 164%). The increase in the net-of-tax price and excise rate also raised GST value in monetary terms.

Such a price increase made cigarettes less affordable as the growth in GDP per capita in constant local currency in 2011-2016 was 20%⁵⁶ which was much lower than the growth in cigarette price. World

⁴⁹ <https://www.smh.com.au/world/png-customs-seize-fake-local-goods-20070907-gdr227.html>

⁵⁰ <https://postcourier.com.pg/ncd-burns-double-happiness-worth-k400000/>

⁵¹ <https://www.thenational.com.pg/customs-puts-story-straight-seizure-tobacco-items/>

⁵² <https://www.fortunaonline.net/supermarket/tobacco-products/cigarettes.html?p=2>

⁵³ <https://www.fortunaonline.net/supermarket/tobacco-products/cigarettes/marlboro-red.html>

⁵⁴ <https://www.fortunaonline.net/supermarket/tobacco-products/cigarettes/marlboro-lights.html>

⁵⁵ http://www.treasury.gov.pg/html/national_budget/files/2015/Vol1-Economic%20and%20Development%20Policies.pdf

⁵⁶ <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=PG>

Health Organization report (2017) also confirms that cigarette affordability in PNG reduced in 2008-2016 [21]. Global Youth Tobacco Survey demonstrates that in 2007-2016 cigarette smoking prevalence in PNG substantially decreased, at least among youth (see Table 1).

WHO-NCI monograph on tobacco economics stated that the changes in cigarette affordability (rather than the level of cigarette affordability) are expected to drive changes in cigarette consumption over time. Reduction in cigarette affordability decreased the prevalence of cigarette smoking in PNG, especially among youth: from 44% in 2007 to 21% in 2016 (see Table 1). Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone [24].

The increase of tobacco excise rates also caused the increase in the governmental tobacco excise revenue: from 215 million PGK in 2011 to over 400 million PGK in 2017.

British-American Tobacco tried to persuade that illegal cigarette sales substantially increased over the last few years *due to excise increases driving prices up*⁵⁷. In reality, the BAT pricing policy was the main driver for the cigarette price increase.

According to the BAT estimates, volumes of smuggling into PNG increased from 36 million in 2011 to 600 million in 2017. However, there is no proof for such an enormous growth of cigarette smuggling.

In 2011, BAT sold 1.2 billion cigarettes in PNG⁵⁸. BAT reported that in 2014 it had paid over 250 million PGK of excise revenue. As the average excise rate was about 240 PGK per 1000 cigarettes, it means that about 1.1 billion cigarettes were taxed. Then BAT reported that in 2017 it paid over 400 million PGK excise revenue. As the average excise rate in 2017 was about 360 PGK per 1000 cigarettes, it means that at least 1.1 billion cigarettes were taxed. In 2018, BAT claimed that one-third of the cigarette industry was illegal and that equated to about 600 million sticks of cigarettes illegally imported and sold⁵⁹. Thus, the legal cigarette sales were $600 \times 2 = 1\,200$ million cigarettes.

So, the decrease of legal cigarette sales in 2011-2017 was rather small, if any. If it took place, it could be caused by the reduction of smoking prevalence (see Table 1) and cigarette consumption as cigarettes became less affordable due to excise increases and the BAT pricing policy.

Cigarette smuggling could also increase, but its real volumes are much smaller than those estimated by the BAT. The main aim of the BAT smuggling claims was to prevent further excise tax increases. In November 2016, when the next excise increase was discussed in the parliament, BAT PNG spokesperson George Panao said: *"We strongly believe that this excise increase will be counterproductive and will hurt both the industry and the Government"*⁶⁰. Fortunately, the parliament ignored BAT statements, and the excise rate was increased by 15% (see Table 2) from January 2017.

The governmental Tobacco Taxation Review [22] recommended that excise indexation for tobacco products every six months should be further increased as follows: the higher of 5% or the CPI. In its submission to the Taxation Review, the Department of Health recommended that tobacco excise indexation is set at 30% per annum [25].

⁵⁷ <https://postcourier.com.pg/govt-to-lose-k90m-to-illicit-trade/>

⁵⁸ <https://www.thenational.com.pg/probe-bat%E2%80%99s-%E2%80%98corporate-greed%E2%80%99/>

⁵⁹ <https://www.thenational.com.pg/meet-discusses-illegal-trade-of-cigarettes/>

⁶⁰ <https://postcourier.com.pg/govt-to-lose-k90m-to-illicit-trade/>

Conclusions

Tobacco taxation policy conducted in Papua New Guinea in 2012-2017 was rather successful as it decreased cigarette affordability and smoking prevalence and increased government revenue.

The pricing policy of the tobacco industry reinforced the impact of excise increases and further reduced cigarette affordability. However, the tax share in cigarette prices is only 37%, and it means that the tobacco industry profits exceed governmental tobacco tax revenues.

There is no real proof of a substantial increase in cigarette smuggling into PNG in recent years; however, the effective policies against cigarette smuggling should be adopted and implemented. One of such policies is the introduction of large pictorial health warnings, which can both make illicit cigarettes more visible and help to reduce cigarette attractiveness and consumption among youth.

Comprehensive tobacco control policies have great potential to further reduce smoking prevalence in the country and should be developed, adopted and enforced.

Recommendations

- Specific excise rates for cigarettes should be further increased by at least 20% annually to ensure the reduction in cigarette affordability and the increase in the excise revenues.
- Tax rates for other tobacco products (including smokeless tobacco) should be substantially increased to further discourage their consumption.
- Large pictorial health warnings on all kinds of tobacco packages should be introduced. The transition period for which both old and new health warnings can circulate should be reasonably short (up to 6 months). After the transition period, the sales of tobacco products without new health warnings should be severely punished.
- Comprehensive smoke-free and other tobacco control policies in line with the FCTC should be developed, adopted and enforced.
- Specific messages to discourage the use of local tobacco (brus) should be developed and distributed.
- Tobacco use surveillance and monitoring should be developed in Papua New Guinea, including a regular collection of information on smoking prevalence, tobacco consumption, licit and illicit cigarette sales, tobacco products prices and other economic indicators.
- Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco turnover should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which should be ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Serbia

Serbia became a Party to the WHO Framework Convention on Tobacco Control on May 9, 2006. Serbia ratified the Protocol to Eliminate Illicit Trade in Tobacco Products on June 30, 2017.

During the breakup of Yugoslavia, Serbia formed a union with Montenegro which dissolved peacefully in 2006, when Serbia reestablished its independence. Serbia officially applied for membership in the European Union on December 22, 2009, and received candidate status on 1 March 2012. Following a positive recommendation of the European Commission and European Council in June 2013, negotiations to join the EU commenced in January 2014. Thus, Serbia had to gradually meet all requirements of the relevant EU directives on tobacco taxation.

Tobacco control policies

Although the situation with low adoption of tobacco control measures in Serbia was strongly criticized in 2008 [1], the law on the protection of the population from exposure to tobacco smoke² was adopted in Serbia in 2010. Health warnings and some other policies are covered by the Law on Tobacco³. As of 2015 [2], tobacco control policies in Serbia were assessed at 24 out of 37 points.

Protect people from tobacco smoke

Healthcare facilities, education facilities including universities, government facilities and public transport in Serbia are completely smoke-free. Outlets (bars, cafés, restaurants, nightclubs etc.) smaller than 80 square meters can choose whether to ban smoking or not, and outlets larger than this margin are obliged to have separate areas for smokers and non-smokers. Establishment or the patron can be fined for violations; however, no system is in place for citizen complaints and further investigations⁴.

Offer help to quit tobacco use

Smoking cessation services are available in some health clinics or other primary care facilities, and the health service or the national health insurance fully covers its costs. Nicotine replacement therapy can be purchased over the counter in a pharmacy but is not cost-covered, and no toll-free quit line is available.

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

² <http://data.euro.who.int/tobacco/Sites/Legislation.aspx?legislatureID=157>

³ http://www.duvan.gov.rs/public/files/Dokumenti/Propisi/Zakoni/ZakonODuvanu/Zakon_o_duvanu5.pdf

⁴ http://www.euro.who.int/__data/assets/pdf_file/0008/312596/Tobacco-control-fact-sheet-Serbia.pdf

Warn about the dangers of tobacco

Health warnings are legally mandated to cover 30% of the front and 40% of the rear principal display area, whereby 12 health warnings are approved by law (Article 77 of the Law on Tobacco). The law also mandates font style, font size, and color for package warnings. However, the health warnings do not include photographs or graphics and are not mandated to appear on each package and any outside packaging and labeling used in the retail sale.

Enforce bans on tobacco advertising, promotion, and sponsorship

Law on Advertising has been in force since May 6, 2016. This Law prohibits all forms of tobacco and tobacco product advertising, including product placement and all these have been applied to the electronic cigarettes, parts of the electronic cigarettes and other products that replace cigarettes or other tobacco products as well⁵.

Total tobacco control expenditures, which may include mass media campaign expenditures, amount to 2 million RSD in Serbia⁶.

Tobacco use in Serbia

Tobacco use among adults

In Serbia and Montenegro in 1994-1995, the prevalence of smoking was estimated at the level of 50.9% among men and 33.3% among women [3]. Studies documented high rates of smoking as well as its health consequences [4] including the upward trends of lung cancer among women [5]. Estimated 17% of male mortality and 9% of female mortality were linked to smoking [6].

Among adults aged 15 years and older, the prevalence of smoking in Serbia was measured during the National Health Surveys (NHS) conducted in 2000, 2006⁷ and 2013 [7]. Current (daily and occasional) smoking prevalence in 2013 was 34.7% (37.9% among men and 31.6% among women). Daily smoking prevalence in 2000 was 33% (40.6% among men, 26.1% among women), then it declined in 2006 to 26.2% (30.7% among men and 22.6% among women), subsequently in 2013 it increased to 29.2% (32.6% among men and 26.0% among women). In 2013, daily smoking prevalence among men was much lower than in 2000, while among women it was almost as high as in 2000. In the survey conducted in 2013 [7], smoking was more prevalent among men, older, more educated and more affluent participants.

Based on the data from the 2006 National Health Survey, factors associated with smoking cessation behaviors were analyzed. It was shown that women and more educated smokers were more likely attempting to quit [8].

In 2006, 29.9% of women in Serbia were current smokers, with a higher percentage of smokers in urban areas than in rural. Smoking prevalence was highest among women with secondary (52.0%) and high school (48.9%) education, those divorced (61.3%), those without children (46.0%) [9]; 37.2% of women smoked at some point in pregnancy [10].

A National Survey on Lifestyles of Citizens in Serbia conducted in 2014 among 5385 adults aged 18-64 years measured a smoking prevalence of 39.8% [11].

⁵ http://untobaccocontrol.org/impldb/wp-content/uploads/Serbia_2018_report.pdf

⁶ http://www.who.int/tobacco/surveillance/policy/country_profile/srb.pdf

⁷ <http://www.batut.org.rs/download/publikacije/National%20Health%20Survey%20Serbia%202006.pdf>

In December 2017, the Survey of effects and attitude related to the Law on the protection of the citizens from exposure to tobacco smoke⁸ was conducted. It was based on a rather moderate sample of the adult population (N = 1045) while the sample of the NHS-2013 was 13,908. The survey of 2017 had different age range and involved participants aged 18 years and above in contrast to the National Health Surveys in Serbia whose participants were aged 15 years and over. In 2017, the prevalence of current smoking among men was almost the same as in 2013 (37.1% vs. 37.9%) while it was much higher among women (37.7% vs. 31.6%).

According to the published international estimates [12], the age-standardized smoking prevalence in Serbia increased in 1980-2006: from 25.3% to 35.7% among men and from 20.2% to 24.2% among women. In 2012, it decreased to 31.9% and 22.8% respectively.

Tobacco use among youth

Two series of smoking prevalence surveys among youth were conducted in Serbia: European School Survey Project on Alcohol and other Drugs (ESPAD), and Global Youth Tobacco Survey (GYTS).

ESPAD surveys were conducted in Serbia in 2008 and 2011⁹ among people aged 15-17 years. Cigarette use during the last 30 days slightly decreased from 21% to 20% and was about 20% both for boys and girls in both surveys.

The Global Youth Tobacco Survey (GYTS) was conducted in Serbia in 2003¹⁰, 2008¹¹ and 2013¹².

Comparison of results of GYTS conducted in 2003 [13, 14] and 2008 showed that some decline was already achieved. However, some increase in current smoking prevalence was observed between 2008 and 2013 (Table 1).

Table 1. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in Serbia, %, GYTS

| | 2003 | 2008 | 2013 |
|---|-------------|-------------|-------------|
| Currently used any tobacco product | 13,5 | 10,4 | 16,0 |
| boys | 12,8 | 10,8 | 16,4 |
| girls | 13,7 | 9,6 | 15,4 |
| Currently smoked cigarettes | 12,8 | 9,3 | 13,0 |
| boys | 12,2 | 9,3 | 12,7 |
| girls | 13,1 | 8,9 | 13,3 |
| Ever cigarette smokers | 51,8 | 42,7 | 40,4 |
| boys | 53,2 | 41,4 | 43,0 |
| girls | 50,3 | 43,3 | 37,9 |
| Exposed to tobacco smoke at home | 97,7 | 76,9 | 63,4 |
| Had at least one parent who smoked | 70,8 | 65,9 | |

On the other hand, ever cigarette smoking declined both in 2008 and 2013 among girls and boys.

⁸ http://untobaccocontrol.org/impldb/wp-content/uploads/Serbia_2018_report.pdf

⁹ http://espad.org/sites/espad.org/files/The_2011_ESPAD_Report_FULL_2012_10_29.pdf

¹⁰ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=459>

¹¹ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=460>

¹² <http://www.batut.org.rs/download/publikacije/2014gytsSerbiaReport.pdf>

The percentage of teenagers, who lived in homes where others smoked in their presence, also gradually decreased from 98% in 2003 to 63% in 2013, and this can be considered an indirect indicator of smoking behavior among adults.

Based on the 2013 GYTS data, it was found that Serbia has the highest among GYTS countries percentage (89%) of teenagers who have access to purchasing cigarettes [15] which might be an important factor of smoking prevalence.

Smoking among health professionals

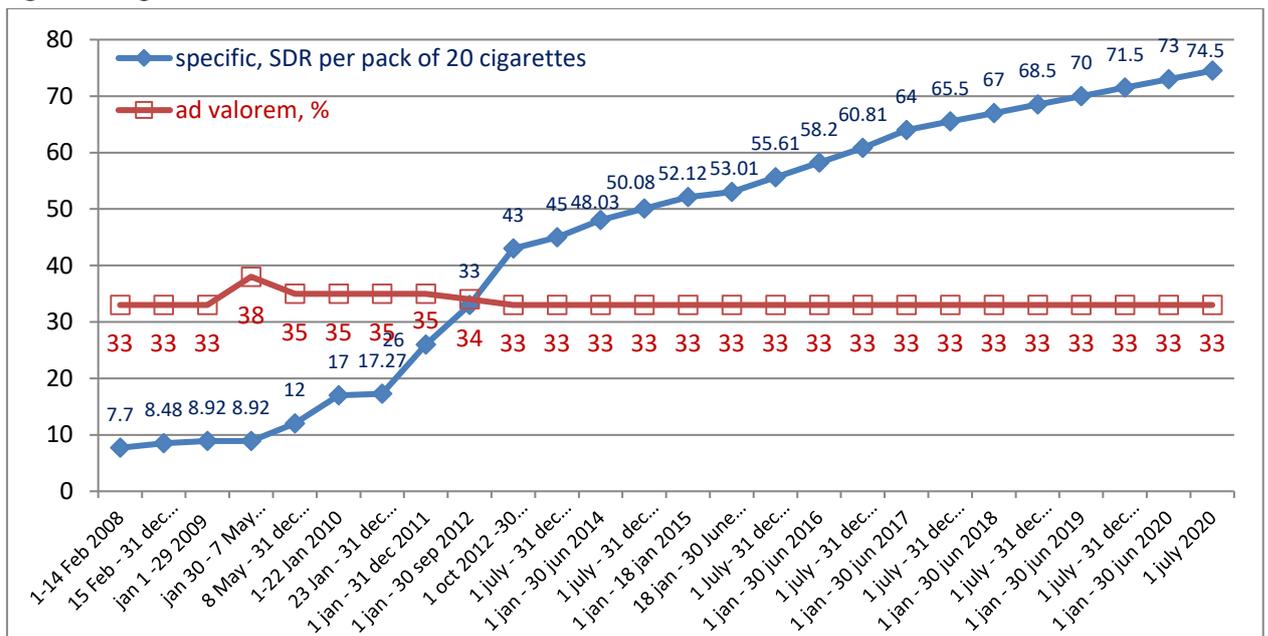
Global Health Professions Student Survey (GHPSS) was conducted in Serbia in 2005 and 2006. The prevalence of current cigarette smoking was measured in the range of 18-42% in various groups¹³.

High prevalence of smoking among Serbian dental students was mentioned as an indicator of the unfavorable situation in the country [16].

Tobacco taxation policy

Data on excise rates and weighted average prices were taken from the Tobacco Administration site [17]. Serbia has mixed excise tax that includes both a specific tax component and an ad valorem tax component. From 2008, excise rates for cigarettes in Serbia were changed every year, in most years there were several changes (Fig 1). The current legislation already established excise rates for 2018-2020.

Figure 1. Cigarette taxes in Serbia in 2008-2020.



The ad valorem excise rate was increased from 33% to 38% in January 2009, but already in May 2009, it was decreased to 35%. Since October 2012, it has been 33% again.

The specific excise rate for cigarettes was regularly increased and in 2017 it was 8-fold higher than in 2008. In 2009, the minimum specific excise tax was introduced (Table 2), which is paid when the sum of specific plus ad valorem excise is lower than the minimum excise. The minimum specific excise tax is defined as 100% of the total excise tax for cigarettes having the price of the most popular brand (in

¹³ <https://nccd.cdc.gov/GTSS>

2009-2011) or for cigarettes with prices equal to the weighted average price (from 2012). The minimum specific excise tax for fine-cut tobacco and pipe tobacco is calculated in a similar way (Table 2).

Table 2. Minimum specific excise rates for cigarette fine-cut tobacco and pipe tobacco (in RSD)

| | 25 July 2009 | 29 July 2010 | 12 Feb 2011 | 29 July 2011 | Jan 2012 | July 2012 | 4 Feb 2013 | 02 Aug 2013 | Jan 2014 | 30 July 2014 | 1 Feb 2015 | 8 Aug 2015 | 8 Feb 2016 | 15 Aug 2016 | 29 July 2017 | 25 Nov 2017 | 07 July 2018 |
|---------------------------------------|--------------|--------------|-------------|--------------|----------|-----------|------------|-------------|----------|--------------|------------|------------|------------|-------------|--------------|-------------|--------------|
| Per pack of 20 cigarettes | 38,25 | 47,02 | 57,5 | 61 | 71 | 74,21 | 91,94 | 100,86 | 109,46 | 117,29 | 120,03 | 120,19 | 127,91 | 133,43 | 138,9 | 140,4 | 147,34 |
| Change of minimum cigarette excise, % | | 22,9 | 22,3 | 6,1 | 16,4 | 4,5 | 23,9 | 9,7 | 8,5 | 7,2 | 2,3 | 0,1 | 6,4 | 4,3 | 4,1 | 1,1 | 4,9 |
| Fine-cut tobacco, per 1 kg | 2275 | 1925 | 1925 | 1925 | | 1967 | 2528 | 2774 | 3284 | 3519 | 3901 | 3906 | 4477 | 4670 | 4862 | 4914 | 5157 |
| Pipe tobacco, per 1 kg | 3780 | | 3850 | 3850 | | 3919 | 4207 | 4173 | 4462 | 4395 | 4602 | 4594 | 4914 | 4860 | 5188 | 5188 | 5431 |

The minimum specific excise tax on cigarettes increased by 249% in 2009-2016: by 163% in 2010-2013 but only by 46% in 2014-2018. The minimum specific tax for fine-cut tobacco increased in 2009-2018 by 127% and for pipe-tobacco by 44%.

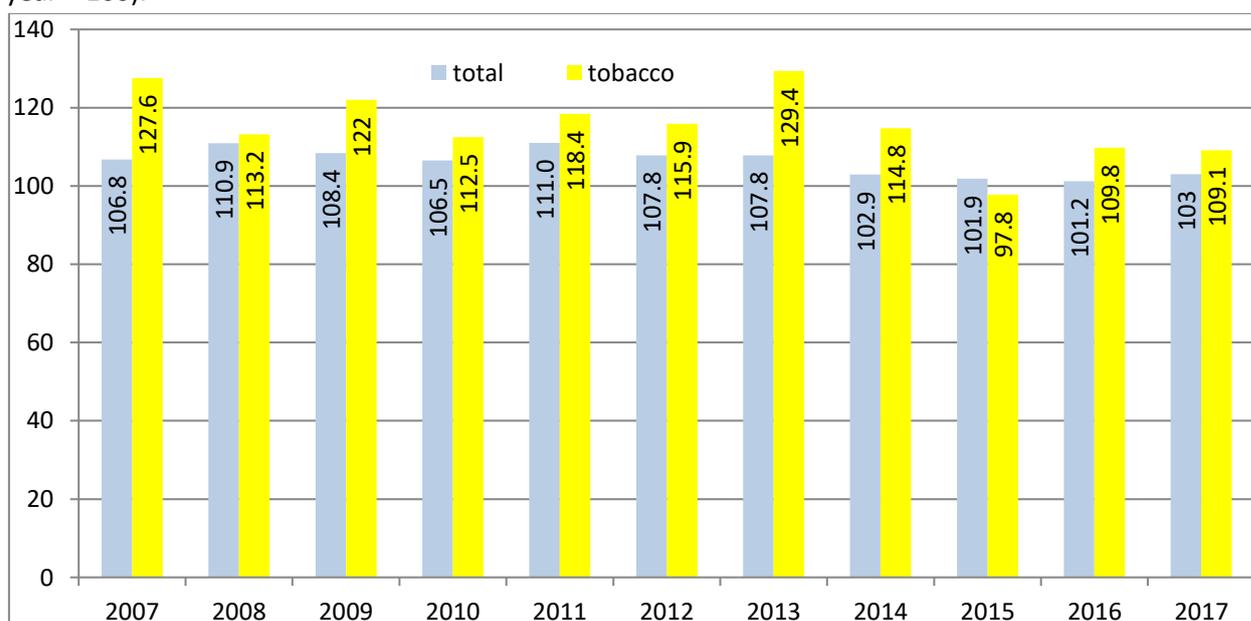
Excise for fine-cut tobacco is ad valorem with the minimum specific floor. Ad valorem rate for fine-cut tobacco was increased from 33% in 2008 to 35% in 2009, 37% in 2013, 39% in 2014, 41% in 2015 and 43% from 2016.

The VAT rate in Serbia is 20% starting from October 1, 2012, while earlier it was 18%.

Tobacco prices

Tobacco consumer price growth has been above inflation since 2007 (Fig. 2), except 2015, when tobacco prices even decreased. For six years combined (2009-2014), consumer price index (CPI) for tobacco was 280%, while CPI for all items was 153%, so real (inflation-adjusted) tobacco prices increased by 83% over this period of time.

Figure 2. Consumer Price Index (CPI) for all items and tobacco products in Serbia in 2007-2017 (previous year = 100).



Source: Statistical Office of the Republic of Serbia (NIS) [18].

In 2009-2011, the Ministry of Finance published prices of the most popular price category (MPPC) cigarettes. Starting from 2012, it calculated and published the weighted average prices (WAP) for cigarettes (Table 3).

Table 3. Prices for tobacco products in Serbia (in RSD)

| | Most popular price category (MPPC) | | | | Weighted average price (WAP) | | | | | | | | | | |
|----------------------------|------------------------------------|-----------------|-----------------|-----------------|------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|----------------|-----------------|-----------------|
| | From 25/07 2009 | From 29/07 2010 | From 12/02 2011 | From 29/07 2011 | 1/01: 30/06 2012 | 1/07: 31/12 2012 | 1/01: 30/06 2013 | 1/07: 31/12 2013 | 1/01: 30/06 2014 | 1/07: 31/12 2014 | 1/01: 30/06 2015 | 1/07: 31/12 2015 | From 1/01 2016 | From 29/07 2017 | From 07/07 2018 |
| Cigarettes per pack of 20 | 75 | 85 | 90 | 100 | 121,2 | 148,3 | 169,27 | 186,16 | 203,68 | 203,1 | 195,69 | 208,62 | 217,29 | 226,96 | 241,42 |
| MPPC-WAP price change, % | | 13,3 | 5,9 | 11,1 | 21,2 | 22,3 | 14,1 | 10,0 | 9,4 | -0,3 | -3,6 | 6,6 | 4,2 | 4,5 | 6,4 |
| Fine-cut tobacco, per 1 kg | 6500 | 5500 | 5500 | 5500 | 5620 | 5886 | 6163 | 6559 | 6711 | 6455 | 7735 | 8154 | 8621 | 8949 | 9389 |
| Pipe tobacco, per 1 kg | 10800 | | 11000 | 11000 | 11196 | 11371 | 11279 | 11440 | 11270 | 11225 | 11206 | 11428 | 11302 | 12064 | 12630 |

In 2009-2011, the MPPC for a pack of 20 cigarettes increased from 75 to 100 RSD or by 33%. In 2012-2016, the WAP for 20-cigarette pack increased from 121.22 RSD to 217.29 RSD or by 79% in four years. However, after a sharp increase in 2012-2013, in late 2014 – early 2015, the WAP decreased.

In June and November 2014, transnational tobacco companies (BAT, JTI, and PMI) operating in Serbia reduced prices for some of their brands¹⁴. The declared reason for the price reduction was a dramatic drop in both production and sales in the past two years. However, prices were mainly reduced for mid-price brands¹⁵.

The pricing policy of the tobacco industry was different in various periods under consideration. In 2009-2011, tobacco industry almost did not change its (net-of-tax) part of the price (Table 4) for cigarettes of the most popular price category despite rather high inflation (see Fig. 2). Over those years, the specific tax was increased by 117%, while the cigarette price increased only by 33%. The excise share in the cigarette price increased from 51% to 61%.

¹⁴ Marinković D. Cigarette skuplje 10 dinara (*Cigarette price increased by 10 dinars*). 10 November 2015. <http://www.novosti.rs/vesti/naslovna/ekonomija/aktuelno.239.html:576104-Cigarette-skuplje-10-dinara>

¹⁵ Drop in cigarette prices because of weak sale. Ninamedia, 27 November 2014 <http://www.ninamedia.rs/en/clipping/news/2014/11/27/za-paklicu-do-50-dinara-manje/>

Table 4. Components of weighted average price for a pack of 20 cigarettes, RSD

| | Retail price | Excise tax | | | Excise share, % | VAT | net-of-tax price |
|---|--------------|------------|------------|--------|-----------------|-------|------------------|
| | | specific | ad valorem | Total | | | |
| Price of the most popular price category | | | | | | | |
| 2009 | 75 | 12 | 26,25 | 38,25 | 51,0 | 11,44 | 25,31 |
| 2010 | 85 | 17,27 | 29,75 | 47,02 | 55,3 | 12,97 | 25,01 |
| 2011 | 100 | 26 | 35 | 61,00 | 61,0 | 15,25 | 23,75 |
| Weighted average price | | | | | | | |
| 1/01:30/06 2012 | 121,22 | 33 | 41,21 | 74,21 | 61,2 | 18,49 | 28,51 |
| 1/07:31/12 2012 | 148,30 | 38 | 50,42 | 88,42 | 59,6 | 22,62 | 37,26 |
| 1/01:30/06 2013 | 169,27 | 43 | 55,86 | 98,86 | 58,4 | 28,21 | 42,20 |
| 1/07:31/12 2013 | 186,16 | 45 | 61,43 | 106,43 | 57,2 | 31,03 | 48,70 |
| 1/01:30/06 2014 | 203,68 | 48,03 | 67,21 | 115,24 | 56,6 | 33,95 | 54,49 |
| 1/07:31/12 2014 | 203,08 | 50,08 | 67,02 | 117,10 | 57,7 | 33,85 | 52,14 |
| 1/01:30/06 2015 | 195,69 | 53,01 | 64,58 | 117,59 | 60,1 | 32,62 | 45,49 |
| 1/07:31/12 2015 | 208,62 | 55,61 | 68,84 | 124,45 | 59,7 | 34,77 | 49,40 |
| From 1/01/2016 | 217,29 | 58,2 | 71,71 | 129,91 | 59,8 | 36,22 | 51,17 |
| From 29/07 2017 | 226,96 | 65,5 | 74,90 | 140,40 | 61,9 | 37,83 | 48,74 |
| From 7/07/2018 | 241,41 | 69,19 | 79,67 | 148,86 | 61,7 | 40,24 | 52,32 |

Over subsequent years, the tobacco industry greatly increased its (net-of-tax) part of the price in the weighted average price. From January 2012 to July 2014, the net-of-tax price increased from 28.51 RSD to 54.49 RSD per 20-cigarette pack or by 91% (Table 3). Specific excise rate increased only by 46% in that period of time and while the ad valorem excise rate was not changed, in monetary terms ad valorem excise increased by 63%. So pricing policy of the tobacco industry was the main factor of cigarette price increase in 2012-2014.

Despite excise tax increases in 2012-2014 (see Fig. 1), the excise share in the weighted average price of cigarettes decreased from 61.2% in early 2012 to 56.6% in early 2014. This happened because the industry increased the net-of-tax price faster than the government increased the excise rate. In late 2014 – early 2015, the net-of-tax price decreased, but then it started to increase again (Table 3). In early 2016, it was 21% higher, than in early 2013, while the inflation rate for three years (2013-2015) was 13%. So the price reduction in 2014 was well-prepared by the previous pricing policy. In long-term, the industry did increase its part of the price.

Since 2015, the tobacco industry has kept the net-of-tax price rather stable: about 50 RSD per pack (Table 4). The excise share exceeds 60% and total tax share (excise + VAT) is above 75%.

Tobacco affordability

The Guidelines for implementation of Article 6 of the WHO FCTC [19] recommend: “When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”. In the Guidelines, “affordability” means price relative to per capita income.

In the current analysis, a modified tobacco affordability index (TAI) [20] is used to estimate the changes in tobacco affordability in 2008–2017. TAI is calculated as the percentage annual change in nominal

average income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. For the TAI calculations, we used the Statistical Office data on household nominal monthly average income per capita and the annual CPI for tobacco products. For control, we also used as income proxy the World Bank indicator “Annual percentage growth rate of GDP per capita based on constant local currency”¹⁶. As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator is also expressed in real (inflation-adjusted) terms. In this case, the TAI is calculated as GDP annual change divided by (inflation-adjusted) tobacco price increase minus 100: $(\text{GDP growth} * \text{CPI_all_items} / \text{CPI_tobacco} - 100)$.

The results of the Tobacco Affordability Index estimation are presented in Table 5.

Table 5. Tobacco affordability in Serbia in 2008-2017.

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|-------------|--------------|-------------|-------------|--------------|--------------|--------------|------------|-------------|-------------|
| CPI (all items) (previous year =100) | 110,9 | 108,4 | 106,5 | 111,0 | 107,8 | 107,8 | 102,9 | 101,9 | 101,1 | 103,0 |
| CPI (tobacco) (previous year =100) | 113,2 | 122 | 112,5 | 118,4 | 115,9 | 129,4 | 114,8 | 97,8 | 109,8 | 109,1 |
| Income change (previous year =100) | 107,8 | 110,9 | 101,5 | 110,9 | 100,1 | 108,9 | 102,5 | 103,1 | 105,8 | 104,5 |
| TAI-income | -4,8 | -9,1 | -9,8 | -6,3 | -13,6 | -15,9 | -10,7 | 5,5 | -3,7 | -4,2 |
| Annual percentage growth rate of GDP per capita based on constant local currency (previous year =100), <i>World Bank database</i> | 105,8 | 97,3 | 101 | 102,2 | 99,5 | 103,1 | 98,6 | 101,3 | 103,3 | 102,4 |
| TAI-GDP | 3,7 | -13,5 | -4,4 | -4,2 | -7,5 | -14,1 | -11,6 | 5,5 | -4,8 | -3,3 |

Source: Statistical Office of the Republic of Serbia (NIS) [18].

Both methods to estimate the TAI revealed that tobacco affordability greatly declined in Serbia in 2008-2014. The affordability reduction was much greater in 2012-2014. However, in 2015 tobacco became more affordable due to the tobacco price reduction. In 2016-2017, tobacco affordability decreased.

Tobacco production

According to the FAO database [21], annual raw tobacco production in Serbia decreased from 11,000 tons in 2006-2007 to about 8,000 tons a year in 2013-2016 and the area harvested for tobacco decreased from 8,043 hectares in 2007 to about 5,000 hectares in 2012-2016.

The Serbian cigarette market is highly concentrated and can be regarded as an oligopoly consisting of large international players [22]. All of these companies took over domestic tobacco producers over a decade ago. As of 2016, Philip Morris was leading in cigarette production in Serbia with a 38% retail volume share, followed by JT International with a 20% share, British American Tobacco, which accounted for 17% of retail volume sales, and Reemtsma (Imperial Tobacco) with 9% of sales. There was only one domestic manufacturer in 2016, Monus, with a 5% retail volume share. Croatian producer Rovita, currently owned by British American Tobacco, was ranked fifth with an 8% retail volume share as estimated in the Euromonitor report [23].

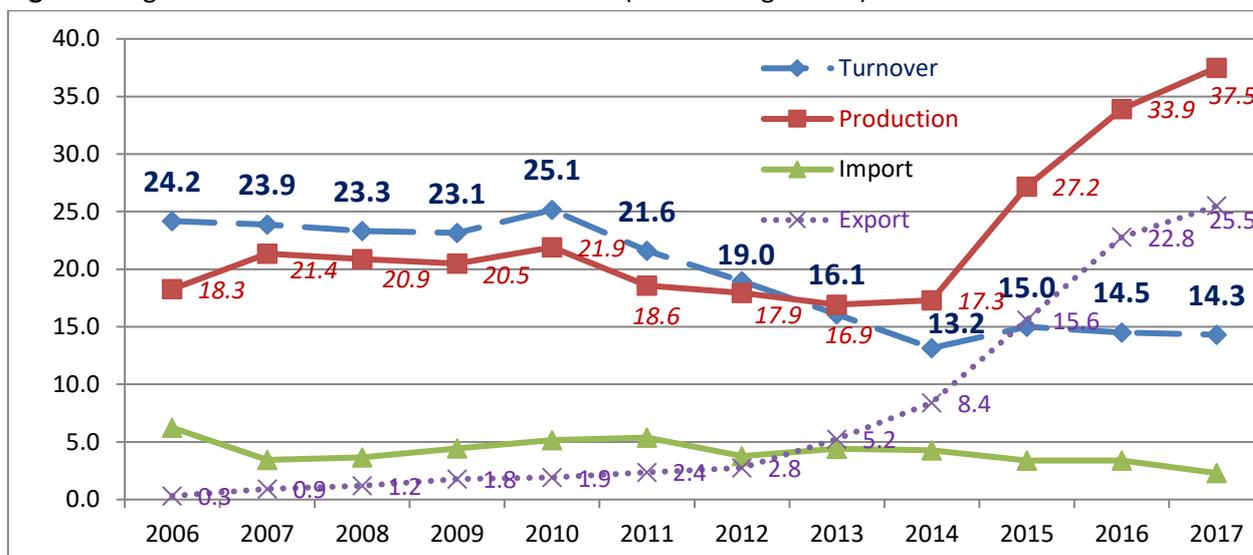
¹⁶ <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

Tobacco sales

Sales of smoking tobacco, cigars, and cigarillos in Serbia constitute about 2% of the total tobacco products market [17, 23], so we consider only cigarette sales. However, data on cigarette sales in Serbia are not consistent. Some sources report sales in cigarette sticks, while other sources - in tons. The Euromonitor data [23] on cigarette sales in 2012-2015 differ in the reports published in 2016 and 2017: in 2016 report they reported that 10.3 billion cigarettes were sold in 2015, while in the next year report this figure was 14.5 billion cigarettes.

Data on cigarette turnover (production + import – export) were taken from the FCTC country reports¹⁷, UN database¹⁸ and the national statistics reports. We compared the data from various sources and checked them by the data on taxable sales using available data on tobacco tax revenues and excise rates. Our calculations of cigarette turnover (production + import – export) are presented in Figure 3.

Figure 3. Cigarette turnover in Serbia in 2006-2017 (in billion cigarettes)



The cigarette turnover was rather stable in 2006-2010; in 2011-2014, it declined by about 3 billion cigarettes every year, but then increased in 2015. Cigarette production was rather stable in 2011-2014 despite the turnover decline and then substantially increased in 2015-2017 due to a sharp increase in cigarette export from Serbia.

Cigarette smuggling

The tobacco industry usually claims that the decline in cigarette sales is caused by an increase in cigarette smuggling. Goran Pekez, director of corporate affairs and communication for the Western Balkans, with Japan Tobacco International, said that illegal trade is the biggest factor on the market: *"Illegal trade always gets bigger when there's an unrealistic increase of the excise burden"*¹⁹. The Euromonitor also claimed [23] that many cigarette smokers are switching to illegal tobacco and it was the main factor of the observed decrease of licit cigarette sales in recent years.

However, according to the estimates presented in the Euromonitor reports, illicit annual sales in Serbia decreased from 1.52 billion cigarettes in 2008 to 1.32 billion cigarettes in 2011 and then returned to the

¹⁷ FCTC implementation database. Serbia <http://untobaccocontrol.org/impldb/serbia/>

¹⁸ <http://data.un.org/Search.aspx?q=cigarettes>

¹⁹ Independent.mk. Roads of Tobacco Smugglers Went through Serbia and Croatia. June 12, 2015, <http://www.independent.mk/articles/18527/Roads+of+Tobacco+Smugglers+Went+through+Serbia+and+Croatia>

previous levels (about 1.5 billion cigarettes a year) in 2014-2016 [23]. The illicit sales measured as the number of cigarette sticks did not change much over those years. However, Euromonitor reported “*illegal trade booming in 2015*” as they estimated the share of illicit cigarettes growing from 5.1% in 2010 and 12.6% in 2015. But in 2016 they estimated that the share of illicit cigarettes constituted 9.7%. Such substantial changes are partly caused by great underestimation by the Euromonitor of licit cigarette sales in 2015. When only percentage shares are presented, it looks like smuggling did increase after the tax hikes. It is a popular misleading math trick used by the tobacco industry to exaggerate the scope of the illicit cigarette trade problem showing illicit cigarette market share rather than the absolute number of illicit cigarettes [24] which typically decreases in such cases.

The KPMG studies (projects Star and Sun²⁰), which were commissioned by Philip Morris International and other tobacco corporations, estimated both kinds of illicit cigarette sales in the EU countries: inflow (smuggling INTO the country from other countries) and outflow (smuggling OUT OF the country to other countries). The KPMG does not report estimates of the inflow into Serbia. The KPMG estimates of cigarette outflow from Serbia to other countries are presented in Table 6.

Table 6. Estimates of cigarette smuggling out of Serbia to other countries, billion cigarettes (KPMG)

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| <i>Austria</i> | 0,08 | 0,10 | 0,08 | 0,14 | 0,1 | 0,03 | 0,14 | 0,14 |
| <i>Bulgaria</i> | 0,25 | 0,29 | 0,2 | 0,17 | 0,09 | 0,06 | 0,02 | 0,02 |
| <i>Hungary</i> | 0,12 | 0,19 | 0,10 | 0,14 | 0,06 | 0,03 | 0,04 | 0,03 |
| <i>Romania</i> | 0,07 | 0,95 | 0,75 | 0,69 | 0,4 | 0,11 | 0,12 | 0,09 |
| <i>Slovenia</i> | 0,01 | 0,04 | 0,02 | 0,03 | 0,03 | 0,03 | 0,02 | 0,04 |
| Total (5 countries) | 0,53 | 1,57 | 1,15 | 1,17 | 0,68 | 0,26 | 0,34 | 0,32 |
| Croatia | na | na | na | 0,07 | 0,05 | 0,09 | 0,02 | 0,04 |
| Switzerland | | na | na | na | 0,07 | 0,05 | 0,07 | 0,04 |
| Total (7 countries) | 0,53 | 1,57 | 1,15 | 1,24 | 0,80 | 0,40 | 0,43 | 0,40 |

According to the KPMG estimates, cigarette smuggling from Serbia to Austria, Bulgaria Hungary, Romania and Slovenia greatly increased in 2010 but then declined, especially in 2013 and 2014, while in 2015 it increased again.

Cigarettes from Serbia are also smuggled to Bosnia and Herzegovina²¹, as cigarettes are more expensive there.

In 2015-2017, according to the official Kyrgyz customs reports²², about 3.7 billion cigarettes were imported from Serbia to Kyrgyzstan in three years, but Serbian cigarettes are almost absent on Kyrgyz market. It was reported²³ that these cigarettes were transferred to Russia through Kazakhstan via duty-free shops. In 2017, according to Nielsen estimates²⁴, smuggled Serbian cigarette brand *Fast* held 0.29% of total Russian market (about 750 million cigarettes).

²⁰ KPMG study on the illicit cigarette consumption in the EU. In: Philip Morris International [website]. Lausanne: Philip Morris International; 2016 (http://www.pmi.com/eng/tobacco_regulation/illicit_trade/Pages/all_previous_kpmg-studies.aspx)

²¹ <https://www.blic.rs/vesti/republika-srpska/ilegalni-poslovi-u-pogranicnom-podrucju-hercegovina-postala-raj-za-sverc-cigareta/fjw07cv>

²² <http://www.customs.kg/index.php/ru/custstat/tabform/139-sravdan/1751--2017>

²³ <https://www.pravda.ru/society/04-12-2017/1358317-tobacco-0/>

²⁴ <https://ria.ru/society/20171220/1511300539.html>

Tobacco consumption

According to the American Medical Association estimates [12], in 2006-2012 annual cigarette consumption in Serbia decreased from 22.8 billion cigarettes to 18.15 billion cigarettes, which was caused both by the decline of numbers of smokers and of mean daily cigarette consumption by an average smoker.

According to the annual household surveys, conducted by the Statistical Office [18], nominal expenses of households on tobacco increased in 2008-2015 almost two-fold (Table 7).

Table 7. Household tobacco expenditures, RSD, monthly average per capita

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|
| Tobacco consumption expenses, RSD | 391 | 424 | 439 | 502 | 563 | 604 | 648 | 730 |
| Change of tobacco expenses, previous year = 100 | | 108,3 | 103,6 | 114,4 | 112,1 | 107,3 | 107,4 | 112,5 |
| <i>CPI tobacco, previous year = 100</i> | <i>113,2</i> | <i>122,0</i> | <i>112,5</i> | <i>118,4</i> | <i>115,9</i> | <i>129,4</i> | <i>114,8</i> | <i>97,8</i> |

Source: Statistical Office of the Republic of Serbia (NIS) [18].

In 2009-2014, the per capita household tobacco expenses increased by 66%, while average tobacco prices increased by 180%. In those years, the increase in tobacco expenses was smaller than CPI for tobacco products. This could be caused both by quitting smoking by some smokers and the decrease in numbers of cigarettes smoked daily by those who continued smoking. As a result, total tobacco consumption by the population has substantially decreased. In 2015, the increase in tobacco expenses was higher, than CPI for tobacco products, and this could indicate that tobacco consumption increased in 2015.

In general, we can summarize that the annual cigarette consumption in Serbia (taking into account both cigarette inflow and outflow) was about 24 billion cigarettes in 2006-2010 and then it declined to about 16 billion cigarettes in 2013-2017 – by 8 billion cigarettes or by 33%.

Tobacco excise revenues

According to the Bulletins issued by the Ministry of Finance²⁵, tobacco excise revenue in Serbia increased annually starting from 2005 (Table 8) but declined in 2014. We used the data on cigarette turnover (Fig. 3) to calculate the average annual excise burden as revenue/turnover.

Table 8. Tobacco excise revenue and average annual excise rates

| | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Tobacco excise revenue, billion RSD | 19,0 | 26,1 | 34,4 | 39,3 | 50,6 | 60,8 | 69,2 | 76,4 | 83,8 | 77,6 | 90,3 | 91,8 | 99,1 |
| Turnover, billion cigarettes | | | 23,9 | 23,3 | 23,1 | 25,1 | 21,6 | 19,0 | 16,1 | 13,2 | 15,0 | 14,5 | 14,3 |
| Average excise per 20-cigarettes pack, RSD | | | 28,8 | 33,7 | 43,7 | 48,3 | 64,1 | 80,6 | 104,1 | 117,9 | 120,4 | 126,9 | 138,9 |
| <i>Average excise increase, %</i> | | | | <i>17,2</i> | <i>29,6</i> | <i>10,5</i> | <i>32,6</i> | <i>25,8</i> | <i>29,1</i> | <i>13,3</i> | <i>2,1</i> | <i>5,5</i> | <i>9,4</i> |

Source: Ministry of Finance Bulletins.

²⁵ Ministry of Finance, Republic of Serbia. Bulletin Public Finances <http://mfin.gov.rs/pages/issue.php?id=1568>

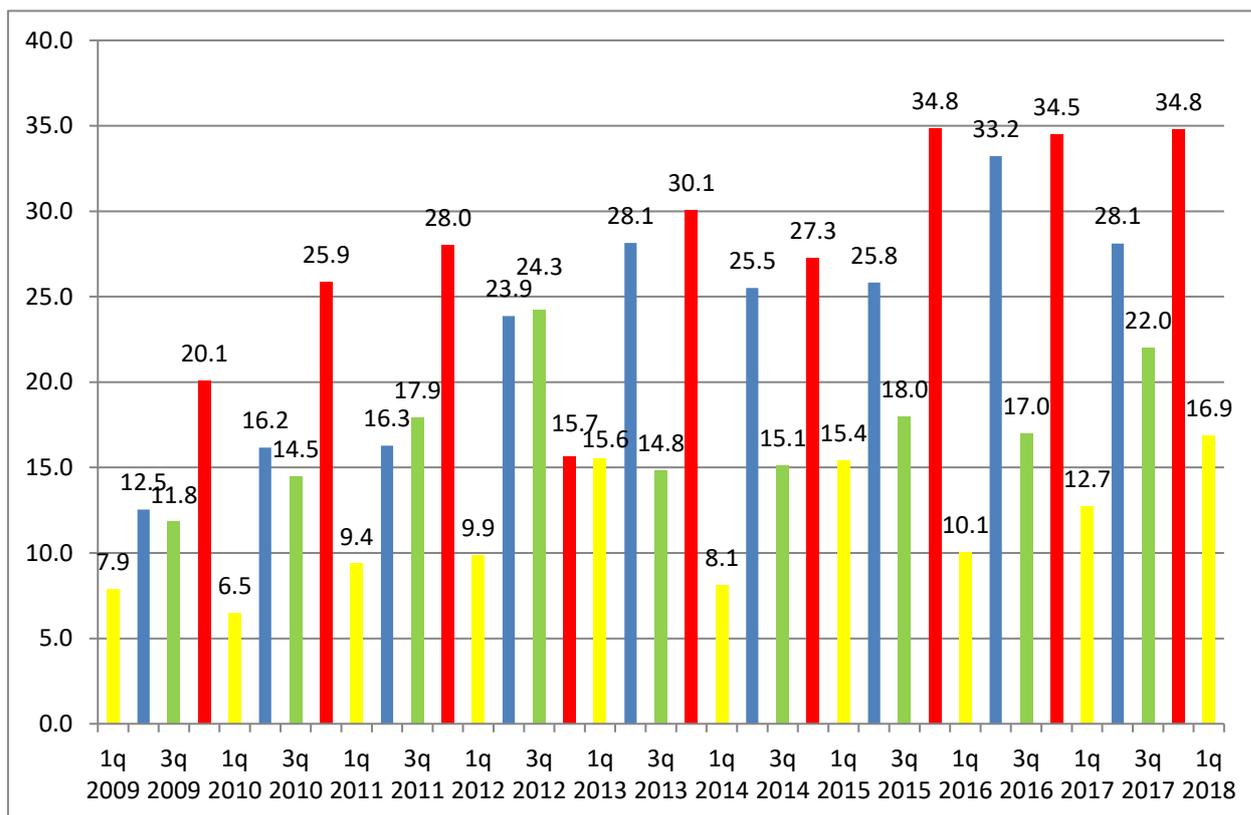
In 2005-2010, the tobacco excise revenue increased three-fold, while tobacco sales were rather stable. In 2010-2013, the tobacco sales decreased by 36% but the revenue continued to increase as the average excise increased more than 2-fold: from 48 RSD per pack in 2010 to 104 RSD in 2013 or by 56 RSD. However, specific excise per pack increased only by 28 RSD (from 17 to 45 RSD – see Fig. 1). Ad valorem excise rate even decreased from 35% in 2010 to 33% in 2013.

The main factor of total excise increase was the pricing policy of the tobacco industry. The net-of-tax part of the cigarette price greatly increased in 2012-2013 (see Table 3). Ad valorem excise was more than half of the total excise, so the price rise substantially increased the total excise rate and revenue. The situation changed in late 2014 when the tobacco industry reduced its part of the price. The price reduction decreased the ad valorem excise in money terms and the total excise burden and it was the most obvious factor of the tobacco excise revenue decline in 2014.

However, a more important factor of the revenue decline in 2014 was the forestalling: in anticipation of tax increases, the manufacturers or importers may attempt to take advantage of the current or lower tax and increase production or stock of products [19]. After increasing the taxable sales just before the tax increase, the industry has to decrease taxable sales for several months after the tax increase as their stocks are full with cigarettes for which excise tax has already been paid. In such a situation, revenue graphs look like waves: up-wave before the excise increase and down-wave after the tax increase.

The Bulletin 'Public Finances'²⁶ reports monthly data on tobacco excise revenue. We calculated quarterly revenue for 2009-2018. Taking into account that, first, the excise rate was usually changed from January 1 or July 1 (see Fig. 1), second, revenue is usually paid based on sales of the previous month (e.g. revenue in January is paid from sales in December previous year) with excise rate effective for this previous month, we calculated the quarterly revenue in the following way: 1st quarter – revenue in February, March, and April; 2nd quarter – revenue in May, June, and July; 3rd quarter – revenue in August, September, and October; 4th quarter – revenue in November, December and January next year. The results are presented in Figure 4.

²⁶ Ministry of Finance, Republic of Serbia. Bulletin Public Finances <http://mfin.gov.rs/pages/issue.php?id=1568>

Figure 4. Quarterly tobacco excise revenue in Serbia in 2009-2018 (in billion RSD).

The pattern of quarterly revenue in 2013-2018 is very similar: a sharp increase in the second and fourth quarters, before next increase of specific excise rate effective from January 1 and July 1 each year (see Fig. 1). The pattern is different in 2012 because both the specific excise rate and the VAT rate were increased from October 1, 2012, and we see high revenue in the 3rd quarter of 2012 and the decline in the 4th quarter of 2012, while in the 1st quarter of 2013 the revenue is higher than in the 1st quarters of all other years.

The annual revenue in 2014 was 7.2 billion RSD lower than in 2013 (see Table 7) and the difference in revenues between the 1st quarters of 2013 and 2014 is 7.5 billion RSD. So, the observed decline in annual revenue in 2014 was mainly caused by the revenue difference in the first quarters. The change of excise increase schedule from October in 2012 to January and July in 2013 caused an artificial increase in taxable cigarette sales in the 1st and the 4th quarters of 2013 and their sharp reduction in the 1st quarter of 2014. Forestalling, caused by this schedule change, was the main factor of the revenue decline in 2014. Cigarette price reduction in late 2014 also contributed to the revenue decline, while to a lesser extent as the average excise tax in 2014 was 13% higher than in 2013 (see Table 7). But as the cigarette turnover in 2014 decreased by 18%, the tobacco excise revenue in 2014 was lower than in 2013.

After the forestalling-driven decrease of the taxable cigarette sales in 2014, they increased in 2015. Tobacco price reduction in late 2014, which increased cigarette affordability in 2015 (see Table 4), also stimulated the sales growth. This sales growth was the main factor of the revenue increase in 2015, as the average excise rate increase was very small (Table 7). The moderate revenue increase in 2016 and 2017 was caused by a moderate increase in excise rates in those years.

Discussion

In the period under consideration, Serbia regularly increased excise burden for tobacco products trying to follow both FCTC and EU recommendations. As has already been shown [25], the process of joining the EU results in significant increases in excise taxes and prices, and declines in affordability. However, the impact of tobacco taxes on tobacco prices and tobacco consumption can be modified by the industry's response to the tax increase [26, 27]. Over the observed period, several types of the tobacco industry responses were practiced in Serbia.

In **2009–2011**, both specific and ad valorem excise rates were increased. However, the industry kept its (net-of-tax) part of the price relatively low, so the tobacco affordability reduction was not sufficient to decrease tobacco consumption. Tobacco revenue substantially increased, partly due to the increase in cigarette outflow from Serbia to other countries.

In **2012 - early 2014**, the specific excise rate was being increased on a regular basis, while ad valorem excise was decreased. Tobacco companies changed their pricing policy: they used tobacco tax increases as an opportunity for a coordinated price increase that leads to prices rising by more than the amount of the tax. Substantial increase of final retail prices greatly reduced tobacco affordability and tobacco consumption (including cigarette outflow) gradually decreased. Paradoxically, by raising prices the industry engineered a greater decrease in cigarette consumption than the increase in taxes alone [26]. In 2012 and 2013, the increase in average excise was high enough and the tobacco excise revenue continued to grow despite the decrease in the taxable cigarette sales. However, the average excise increase was mainly driven by the industry pricing policy and not by the rises in tax rates.

In **late 2014**, the tobacco industry reduced prices for some cigarette brands and this resulted in decreased ad valorem excise tax revenues in monetary terms. The decrease in taxable sales in 2014 was rather sizable, and it was caused by the combined effect of the forestalling and the decline of cigarette consumption inspired by considerable price increases in the previous years. Specific excise rate increase in 2014 was much lower than in previous years and it was not able to compensate for the decline in taxable sales, so tobacco excise revenue in 2014 decreased.

The industry profits apparently had the opposite trends. In 2012, the industry net turnover (net-of-tax price x sales, see Table 3 and Fig. 3) was: 33/20 RSD x 19 billion cigarettes = 31 billion RSD. In 2014, the respective figures were 53/20 RSD x 13 billion cigarettes = 50 billion RSD. The tobacco industry pricing tactics increased the industry profits despite the cigarette sales reduction, while the governmental revenue declined.

When cigarettes and other tobacco products become less affordable, tobacco consumption in any country usually declines. Three main factors can change the tobacco affordability: (1) tobacco taxes; (2) tobacco industry's (net-of-tax) prices (margins); (3) population income and inflation [28]. When affordability declines only due to the last two factors, tobacco tax revenues will also decline as volumes of taxable products decrease. In such a situation, the tobacco tax hike should be elevated enough to ensure that tobacco revenue increases when tobacco sales decrease, as in many other countries such as Ukraine [29].

In **2015**, cigarette prices in Serbia were lower than in 2014, and cigarettes became more affordable. Cigarette consumption, household tobacco expenditures and cigarette outflow from Serbia to other countries increased and the cigarette turnover was higher in 2015 than in 2014 (see Fig. 3). The turnover

increase was the main factor in tobacco excise revenue augmentation, as the specific excise rates (see Fig 1 and Table 1) almost did not change.

In 2016-2017, the tobacco excise revenue increased by 9.8%, while the minimum excise rate increased by 17% and tobacco prices increased by 14%. The cigarette turnover gradually decreased to 14.3 billion cigarettes in 2017.

Tobacco taxation policy conducted in Serbia in 2009-2014 decreased total (licit + illicit) cigarette consumption in the country from about 24 billion cigarettes in 2006-2010 to about 16 billion cigarettes in 2013-2017 – by 8 billion cigarettes or by 33%. However, it had little effect on the smoking prevalence in Serbia. Such a situation is not unique. Research conducted in such countries as Canada, Mexico, Turkey, and Republic of Korea [27], found little impact of the price increase on smoking prevalence but did find that higher prices significantly reduce cigarette consumption.

The tobacco taxation policy in Serbia contributed to the health objectives aimed at reducing tobacco consumption. However, there is an apparent perception that tobacco revenue decline in 2014 was caused by the huge rise of illicit cigarette sales, which were inspired by “too high” excise rates. This speculation probably affected the governmental tobacco excise policy. So, very small excise increase was planned for 2017 and future years. Such policy of small excise increases is not able to either reduce the tobacco consumption or to increase tobacco excise revenue.

Serbia has the sovereign right (within gradually meeting EU obligations) to determine and establish its taxation policies, including the level of tax rates to apply, and the structure and system of tobacco taxes, taking into account national circumstances to achieve public health, fiscal and other objectives.

In 2018, the specific excise rates for cigarettes in Serbia were lower than in the neighboring EU countries²⁷, Montenegro and Bosnia and Hercegovina (Table 9).

²⁷

http://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/excise_duties/tobacco_products/rates/excise_duties-part_iii_tobacco_en.pdf

Table 9. Excise rates and price of cigarettes in Serbia and neighboring countries in 2018

| | Specific excise per 1000 cigarettes | | Minimum specific excise per 1000 cigarettes | | Ad valorem excise, | VAT | Weighted average price (WAP) per pack of 20 cigarettes | | Total tax (VAT + excise) |
|--------------------------------------|-------------------------------------|-----------|---|-----------|--------------------|-----------|--|--------------|--------------------------|
| | local currency | euro | local currency | euro | % | % | local currency | euro | % in final price |
| Macedonia ²⁸ | 2253 | 37 | 2453 | 40 | 9 | 18 | 90 | 1,46* | 74.3 |
| Montenegro ²⁹ | na | 40 | na | 77 | 32 | 19 | 2,3 | 2,30 | 82.8 |
| Bosnia and Hercegovina ³⁰ | 75 | 38 | 130 | 66 | 42 | 17 | 4,8 | 2,45* | 87.8 |
| Serbia^{31 32} | 3459,5 | 29 | 7367 | 62 | 33 | 20 | 241,42 | 2,05 | 78.3 |
| Croatia ³³ | 310 | 41 | 696 | 93 | 34 | 24 | 22,88 | 3,05 | 80.2 |
| Slovenia | na | 71 | na | 111 | 23 | 22 | 3,51 | 3,51 | 81.3 |
| Romania | 337,727 | 74 | 440 | 96 | 14 | 19 | 15,20 | 3,31 | 73.9 |
| Bulgaria | 109 | 56 | 177 | 90 | 25 | 20 | 4,99 | 2,55 | 85.4 |
| Hungary | 16200 | 52 | | 93 | 25 | 27 | 1095 | 3,52 | 75.9 |

*As there are no official weighted average cigarette prices in Macedonia and Bosnia and Hercegovina, the price of mid-priced brands (West for Macedonia and Winston for Bosnia and Hercegovina) were used in place of the WAP.

The ad valorem excise rate in Serbia was lower than in Bosnia and Hercegovina and Croatia, but higher than in other countries. Average cigarettes prices were higher in all neighboring countries, except Macedonia.

Serbia has already adopted the legislation on excise tax increase in 2018-2020 (see Fig. 1). Specific excise rate should increase from 65.5 RSD in July 2017 to 74.5 RSD per pack of 20 cigarettes in July 2020: by 9 RSD or by 14% in three years. Such an increase of specific tax by itself will increase the final retail price by only 13.5 RSD or by 6%, which is not enough to reduce tobacco affordability and tobacco consumption in Serbia. Such excise policy can hardly increase tobacco excise revenue in real terms as well.

It was claimed³⁴ that in late 2016 the excise taxes on cigarettes have been increased in Serbia with an explanation that they should be harmonized with the excise rates in the EU. However, the rate proposed for 2020 (specific rate 74.5 RSD per pack and ad valorem rate 33%) are able to ensure the minimum EU level (90 euro per 1000 cigarettes) only if the WAP increases from current 220 RSD to 450 RSD per pack, which is only possible if the industry increases the net-of-tax price three-fold (from current 51 RSD to 153 RSD per pack).

²⁸ <http://www.customs.gov.mk/images/documents/zakoni/zakon-akcizi/ZakonZaAkcizitePrecisten2018.pdf>

²⁹

<http://www.upravacarina.gov.me/ResourceManager/FileDownload.aspx?rid=300594&rType=2&file=Akcizni%20pri%20log%20za%202018%20primjena%20od%2001.01.2018.xlsx>

³⁰ <http://www.6yka.com/novost/132428/detaljan-spisak-pogledajte-nove-cijene-cigareta-u-2018.-godini-foto>

³¹ [http://www.mfin.gov.rs/UserFiles/File/zakoni/2016/Zakon%20o%20akcizama%202016\(1\).pdf](http://www.mfin.gov.rs/UserFiles/File/zakoni/2016/Zakon%20o%20akcizama%202016(1).pdf)

³² http://duvan.gov.rs/aktuelnosti/odluka_iznosima_ponderisanih_mpc_06.07.2018

³³ <https://vlada.gov.hr/UserDocImages//Sjednice/2017/12%20prosinac/71%20sjednica%20VRH//71%20-%202014.pdf>

³⁴ Branimir Rajšić. Serbian Parliament Adopts Changes To Tax Laws. 18/01/2017 <https://www.karanovic-nikolic.com/knviews/Pages/2017/01/18/Serbian-Parliament-adopts-changes-to-Tax-Laws.aspx>

A simple tax model illustrates the possible impact of increased excise tax rates on tobacco consumption and revenue. In 2019, Serbia has an opportunity to change its cigarette excise rates in the following ways:

- Increase specific excise from 69.19 RSD to 90 RSD per pack of 20 cigarettes (by 30%);
- Increase the minimum specific excise from 147.34 RSD to 184 RSD per 20 cigarettes (by 25%) irrespective to the WAP, as the tobacco industry effectively reduced the minimum specific excise rates in 2015 by the price manipulation;
- Keep the ad valorem excise for cigarettes at 33%.

The average excise yield would be about 9,200 RSD (=78 euro) per 1000 cigarettes, which will still be lower than in the EU countries. This would increase the average cigarette excise tax by about 25% compared with 2017, and the average price would increase from 241 to 285 RSD (= 2.4 euro, similar to prices in Bosnia and Herzegovina) per pack of 20 cigarettes or by 18%, provided that net-of-tax part of the price increases only by 2%.

If the taxable sales in 2019 decrease to 13 billion cigarettes (1.5 billion less than in 2016-2017) the tobacco excise revenue will be almost 120 billion RSD (average excise 9,200 RSD x 13 billion cigarettes), 21% more than in 2017. The current excise taxation policy is only able to increase revenue to about 107 billion RSD (average excise 7,500 RSD x 14.3 billion cigarettes), provided that there is no reduction in cigarette consumption in 2019, which contradicts the public health interests.

Conclusions

Tobacco taxation policy in Serbia in 2009–2013 was very successful from a public health perspective as it contributed to the health objectives aimed at reducing tobacco consumption, in line with the FCTC obligations. Estimated tobacco consumption in the country declined by 33% in four years. The outflow of cigarettes taxed in Serbia to other counties also declined, while the volumes of cigarettes, which were smoked but not taxed in Serbia, did not change much after the tax increases. This taxation policy also increased tobacco excise revenue from 39 billion RSD in 2008 to 84 billion RSD in 2013 (by 44% in real terms).

However, the tobacco industry managed to modify the impact of tobacco taxes. In 2012-early 2014, it vastly increased its (net-of-tax) part of the price and this reinforced the taxation impact on tobacco sales as the final retail price increased more than expected. As the growth of the industry profit margins was disproportionally soaring, the industry increased its profits despite the decline of the tobacco sales. The main factor of cigarette sales reduction in 2012-2014 was the industry pricing tactics, while the excise rate increases were rather moderate and eventually the government revenue decreased as sales decline exceeded the excise burden growth.

In late 2014, the tobacco industry slightly decreased prices for some brands. Cigarettes became more affordable in 2015 and their sales increased, while sales were still lower than in 2013 and previous years. The current tobacco excise policy, which proposes very moderate excise increases in 2017-2020, is not able to either reduce tobacco consumption or to increase real tobacco excise revenue.

Serbia has a great opportunity to increase tobacco excise rates, which will be beneficial for both public health and governmental revenue.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Sri Lanka

Sri Lanka ratified the Framework Convention on Tobacco Control on 11 November 2003, being the first country in Asia and the fourth in the world to do so.

Tobacco use

Tobacco use among adolescents and young people

In a survey of adolescents aged 11 to 18 conducted before 1990 [1], the prevalence of smoking in urban and rural children was 7.2% and 4.3% respectively. 0.5% of children were users of chewing tobacco or tobacco snuff.

Global youth tobacco survey [2] was conducted in Sri Lanka several times and the results were as shown in Table 1. The use of other tobacco products among male adolescents became higher in 2007-2011 compared to 1999; otherwise, the prevalence of tobacco use among adolescents remains stable.

Table 1. Tobacco use among young people

| | | 1999 | 2003 | 2007 | 2011 | 2015 |
|---|-------|------|------|------|------|------|
| Current smokers of cigarettes (%) | | | | | | |
| | Total | 4.0 | 2.4 | 1.2 | 1.5 | 1.5 |
| | Boys | 6.2 | 1.3 | 1.6 | 2.8 | 2.9 |
| | Girls | 1.6 | 3.0 | 0.9 | 0.3 | 0.0 |
| Current users of other tobacco products (%) | | | | | | |
| | Total | 7.2 | 7.0 | 8.6 | 10.0 | 3.7 |
| | Boys | 9.2 | 5.8 | 11.6 | 14.6 | 6.7 |
| | Girls | 5.0 | 7.9 | 5.6 | 5.4 | 0.7 |

Among medical students, the prevalence of cigarette smoking decreased from 4.1% (3.4 - 5.0) in 2006 to 3.2% (3.0 - 3.5) in 2011, and the prevalence of other tobacco products use in these years was 3.6% and 3.0% respectively [2].

A survey conducted in 2004 among students aged 15-19 in southern provinces, found that the current prevalence of smoking was 10.6% among males and 0.0% among females [3].

A survey carried out by the National Authority on Tobacco and Alcohol (NATA) revealed that there was a decrease in the number of school students who smoke cigarettes. In 2011, the percentage of school student smokers was revealed as 8%. According to the Director of NATA Dr. Palitha Abeykoon, the percentage has

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.

reduced to three percent in 2015. Dr. Abeykoon noted that there are around 40,000 school student smokers between the ages of 13 and 16².

Tobacco use among adults

The 1991 survey that was confined to three districts found that 38%-51% of men (lowest in Colombo district, higher in the farming areas) and 1% of women currently used tobacco. Small percentages (5-9% for men) were previous users who had quit. The 2000 national survey (SLIS) found similar differentials across districts, but much lower prevalence among men (24% nationally) and a worrying rise among women to 6% nationally. The prevalence was highest in the 30-60 age groups, amongst people with low education, and those in the second and third lowest expenditure quintiles [4].

In a survey of 1565 adults conducted before 2005 [5], 41% of men were yearly smokers, 27.8% were monthly smokers and 21% were daily smokers. The corresponding figures for women were 3.4%, 2%, and 0.6% respectively. Higher prevalence rates were observed among less educated, middle-aged men who were from underprivileged families.

In a survey conducted in 2005-2006 among almost 5000 people aged 18 and over [6, 7], 38.0% of men vs. 0.1% of women were found to be current tobacco smokers. Smoking was associated with lower education, lower income, and middle age.

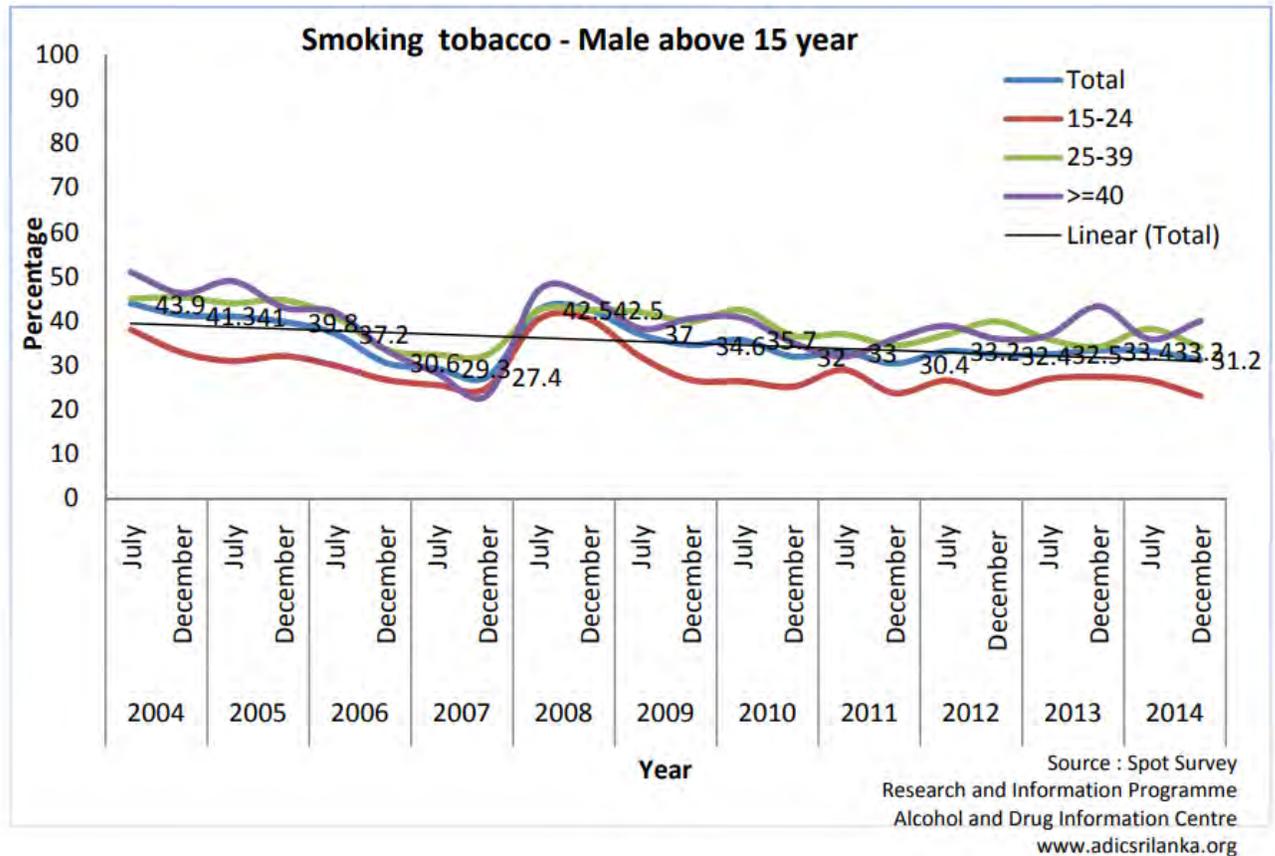
The Demographics and Health survey conducted in 2006-07 [8] found that less than 1 percent of ever-married women in Sri Lanka smoke cigarettes or use tobacco products.

The Non-Communicable Diseases Risk Factors STEPS Survey was conducted in 2003 in western provinces and in 2014-15 as a nationally representative survey of people aged 18-69. In 2003 [9], the prevalence of daily tobacco smoking was 16.6% among all, 32.6% among men and 0.7% among women. In the 2014-15 STEPS survey, the prevalence of current smoking was 15.0% (29.4% among men and 0.1% among women) while the prevalence of daily smoking was 10.2% (19.9% among men) [10]. Thus, the prevalence of daily smoking in the second survey (2014-15) is substantially lower (19.9% among men) than in the first one (2003 - 32.6% among men). However, these differences might arise due to sampling issues, as the prevalence of tobacco use among men in Sri Lanka was shown to be higher in urban areas than in rural ones [11]. The prevalence of current daily cigarette smoking was 7.9% (6.9-9.0) overall and 12.4% (11.1-13.7) among men [12]. Additionally, the 2014-15 STEPS survey measured that 26.0% of men, 5.3% of women, and 15.8% overall were current users of smokeless tobacco [12, 13]. Some 8.6% of the youth are current users of smokeless tobacco. And the prevalence was reported higher among rural and disadvantaged groups [13]. Because of the use of locally grown tobacco, as in other tobacco-growing countries, some significant but unknown fraction of tobacco use occurs via the consumption of illegal, unregulated products [14].

As seen from semi-annual spot surveys conducted by ADIC Sri Lanka among about 2500 men aged 15 and over [15], the male prevalence of tobacco use was around 40% in 2000-2006, dramatically decreased in 2007 to 29%, then increased to 42% in 2008, and later stabilized at about 32% in 2009-2014 (Figure 1). No information is available on the spot surveys in 2015-2017.

² <http://newsfirst.lk/english/2016/07/decrease-school-student-smokers/142127>

Figure 1. Dynamic of tobacco use among men in Sri Lanka: data of spot surveys conducted by ADIC Sri Lanka.



GTSS data

The prevalence of smoking among school personnel decreased significantly from 12.9% in 2003 to 4.6% in 2007 and 4.1% in 2011.

In a survey of 2,073 adults aged 18 or above in southern areas of Sri Lanka conducted between 2006 and 2013, 35.9% of men and 0.4% of women were found to be daily tobacco smokers. The prevalence of smoking was higher among people aged 35-54 and those more educated [14].

Tobacco production

British American Tobacco (BAT) holds a monopoly share of the Sri Lankan tobacco market. The company owns 84.13% of the shares of the Ceylon Tobacco Company PLC Ltd (CTC). Philip Morris International (through company FTR Holding SA) owns 8.32% of the CTC shares. So, transnational tobacco companies own more than 92% of the only cigarette producer in the country. CTC is responsible for the entire manufacturing process from tobacco cultivation to cigarette production in Sri Lanka. CTC owns 99% of the market with the remaining 1% comprised by imported cigarettes. Almost 100% of the tobacco used for cigarette manufacturing in Sri Lanka is cultivated in the country. CTC also exports its manufactured cigarettes, which contributes approximately 1% to its overall annual revenue. CTC employed a total

workforce of just 1,426, of which 124 are direct factory employees³. In early 2017, CTC announced that it was compelled to make a 20% headcount reduction in its Colombo factory⁴.

According to FAO statistics [16], raw tobacco production in Sri Lanka was 18,602 tons in 1980 and then it gradually declined to 3,470 tons in 2002. In 2003-2014, annual tobacco production was rather stable – about 4,000 tons (Table 2).

Table 2. Tobacco and cigarette production, export and import in Sri Lanka

| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Unmanufactured tobacco production, tons | 4390 | 4210 | 3710 | 4150 | 3770 | 3810 | 4200 | 3470 | 3620 | 5040 | 3322 | | |
| Unmanufactured tobacco export, tons | | | 1399 | 1578 | 1278 | 686 | 695 | 708 | 861 | 1142 | 1162 | 880 | |
| Cigarette production, million sticks | 4859 | 4945 | 4791 | 4670 | 4467 | 4101 | 4286 | 4469 | 4320 | 4035 | 3777 | 4116 | 3789 |
| Cigarette import, tons | | | | 45 | 73 | 54 | 83 | 171 | 181 | 298 | 148 | 169 | |
| Cigarette export, tons | | | | 57 | 55 | 61 | 53 | 91 | 178 | 149 | 326 | 157 | |

Data sources: *Unmanufactured tobacco production* FAO [16]; *Unmanufactured tobacco export* – Central Bank of Sri Lanka. *Economic and Social Statistics of Sri Lanka, 2016*

http://www.cbsl.gov.lk/pics_n_docs/10_pub/docs/statistics/other/econ_&_ss_2016_e.pdf; *Cigarette production* – Ministry of Finance. *Annual Reports* <http://www.treasury.gov.lk/web/guest/publications/annual-report>; *Cigarette import and export* – UN database <http://data.un.org/Search.aspx?q=cigarettes>

Cigarette production volumes were fairly steady between 1995 and 1999 averaging around 5.2 billion sticks [4], with a decrease to about 4.7 billion in 2000-2007. In 2008-2012, average annual cigarette production was 4.3 billion cigarettes, while it decreased to about 4 billion cigarettes in 2013-2016.

Tobacco taxation

Tobacco tax in Sri Lanka is governed by the Tobacco Tax Act⁵. The government can change excise tax rates several times a year. Currently, 5-tier specific system is used for cigarettes (Table 3).

Table 3. Excise tax rates for cigarettes (LKR per 1000)

| Cigarettes (brand) | 2005 | 2007 | 2008 | 2009 | June 2010 | Jan 2011 | Oct 2011 | March 2012 | Oct 2012 | July 2013 | Oct 2014 | Oct 2015 | Oct 2016 |
|--------------------------------|------|------|-------|-------|-----------|----------|----------|------------|----------|-----------|----------|----------|----------|
| Length below 60mm (Capstan) | 1640 | 2215 | 2289 | 2289 | 2630 | 3465 | 3465 | 4037 | 4612 | 5722 | 6975 | 6975 | 11675 |
| Length 60-67mm (Four Aces) | 3137 | 4520 | 5215 | 5706 | 6246 | 6973 | 7540 | 8112 | 9258 | 10355 | 12675 | 12675 | 17375 |
| Length 67-72mm (Bristol) | 5088 | 7219 | 7991 | 8485 | 9028 | 9811 | 10381 | 10953 | 12100 | 12100 | 14660 | 14660 | 20500 |
| Length 72-84mm (Gold Leaf) | 5904 | 8850 | 9681 | 10715 | 11260 | 12108 | 13243 | 13819 | 14963 | 16610 | 21610 | 23750 | 30500 |
| Length Exceeding 84mm (Benson) | 6150 | 9870 | 11170 | 12710 | 13170 | 15000 | 16400 | 17100 | 18500 | 20000 | 25100 | 27240 | 34250 |

Data source. Ministry of Finance. *Annual Reports* <http://www.treasury.gov.lk/web/guest/publications/annual-report>

The Nation building tax (NBT) of 2% of the wholesale price is also currently levied on cigarettes.

³ <http://www.lankaweb.com/news/items/2015/02/15/cigarettes-and-beedis/comment-page-1/>

⁴ <http://colombogazette.com/2017/01/09/government-lost-rs-13-billion-in-revenue-from-cigarettes/>

⁵ <https://www.parliament.lk/uploads/regulations/english/170.pdf>

The value added tax (VAT) rate was 15% in 2002-2008. From January 2009, the VAT rate was 12%. The VAT and NBT liability on cigarettes was removed from October 25, 2014⁶. For two years, excise was the only tax levied on cigarettes in Sri Lanka. From November 1, 2016, VAT rate was increased to 15 percent and cigarettes were again made liable for VAT and NBT.

From 2015, tobacco industry also pays 40% corporate tax on profits [17].

Cigarette prices

In Sri Lanka, cigarettes of different price categories have different excise rates; however, brand *Gold Leaf* in 2005 had a market share of more than 50% [18] and over recent years its market share increased to 80%. We analyzed price trends for the brand *Gold Leaf* (Table 4) and for the cheap brand *Capstan* (Table 5), which had the second largest market share in 2009 [19]. Data on prices in 2009-2013 were taken from the industry report⁷ and data on prices in 2014-2016 were taken from media reports^{8 9 10 11}. As cigarettes are sold in packs with different numbers of cigarettes, we calculated price components per 1 cigarette of each brand.

Table 4. Price components of 1 Gold Leaf cigarette, LKR

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | January 2016 | October 2016 | November 2016 |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|---------------|
| Price | 16 | 18 | 20 | 22 | 25 | 28 | 30 | 33 | 35 | 42 | 50 |
| Excise | 9.68 | 10.72 | 11.26 | 12.11 | 13.80 | 14.96 | 16.61 | 21.61 | 23.75 | 30.5 | 30.5 |
| VAT | 2.09 | 1.93 | 2.14 | 2.36 | 2.68 | 3.00 | 3.21 | 0 | 0 | 0 | 6.52 |
| NBT | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.6 | 0.6 | 0 | 0 | 0 | 1.0 |
| Net-of-tax | 3.9 | 5.0 | 6.2 | 7.1 | 8.0 | 9.5 | 9.6 | 11.4 | 11.3 | 11.5 | 12.0 |
| <i>Tax share, %</i> | <i>75.5</i> | <i>72.2</i> | <i>69.0</i> | <i>67.8</i> | <i>67.9</i> | <i>66.2</i> | <i>68.1</i> | <i>65.5</i> | <i>67.9</i> | <i>72.6</i> | <i>76.0</i> |

Table 5. Price components of 1 Capstan cigarette, LKR

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | January 2016 | October 2016 | November 2016 |
|---------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|---------------|
| Price | 4 | 4 | 6 | 6 | 8 | 10 | 10 | 10 | 11 | 20 | 20 |
| Excise | 2.289 | 2.289 | 2.63 | 3.465 | 4.1 | 5.3 | 5.6 | 6 | 6.975 | 11.675 | 11.675 |
| VAT | 0.52 | 0.43 | 0.64 | 0.64 | 0.86 | 1.07 | 1.07 | 0 | 0 | 0 | 2.61 |
| NBT | 0.08 | 0.08 | 0.12 | 0.12 | 0.16 | 0.20 | 0.20 | 0 | 0 | 0 | 0.40 |
| Net-of-tax | 1.1 | 1.2 | 2.6 | 1.8 | 2.9 | 3.4 | 3.1 | 4.0 | 4.0 | 8.3 | 5.3 |
| <i>Tax share, %</i> | <i>72.3</i> | <i>69.9</i> | <i>56.5</i> | <i>70.5</i> | <i>64.0</i> | <i>65.7</i> | <i>68.7</i> | <i>60.0</i> | <i>63.4</i> | <i>58.4</i> | <i>73.4</i> |

In 2008-2016, excise rate for *Gold Leaf* cigarettes increased more than 3-fold, but tax share was almost the same in 2008 and 2016: 76% because net-of-tax part of the price also increased more than 3-fold. The

⁶ <http://archives.sundayobserver.lk/2001/pix/PrintPage.asp?REF=/2016/05/01/fin24.asp>

⁷ EQUITY RESEARCH. Ceylon Tobacco Company PLC. 31 October 2013

https://cdn.cse.lk/cmt/upload_report_file/460_1398260076495.pdf

⁸ <http://synergy.com/2016/10/new-cigarette-prices-in-sri-lanka-29438/>

⁹ <http://dailynews.lk/2016/11/01/local/97694>

¹⁰ <http://www.onlanka.com/news/cigarette-prices-go-up.html>

¹¹ <http://www.hirunews.lk/94267/cigarette-prices-increased>

similar situation is observed for Capstan cigarettes: both retail price and net-of-tax price increased 5-fold, but the total tax share is still about 73%.

In the STEPS survey conducted in 2014-15 [12], the average sum spent on 20 manufactured cigarettes was LKR572.40. This average price is a little lower than the price of Gold Leaf brand (600 LKR per pack of 20), but taking into account consumption of cheaper cigarette brands, such average price looks quite reasonable.

Comparison of cigarette prices and taxes in Sri Lanka and neighboring countries

The WHO Global Tobacco Report, 2017 has information on cigarette prices and taxes in Sri Lanka and other countries of the WHO South-East Asia Region (SEARO) in 2016 [20] (Table 6).

Table 6. Cigarette prices and taxes in Sri Lanka and other SEARO countries

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of price of the most sold brand | | | | | | Net-of-tax part of the price, US\$ |
|------------------|---|-------------------|-------------|--|-------------------|---------------|----------------|------------------------|---------------|------------------------------------|
| | In reported currency | Reported currency | In US\$ | Specific excise | Ad valorem excise | Total Excise | VAT/ Sales tax | Other taxes and duties | TOTAL TAX | |
| Bangladesh | 100 | BDT | 1,28 | 0,00% | 62,00% | 62,00% | 15,00% | 0,00% | 77,00% | 0,29 |
| India | 158 | INR | 2,36 | 26,46% | 0,00% | 26,46% | 16,67% | 0,00% | 43,12% | 1,34 |
| Indonesia | 21 667 | IDR | 1,65 | 44,31% | 4,43% | 48,74% | 8,70% | 0,00% | 57,44% | 0,70 |
| Maldives | 47 | MVR | 3,05 | 0,00% | 0,00% | 0,00% | 0,00% | 53,19% | 53,19% | 1,43 |
| Myanmar | 850 | MMK | 0,72 | 35,29% | 0,00% | 35,29% | 0,00% | 0,00% | 35,29% | 0,47 |
| Nepal | 180 | NPR | 1,68 | 14,84% | 0,00% | 14,84% | 11,50% | 0,00% | 26,35% | 1,24 |
| Sri Lanka | 1 000 | LKR | 6,86 | 47,50% | 3,93% | 51,43% | 10,71% | 0,00% | 62,15% | 2,60 |
| Thailand | 86 | THB | 2,47 | 2,16% | 64,77% | 66,93% | 6,54% | 0,00% | 73,48% | 0,66 |
| Timor-Leste | 1,50 | USD | 1,50 | 25,33% | 0,00% | 25,33% | 2,44% | 0,23% | 28,01% | 1,08 |

We calculated the net-of-tax price of the most popular cigarette brand as: Price in USD * (1 – Total tax share). Cigarettes in Sri Lanka had the highest price in the Region, but it was partly caused by the highest net-of-tax cigarette price.

Tobacco affordability

Sri Lankan economist Nishan de Mel calculated the number of Gold Leaf cigarettes affordable on per capita income in 1980-2015¹². According to his calculations, in 2000-2011 cigarettes in Sri Lanka became much more affordable.

In the current analysis, a modified tobacco affordability index (TAI) [21] is used to estimate the changes in tobacco affordability in 2007–2015. TAI is calculated as the percentage annual change in disposable income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease.

¹² <http://www.dailymirror.lk/110319/Cigarette-taxes-need-Parliament-s-oversight>

As national statistics do not provide indicators of individual or household income for recent years, we used the World Bank indicator *Annual percentage growth rate of GDP per capita based on constant local currency*¹³. As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator also should be expressed in real (inflation-adjusted) terms. As the data for the consumer price index is not available, we used inflation adjusted prices for Gold Leaf brand, which has 80% market share. For inflation rate, we used the National consumer price index (NCPI)¹⁴ December to December previous year. As NCPI was not calculated before 2014, we used Colombo consumer price index (CCPI) for 2009-2013.

Calculations of TAI in Sri Lanka are presented in

Table 7.

Table 7. Cigarette affordability trends in Sri Lanka

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--|------|-------------|------------|------------|------------|-------------|------------|-------------|--------------|
| Price of 1 Gold Leaf cigarette, LKR | 16 | 18 | 20 | 22 | 25 | 28 | 30 | 33 | 50 |
| Nominal annual price increase (previous year = 100) | . | 112.5 | 111.1 | 110.0 | 113.6 | 112.0 | 107.1 | 110.0 | 151.5 |
| Inflation (previous year = 100) | . | 103.5 | 106.2 | 106.7 | 107.5 | 106.9 | 105.3 | 104.2 | 104.2 |
| inflation adjusted annual price increase (previous year = 100) | . | 108.7 | 104.6 | 103.1 | 105.7 | 104.8 | 101.8 | 105.6 | 145.4 |
| GDP growth (previous year = 100) | | 102.8 | 107.2 | 107.6 | 108.3 | 102.6 | 104 | 103.9 | 103.2 |
| Tobacco Affordability Index | . | -5.4 | 2.5 | 4.4 | 2.5 | -2.1 | 2.2 | -1.6 | -29.0 |

In 2009, 2013 and 2015, cigarettes became slightly less affordable, but in 2010, 2011 and 2014, they were turning more affordable. In 2009-2015, combined cigarette affordability almost did not change. Only in 2016, cigarette affordability sharply decreased and some reduction of tobacco consumption is expected.

Tobacco excise revenue

The Ministry of Finance issues annual reports¹⁵ with data on cigarette and tobacco excise tax revenue and also issues reports with data for first 4 months¹⁶ and 9 months¹⁷ in a year.

In 2004-2016, annual excise revenue increased almost 4-fold, while cigarette production decreased only by 12% (Figure 2).

¹³ <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

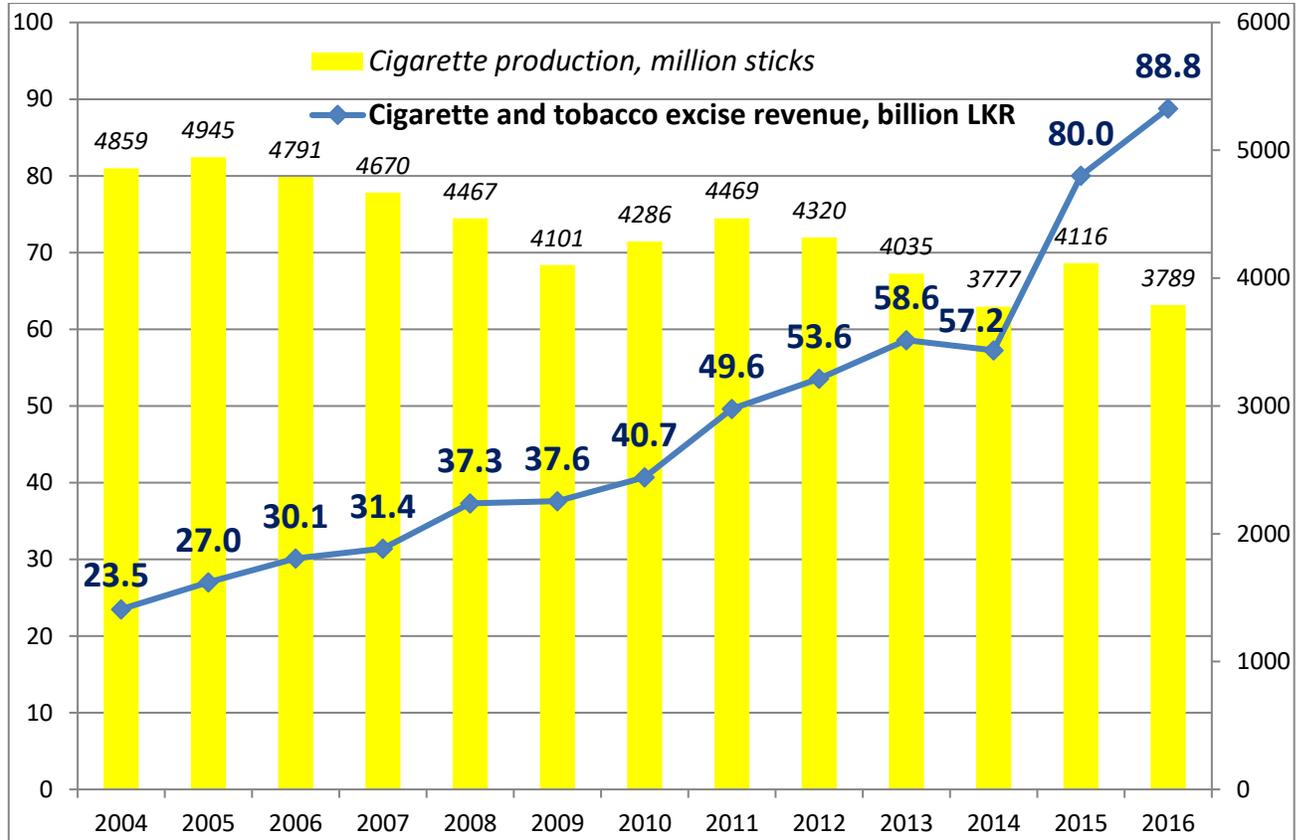
¹⁴ <http://www.statistics.gov.lk/page.asp?page=Inflation%20and%20Prices>

¹⁵ <http://www.treasury.gov.lk/web/guest/publications/annual-report>

¹⁶ <http://www.treasury.gov.lk/web/guest/publications/mid-year-fiscal-position>

¹⁷ <http://www.treasury.gov.lk/web/guest/publications/fiscal-management>

Figure 2. Tobacco excise revenue and cigarette production in Sri Lanka.



In the first four months of 2017, the excise revenue from cigarettes and tobacco products declined by 17.1 percent to 23,840 million LKR compared to 28,764 million LKR in the same period of 2016 [22]. The production of cigarettes decreased by 31 percent in January-April 2017.

Several factors could be involved in excise revenue reduction after the tax increases in October and November 2016.

1. **Value Added Tax and Nation Building Tax.** Cigarettes were made liable for VAT and NBT since November 2016 and it was the main factor of the cigarette price increase. These two taxes resulted in the reduction of cigarette consumption and hence, the decreased excise revenues. At the same time, a significant increase in VAT revenue was recorded in 2016. Currently, VAT+NBT burden is about 25% of the excise burden for cigarettes (see Tables 4 and 5). So, total cigarette tax (excise + VAT + NBT) revenue in January-April was about $23,840 \times 1.25 = 29,800$ million LKR, which is 1 billion LKR higher than a year before.
2. **Switch to cheaper cigarettes.** After the sharp price increase (see Table 4), some smokers could switch to cheaper cigarettes. Excise rates for cheaper cigarettes are still much lower (see Table 3) and such switch of cigarette consumption also contributed to the excise revenue decline. To prevent such revenue decline in future, the introduction of the uniform specific excise tax for all kinds of cigarettes is recommended.
3. **Forestalling.** In anticipation of tax increases, manufacturers may take advantage of the current or lower tax and increase production or stock of products (known as forestalling) [23]. The President of

Sri Lanka announced plans on substantial tax increases for cigarettes on June 1, 2016¹⁸. Ceylon Tobacco Company had 4 months to increase cigarette production and taxable wholesales. In the first nine months of 2016, the cigarette excise revenue increased to 67.5 billion LKR from 59.7 LKR in January-September 2015 or by 13.2% [22]. The revenue increase was higher than the tax rate increase: in October 2015, excise rates for expensive cigarettes increased 8.5-10%, but for 3 categories of cheap cigarettes the rate did not increase (see Table 3). So volumes of taxable cigarette sales increased in the first nine months of 2016, but during the twelve months of 2016, the production of cigarettes decreased by 8% or by 328 billion cigarettes (see Fig. 1). In 2015 and 2016, cigarette production was higher than the sales¹⁹, but excise taxes were paid by the CTC from produced or wholesaled cigarettes. The CTC could use overproduced cigarettes to pay taxes before tax increases, but sending cigarettes to retail sale after tax increases and even with new prices to get extra profits. Production of cigarettes in January-April 2017 decreased by 31% [22] while the price of the Gold Leaf cigarette increased from 35 LKR to 50 LKR or by 43%. The calculated nominal price elasticity is $31/43 = 72\%$, which looks too high. Most probably the 31% reduction was registered for taxable cigarettes, while some smokers still smoked cigarettes produced and taxed before October 2016. To prevent such situation in future, the country could consider implementing anti-forestalling measures, recommended by the FCTC Article 6 Guidelines.

Cigarette affordability greatly declined in late 2016 (see Table 6) and cigarette consumption in the country decreased. However, to estimate the real decline in consumption, more detailed monthly data on cigarette production, sales and revenues are needed.

In April 2017, Sri Lankan President Maithripala Sirisena declared that the government's program to create an alcohol and tobacco free nation has been successful as the revenues from the tobacco and alcohol had gone down. The President admitted that it was for the first time in history that the Treasury reported to the Cabinet that the revenues made from tobacco and alcohol had dropped drastically. He took this as a good sign since reduced revenues mean reduced consumption²⁰. While this statement signifies that the strategic goal of the Sri Lankan authorities is related to the eradication of tobacco use and its health consequences rather than making revenues on tobacco, the described situation is only partly related to the decreased consumption along with the tax-avoidance tactics of the tobacco producers.

Arguments against excise tax increase

The reported decline in tobacco excise revenue in early 2017 is used as an argument against the further increase of cigarette taxes.

Ceylon Tobacco Company also uses other arguments against the excise tax increases:

- *“Illicit trade’s principal driver is the existence of large, tax-driven, price differences between markets”²¹.*

¹⁸ <http://www.asiantribune.com/node/89027>

¹⁹ <http://www.dailymirror.lk/article/Tobacco-Consumption-and-Media-s-role-128576.html>

²⁰ http://www.colombopage.com/archive_17A/Apr11_1491925051CH.php

²¹

[http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKKS/\\$FILE/medMD9T8FR7.pdf?openelement](http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKKS/$FILE/medMD9T8FR7.pdf?openelement)

- “Excessive excise tax increases always lead to a volume decline and could end up resulting in lower tax revenues for the Government when consumers migrate to beedi or smuggled products”²².

Cigarette smuggling

According to the Ministry of Finance report, 50 million smuggled cigarettes have been confiscated by the Customs in 2006²³. In 2012, the authorities detected 56 million illicit cigarette sticks attempted to be smuggled into Sri Lanka²⁴. In 2014, an estimated 30 million illegal cigarette sticks were confiscated and destroyed in Sri Lanka under the supervision of law enforcement authorities²⁵. In 2015, 21.6 million illicit cigarettes were confiscated, a reduction of 29% when compared to the previous year²⁶.

In 2004-2015, the average excise rate per 1 cigarette (calculated as excise revenue/sales volume) increased from 4.8 LKR to 19.4 LKR or almost 4-fold in 11 years (Fig. 1). Despite such an increase of excise rates, cigarette smuggling declined in 2006-2015, given that the smuggled cigarette seizures reflect the real trend.

Ceylon Tobacco Company had to admit that the illegal market accounts for 1.5% of the market in Sri Lanka. As tobacco industry used to overestimate the share of smuggled cigarettes, we can take the estimated 1.5% as the upper limit.

While the current level of tobacco smuggling is not high, some effective policies can be used to reduce even such level. However, Sri Lanka has not yet ratified the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, and following the provisions of this Protocol can be beneficial.

While cigarette smuggling is a problem, it should not be overestimated and used as an argument against further excise increases. The FCTC Article 6 Guidelines state [23]: *The development, implementation and enforcement of tobacco tax and price policies as part of public health policies should be protected from commercial and other vested interests of the tobacco industry, including tactics of using the issue of smuggling in hindering implementation of tax and price policies.*

Beedi (bidis)

Beedi are popular amongst the low-income rural populations in Sri Lanka. Beedi is manufactured in Sri Lanka only by wrapping crushed tobacco in a special type of paper imported from India and known as bidi-leaf or Tendu. Around 2,000 bidi sticks can be produced with one kilogram of bidi-leaf, so bidi annual production is calculated using tendu import in kilograms as a proxy.

22

[http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKN2/\\$FILE/medMDA7UEUE.pdf?openelement](http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKN2/$FILE/medMDA7UEUE.pdf?openelement)

23 <http://www.treasury.gov.lk/documents/10181/12870/2006/bb0d67c1-c741-4ef3-8ef2-e9afc2663839?version=1.0>

24 <http://www.ips.lk/talkingeconomics/2015/05/31/world-no-tobacco-day-tobacco-smoking-an-issue-of-unawareness/>

25

http://www.ceylontobaccocompany.com/group/sites/SRI_9PMJN9.nsf/vwPagesWebLive/DO9PMKKS?opendocument

26

[http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKN2/\\$FILE/medMDA7UEUE.pdf?openelement](http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKN2/$FILE/medMDA7UEUE.pdf?openelement)

In 1995-1999, about 3 billion bidi sticks were produced annually in Sri Lanka [4]. In 2007, the estimated bidi production decreased to 1.14 billion sticks, but in 2009-2013 it returned to the annual level of 3 billion sticks and was rather stable.

In 2014-2016, several national media published very similar papers, such as *Beedi smoking grows as price stick hurts cigarettes*²⁷. All these papers used data on bidi production trends starting from 2007 and claimed that “*beedi volumes have risen from 1.1 billion sticks in 2007 to 3.2 billion sticks in 2013, a growth of almost 200 per cent over the past six years*²⁸” and explained the apparent growth by the fact that “*price of a regulated stick of cigarette has increased 100% from 2007 to 2014*”²⁹.

However, the graph published in one of such papers³⁰ shows the large increase of bidi production was observed only in 2007-2009 (from 1.4 billion to 3.1 billion) when excise rates for cheap cigarettes almost did not increase (see Table 3) and cigarette price increase was rather moderate.

The National Authority on Tobacco and Alcohol (NATA) published an article³¹ and explained that beedi smoking has not witnessed a spike, as the above-mentioned stories claimed. The overall trend since 1992 is, in fact, a decrease in imports. During the 24 years observation period, the fluctuating import levels were higher than in 2015 in 15 of those years and lower in only 8 of the years. The authors of the papers selected an arbitrary time period in which there seemed to be an increase in imports to make the misleading argument that beedi sales substantially increased over recent years. Alcohol and Drug Information Center (ADIC Sri Lanka) also admitted that there is no correlation between cigarette prices and beedi consumption [24].

The CTC claimed that beedi '*now accounts for approximately 43% of the tobacco market in the country*'³². The major flaw of such claim is treating a beedi stick and a cigarette stick as being equivalent in terms of tobacco content (and therefore consumption). However, cigarette sticks contain much more tobacco than beedi sticks do. The most popular brand of cigarette in Sri Lanka, which constitutes over 80% of the market, includes 600 milligrams of tobacco per stick while the tobacco content of beedi ranges between 195-385 milligrams [24]. So the bidi share in total tobacco consumption is much lower than 43%.

However, beedi use is also harmful to health. World Health Organization recommends that a policy framework for bidis should incorporate the various demand-side and supply-side measures for tobacco control addressed in the Framework Convention on Tobacco Control that are specific to bidis [25].

Sri Lanka has recently implemented policies to discourage beedi consumption in the country. In 2015, the government increased the duty on imported beedi leaves from 250 LKR to 350 LKR per 1 kg³³. Then the duty

²⁷ http://www.island.lk/index.php?page_cat=article-details&page=article-details&code_title=153424

²⁸ <http://www.sundaytimes.lk/140727/business-times/beedi-cheaper-alternative-for-the-poor-man-108087.html>

²⁹ <http://www.ft.lk/article/425025/Who-s-winning-the-battle-against-tobacco>

³⁰ <http://www.ft.lk/article/425025/Who-s-winning-the-battle-against-tobacco>

³¹ http://island.lk/index.php?page_cat=article-details&page=article-details&code_title=153824

³²

[http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKN2/\\$FILE/medMDA7UEUE.pdf?openelement](http://www.ceylontobaccocompany.com/group/sites/sri_9pmjn9.nsf/vwPagesWebLive/DO9PMKN2/$FILE/medMDA7UEUE.pdf?openelement)

³³

https://www.google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&cad=rja&uact=8&ved=0ahUKEwjg4K3FzaHVAhXEJJoKHc_xC64QFghJMAc&url=http%3A%2F%2Fndbs.lk%2Fpages%2Fresearch_library%2Fdownload_pdf.jsp%3F

was increased to 2,000 LKR in July 2016³⁴ and to 3,000 LKR on September 30, 2016³⁵. From 2017, an annual license fee of LKR 50,000 was imposed on importers of beedi leaves³⁶.

Tobacco control policies

In 2006, Sri Lanka passed the National Authority on Tobacco and Alcohol (NATA) Act N° 27 that made it illegal to sell tobacco or alcohol products to minors under 21 years, required the inclusion of health warnings on product labels, increased the tax on cigarettes, restricted mass media advertising, and prohibited smoking in all public places [14, 26]. This document [26] also established the national body called NATA and specified its structure, powers, and mechanisms of executing its functions. The document also contains the prohibition on the installation of vending machines for dispensing tobacco product or alcohol product; prohibition of tobacco or alcohol advertisements and sponsorships. Free distribution of tobacco products was prohibited. Use of trademarks of tobacco products on any article which is not a tobacco product was forbidden. The documents introduced tests for constituents of tobacco products.

In July 2012, NATA issued Tobacco Products (Labelling and Packaging) Regulations, No. 01 of 2012 [27], which addressed the issue of false, misleading or deceptive messages on tobacco products packaging and introduced pictorial health warnings to cover 80% of the total area of a packet, package or a carton. The regulation also required that information on the relevant constituents and emissions should be printed on tobacco packages. Every cigarette manufacturer of the different brands of cigarette products shall ensure that, there shall be printed on any packet, package or carton containing cigarette product, only one type of pictorial health warning of each category as is set out in the Schedule to these regulations and such pictorial health warning shall be changed once in every six months. However, these regulations issued in 2012 were challenged by the tobacco industry, and in May 2014, the Sri Lanka Court of Appeal ordered the Ministry to amend the regulations and to reduce the allocated warning size to 50-60% of the package. On July 11, 2014, the Supreme Court of Sri Lanka approved the revised regulations and ordered the Ceylon Tobacco Company to display pictorial health warnings that cover 60% of the front and back panels of all packages by January 1, 2015 [28]. However, in February 2015, the Parliament passed a bill which increased pictorial warnings to 80%³⁷. This amends the National Authority on Tobacco and Alcohol Act No 27 of 2006. Pictorial should consist of warning printed on both sides of every cigarette packet, package or carton containing cigarettes, and 80% of the total area of a packet, package or a carton. Health warnings have to be changed every six months. The pictorials, pictograms and messages that can be used were made available by the National Authority on Tobacco and Alcohol. The manufacturers and importers of existing stocks of tobacco products were granted a grace period up to June 1, 2015, to comply with the provisions. With effect from 1 June 2015, health warnings on cigarette packages in Sri Lanka have to cover 80% of the large sides [29].

[DOC_PATH%3D%2Fopt%2Fdownloads%2FResearch%2F3%2F2016-07-21_17_25_00.pdf&usg=AFQjCNHpay7s6Cz-BTgz9rFqi7LHfzTzNg](#)

³⁴ http://island.lk/index.php?page_cat=article-details&page=article-details&code_title=153824

³⁵ <http://www.customstoday.com.pk/sri-lanka-to-impose-15-vat-on-cigarettes/>

³⁶ https://www.pwc.com/lk/en/budget2017/customs_excise_and_cess.html

³⁷ <http://www.asianmirror.lk/news/item/7145-parliament-approves-80-percent-pictorial-warnings-on-cigarette-packets>

Increasing the size of the illustrated warnings on cigarettes packets to 80 % was one of the promises made in the 100-Day program undertaken by President Maithripala Sirisena³⁸.

As of 2016 [30], Sri Lanka is characterized by the use of all measures of the MPOWER package.

Complete smoke-free laws were reported effective in health care, educational and government facilities, indoor offices and workplaces and in public transport. Enforcement of these regulations was supported with relevant funds, and fines of the smokers and the establishments were required.

Smoking cessation help in Sri Lanka is provided through a toll-free telephone quit-line/help-line and smoking cessation support in most health care facilities. NRT and bupropion are available by prescription [30].

Ban of most tobacco advertising activities was introduced in 2006, as explained above. As of 2016 [30], tobacco advertising is banned in most media except for international ones.

Discussion

The tobacco tax policies, implemented in Sri Lanka in 2004-2015 did not reduce cigarette affordability and smoking prevalence rates remained rather stable in 2009-2014. Tobacco tax hikes implemented in October-November 2016 substantially reduced tobacco affordability and reduced tobacco consumption.

Earlier changes in tobacco use prevalence, especially the decline in 2007, might have been caused by the introduction of several tobacco control measures (advertising ban, the ban on smoking in public places and ban of cigarette sales to minors) by the NATA Act N° 27 [26]. However, many of NATA goals have proven difficult to enforce, which resulted in only a small reduction in usage [19]. Though some authors [14] mention that tobacco taxes were increased along with other NATA regulations in 2006, this was a small increase which could not seriously impact the affordability of tobacco products.

Recently, Sri Lankan economist Nishan de Mel has made the following proposal: *A moderate and systematic method for increasing the pricing of cigarettes would be to see that prices are adjusted every year to keep step with the increase in per-capita GDP – thereby, mitigating the increase in affordability that comes with average income growth.* However, the graph, presented in his paper, revealed that in 2011-2015 cigarette affordability almost did not change. Our calculations (see Table 7) confirm such affordability trend. As the affordability did not change, smoking prevalence and tobacco consumption also did not decrease.

The recent WHO-NCI monograph on tobacco taxation [31] states: *In the same way that changes in prices (rather than the level of prices) are more useful as a tobacco control tool, changes in cigarette affordability (rather than the level of cigarette affordability) are expected to drive changes in cigarette consumption over time.*

The Guidelines for implementation of Article 6 of the WHO FCTC [23] recommend: “When establishing or increasing their national levels of taxation Parties should take into account – among other things – ...

³⁸ <http://www.sundaytimes.lk/150215/news/pictorial-warning-to-cover-80-of-cigarette-pack-law-from-friday-135928.html>

changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence".

So it is not enough to adjust excise tax every year to keep up with the increase in per-capita GDP. The excise tax increase should be much higher than the expected GDP increase to make cigarettes less affordable and to reduce tobacco consumption in the country.

In July 2016, the country's Minister of Health Dr. Rajitha Senarathne proposed to increase the tobacco tax to 90 percent. The Minister said he was proposing the current 72 percent to be increased to 90 percent and waive off VAT, as VAT has been imposed by the Government as a temporary measure, he pointed out³⁹.

However, the minister did not take into account that the CTC has a monopoly on cigarette market in Sri Lanka and can change its (net-of-tax) part of the price in any direction. Average cigarette excise increased over 2008-2016 almost 3-fold (see Table 3) but tax share in cigarette price remained at the same level (see Tables 4 and 5).

The recent WHO-NCI monograph on tobacco taxation [31] states: *The best strategy for a monopolist would be to set the retail price lower than the short-run profit-maximizing position when the business environment is good. However, when the environment is unfavorable to the industry (e.g., when tobacco control legislation is passed or when the excise tax increases consistently), a more appropriate strategy would be to set the retail price much higher in order to maximize short-run profits, given the expected lower future profits. Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone.*

Over recent years, the CTC increased net-of-tax part of the price and each such increase reduced the tax share in the final price. But eventually the final price increased more than expected and this higher price contributed to the tobacco consumption reduction.

So it is not recommended to use tax share in the cigarette retail price as an indicator of tobacco taxation policy. Tobacco affordability index is a better indicator, as it is based on key recommendations of the Guidelines for implementation of Article 6 of the WHO FCTC and the WHO-NCI monograph on tobacco taxation.

Conclusions and recommendations

The sharp increase of tobacco taxes implemented in Sri Lanka in late 2016 substantially reduced tobacco affordability and tobacco consumption in the country and also increased total governmental revenues from all tobacco taxes combined.

While tobacco taxes in Sri Lanka are already higher than in neighboring countries, excise taxes can continue to be increased, even if the tax rate is already very high [31].

The following recommendations can help to ensure both tobacco consumption reduction and the increase of governmental revenues from tobacco taxes:

³⁹ http://www.colombopage.com/archive_16B/Jul14_1468510793CH.php

1. The excise tax rates for all kinds of cigarettes should be increased to the current excise rate of the most expensive cigarettes. This will minimize incentives to shift to cheaper products.
2. Then the unified specific tax rate for cigarettes should be annually increased to ensure the decrease of tobacco affordability. For example, if the expected annual GDP (or income) growth is 5% and expected inflation level is also 5%, the unified specific rate could be increased by $20\% = (5\% + 5\%)*2$.
3. Tax rates for bidis and other tobacco products should be increased at least to the same extent as cigarette excise rates to discourage use of such products.
4. Some effective anti-forestalling measures should be introduced to ensure that authorities receive the extra revenue from tax increases, rather than producers or importers.
5. Effective policies to counteract tobacco smuggling and other kinds of illicit tobacco sales should be implemented in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Tajikistan

Tajikistan joined the Framework Convention on Tobacco Control (WHO FCTC) in 2013, and the republic has committed itself to the implementation of the cross-sectoral measures outlined in the convention to protect people from tobacco use and related harm.

Tobacco use among adults

Overall, the prevalence of cigarette smoking in Tajikistan is low, but the proportion of people using chewing tobacco (nasway) is rather high [1].

The Global Adult Tobacco Survey (GATS) was conducted in Tajikistan in 2016 among people aged 15 year and older². In general, 6.3% (356,400 persons) of the adult population of Tajikistan were smokers: 3.8% (215,300 persons) smoked daily and 2.5% smoked occasionally. Among men, 14.7% were current smokers and 0.3% among women. Among adolescents aged 15-19 years, the prevalence of current smoking was 1.0% and among youth aged 20-29 years - 9.6%. The prevalence of current smoking in rural areas was 5.6%, while in urban areas it was 8.3%. The survey showed that 99.2% of smokers mostly smoked cigarettes. Among daily smokers, 62.3% smoked from 1 to 5 cigarettes a day, 22.4% smoked from 6 to 10 cigarettes, 6.6% - from 11 to 15 cigarettes, 6.2% - from 16 to 20 cigarettes, and 2.6% of daily smokers consumed more than 21 cigarettes a day.

Estimated 699,800 persons or 12.5% of study participants reported consuming smokeless tobacco (nasway): 13.4% of the rural population and 9.9% of the urban population.

According to the GATS, among people working in closed premises, 27.2% were exposed to secondhand smoke in their workplaces. In homes, 10.3% of the study participants were exposed to secondhand tobacco smoke daily and additionally 6.3% were exposed less than daily.

According to the survey of rural population conducted in 2009–2010, prevalence of smoking among people aged 15–59 years was 8.7% among men and 0% among women, 12–14% in the group aged 25–54 years, and just 2.7% among people aged 15–25 years. However, the results of this study revealed widespread use of chewing tobacco (nasway). About 40% of rural men and 3% of rural women reported using nasway. Among the youngest men (15–24 years old), only 9% reported using nasway while 60% of male respondents aged 45–54 years used it. A similar survey was conducted in the same age group (15–59 years) of the urban population between 1998 and 2003. This survey revealed that 30.1% of men and 2.5% of women smoked cigarettes, while 23.4% of men and 1.2% of women used nasway.

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2017.

² <http://www.sesric.org/imgs/news/1737-PRESENTATION-TQS-TAJIKISTAN-Hafizulloh-ISMOILOV-EN.pdf>

Only 0.3% of women aged 15-49 years reported current smoking within the Demographic and Health Survey conducted in 2012 [2] . While few women themselves smoked, a substantial proportion of women were regularly exposed to the harmful effects of second-hand smoke: 7.0% were exposed to tobacco smoke at home daily and 4.6% less than daily.

Tobacco use among youth

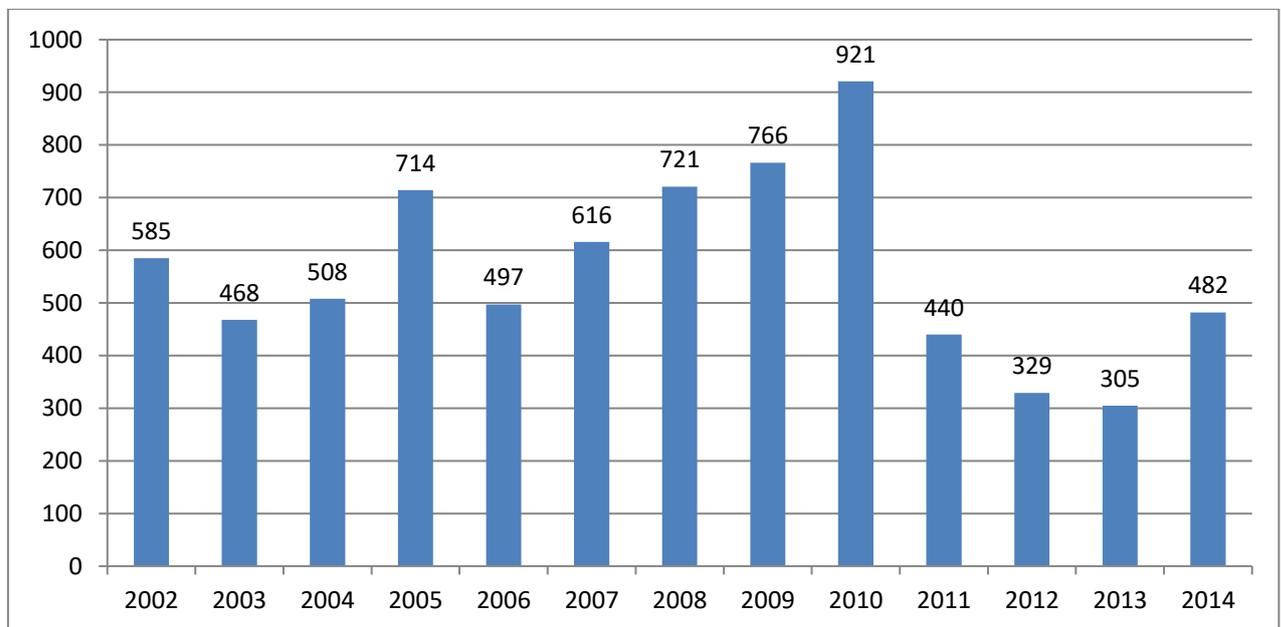
The most recent nation-wide survey on youth tobacco use, the Global Youth Tobacco Survey (GYTS), was conducted in Tajikistan in 2014³. The survey revealed that in Tajikistan, only 4.1% of students aged 13-15 years old were current users of any tobacco products (4.8% of boys and 2.7% of girls), which is lower than in 2004⁴ when the GYTS revealed that 5.1% of students were current users of any tobacco products (6.8% of boys 2.8% of girls).

Tobacco production and sales

Domestic cigarette production in 2002-2014 was rather stable: on average, it constituted about 500 million cigarettes a year, while in 2012-2013 it was about 300 million (Fig. 1).

Figure 1. Cigarette production in Tajikistan in 2002-2014 (million cigarettes).

Data source: UN database⁵



However, the decline of domestic cigarette production in recent years was more than compensated by an increase in cigarette import (Table 1). About 90% of cigarettes were imported from Kazakhstan and the Russian Federation.

Cigarette export from Tajikistan increased in 2015-2017. The main country for export was Iraq, where 240 million cigarettes were exported during the last three years with total cost about 7 million US dollars (about 80% of total Tajik cigarette export). Cigarette turnover, which in some cases equals to sales but not in all, in Tajikistan was calculated using the available statistical data as Turnover = Production + Import – Export. Cigarette turnover increased in 2012-2014 almost 2-fold.

³ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=1323>

⁴ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=489>

⁵ <http://data.un.org/Data.aspx?q=cigarettes&d=ICS&f=cmlID%3a25010-1>

Table 1. Cigarette market in Tajikistan (million cigarettes)

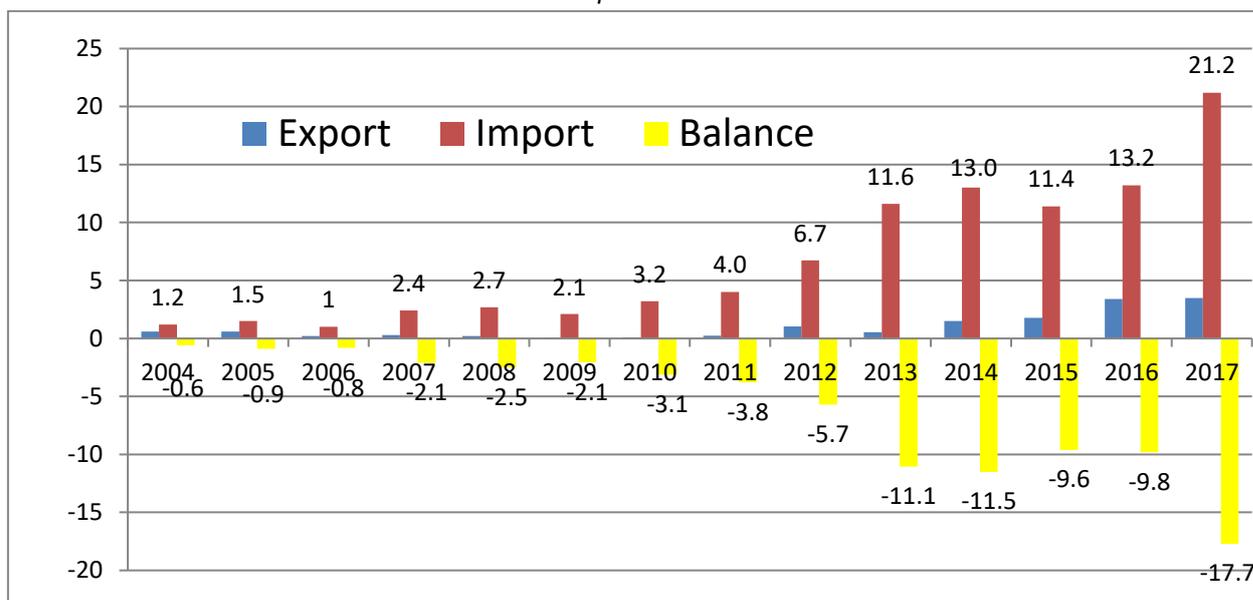
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------|------|------|------|------|------|------|------|
| Production | 440 | 329 | 305 | 482 | | | |
| Import | 209 | 293 | 597 | 678 | 554 | 862 | 1261 |
| Export | 2 | 0 | 3 | 22 | 23 | 123 | 158 |
| Turnover | 649 | 622 | 902 | 1138 | | | |

Data source: UN database and the Customs service reports (*customs.tj*).

The import of tobacco and tobacco products in monetary terms exceeds their export and the annual negative balance of external tobacco trade increased more than 20-fold over last 12 years (Fig. 2).

Figure 2. Tobacco and tobacco products export and import in Tajikistan (million USD).

Data source: the National Statistics Committee reports.



Cigarette prices

Cigarette prices in Dushanbe supermarkets in January 2018 ranged from 4 somonis per pack. Most expensive cigarettes (Marlboro, Kent, Parliament) were priced at 8-9 somonis per pack. In some kiosks and markets, domestic cigarettes with price 2-3 somonis per pack were available, but such cigarettes were not sold in supermarkets.

Tobacco affordability in Tajikistan

The Guidelines for the implementation of Article 6 of the WHO FCTC state that *tax rates should be monitored, increased or adjusted on a regular basis, potentially annually, taking into account inflation and income growth developments in order to reduce consumption of tobacco products.*

Excise rates in Tajikistan slowly increased over recent years (mainly due to the decline of the national currency exchange rate as the excise rates are specified in Euro); however, the impact of these increases on tobacco consumption depends on inflation and income growth.

In 2005-2010, tobacco price growth was below inflation rates. In 2011-2014, tobacco prices were increasing, but also slower than inflation (Table 3). In 2015-2017, the increase in tobacco prices slightly exceeded the inflation rate.

The Guidelines for the implementation of Article 6 of the WHO FCTC state: *Without price increases above the growth in income, tobacco products will inevitably become more affordable over time. This increase in affordability will generally result in growing consumption.* The Guidelines recommend: *“When establishing or increasing their national levels of taxation Parties should take into account – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”.* “Affordability” means price relative to per capita income.

In the current analysis, the modified Tobacco Affordability Index [3] is applied to estimate the changes in tobacco affordability in Tajikistan in 2011-2014.

The **Tobacco affordability index** (TAI) is calculated as follows: annual change in disposable income per capita divided by the tobacco price increase (TAI = (Income change/ CPI tobacco – 1)*100). If the TAI has positive values, it means that tobacco became MORE affordable, and tobacco consumption is expected to increase. Calculations of the TAI are presented in Table 2.

Table 2. Tobacco affordability in Tajikistan in 2011-2016

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|-------------|-------------|------------|------------|--------------|------------|-------|
| Consumer price index, all goods and services, December to December of the previous year | 109,3 | 106,4 | 103,7 | 107,3 | 105,1 | 106,1 | 106,4 |
| Consumer price index, tobacco products, December to December of the previous year | 103,0 | 101,0 | 104,3 | 100,4 | 109,5 | 108,2 | 107,1 |
| Aggregate household income, somonis per capita | 225,6 | 258,8 | 293,6 | 323,6 | 297,6 | 351,1 | |
| Annual income change, % | 118,6 | 114,7 | 113,4 | 110,2 | 92,0 | 118,0 | |
| Tobacco Affordability Index | 15,2 | 13,6 | 8,8 | 9,8 | -16,0 | 9,0 | |

Data source: the National Statistics Committee reports (stat.tj)

In 2011-2014, the tobacco affordability in Tajikistan increased greatly, which could result in the tobacco consumption upward trend and, correspondingly, the rise of cigarette turnover was observed in these years (Table 1). In 2015, tobacco products became less affordable, but mainly due to the population income decline.

Tobacco control policies

Tobacco control legislation

The tobacco control law called “On restrictions of tobacco products use” was developed and approved by both the Lower and the Upper Chambers of the Parliament of Tajikistan in 2010. The law (N 649) was signed by the President on December 29, 2010, and entered into force since January 1, 2011. At the same day, another law (N 650) was signed and this law amended the Administrative Code to include fines for violations of the tobacco control law.

The Article 4 of the tobacco control law required tobacco packs to have main and additional health warnings and to specify tar and nicotine contents. The health warning provisions in the law were rather declarative. The law states that warnings should be “clear”, but there were no requirements in the law about the colors and size of the warning (except the requirement for the message about tar and nicotine contents to take at least 4% of one of the middle surfaces of the pack).

The Article 6 of the tobacco control law refers to the Law on Advertising, which is effective since 2003 and bans tobacco advertising (Article 17) and sponsorship (Article 20) in Tajikistan. However, the ban was not comprehensive, as point-of-sale advertising was still permitted.

The Article 7 of the tobacco control law prohibited smoking (and use of nasway) in indoor public and workplaces, administrative buildings, offices of governmental bodies and non-governmental organizations, health, educational, cultural and sports facilities, recreation areas, places for holding public events, halls of airports and railroad stations, public transport, except specially designated smoking areas, which could be set within premises. However, the legislation has a fundamental weakness as in case of smoking in places required by law to be smoke-free, only the smoker is considered a violator while no responsibility is imposed on the person in control of the premises where smoking occurs.

In October 2017, the parliament adopted some amendments to the tobacco control law (Law N 1484)^{6,7}, effective from January 1, 2018. The new pictorial health warnings should cover at least 75 percent of the surface on both largest sides of the packs. The amended law bans point-of-sale advertising.

The amended law bans smoking (including water pipe, electronic cigarettes, as well as nasway use) in premises of administrative buildings, staircase landings of residential buildings, offices of governmental and private enterprises, airports, train stations, dormitories, health centers, cafes, restaurants, as well as in pedestrian subways, elevators and public transport. Specially designated smoking areas can only be set outside of premises.

Tobacco excise rates

According to the Tax Code of Tajikistan⁸ (Article 200) excise rates for tobacco products are set by Orders of the Government and are specified in Euro. Since 2005, the tobacco excise rates in Tajikistan have been changed only twice (Table 3). The VAT rate was reduced in 2009 from 20% to 18% (Article 181 of the Tax Code).

Table 3. Tobacco excise rates in Tajikistan (Euro per 1000 pieces)

| | Since May, 2005 | Since April 2010 | Since March 2014 |
|-----------------------|------------------------|--------------------------------------|---------------------------------------|
| | Order 126 of 2.04.2005 | Order 189 of 30.03.2010 ⁹ | Order 102 of 15.02.2014 ¹⁰ |
| Filter cigarettes | 0,75 | 0,85 | 1,00 |
| Non-filter cigarettes | 0,34 | 0,40 | 0,50 |
| Cigars | 0,60 | 0,70 | 0,80 |

As the national currency (somon) exchange rate changed over those years, the excise rate expressed in national currency has actually increased: for example, excise rate for 1000 filter cigarettes increased

⁶ <https://news.tj/en/news/tajikistan/society/20171030/hookah-smoking-will-be-affected-by-new-smoking-law>

⁷ https://www.narodnaya.tj/index.php?option=com_content&view=article&id=5829:2018-01-12-06-00-31&catid=69:zakoni&Itemid=171

⁸ http://www.customs.tj/images/stories/img_text/Konunho/ru/Zakon/ZakRu901_17.09.2012%D0%B3.rar

⁹

http://www.andoz.tj/images/materiali_andoz_tj/GLAVNOE%20MENU/2_zakonodatelstvo/6_postanovleniya_pravitelstva_r_t/4-pravilo%20%E2%84%96126%20o%20stavkax%20akciz.naloga.pdf

¹⁰

http://andoz.tj/images/materiali_andoz_tj/GLAVNOE%20MENU/2_zakonodatelstvo/6_postanovleniya_pravitelstva_r_t/1-Pravilo%20%E2%84%96102%20akciz_neft.pdf

from about 3 somonis in 2005 to about 5 somonis in 2010, 7 somonis in 2015, 9 somonis in 2016 and about 11 somonis in 2017. In 2010-2017, the nominal (in national currency) excise rate increased by less than 10% a year.

In January 2018, the cheapest cigarettes had price 2 somonis per pack of 20 cigarettes, including the excise of 0.22 somoni ($=11/1000 * 20$), so the excise share in retail price does not exceed 11%. The VAT rate is 18%; so, in a pack with a price of 2 somoni the VAT is $2*18/118=0.31$ somoni and the total tax burden is $0.22+0.31=0.53$ somoni. Total tax share in retail price is 26%, which is much lower than in other countries.

In October 2017, the government proposed¹¹ to increase excise rates for cigarettes: to 3 euro (for 1000 pieces) from January 2018; to 5 euro from January 2019 and to 7 euro from January 2020. However, there is no information about whether this proposal was adopted.

The import duty is 3 euro per 1000 cigarettes, but over recent years most cigarettes are imported from the CIS countries (Kazakhstan and Russia), so the import duty is not paid for those cigarettes.

Tobacco excise revenues

In 2009-2010, according to the data reported by the Ministry of Finance, tobacco excise revenues for domestic cigarettes increased from 1.32 to 2.36 million somonis. This increase was caused by the change in tax rate effective since 30 March 2010 (see Table 1) and the growth in cigarette production (see Fig .1).

In 2014, the annual cigarette turnover was about 1.1 billion cigarettes. The excise rate was 1 euro per 1,000 cigarettes and the average somoni to euro exchange rate was about 6.5, so the annual tobacco excise revenues should be about 7 million somonis.

Excise rates and cigarette prices in neighboring countries

The comparison of excise rates and cigarette prices in Tajikistan and neighboring countries (Table 4) reveals that both taxes and prices in Tajikistan are the lowest in the region.

Table 4. Excise rates and cigarette prices in Tajikistan and neighboring countries (January 2018)

| | Specific excise rate per 1000 cigarettes | | Ad valorem excise, % | VAT, % | Price of a 20 cigarettes pack of Winston Blue | | Price components (euro) | | |
|-------------------|--|-----------------|----------------------|-----------|---|-------------|-------------------------|-------------|--------------|
| | National Currency | Euro | | | National Currency | Euro | excise | VAT | Net of taxes |
| Tajikistan | 11 | 1,0 | 0 | 18 | 6,5 | 0,60 | 0,02 | 0,09 | 0,49 |
| Kazakhstan | 7500 | 18,8 | 0 | 12 | 350 | 0,88 | 0,38 | 0,09 | 0,41 |
| Kyrgyzstan | 1250 | 14,7 | 0 | 12 | 60 | 0,71 | 0,29 | 0,08 | 0,34 |
| Russia | 2123 | 30,3 | 14,5 | 18 | 125 | 1,79 | 0,61 | 0,27 | 0,91 |
| Uzbekistan | 84222 | 8,5-16 (import) | 0 | 20 | 9000 | 0,90 | 0,32 | 0,15 | 0,43 |

Such price differences encourage cigarette smuggling from countries with lower prices, so cigarette smuggling OUT OF Tajikistan is much greater than cigarette smuggling INTO the country. In 2016, the

¹¹ <http://ent.tj/tweet/3169-stavki-akciznogo-naloga-na-tabachnuyu-produkciyu-v-tadzhikistane-povysyat-s-2018-goda.html>

Kyrgyz customs reported^{12 13 14} three cases of large seizures of cigarettes with Tajik excise stamps (300,000 cigarettes in total). In 2017, Kyrgyz customs reported^{15, 16} that cigarette smuggling from Tajikistan substantially increased. Cigarettes with Tajik excise stamps were also found in Kazakhstan¹⁷ and other countries. In July 2016, Latvian customs reported two seizures of cigarettes with Tajik excise stamps (250,000 cigarettes in total)¹⁸. Cigarettes smuggled from Tajikistan were mostly international brands (Winston and others), which are imported to Tajikistan by the transnational tobacco companies.

In Tajikistan, smuggled cigarettes are also sold^{19, 20}, but paradoxically they are usually more expensive than legal cigarettes, as some smokers prefer smuggled cigarettes which they consider more trendy. For example, in Dushanbe supermarkets, a pack of Marlboro with Tajik excise stamp (excise paid in Tajikistan) had price 8-9 somonis, while the same pack with Russian excise stamp (excise paid in Russia) was being sold for 21 somonis.

Some people used to believe that Tajikistan cannot have high excise cigarette rates and prices as people have very low salaries. However, the level of salaries can have an impact only on the price net of taxes (producer, importer and retailer price). Calculations of the cigarette price components (Table 4) revealed that the cigarette price net of taxes in Tajikistan is the same or even higher than in Kyrgyzstan, Uzbekistan, and Kazakhstan. However, final retail prices in those countries are higher than in Tajikistan. The main factor of bigger differences between the net of taxes prices and final retail prices are the excise rates, which are 10-20 times lower in Tajikistan than in the neighboring countries.

Over recent years, the cigarette excise rates were increased in the neighboring countries. In **Kyrgyzstan**, minimum excise rate for filter cigarettes in 2009-2014 was increased 4-fold and the tobacco excise revenue increased 5-fold [4], while in 2014 the only tobacco factory in the country was closed. Since January 2017, the excise rate in **Kyrgyzstan** was increased again to 1000 soms per 1000 cigarettes, and this made the excise rate more than 10-fold greater than in Tajikistan.

Since January 2018, **Uzbekistan** increased cigarette excise rates by 120%, **Kazakhstan** – by 21% and **Kyrgyzstan** – by 25%.

Outcomes and perspectives of tobacco excise taxation policies in Tajikistan

In 2003-2017, cigarettes became more affordable as excise rates were very low, so the tobacco consumption in Tajikistan apparently increased. As cigarette price difference between Tajikistan and other countries became larger, cigarette smuggling out of Tajikistan also increased.

The tobacco consumption declines when tobacco products become less affordable. The affordability reduction can be achieved by tobacco excise increase, which results in the growth of cigarette price

¹² <http://www.customs.kg/index.php/kg/news/1556-2016-07-01-03-27-50>

¹³ <http://www.customs.kg/index.php/kg/custorg/126-batcst/1531-2016-05-27-08-28-20>

¹⁴ <http://www.customs.kg/index.php/kg/news/1481-2016-04-11-05-38-25>

¹⁵ <https://ru.sputnik.kg/economy/20170211/1031704683/nachalsya-massovyj-zavoz-tadzhikskih-sigaret-v-kyrgyzstan.html>

¹⁶ <http://www.customs.kg/index.php/ru/news/1730-2017-01-27-06-34-21>

¹⁷ <https://sm.kz/v-kazahstane-stali-izymat-bol-she-nezakonnyh-sigaret>

¹⁸ <http://www.grani.lv/latvia/70582-kontrabandisty-vezut-sigarety-iz-tadzhikistana.html>

¹⁹ <http://avesta.tj/2017/04/20/v-dushanbe-obnaruzhena-krupnaya-partiya-sigaret-s-poddelnymi-aktsizami/>

²⁰ http://customs.tj/index.php?option=com_content&view=article&id=473%3A2017-02-27-11-26-56&catid=54%3A2014-03-28-01-15-27&Itemid=82&lang=ru

above the income growth. Such excise increase will reduce cigarette consumption and sales but will bring the increase of governmental excise revenues.

Tajikistan uses specific excise system, but rates for filter cigarettes are twice higher than the rates for non-filter cigarettes. All neighboring countries have already introduced equal tax rates for filter and non-filter cigarettes. Over recent years, non-filter cigarettes were not available in Dushanbe shops and probably such cigarettes are smoked only in rural areas. Excise increase for non-filter cigarettes will further reduce their consumption as many poor smokers will have to quit smoking and it will be beneficial for their health.

Tajikistan has the sovereign right to determine and establish their taxation policies, including the level of tax rates to apply, the structure and system of tobacco taxes, taking into account their national circumstances, to achieve public health, fiscal and other objectives.

However, to illustrate the potential of increased tax rates, a model of excise tax rates is proposed. With this model, we estimated the impact of tobacco taxation policy on tobacco prices, turnover, and revenue for three scenarios of excise rate increase in 2018:

- 1) Excise rate increases to 3 euro per 1000 cigarettes, as proposed by the government²¹, or by 200%;
- 2) Excise rate increases to 8.5 euro per 1000 cigarettes (equal to the current excise rate for domestic cigarettes in Uzbekistan, see Table 4) or by 750%;
- 3) Excise rate increases to 15 euro per 1000 cigarettes (equal to the current excise rate for cigarettes in Kyrgyzstan, see Table 4), or by 1400%.

For the model, the following assumptions are used:

- Exchange rate in 2017 and 2018 will be 1 euro = 11 somonis;
- Net-of-tax price (or producer and retail price) will increase in 2018 by the expected inflation level or higher (by 10-20%).

Based on these assumptions, we estimated the cigarette price increases for two brands which in 2017 had prices 3 somonis and 6 somonis per pack for three options in 2018 (Table 5).

Table 5. Forecast of the tobacco prices in 2018 (somonis per pack of 20 cigarettes)

| Scenarios | Price | excise | % excise | VAT | Net-of-tax price | Price | Excise | % excise | VAT | Net-of-tax price |
|-----------|------------|--------|----------|------|------------------|-------------|--------|----------|------|------------------|
| 2017 | 3,0 | 0,22 | 7 | 0,46 | 2,32 | 6,0 | 0,22 | 4 | 0,92 | 4,86 |
| 2018-1 | 4,0 | 0,66 | 17 | 0,61 | 2,73 | 7,0 | 0,66 | 9 | 1,07 | 5,27 |
| 2018-2 | 5,5 | 1,87 | 34 | 0,84 | 2,79 | 8,5 | 1,87 | 22 | 1,30 | 5,33 |
| 2018-3 | 6,5 | 2,70 | 42 | 0,99 | 2,81 | 10,0 | 2,70 | 27 | 1,53 | 5,77 |

As we see, even if in 2018 excise tax increases 8.5-fold (scenario 2), the price of cheapest cigarettes will increase only by 83% and for expensive cigarettes – by 42%. We can expect that in scenario 1 average nominal cigarette price will increase by 30%, in scenario 2 – by 60%; in scenario 3 – by 90%.

The scenario 3 for 2018 ensures the largest decline in tobacco affordability and so it is the best for public health as it has the highest potential for the tobacco consumption reduction. However, the reduction in

²¹ <http://ent.tj/tweet/3169-stavki-akciznogo-naloga-na-tabachnuyu-produkciyu-v-tadzhikistane-povysyat-s-2018-goda.html>

tobacco consumption will result in decreased number of taxable cigarettes. To estimate the impact of the proposed tax increases from the revenue perspective, we assume that nominal (non-adjusted for inflation and income growth) price elasticity for cigarette sales is -0.5, while the experience of neighboring countries revealed that it usually ranged between -0.2:- 0.4. For example, in Kazakhstan in 2012-2015 average nominal cigarette price increased by 109%, but cigarette sales declined only by 20%. From the revenue perspective, price elasticity -0.5 describes the worst option with the greatest drop in sales and revenues, while smaller (in absolute terms) price elasticity would mean higher tobacco consumption and higher excise tax revenue.

With price elasticity -0.5, cigarette consumption will decrease by 15% in scenario 1, by 30% in scenario 2 and by 45% in scenario 3. We estimated the tobacco excise revenue for 2017 and each scenario in 2018 (Table 6). For the model, we assume that in case of great reduction of tobacco affordability, cigarette smuggling OUT OF the country will decrease and smuggling INTO the country will increase, both processes will reduce the number of taxed cigarettes. As there were no reliable estimates of either kind of smuggling, the smuggling levels shown in Table 6, are just assumptions based on the information presented above. Actual levels of smuggling will depend on the enforcement activities against illicit sales, taxation policies in neighboring countries, currencies exchange rates, and other factors.

Table 6. Forecast of consumption and revenue impacts of the model taxation policies

| | 2015 | 2016 | 2017 | 2018-1 | 2018-2 | 2018-3 |
|--|-------------|--------------|--------------|-------------|-------------|-------------|
| Consumption, million cigarettes | 1000 | 1000 | 1000 | 850 | 700 | 550 |
| Smuggling out of the country, million cigarettes | 200 | 200 | 300 | 250 | 150 | 100 |
| Smuggling into the country, million cigarettes | 50 | 50 | 50 | 75 | 100 | 150 |
| Taxable sales, million cigarettes | 1150 | 1150 | 1250 | 1025 | 750 | 500 |
| Excise rate, somonis per 1000 cigarettes | 7 | 9 | 11 | 33 | 93,5 | 165 |
| Revenue, million somonis | 8,05 | 10,35 | 13,75 | 33,8 | 70,1 | 82,5 |

In 2018, tobacco excise revenue will increase in all scenarios. However, the scenarios 2 and 3 for 2018 provide both higher revenue increase and greater decline in tobacco consumption. In scenario 3, the number of taxed cigarette would decrease by 60%, but the revenue would increase 6-fold. The possible additional revenue (about 20-70 million somonis) could be used for different purposes, including health care. The forecasted figures are based on several assumptions, but they reveal trends, which are very similar to trends already observed recently in other countries.

Conclusions

In recent years, Tajikistan did not implement tax policy on tobacco products, which could contribute to the health objectives aimed at reducing tobacco consumption, as the excise tax rate was not increased and tobacco affordability was growing. Such taxation policy was not in line with the FCTC provisions.

Tajikistan has great potential of increasing tobacco excise rates in 2018 and in the following years, to contribute to health objectives aimed at reducing tobacco consumption. The greater will be the excise tax increase, the larger will be both the reduction in tobacco consumption and tobacco excise revenue growth.

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco use and tobacco taxation in Uruguay

Tobacco control legislation

Uruguay ratified the WHO Framework Convention on Tobacco Control on September 9, 2004. In 2014, Uruguay ratified the WHO FCTC Protocol to Eliminate Illicit Trade in Tobacco Products and created an interagency committee for protocol implementation.

In 2005, shortly after ratifying the Framework Convention on Tobacco Control (FCTC), Uruguay began an ambitious tobacco control campaign that brought the country to the global forefront in the fight against smoking. The wide range of measures implemented in a relatively short period and the rigorousness with which policies were implemented and enforced have few precedents, even in the most developed countries [1].

In 2015 [2], tobacco control policies in Uruguay were assessed at 34 out of 37 points.

Smoke-free places

In March 2006, Uruguay became the first country in Latin America to adopt a 100% smoke-free national policy, which started as a Presidential Decree issued in 2005 and was codified later when the Congress passed a national law in 2008. In addition to indoor enclosed places, the smoke-free legislation includes selected outdoor areas. Smoke-free legislation gets a very high level of compliance and great social acceptance [3].

As the ITC survey (conducted among smokers) shows, only 5% of them reported noticing smoking indoors in these venues in the last 6 months between 2008-09 and 2012. During this time, support for the ban has increased from 79% to 90% of smokers. The prevalence of smoking indoors in bars was slightly higher: about 10% of smokers noticed people smoking in these venues in the last 6 months between 2008-09 and 2012, while the support for the indoor ban also increased during this time from 70% to 82% of smokers [4].

Comparison of data from countries which conducted the Global Adult Tobacco Survey (GATS) in 2008-2010 showed that all the indicators of SHS exposure were the lowest in Uruguay including SHS exposure in the workplace (16.5%) [5], in government buildings (6.9%), in restaurants (4.4%), on public transportation (5.4%), in healthcare facilities (3.8%) [6]. In a recent study of in-vehicle smoking, it was observed in 2.2% of vehicles [7].

According to GATS, exposure to secondhand smoke (SHS) in homes, workplaces, and in various public places significantly declined from 2009 to 2017. In homes (at least weekly) exposure to SHS declined from 29.2% to 20.0%, representing a relative decline of 31.5%. In workplaces (in the last 30 days), exposure to SHS declined from 16.5% to 11.1%, representing a relative decline of 32.8%. The largest

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

drop in exposure to SHS in various public places occurred in universities (in the last 30 days) from 27.5% to 11.3% representing a relative decline of 58.8%.

Tobacco advertising, promotion, and sponsorship

In 2008, Uruguay introduced a total ban on tobacco promotion and sponsorship and outlawed most tobacco advertising except at the point-of-sale, with a requirement that health warnings of equivalent size and visibility appear alongside in-store tobacco displays. However, the partial advertising ban proved difficult to enforce, as the tobacco industry employed various advertising, promotion and sponsorship tactics that violated the law, such as the use of brand elements without the corresponding required health warnings. In the face of strong opposition from the tobacco industry and merchant associations, which claimed that a ban on point-of-sale displays would violate the country's constitution and lead to an increase in illicit trade, Uruguay mobilized a coalition of governmental and civil society partners to make its advertising ban complete to ensure compliance with the WHO Framework Convention on Tobacco Control requirements. Only a list of tobacco products that are sold, with their prices, is permitted and it must have a Ministry of Health warning on the harms associated with tobacco use and SHS exposure. The successful expansion of Uruguay's TAPS ban shows that even strong tobacco control measures can be made even stronger [8].

Smoking cessation

Since 2004, treatment for tobacco dependence has been offered by the National Resources Fund (FNR) and was available free of charge in about two-thirds of provinces in Uruguay. In 2005, more than 100 new tobacco dependence treatment programs operated by personnel trained by the FNR were established. Under the 2008 Smoking Control Regulations (Law No. 18.256), tobacco dependence treatment was integrated into the National Healthcare System. In March 2013, a national toll-free telephone quitline service was initiated by the Ministry of Health. The number is currently promoted on cigarette packaging [4].

Tobacco packaging and labeling

One of the authorized pictures and accompanying text warnings must be displayed on 80 percent of the two principal display areas of each tobacco product package. Warnings must be distributed evenly across each brand and new warnings are to be issued every 12 months. Six new graphic images appeared on packs in February 2010, covering the lower 80% of both principal display areas of all tobacco packages. Since then, the Ministry of Public Health of Uruguay has implemented seven rounds of new health warnings [4].

Misleading packaging and labeling, including terms such as "light" and "low tar" and other signs, is prohibited. Further, each tobacco brand may only bear a single form of presentation. For example, Marlboro Red was selected as the only brand variant for Marlboro, and other variants such as Marlboro Gold or Marlboro Blue could no longer be sold. The intent of this policy was to eliminate the false impression that one brand variant is more or less harmful than another. The tobacco industry responded to this law by creating new brands to replace their "lighter" cigarette variants [4].

An executive decree was issued in August 2018 to advance the implementation of plain packaging of tobacco products. The Ministry of Health is expected to issue further details [9].

The tobacco industry's global efforts to challenge the use of warning labels were dealt a significant blow in July 2016, when the arbitral tribunal dismissed a case brought by Philip Morris (PM) against Uruguay.

PM had challenged Uruguay's strong packaging and labeling laws by bringing an international case against its government in early 2010 – the first claim under an investment treaty challenging WHO FCTC implementation. At the World Bank International Centre for Settlement of Investment Disputes, the company claimed that Uruguay had violated its bilateral investment treaty with Switzerland.

However, Uruguay was able to actively confront the tobacco industry and defend its national laws. WHO and the WHO FCTC Secretariat, as well as the Pan-American Health Organization, supported WHO FCTC implementation by filing independent amicus briefs that described the WHO FCTC and the underlying evidence base for the measures. Financial assistance was also provided to Uruguay by national and international NGOs and by Bloomberg Philanthropies.

On July 8, 2016, the International Center of Settlement of Investment Disputes (ICSID), an independent arm of the World Bank Group, dismissed the lawsuit in its entirety and ruled that Uruguay should be awarded compensation for all the expenses and costs associated with defending against these claims. In essence, the ruling accepted the claim made by the Government of Uruguay that its anti-tobacco measures were “about protection of public health, not interference with foreign investment.” [10]. The tobacco company lost its 6-year landmark battle for compensation concerning Uruguay's strong tobacco packaging and labeling measures and had to reimburse Uruguay USD 7 million to cover its legal fees.

This decision represented a major victory for the people of Uruguay and shows countries everywhere that they can stand up to tobacco companies and win. Uruguay's experience is an important example for other countries that are considering implementing similar legislation and will strengthen the resolve of governments to not be intimidated by tobacco industry threats of litigation [11, 12]

Tobacco use among adults

According to the 1988 survey conducted among 799 urban dwellers by American Cancer Society in collaboration with Gallup organization [13], 44% of men and 23% of women were current smokers in Uruguay. In 1990, the prevalence of smoking in Uruguay was 40.9% among men and 26.6% among women [14].

Several surveys have been conducted in Uruguay systematically or at least more than once.

STEPS was conducted in 2006 [15] and 2013 [16]. The first survey was conducted among people aged 25-64 years; the second one also included those from 15 years. The prevalence of daily smoking is shown in Table 1.

Table 1. Prevalence of daily smoking in Uruguay according to STEPS

| Gender | Age | 2006 | 2013 |
|--------|-------|-------------------|-------------------|
| Men | 15-24 | | 16,6% (10,3-22,8) |
| | 25-64 | 37,2% (33,4-41,0) | 32,5% (29,0-36,0) |
| Women | 15-24 | | 16,9% (11,6-22,2) |
| | 25-64 | 28,6% (26,0-31,2) | 25,4% (22,8-28,0) |
| Both | 15-24 | | 16,7% (12,7-20,8) |
| | 25-34 | 33,8% (29,2-38,4) | 27,6% (23,0-32,2) |
| | 35-44 | 35,2% (30,4-40,0) | 30,7% (26,2-35,1) |
| | 45-54 | 33,3% (29,1-37,5) | 30,3% (25,9-34,7) |
| | 55-64 | 27,2% (23,0-31,4) | 26,1% (22,1-30,1) |

The overall change in the prevalence of daily smoking between the two STEPS constituted 3-6% depending on the demographic groups being larger in younger groups and smaller in older ones. However, none of the groups was characterized by a significant decrease in the prevalence.

On average, in 2013 STEPS, daily smoking men smoked 13.3 and women 11.9 cigarettes per day.

The national survey (ENPTA) was conducted in 2008: the prevalence of last week smoking was 29.4% for men and 20.9% for women².

Global Adult Tobacco Survey was conducted in Uruguay twice: in 2009 and in 2017. The results of Global Adult Tobacco Survey conducted in Uruguay in 2009 show that among men, the prevalence of current smoking was 30.7% (28.2–33.4), daily cigarette smoking 24.3% (, mean cigarettes per day 17.6; among women, these estimates were 19.8% (18.1–21.6), 16.4% and 12.5 respectively [17]. Uruguay was characterized by the largest proportion of former tobacco users (24%) compared to other GATS countries. The male/female odds ratio was the lowest in Uruguay (2.08) which shows that women smoking is most widespread compared to other countries of this group [18, 19]. The comparison of the two surveys shows that the overall tobacco smoking prevalence significantly declined from 25.0% in 2009 to 21.6% in 2017, a relative decline of 13.4%. Tobacco smoking significantly declined among males from 30.7% in 2009 to 25.6% in 2017; among females, tobacco smoking was 19.8% in 2009 and 18.0% in 2017, which was not a statistically significant difference. By age group, there was a significant decline in tobacco smoking only among the group aged 15-24 years (24.7% to 14.6%), representing a relative change of 40.9%³.

According to the National Survey of Risk Factors for Non-communicable Diseases conducted among people aged 15 years and older in 2014 [11], 18.5% of adults smoked daily (22.8% of men and 14.8% of women).

In 1998-2011, the prevalence of smoking in Uruguay decreased from 34% to 23.5% [20].

It was also reported that smoking prevalence among the adult population dropped from 33.5% in 2005 to 22% in 2016 [21].

According to published international estimates [22], the age-standardized adult smoking prevalence in Uruguay decreased from 31% in 1980-1996 to 23.6% in 2012. In 2012, the prevalence was 27.2% among men and 20.4% among women.

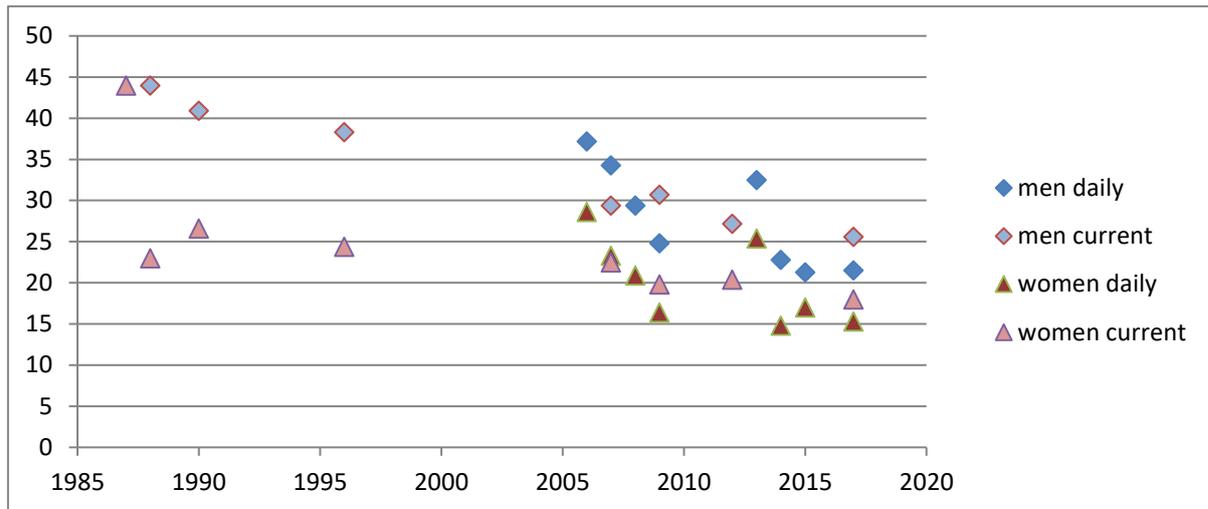
In 2015, age-standardized prevalence of daily smoking in Uruguay was reported to be 21.3% (18.8-24.0) among men and 17.0% (14.8-19.3) among women. The annualized rate of change in 2005-2015 was -2.3 among men and -1.8 among women [23].

We summarized the results of various surveys conducted among adults in Uruguay for daily and current smoking among men and women separately (Figure 1). The graph shows that since 1985 the prevalence of current smoking among men declined from about 45% to about 25%; among women the overall decline was smaller - from about 26% to 18%.

² <http://cieturuguay.org.uy/wp-content/uploads/2012/08/Enpta-oct08.pdf>

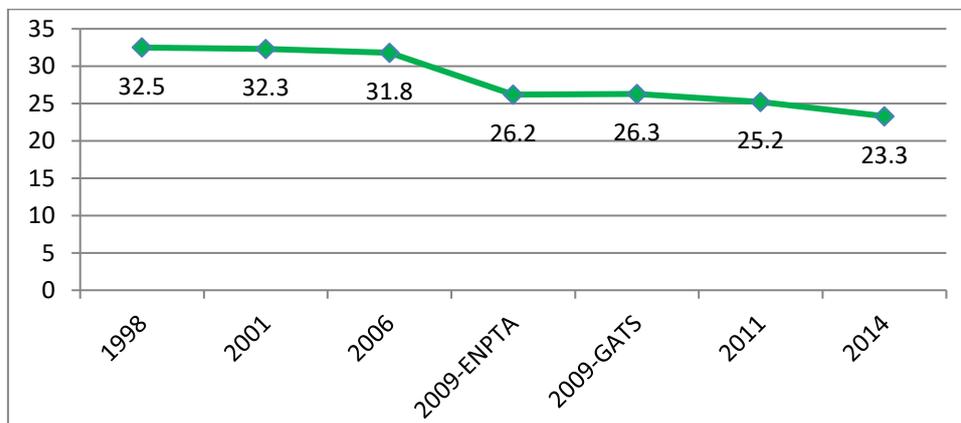
³ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?ID=3400>

Figure 1. The prevalence of daily and current smoking according to the surveys of adult population of Uruguay.



The results of numerous national surveys on current smoking prevalence were summarized by D.Curti (2015) [24]. In order to have comparable prevalence series, he conducted age-standardization of survey results. The databases of the Continuous Survey of Homes of the National Institute of Statistics (INE) for 2011 and 2014 were taken, and only the data of people aged between 12 and 64 were included in the prevalence calculation, which is a range of ages similar to that considered in the 1998, 2001 and 2006 (4th END – National Drug Survey) surveys. Then, using the adjustment done in INE’s Continuous Survey of Homes for 2011 and 2014, a similar adjustment was applied to the 2009 ENPTA (National survey on tobacco use prevalence⁴) and GATS surveys. The result is summarized in Figure 2.

Figure 2. Current smoking prevalence for persons aged 12-64 years old in Uruguay.



The estimates from 2009 and beyond are statistically different from the estimates made between 1998 and 2006. Starting from the surveys conducted in 2009 and later, sustained declines are observed in the prevalence estimates [24].

Similarly, no trends in the prevalence of tobacco use in adults were detected for 2000-2005; however, from 2005 to 2011, the prevalence of current tobacco use in Uruguay decreased annually by an estimated 3.3% (2.4-4.1) [25].

⁴ <http://cieturuguay.org.uy/wp-content/uploads/2012/08/Enpta-oct08.pdf>

Smoking among women of childbearing age

The nationwide survey of 5,169 women of childbearing age conducted in Uruguay in 1987 found that 44% were smokers [13].

A survey of pregnant women in 2005 [26, 27] found that 53.0% of women in Uruguay had ever smoked regularly, and this was the highest prevalence among all countries participating in the study; of these, 33.8% kept smoking during pregnancy which constitutes 18% of all surveyed pregnant women. Uruguay was also among the countries with highest (54.4%) percentages of women who reported that smoking was allowed in their homes.

Analysis of smoking of women of childbearing age based on GATS data [28] showed that the prevalence of smoking (24.7%) was higher among urban women (25.0%) than rural ones (20.7%) and women aged 25-34 years (29.3%) compared to younger and older ones. The positive finding was that the more educated women were, the lower the prevalence of smoking was.

Cigarette consumption

Estimated cigarette consumption in Uruguay were as follows: 1970: 3.1bl; 1995: 2.9bl; 2000: 3.6bl [29].

In 2003, total (licit + illicit cigarettes and RYO) tobacco consumption was estimated to be 4,163,702,000 cigarettes equivalents [30]. In 2008, based on ENPTA Survey results which considered the population aged 15 years and older (2.6 million), among whom the prevalence of smoking was 24.8% and the average daily consumption constituted 15.5 cigarettes, cigarette consumption (manufactured and RYO) was estimated to be 3.6 billion units per year [31].

Estimated per capita annual cigarette consumption among adults (>15 years of age) from 1970-72 to 1990-92 increased from 1630 to 1700 [14]. Per capita, cigarette consumption in Uruguay in 1985 was estimated to be 1760 [13]. However, after 1990, the per capita consumption reduced to 1200 and then increased again to 1450 by 2000 [29].

In 2001–09, per person consumption in Uruguay decreased from 1404 to 994 cigarettes per population aged 15 years or older. During 2005-11, per-person consumption of cigarettes (including RYO) in Uruguay decreased by 4.3% per year [25].

Tobacco use among youth

According to the survey conducted among 10,496 high school students in Montevideo in 1975, among adolescents aged 12-16 years, 33% of boys and 32% of girls were current smokers, among those aged 17-18 years, 50% of boys and 45% of girls were current smokers [13]. In 2001 in Montevideo, the smoking rates among youths aged 13-15 year were high: 26.5% were estimated to be smoking at least one cigarette in the past 30 days [32].

The Global Youth Tobacco Survey (GYTS) was conducted in Uruguay at the national level in 2000 and 2007 [33], and then in 2014 [11].

Table 2. Prevalence of current tobacco use (at least once during the last 30 days) among adolescents aged 13-15 years in Uruguay, %, GYTS

| | 2000 | 2007 ⁵ | 2014 |
|---|-------------|-------------------|-------------|
| Currently used any tobacco product | | 23,2 | 12.8 |
| boys | | 21.4 | 12.7 |
| girls | | 24.5 | 12.5 |
| Currently smoked cigarettes | 25.6 | 20.2 | 8.2 |
| boys | 21.2 | 16.4 | 7.2 |
| girls | 28.6 | 22.9 | 8.7 |
| Currently smoked other tobacco product | | 7.9 | 2,7 |
| boys | | 10,3 | 3,4 |
| girls | | 6.1 | 2,1 |

In all three GYTS surveys, cigarette smoking rates were much higher among girls, while rates of the other tobacco use (probably, RYO tobacco) was higher among boys. In 2007-2014 prevalence of any tobacco use decreased by 45%, cigarette smoking – by 59%, other tobacco smoking – by 66%. The reduction of the prevalence was occurring faster among girls than among boys.

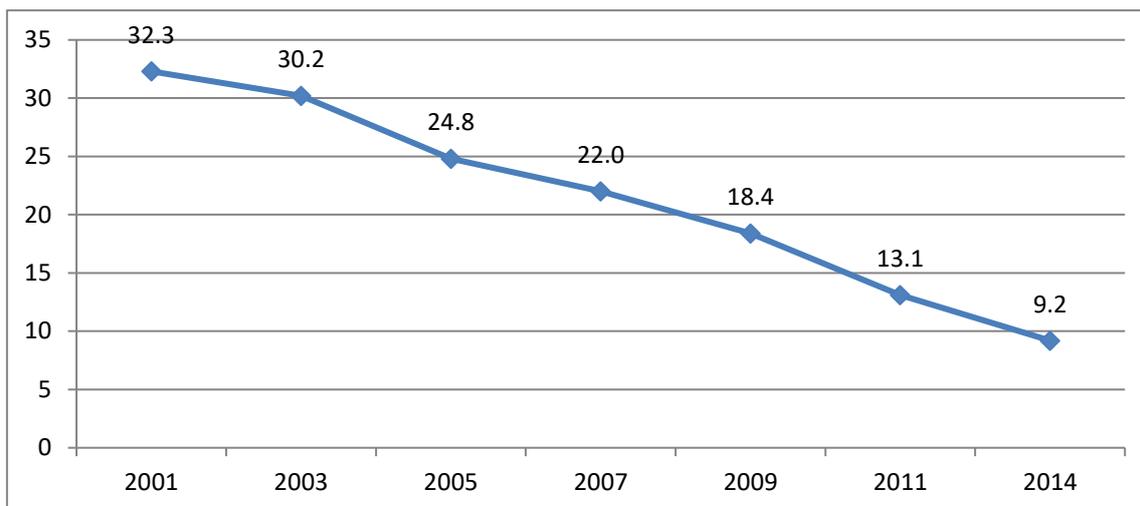
The Global School-based Health Survey (GSHS) was conducted in Uruguay in 2006 [34]. Similarly to the GYTS 2007 results, the prevalence of current smoking (defined as smoking cigarettes on one or more days in the past 30 days) was higher among girls (21.4% ± 2.7) than among boys (13.3% ± 2.7). The prevalence of smoking in Montevideo was slightly higher (17.8% ± 2.9 on average) than in the rest of the country (17.6% ± 2.8), however, the difference was not significant.

On the basis of log-linear regression analysis, Abascal et al (2012) [25] estimated that the prevalence of tobacco use among adolescent (13-17 years old) in Uruguay decreased in 2005-2009 by 8.0% annually: the 30-day tobacco-use prevalence in surveyed students decreased in Uruguay from 24.8% (23.5–26.1) in 2005 to 18.4% (16.8–19.9) in 2009. Female Uruguayan students had a persistently higher prevalence of tobacco use than their male classmates (female-to-male prevalence ratio=1.32). However, the annual proportional decrease in tobacco use prevalence in female Uruguayan students was indistinguishable from that in male students ($p=0.704$).

In 2001, a series of surveys on drugs, specifically among young people between the ages of 13 and 17, was initiated. The survey has been conducted approximately every two years by the National Drug Board (JND) of the Office of the President of the Republic. A sustained decrease was observed in the prevalence of 30-day consumption of tobacco in young people aged 13-17: from 32.3% in 2001 to 9.2% in 2014 [24] (Figure 3).

⁵ <https://nccd.cdc.gov/GTSSDataSurveyResources/Ancillary/DownloadAttachment.aspx?Id=518>

Figure 3. Prevalence of 30-day consumption of tobacco in young people ages 13-17, %.



Tobacco use among health professionals

The study of fourth-year medical students aged 22-26 years in Montevideo in 1989 revealed that 24% of them were smokers [13]. Global Health Professions Students survey conducted in 2008 revealed that among male medical students, 31.3%(29.5 - 33.2) were current cigarette smokers and among female students, 32.4%(31.2 - 33.7) [35]. Among dental students, the measured prevalence of current tobacco use was even higher: among male students - 32.0%, among female student - 41.4% [36]. Among nursing students, the prevalence of current cigarette smoking was among males 23.9% and among females 44.7%; additionally, 8% of females used other tobacco products [37].

Tobacco growing

In 1983, 0.1% of arable land in Uruguay was harvested for tobacco [13]. According to the FAO database [38], raw tobacco production in Uruguay was in the range 2800-3200 tons a year in 2000-2016, and the area harvested for tobacco was about 750-900 hectares in 1990-2016 without large changes.

Tobacco production and sales

Uruguay is mainly a producer of manufactured cigarettes, although a small amount of raw tobacco is used for manufacturing artisanal cigars and added to the imported tobacco for manufacturing roll-your-own (RYO) and pipe tobacco.

There is now only one cigarette manufacturing company in the country, Cía Industrial de Tabacos Monte Paz (Monte Paz) which produces cigarettes and smoking tobacco. Its market share increased from 70% in the mid-2000s to 90% in 2017. Montepaz exports both cigarettes and cut tobacco to Paraguay, where it also owns a factory⁶. It is likely that a substantial proportion of these exports are then resold to “operators” in Paraguay, who then illegally move them to Brazil and other countries.

Philip Morris entered the Uruguayan market in 1979 by buying a local company (Abal Hnos. SA). However, in October 2011, Philip Morris closed the factory in Uruguay and concentrated production in Argentina. Its market share of the domestic market for cigarettes decreased from 25% to 9% in 2017.

⁶ http://www.sesric.org/tfo/files/factsheets/1.INB3_fact_sheet_illicit_trade_MERCOSUR_report.pdf

British American Tobacco (BAT) began manufacturing cigarettes in Uruguay in 1997 but ceased it in 2003. Its market share decreased from 4% in the 2000s to 0.7% in 2017. BAT cigarette brands are being imported from Argentina.

The peculiarity of the smoking tobacco market in Uruguay is the high prevalence of the roll-your-own (RYO) tobacco use. According to the Global Adult Tobacco Survey conducted in 2009, about 32.8% of the current cigarette smokers in Uruguay smoked RYO cigarettes [19]; in 2017 - 27.6% [39]. According to ITC surveys, the percentage of smokers reporting smoking only hand-rolled tobacco remained steady in 2006-2012 (9-13%), while the percentage of those who smoked both manufactured and RYO cigarettes gradually decreased from 21% in 2006 to 14% in 2012 [4].

The General Directorate of Taxation (DGI) reports annual volumes of cigarettes (in packs of 20 cigarettes) and smoking tobacco (in packs of 45 grams) sales from 1999⁷ (Table 3). To calculate tobacco sales as cigarettes and fine-cut tobacco combined, the estimated average weight of one cigarette used in this analysis was 0.75 g [40].

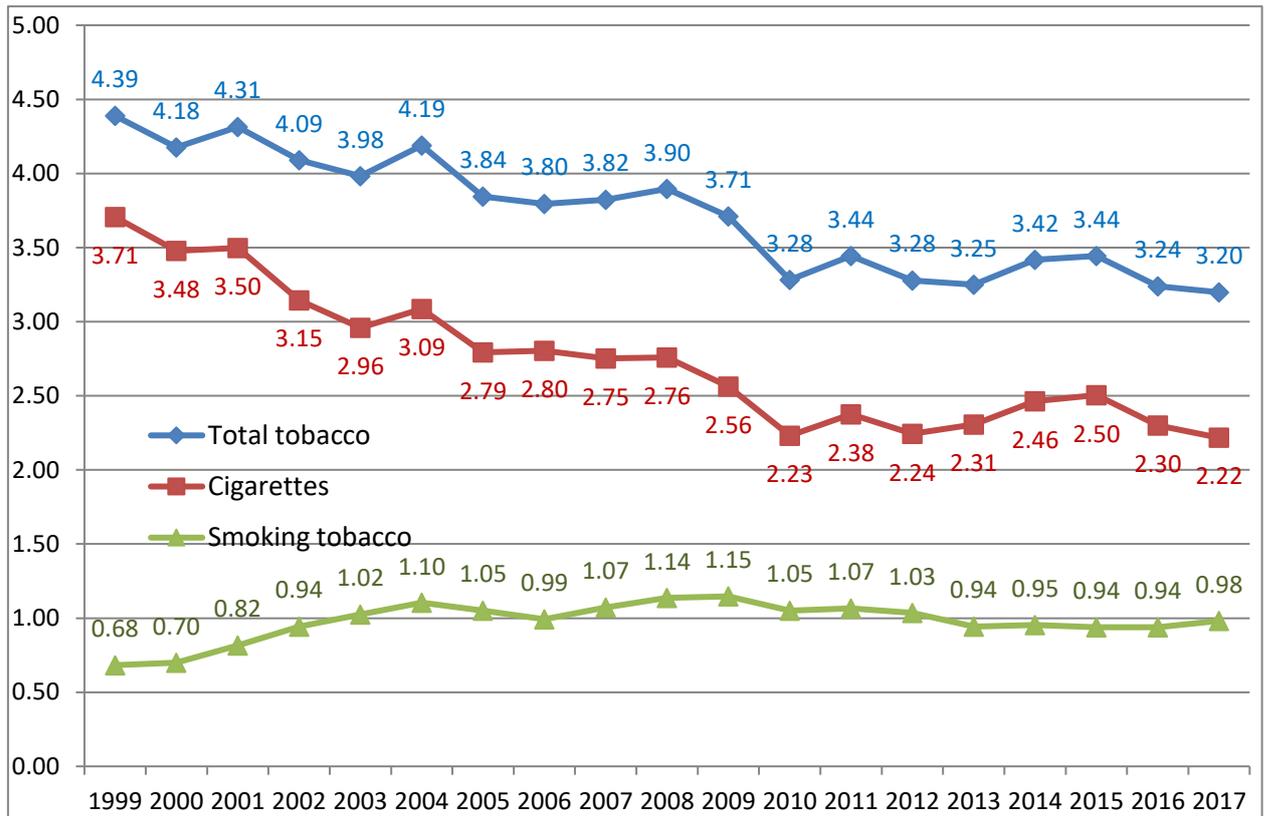
Table 3. Sales of cigarettes and smoking tobacco in 1999-2017

| Sale | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Cigarettes, million | 3706 | 3478 | 3498 | 3145 | 2959 | 3085 | 2794 | 2804 | 2752 | 2759 | 2563 | 2232 | 2376 | 2243 | 2306 | 2464 | 2504 | 2300 | 2217 |
| Smoking tobacco (millions of 40 gram packs) | 12,8 | 13,1 | 15,3 | 17,7 | 19,2 | 20,7 | 19,7 | 18,6 | 20,1 | 21,3 | 21,5 | 19,7 | 20 | 19,4 | 17,7 | 17,9 | 17,6 | 17,6 | 18,4 |
| Smoking tobacco (in millions of cigarette equivalents) | 683 | 699 | 816 | 944 | 1024 | 1104 | 1051 | 992 | 1072 | 1136 | 1147 | 1051 | 1067 | 1035 | 944 | 955 | 939 | 939 | 981 |
| Share of smoking tobacco in total tobacco consumption, % | 16 | 17 | 19 | 23 | 26 | 26 | 27 | 26 | 28 | 29 | 31 | 32 | 31 | 32 | 29 | 28 | 27 | 29 | 31 |
| Total tobacco (in million cigarette equivalents) | 4389 | 4177 | 4314 | 4089 | 3983 | 4189 | 3845 | 3796 | 3824 | 3895 | 3710 | 3282 | 3443 | 3278 | 3250 | 3418 | 3443 | 3238 | 3198 |

Cigarette sales substantially (by 25%) decreased in 1999-2005, they were rather stable in 2005-2008; however, in 2009-2010 the sales further decreased by 19% in two years. In 2011-2015 they gradually increased by 12%, but in 2015-2017 cigarette sales decreased back to the level of 2010 (Figure 4).

⁷ <https://www.dgi.gub.uy/wdgi/afiledownload?2,4,849,O,S,0,22537%3B%3B20%3B108>,

Figure 4. Sales of cigarettes and roll-your-own tobacco (in cigarette equivalents), billion cigarettes



Source: General Directorate of Taxation (DGI).

The annual sale of RYO tobacco substantially (by 62%) increased in 1999-2004, then it decreased in 2004-2006 and increased in 2006-2009, reaching maximum of 21.5 million packs. In 2009-2016, the smoking tobacco sales declined by 18%. In 1999-2007, the share of smoking tobacco in total tobacco consumption increased from 16% to 28%, but in 2007-2017 this share ranged between 28% and 32%.

Trends of total tobacco (cigarettes + RYO) sales were rather similar to the cigarette trends (Figure 4), with the exception of 2000-2004 when the reduction of cigarette sales was compensated by the increase of RYO sales.

In 1999-2017, the total tobacco sales in Uruguay decreased by 27% or by 1.2 billion cigarettes.

Tobacco taxation

In Uruguay, tobacco is taxed with a specific consumption tax (IMESI - Impuesto Específico Interno), which was first applied to cigarettes in 1993 and which in fact was an ad valorem excise tax with ex-factory price as a base. The ad valorem tax rates on cigarettes and roll-your-own tobacco were different. For example, in March 2005, the excise rate for cigarettes was increased from 68% to 70%, and for RYO tobacco from 27% to 29%. In July 2009, the ad valorem rates were unified at 70% but the tax base for RYO tobacco remained substantially lower than that of cigarettes, which also translated into a much lower consumer price.

From 2010, the 70% ad valorem rate is applicable for both cigarette and RYO tobacco, but it is applied to the fixed prices set by the government. This fixed price is lower than the final retail price; therefore, the

effective tax rate is lower than the nominal tax rate. Taking into account the fixed prices, the excise can be considered to be specific with different rates for RYO tobacco and cigarettes (Table 4).

Table 4. Specific rates for cigarettes and smoking tobacco, in Uruguayan peso (UYU)

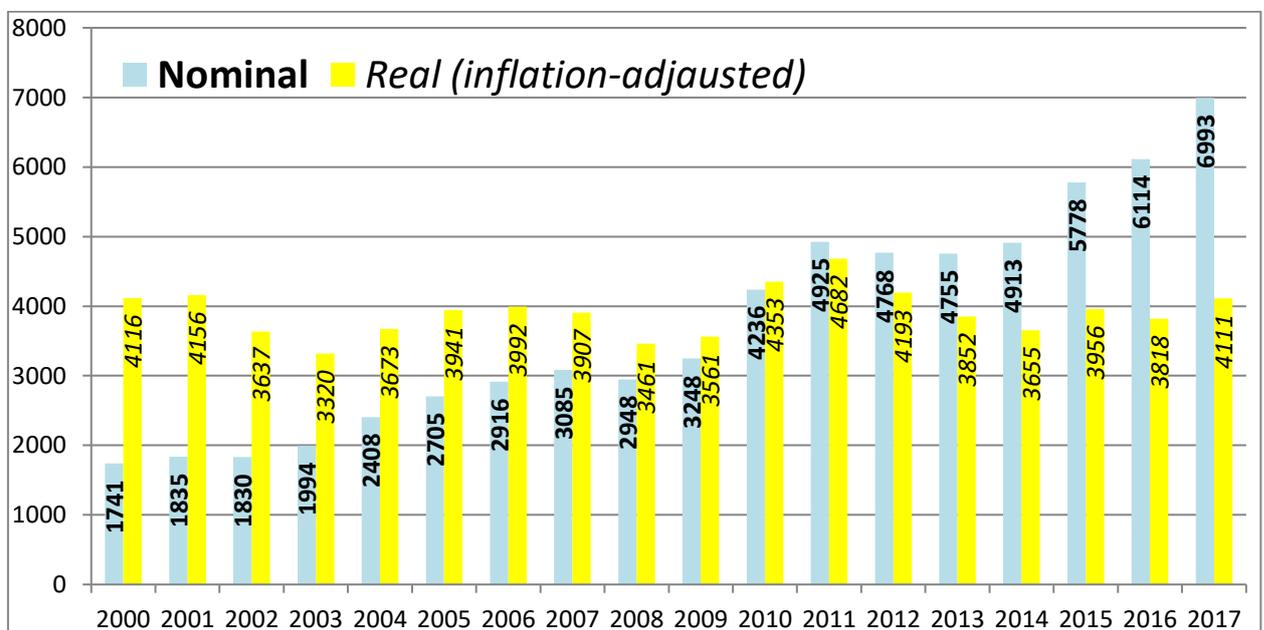
| Tax applied from: | 1 January 2005 | 1 July 2005 | 1 January 2007 | July 2007 | 1 July 2009 | 1 March 2010 | 1 January 2015 | 1 July 2015 | 1 February 2016 | 1 January 2017 | 1 January 2018 |
|---|----------------|-------------|----------------|------------|-------------|--------------|----------------|-------------|-----------------|----------------|----------------|
| Decree Number | | 204/005 | 619/006 | 232/007 | 268/009 | 69/010 | 375/014 | 164/015 | 11/016 | 418/016 | 379/017 |
| Date of Decree | 29.12.2004 | 29.06.2005 | 29.12.2006 | 09.07.2007 | 03.06.2009 | 22.02.2010 | 19.12.2014 | 15.06.2015 | 21.01.2016 | 26.12.2016 | 29.12.2017 |
| <i>Tax per pack of smoking tobacco (45 grams)</i> | | | | | | 17 | 18,3 | 20,14 | 23,26 | 26,75 | 29,96 |
| Tax per pack of 20 cigarettes | 10,14 | 12,12 | 13,3 | 21,5 | 28 | 38 | 41,1 | 45,22 | 52,22 | 60,05 | 67,26 |

In 2005-2006, the increase of tax rate was rather moderate, but then due to three consecutive tax hikes (July 2007, July 2009, and February 2010), the excise rate for cigarettes increased almost 3-fold in 32 months' time. Then for 58 months, there were no increases in the excise rates. In December 2014, the tax rate was increased by 8.2% for cigarettes and by 7.6% for smoking tobacco, while the inflation rate in 2014 was 8.3%. However, then four consecutive increases in 2015-2017 (Table 4) increased rates both for cigarettes and smoking tobacco by 64% in 30 months' time.

Tobacco excise revenue

The General Directorate of Taxation (DGI) reports the volumes of tobacco excise revenue in its annual⁸ and monthly⁹ bulletins. The reported annual revenues are presented in Figure 5.

Figure 5. Tobacco excise tax (IMESI) revenue, million UYU, nominal and inflation-adjusted (for inflation calculations we used CPI December 2010 = 100)



In 2000-2011, revenue in nominal terms increased by 183%, while in real terms it increased by only 14%. The fastest growth of real revenue was observed in 2009-2011 when it increased by 35% in three years.

⁸ <https://www.dgi.gub.uy/wdgi/page?2,principal,SeriesDeDatos,O,es,0>

⁹ <https://www.dgi.gub.uy/wdgi/page?2,principal,dgi--datos-y-series-estadisticas--informes-mensuales-de-la-recaudacion-2018,O,es,0>

Then, in 2011-2014, even nominal revenue slightly declined, while the real revenue decreased by 22% in three years. This negative trend was changed later, and in 2015-2017, nominal revenue increased by 42% and real revenue increased by 12% in three years. However, in 2017, real revenue was still lower than in 2010 and 2011.

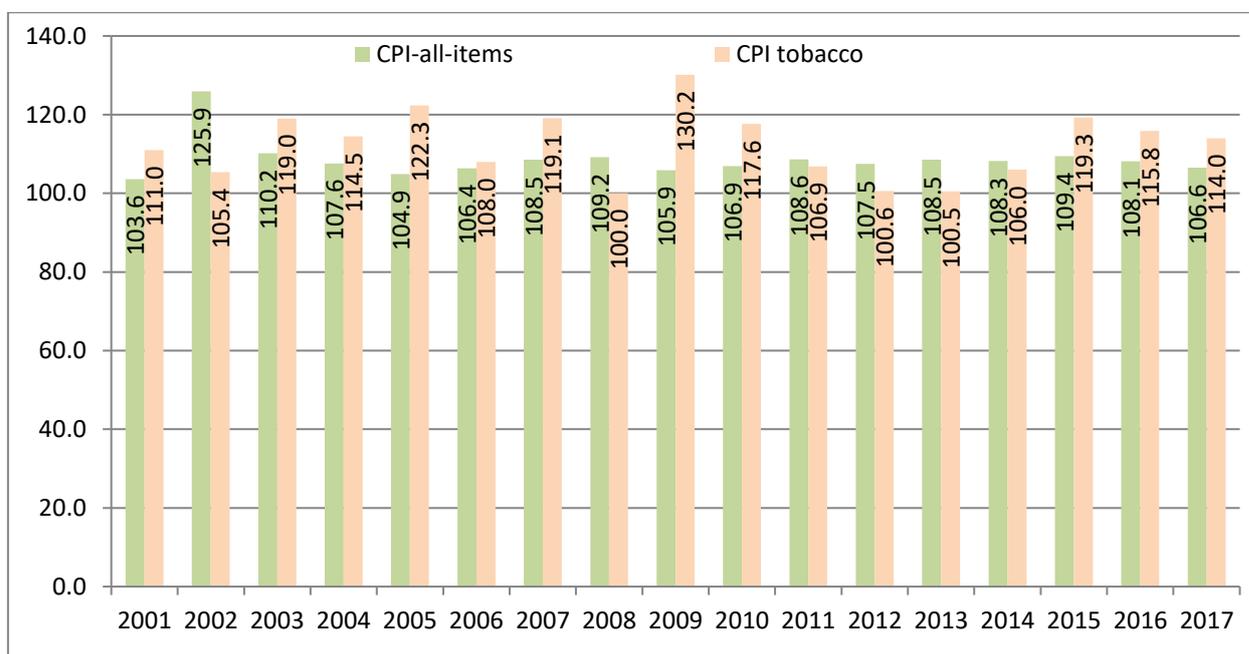
Overall in 2000-2017, nominal tobacco excise revenue increased 4-fold, but real revenue did not increase at all.

Cigarette and tobacco prices

The National Institute of Statistics (INE) reports consumer price indices (CPI) for all items (inflation rates) and for tobacco products¹⁰. It also reports average monthly cigarette prices from December 2010¹¹.

Changes in tobacco prices are presented in Figure 6.

Figure 6. Consumer price indices (December to December previous year) for all items and tobacco.



In 2001-2004, tobacco prices increased by 59%, while the inflation was 55%, so real (inflation-adjusted) prices almost did not increase in those four years. In the next four years (2005-2008), tobacco prices increased by 57% with the inflation rate of 32%, so 19% growth of the real prices took place. A much higher increase in real tobacco prices (35%) was observed in 2009-2010 when nominal tobacco prices increased by 53% with the inflation rate of 13% in two years. Then in 2011-2014, nominal tobacco prices increased only by 15%, while inflation was 37% over four years, so the real prices declined by 16%. In 2015-2017, the real tobacco prices increased by 25%.

It looks that the tobacco tax rate increases (see Table 4) were the main factor of tobacco price increases in 2009-2010 and 2015-2017. However, the tax rate impact was modified by the tobacco industry pricing policy. We used official prices for cigarettes reported by the INE for 2010-2018. In 2008, the price of the most popular cigarettes in Uruguay was 45 peso per pack [11]. Then we took excise rates from Table 4, calculated the VAT (22% or 18.03% of the final retail price) in monetary terms and then calculated the

¹⁰ <http://www.ine.gub.uy/web/guest/ipc-indice-de-precios-al-consumo>

¹¹ http://www.ine.gub.uy/c/document_library/get_file?uuid=f60b733b-13ae-4913-b44b-26d3249ba791&groupId=10181

Net-of-tax price as Price – (Excise + VAT) and the total tax share as (Excise + VAT)/Price. The results are presented in Table 5.

Table 5. Average prices and taxes for a pack of 20 cigarettes, UYU

| | 2008 | 2010 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|-----------|-----------|-----------|-----------|------------|------------|------------|
| Price | 45 | 70 | 78 | 95 | 110 | 125 | 140 |
| Excise | 21,5 | 38 | 38 | 45,22 | 52,22 | 60,05 | 67,26 |
| VAT | 8,1 | 12,6 | 14,1 | 17,1 | 19,8 | 22,5 | 25,2 |
| Net-of-tax | 15,4 | 19,4 | 25,9 | 32,6 | 37,9 | 42,4 | 47,5 |
| Net-of-tax price increase, % | | 25,9 | 33,8 | 25,9 | 16,2 | 11,8 | 12,0 |
| Excise rate increase, % | | 76,7 | 0,0 | 19,0 | 15,5 | 15,0 | 12,0 |
| Annual inflation rate ¹² , % | | 14,2 | 38,1 | 8,7 | 9,6 | 6,2 | |
| Total tax share, % | 65,8 | 72,3 | 66,8 | 65,6 | 65,5 | 66,1 | 66,1 |

In 2008-2010, the excise tax was increased by 77%, while industry increased its part of the price (net-of-tax price) by 26% with annual inflation rates for two years 14%, so the prices increased to a greater extent than in case the industry only adjusted its price by the inflation. There were no excise increases in 2010-2014, and the industry increased its price by 34%, a little less than the inflation (38%). In 2015-2018, the tax rate annually increased and the industry increased its price usually in parallel with the tax increase and much higher than the inflation rate. In 2015-2018, the tax rate was increased by 77%, but the industry increased its price by 83% with the inflation rate of 27% in three years.

Total tax (IMESI + VAT) share in cigarette price increased from 65.8% in 2008 to 72.3% in 2010, as tax increase was higher than the net-of-tax price increase. However, in 2015-2018, the tobacco industry increased its part of cigarette price in line with the excise increases, and the total tax share was about 66% over those years.

The WHO Global Tobacco Report, 2017 [11] contains information on cigarette prices and taxes in Uruguay and other American countries in 2016 (Table 6).

Table 6. Cigarette prices and taxes in Uruguay and some neighboring countries

| Country | Price of a 20-cigarette pack of the most sold brand | | | Taxes as a % of price of the most sold brand | | | | | | Net-of-tax part of the price, US\$ |
|----------------|---|-------------------|-------------|--|-------------------|---------------|---------------|---------------|------------------|------------------------------------|
| | In reported currency | Reported currency | In US\$ | Specific excise | Ad valorem excise | Total Excise | VAT/Sales tax | TOTAL TAX, % | TOTAL TAX, US \$ | |
| Argentina | 40,00 | ARS | 2,67 | 0,00% | 76,10% | 76,10% | 4,15% | 80,25% | 2,14 | 0,53 |
| Bolivia | 11,00 | BOB | 1,59 | 0,00% | 27,85% | 27,85% | 11,50% | 39,36% | 0,63 | 0,96 |
| Brazil | 6,24 | BRL | 1,91 | 22,44% | 9,54% | 31,98% | 25,00% | 67,95% | 1,30 | 0,61 |
| Chile | 2 178 | CLP | 3,28 | 43,16% | 30,00% | 73,16% | 15,97% | 89,13% | 2,92 | 0,36 |
| Paraguay | 2 000 | PYG | 0,36 | 0,00% | 8,31% | 8,31% | 9,09% | 17,40% | 0,06 | 0,30 |
| Uruguay | 110,00 | UYU | 3,70 | 47,47% | 0,00% | 47,47% | 18,03% | 65,51% | 2,42 | 1,28 |

We calculated the net-of-tax price of the most popular cigarette brand as follows: Price in USD * (1 – Total tax share). Cigarettes in Uruguay had the highest price in the Region, but it was partly caused by

¹² http://www.ine.gub.uy/c/document_library/get_file?uuid=361cf1e4-7d00-416a-960b-d618a0b7d7e8&groupId=10181

the highest net-of-tax cigarette price. For example, cigarette taxes in monetary terms are higher in Chile and just a little lower in Argentina than in Uruguay, but net-of-tax cigarette price in Uruguay is 142% higher than in Argentina, 108% higher than in Brazil and 258% higher than in Chile.

Price of 45 grams pack of RYO tobacco was 60 UYU in 2016 [11].

Tobacco affordability

The Guidelines for implementation of Article 6 of the WHO FCTC [41] recommend: *“When establishing or increasing their national levels of taxation Parties should take into account – among other things – ... changes in household income, to make tobacco products less affordable over time in order to reduce consumption and prevalence”*. In the Guidelines, “affordability” means price relative to per capita income.

Cigarette affordability in Uruguay has been decreasing since around 1998, and especially since the first tax increase in 2005, which has led to gradually declining cigarette sales. However, this trend stopped in 2011 when affordability began to increase again, as cigarette prices fell and income continued to rise. This was followed by an increase in cigarette sales, demonstrating the importance of ensuring that tax increases are high enough to keep affordability of tobacco products low.

An Affordability Index was constructed using ITC Uruguay data to determine the change in cigarette affordability between Wave 1 (2006) and Wave 3 (2010-11) [42]. This analysis took into account ITC data on the price paid for the most recent cigarette purchase, type of brand purchased (legal vs. contraband), and national household income data from INE Uruguay (National Statistics Institute). The results show that affordability increased between Wave 1 (2006) and Wave 2 (Oct 2008- Feb 2009) but then decreased between Wave 2 and Wave 3 (2010-11). Between Wave 1 and Wave 2, cigarettes became more affordable to consumers likely due to strong growth in mean real income while cigarette price increases were not high enough to offset income growth. However, cigarettes became less affordable between Wave 2 and Wave 3. This was likely due to substantial increases in taxes and prices on tobacco products in late 2009 and early 2010.

ITC Uruguay data also shows that average annual incomes increased more between Wave 3 (Oct 2010-Jan 2011) and Wave 4 (Oct-Dec 12) [4], as real cigarette prices fell and income continued to rise. This was followed by an increase in cigarette sales, demonstrating the importance of ensuring that tax increases are high enough to keep the affordability of tobacco products low.

In the current analysis, a modified tobacco affordability index (TAI) [43] is used to estimate the changes in tobacco affordability in 2007–2017. TAI is calculated as the percentage annual change in nominal average income per capita divided by the tobacco price increase: $TAI = (\text{income increase}/\text{consumer price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease. For the TAI calculations, we used the National Institute of Statistics data on urban household (only urban households data were available¹³) nominal average income per capita and the CPI for tobacco products. For control, we also used as income proxy the World Bank indicator “Annual percentage growth rate of GDP per capita based on constant local currency”¹⁴. As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator is also expressed in real (inflation-adjusted) terms. In this case, the TAI is

¹³ http://www.ine.gub.uy/c/document_library/get_file?uuid=d47aa1bb-3d2f-4610-92a2-b0e224f1cee4&groupId=10181

¹⁴ <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

calculated as GDP annual change divided by the (inflation-adjusted) tobacco price increase minus 100: (GDP growth * CPI_all_items /CPI_tobacco – 100).

The results of the Tobacco Affordability Index estimation are presented in Table 7.

Table 7. Tobacco affordability in Uruguay in 2001-2016

| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|
| Average monthly income per capita of urban households per year (current pesos) | 4 828 | 4 838 | 4 841 | 4 987 | 5 435 | 5 983 | 5 868 | 6 611 | 8 312 | 10 871 | 11 840 | 13 703 | 14 767 | 16 453 | 18 924 | 20 626 | 23 115 |
| Income increase (previous year = 100) | | 100,2 | 100,1 | 103,0 | 109,0 | 110,1 | 98,1 | 112,7 | 125,7 | 130,8 | 108,9 | 115,7 | 107,8 | 111,4 | 115,0 | 109,0 | 112,1 |
| CPI tobacco (December previous year = 100) | | 111,0 | 105,4 | 119,0 | 114,5 | 122,3 | 108,0 | 119,1 | 100,0 | 130,2 | 117,6 | 106,9 | 100,6 | 100,5 | 106,0 | 119,3 | 115,8 |
| CPI all_items (December previous year = 100) | | 103,6 | 125,9 | 110,2 | 107,6 | 104,9 | 106,4 | 108,5 | 109,2 | 105,9 | 106,9 | 108,6 | 107,5 | 108,5 | 108,3 | 109,4 | 108,1 |
| GDP per capita growth (annual %) | -2,3 | -4,0 | 7,75 | 0,9 | 5,05 | 7,4 | 3,9 | 6,3 | 6,8 | 3,9 | 7,4 | 4,8 | 3,2 | 4,3 | 2,9 | 0 | 2,3 |
| TAI income | | -9,7 | -5,0 | -13,4 | -4,8 | -10,0 | -9,2 | -5,4 | 25,7 | 0,5 | -7,4 | 8,3 | 7,1 | 10,9 | 8,5 | -8,6 | -3,2 |
| TAI GDP | | 10,4 | 10,2 | -6,6 | -1,3 | -7,9 | 2,4 | -3,2 | 16,6 | -15,5 | -2,4 | 6,5 | 10,2 | 12,6 | 5,1 | -8,2 | -4,5 |

In 2001-2005, the tobacco affordability declined but mainly due to the economic recession in those years. In 2006-2008, tobacco became more affordable as income growth exceeded the increase in tobacco prices. In 2009-2010, despite the substantial increase in tobacco prices, the affordability reduction was rather moderate as incomes continued to grow. In 2011-2014, tobacco became much more affordable as tobacco tax rates were not increased while the economic situation was good enough. In 2015-2016, the tobacco price increase was rather high and the affordability declined.

Cigarette smuggling

Smuggling is usually estimated as a share of illicit cigarettes on the market. However, there is no smuggling of smoking tobacco in Uruguay [24, 31], which represents 30% of the consumption of tobacco products. So the estimated share will be different depending on what market we estimate: cigarettes only or total tobacco (cigarettes and smoking tobacco).

Ramos and Curti (2006) [30] estimated that in 2003 the annual volume of the total consumption of tobacco products was 4,163,702,000 cigarette equivalents, and the difference between the estimated consumption and legal sales (279 million cigarettes) was considered to be smuggling, which constituted 7.2% of total tobacco sales or 8.6% of total (licit + illicit) cigarette sales. However, they admit that this estimate is lower than that of the industry experts, who evaluate it to be more than 15%.

The ITC Uruguay Survey asked smokers whether the health warning label on the package of their usual brand of cigarettes was standard, non-standard, or absent. Non-standard labels or the absence of a label can be indicative of an illicit product and therefore tax evasion. The percentage of smokers reporting non-standard warning labels on their cigarettes packs remained relatively unchanged at around 6%, while there has been an overall increase in packs with no warning labels: from 2% at Wave 1 to 13% at Wave 4. Total percentage of packs without standard warning was: 8% - Wave 1 (2006); 10% - Wave 2 (Oct 2008- Feb 2009); 13% - Wave 3 [42] (Oct 2010-Jan 2011) and 17% - Wave 4 (Oct-Dec 12) [4].

According to estimates made by Curti (2013) [44], in 2004–2012, contraband cigarette sales constituted approximately 12% of total cigarette consumption on average.

According to the industry sources, the illegal cigarette market represents between 20% and 35%. According to a survey conducted in 2010 by Synovate, an international consultancy on market research,

illegal trade in Uruguay was estimated to be 1.2 billion cigarettes a year¹⁵. However, this was a so-called empty pack study commissioned by the British American Tobacco¹⁶.

The Association of Kioskeros paid for several studies to estimate cigarette smuggling. The studies conducted in 2010 and 2013 were based on the same methodology and were carried out by the same consultant and they showed that smuggling increased from 25.3% in 2010 to 31.2% in 2013¹⁷. Later, the Association ensured that the smuggling of cigarettes already represented 35% of the market¹⁸. However, the national survey conducted in 2016 by the company Cifra at the request of the kioskers, actually revealed that 36% of Uruguayans consume smuggled cigarettes¹⁹. As many smokers can consume both licit and illicit cigarettes, the actual market share of illicit cigarettes is much lower than 36%. Media reports show that the main business of the Association of Kioskeros is the fight against tobacco tax increases, as their representatives claim *"it is proven that increasing taxes does not work, but what is increased is smuggling"*^{20 21}. The activities of the Association are very similar to the activities of tobacco industry front groups in other countries²².

"The tobacco industry in all countries does the same: it tries to identify that any increase in taxes automatically and mechanically leads to an increase in smuggling," said public health economist Dardo Curti²³. In the case of Uruguay, he said, the evidence does not support this hypothesis. The studies conducted by the Research Center for Tobacco Epidemic (CEIT) showed that in 2010, 13.9% of smokers bought contraband cigarettes and 15.2% in 2014²⁴. In 2016, the director of the National Tobacco Control Program reported that smuggling was estimated to be 16% of tobacco consumption in the country²⁵.

Estimates of cigarette smuggling into Uruguay are also presented in the Euromonitor reports. Euromonitor did not report consistent data about the volumes of cigarettes smuggled in Uruguay, as it did in many other countries [45]. For example, in Euromonitor reports published in different years, smuggling in Uruguay in 2007 was estimated as follows: (1) 584.3 million; (2) 493.9 million; (3) 503.8 million; (4) 518.4 million [24]. As Euromonitor does not disclose their methods of estimating smuggling, it is not possible to check which of four estimates is more accurate. However, if we use the first estimate for 2007, we conclude that in 2007-2011 smuggling decreased, but if we use other estimates for 2007, we have to conclude that in 2007-2001 smuggling increased. Eventually, for Figure 7 we used the latest published estimates.

¹⁵ <https://www.observador.com.uy/consumo-tabaco-formal-crecio-pero-el-contrabando-gana-terreno-n271171>

¹⁶ <https://www.tobaccocontrol.org/files/uruguay/MASTER%20Exhibit%20Index.pdf>

¹⁷ <https://www.carasycajetas.com.uy/kiosqueros-alertan-sobre-el-consumo-de-tabaco-de-contrabando/>

¹⁸ <https://www.observador.com.uy/consumo-tabaco-formal-crecio-pero-el-contrabando-gana-terreno-n271171>

¹⁹ <http://www.mec.gub.uy/innovaportal/v/98339/22/mecweb/la-gente-esta-cambiando-del-cigarrillo-legal-al-illegal-segun-presidente-de-kiosqueros?3colid=11323&breadid=11323>

²⁰ <https://www.elpais.com.uy/informacion/kiosqueros-critican-suba-cigarrillos-aseguran-crecera-contrabando.html>

²¹ <https://www.observador.com.uy/para-kiosqueros-aumento-cigarros-propicia-contrabando-n857807>

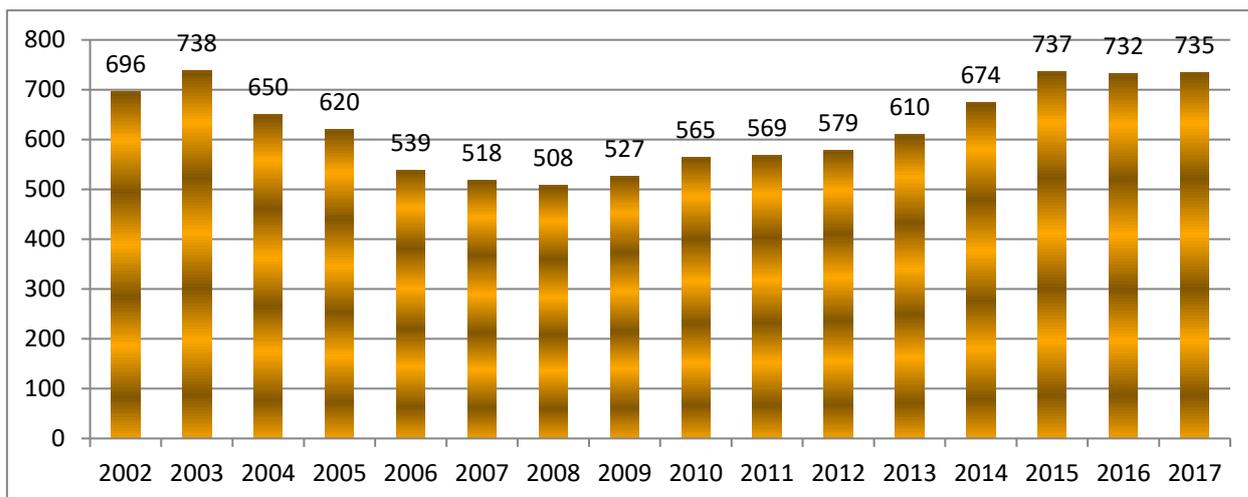
²² http://www.tobaccotactics.org/index.php?title=Front_Groups

²³ <https://negocios.elpais.com.uy/noticias/cigarrillos-contrabando-generan-evasion-us.html>

²⁴ <https://negocios.elpais.com.uy/noticias/cigarrillos-contrabando-generan-evasion-us.html>

²⁵ <https://www.elpais.com.uy/informacion/tabaco-vendido-pais-contrabando.html>

Figure 7. Euromonitor estimates of cigarettes smuggled into Uruguay, million cigarettes.



The Euromonitor estimates demonstrate that:

1. Smuggling volumes in 2017 were the same as in 2003.
2. In 2009-2010, when legal cigarette sales decreased by 530 million cigarettes (Figure 4) as cigarette prices increased by 53% due to the tax hikes (Table 4), the smuggling volumes increased only by 57 million cigarettes.
3. In 2011-2014, when there were no tax changes and legal cigarette sales increased, the smuggling volumes increased by 109 million cigarettes.
4. In 2015-2017, when legal cigarette sales decreased by 280 million cigarettes (Figure 4) as cigarette prices increased by 58% due to the tax hikes (Table 4) and tobacco industry pricing policy (Table 5) the smuggling volumes did not increase. However, because legal cigarette sales have decreased, as smoking prevalence has declined, the estimated market share of illicit cigarettes as the proportion of total cigarette sales has increased from 23% in 2015 to 25% in 2017.

Over the whole period under consideration, the estimated market share of illicit cigarettes as a proportion of total cigarette sales has increased from 18% in 2002 to 25% in 2017. However, this share as the proportion of total tobacco (cigarettes + RYO) increased from 15% to 19%. This share is higher than the share reported by the ITC.

Taking into account the Euromonitor estimates of illicit sales, the total (licit + illicit) tobacco consumption in Uruguay declined from 4.84 billion cigarettes in 2004 to 3.85 billion in 2010, then it increased to 4.18 billion in 2015 and decreased again to 3.93 billion cigarettes in 2017.

The changes in cigarette smuggling volumes in Uruguay have very little correlation with the taxation policy: during the years of tax hikes (2009-2010 and 2015-2017), the increase in smuggling was very moderate, while in 2011-2014, when taxes did not change, the smuggling substantially grew.

Back in 2006, customs seized 24 million illegal cigarettes; most of those cigarettes had come from Argentina and Paraguay. According to the reports on the FCTC implementation in Uruguay²⁶, more than 7 million illegal cigarettes were seized annually in 2010 and 2011, while in 2016 and 2017 the seizures

²⁶ <http://untobaccocontrol.org/impldb/uruguay/>

were 0.56 million and 1.57 million cigarettes respectively. It was reported, that most of the cigarettes produced in Uruguay for exporting return to the country to be sold illegally [46].

Discussion

There were several different periods in tobacco control policies and their impact on tobacco consumption in Uruguay.

1. **1999-2004.** Tobacco control policy was rather weak, but cigarette affordability declined due to the recession (which began in the first quarter of 1999 and ended in the second quarter of 2003) [31]. Cigarette consumption declined, but most of this decline was compensated for by the increase of the roll-your-own tobacco use (Fig. 4). Tobacco excise revenue increased in nominal terms but decreased in real terms.
2. **2005-2008.** In 2005 Uruguay's newly elected administration launched a National Program for Tobacco Control that formed the basis for a succession of progressively more stringent tobacco control policies, including tax increases. However, the impact of the taxation policy was modified by several factors. Only 45% of the abrupt increase in cigarette taxes in July 2007 was passed on to consumers in the form of higher retail prices [47]. This period also showed a large increase of 36% in household real income in Uruguay due to fast economic recovery after the crisis [31]. Cigarette price increases were not high enough to offset the income growth and cigarette affordability increased between 2006 and 2008 [42]. Volumes of cigarettes and RYO tobacco sales did not change much and real tobacco revenue did not increase.
3. **2009-2010.** Tax rates were sharply increased in July 2009 and in February 2010 (Table 4). This time the industry increased its part of the price above the inflation (Table 5). The increase in prices was high enough (Figure 6) to make cigarettes less affordable despite the income growth. Tobacco sales decreased (Figure 4) as well as tobacco consumption [25], while tobacco revenue increased both in nominal and real terms.
4. **2011-2014.** Tobacco tax rates were not changed. Tobacco industry increased its part of the price, but below the inflation. Affordability began to increase again [4], as real cigarette prices fell (Figure 6) and the income continued to rise. This was followed by an increase in cigarette sales, while tobacco excise revenue decreased in real terms. Despite the growth of legal cigarette sales, estimated volumes of cigarette smuggling also increased.
5. **2015-2017.** Tobacco tax rate was increased every year. While the tax increase by itself was not very high (on average 15% each year) its impact was reinforced by the tobacco industry pricing policy: the industry increased its part of the price in line with excise rate increase, so the tax share in the final price almost did not change (Table 5). Cigarettes price was high enough to make them less affordable (Table 7) and cigarette sales decreased, while the estimated number of smuggled cigarettes almost did not change. Tobacco excise revenue increased.

There were two periods when the tobacco taxation policy in Uruguay was really a "win-win" policy: tobacco consumption declined and tobacco revenue increased. This was observed in 2009-2010 and in 2015-2017. The main feature of both periods was the presence of rather sharp increases of the excise tax rates. Another feature was the pricing policy of the tobacco industry, which increased its part of the price above the inflation to keep its profits on declining market. The monograph from the National Cancer Institute and WHO reveals that this phenomenon is also observed in other countries. It states [48]: *"Ironically, the industry engineered a greater decrease in cigarette consumption in the short term*

by raising prices than the government was able to achieve by increasing the excise tax alone.” The impact of taxes on prices on tobacco consumption was also modified by changes in population incomes, demonstrating the importance of ensuring that tax increases should be high enough to reduce the affordability of tobacco products.

The specific feature of the tobacco market in Uruguay is the high prevalence of RYO tobacco consumption. In the period under consideration, a substantial increase of RYO tobacco sales was observed only in 1999-2004, during the economic recession (Figure 4). Then, despite the increases in real cigarette prices and the decline of cigarette sales, in 2005-2017, the volumes of RYO tobacco sales did not change much and they even decreased in 2009-2013. Daily smoking prevalence of RYO in 2009-2017 decreased from 7.0% in 2009 to 5.0% in 2107 [49] or by 29%, while total daily smoking prevalence decreased from 20.4% to 18.3% or by 10%. The percentage of those who smoked both manufactured and RYO cigarettes gradually decreased from 21% in 2006 to 14% in 2012, while the percentage of those who smoke only RYO cigarettes did not change much [4].

There were two factors that operated in the opposite directions:

- 1) As tobacco prices increase, consumers in Uruguay are most likely to engage in tax avoidance by switching to RYO cigarettes [50].
- 2) On the other hand, increased income encourages some more affluent smokers to switch from RYO to manufactured cigarettes. A similar process was observed in other countries. In Ireland, RYO-tobacco consumption reduced when disposable income increased; yet, the economic crisis which began in 2008 was associated with a significant increase in RYO-tobacco consumption [51]. Increases in incomes were associated with lower consumption of RYO-tobacco in Finland and Holland [52].

These two factors actually change the tobacco consumption pattern in a way that RYO tobacco is apparently more smoked by the less affluent people. While the number of RYO smokers declined, the remaining smokers smoke more RYO cigarettes daily so the sales of RYO tobacco were rather stable in recent years. Such people are more price-sensitive; thus, an additional tax increase for RYO tobacco can encourage some of them to quit tobacco smoking for good. The econometric studies determined, that for Uruguay the price elasticity of demand for RYO tobacco was -0.88^{27} , while the elasticity of demand for cigarettes in Uruguay was estimated to be: Short-term -0.34 to -0.49 ; Long-term -0.39 to -0.55 [30, 40].

Conclusions

1. Comprehensive tobacco control policies conducted in Uruguay from 2005 substantially decreased smoking prevalence in the country, especially among youth.
2. Tobacco taxation policies were successful only for two periods of time: in 2009-2010 and in 2015-2017 when tobacco tax increases were large enough to reduce tobacco affordability and to achieve both the decline of tobacco consumption and the increase of tobacco revenue.
3. Changes in cigarette smuggling volumes in Uruguay are almost unrelated to the taxation policy: during the years of tax hikes (2009-2010 and 2015-2017), the estimated increase in smuggling cigarette volumes was very moderate.

²⁷ http://www.smu.org.uy/elsmu/comisiones/tabaco/inf_ct_tab_en_uruguay.pdf

4. Tobacco industry pricing policy modified the impact of the taxation policy on tobacco consumption, revenue, and smuggling.
5. The tax and price of roll-your-own tobacco remain substantially lower than that of cigarettes. While the prevalence of roll-your-own tobacco use declines over recent years, this kind of tobacco products is mainly used by the poorest smokers.

Recommendations

Current tobacco taxation policy of the annual tax increase should be continued, while the rate of the annual increase could be increased to 20%.

Tax rates for roll-your-own tobacco should be increased faster than those for the manufactured cigarettes: for example, if the annual cigarette tax increase is 20%, the RYO tax rate could be increased by 40%. Such a tax increase could encourage poorer but more price-sensitive RYO smokers to quit, and it would be very beneficial for their health and wellbeing.

Tobacco use surveillance and monitoring should be further developed in Uruguay, including regular surveys with a collection of comprehensive information on tobacco products consumed.

Uruguay authorities already implemented some effective policies to counteract tobacco smuggling. Such efforts should be strengthened in line with the provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is already ratified by the country. Special attention should be paid to cigarettes legally exported from Uruguay, to prevent their illegal import back to the country. While cigarette smuggling is a problem, it should not be overestimated and used as an argument against further excise increases. The FCTC Article 6 Guidelines state [41]: *The development, implementation and enforcement of tobacco tax and price policies as part of public health policies should be protected from commercial and other vested interests of the tobacco industry, including tactics of using the issue of smuggling in hindering implementation of tax and price policies.*

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World Bank Group Global Tobacco Control Program

Background Policy Briefs for Country Teams¹

Tobacco taxation policy in Uzbekistan

Tobacco use

Tobacco use among adolescents and youth

In 2008, the GYTS was conducted in Tashkent, revealing that 2.7% of boys and 1.6% of girls (aged 13-15 years) currently used tobacco. It was found that 1.8% of adolescents (2.4% of boys and 1.2% of girls) were current cigarette smokers while 0.6% (0.3% of boys and 0.8% of girls) reported using other tobacco products [1]; 17% of surveyed teenagers reported living in homes where others smoked in their presence, which corresponded with the rate of smoking among adult males. The nation-wide GYTS conducted in 2013 [2] revealed that only 0.7% of young people smoked cigarettes (1.0% of boys and 0.4% of girls), while 6% of both boys and girls used smokeless tobacco.

Tobacco use among adults

In the Demographics and Health Survey (DHS) conducted in Uzbekistan in 2002 [3], a little more than 1% of women reported ever use of cigarettes or ever smoking regularly. Less than 1% of women reported that they were current smokers. Although the prevalence of current smoking was low, there were notable differentials. The prevalence of current tobacco use exceeded the national level in urban areas (2%), in Tashkent city (3%), and among non-Uzbek women (5%). Less than 0.5% of women reported ever use of nasway or pipe/cigars. Among men participating in the DHS, 41% reported ever smoking cigarettes, and 32% reported ever smoking regularly. Approximately one in five men (21%) reported that they currently smoked. A significant proportion of men also reported having ever used nasway (38%), while only 1% reported having ever used pipes or cigars. There were substantial differences in the background characteristics of current cigarette smoking by men. Current use was lowest among men aged 15-19 years (3%), higher among men aged 20-24 year (16%), and even higher (between 22% and 34%) among men aged 25 to 59 years. The prevalence of current use was relatively high in urban areas (28%), in Tashkent City (39%), and among men of non-Uzbek ethnicity (30%).

According to the survey conducted in 2006, 19.6% of men smoked cigarettes, and 22.3% used nasway [4]. However, only 20% of smokers reported consuming nasway concurrently with cigarettes. Nasway, which is mostly used by the rural population, is characterized by a varying composition of important toxic and carcinogenic components [5]. Cigarette smoking was more common in the higher-educated urban population, but this behavioral pattern may be adopted by the rural population. Therefore, greater public health potential is deemed pertinent to the reduction of cigarette smoking rather than of nasway use.

The results of household surveys [4, 6, 7] show that the prevalence of cigarette smoking among both men and women in 2002-2006 were fairly stable at about 20% among men and 1% among women.

¹ Assessment prepared by the WBG Global Tobacco Control Program team led by Patricio V. Marquez, 2016-2018.

The prevalence of daily smoking among adults in Uzbekistan in 2013 was estimated to be 10% [8]. Among men, 24.2% were estimated to be current smokers and 18.9% - daily smokers; among women, 1.3% smoked currently and 0.6% daily [9].

According to the latest WHO report [2], the prevalence of tobacco smoking in Uzbekistan among the population aged 15 years and older, adjusted for age and gender, constituted 12.8% in 2015, which was the second lowest among all the countries of the WHO European Region, after Turkmenistan. However, Uzbekistan observes a high prevalence of use of smokeless tobacco called nasway.

In Uzbekistan, the WHO STEPS survey on NCD risk factors was carried out between January and April 2014 [10]. A total of 4350 adults aged 18-64 participated in the survey.

Table 1. Tobacco use in Uzbekistan in 2014, WHO STEPS survey

| | Both | Males | Females |
|--|------|-------|---------|
| Current tobacco smokers, % | 14.4 | 26.8 | 1.4 |
| Current daily tobacco smokers, % | 9.0 | 16.6 | 0.9 |
| Among current daily tobacco smokers: | | | |
| <i>Average age when started smoking, years</i> | 20.1 | 20 | 21.4 |
| <i>Daily smokers smoking manufactured cigarettes, %</i> | 90.2 | 89.8 | 98.6 |
| <i>Mean number of manufactured cigarettes smoked per day (per smoker of manufactured cigarettes)</i> | 8.4 | 8.5 | 7.2 |
| Current smokeless tobacco use [2], % | 12.0 | 23.2 | 0.2 |

Source: WHO STEPS Survey on NCD risk factors, 2014.

Tobacco-related mortality

The proportion of deaths attributable to tobacco in Uzbekistan in 2004 was estimated to be 10% for men (aged 30 years and over) and 3% for women (aged 30 years and over) [11].

Health care costs of tobacco use

Direct health care costs and indirect costs of smoking by males aged 35 years and older in 2005 in Uzbekistan [6] including government expenditures for inpatient and outpatient hospital care and out-of-pocket spending to treat smoking-related diseases were estimated to be US\$ 17.3 million (20.4 billion Uzbekistani soms [UZS]), or 2.7% of health care expenditures. The indirect cost of smoking to society was US\$ 75.2 million (UZS 88.5 billion); 3% of this loss was due to premature mortality, 74% due to disability, and 23% due to sickness. Total estimated costs of smoking constituted 0.6% of GDP [12].

Tobacco production and sales

According to the estimates [13] by the Food and Agriculture Organization of the United Nations (FAO), area harvested by tobacco in Uzbekistan decreased from 10,500 hectares in 2001 to 4,600 hectares in 2015. According to official data reported by the FAO, annual raw tobacco production was 33,800 tons in 1998 and then decreased to 7,075 tons in 2015.

British American Tobacco (BAT) has a monopoly on tobacco production in Uzbekistan. Within the joint venture UzBAT, the BAT owns 97.4% of shares, while the government of Uzbekistan – 2.6%. In 2017, the UzBAT was employing 157 permanent workers². It also hired part-time and seasonal workers.

More than 90% of all cultivated tobacco leaf in Uzbekistan is used by UzBAT for domestic production and exports. In 2015, the national government issued an order to make locally produced raw materials constitute not less than 20% of all the tobacco UzBAT uses for the production of cigarettes.

Data on cigarette production, import, export, and sales from several Euromonitor reports (Tobacco in Uzbekistan, Cigarettes in Uzbekistan, July 2011, September 2013, August 2015, August 2016, July 2017, and July 2018) are used in Table 2. We calculated cigarette turnover as production + import – export (Table 2). For some years, the turnover differs from the estimate of cigarette sales. Cigarette sales substantially increased in 2007-2010 but then gradually decreased in 2011-2015. In 2015-2017, the reported cigarette sales were rather stable: about 10.5 billion cigarettes annually.

However, it was also reported that cigarette production in 2017 decreased by 7% (from 10.4 billion cigarettes in 2016 to 9.7 billion cigarettes in 2017)³.

Table 2. Cigarette production and trade, Euromonitor estimates

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|--------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Production, million cigarettes | 5661 | 8313 | 12644 | 13528 | 11852 | 9932 | 10104 | 10925 | 10760 | 10692 | 10735 |
| Import, million cigarettes | 4980 | 4725 | 3195 | 3065 | 1798 | 1642 | 1526 | 541 | 529 | 348 | 182 |
| Export, million cigarettes | 550 | 594 | 723 | 352 | 690 | 605 | 135 | 123 | 116 | 118 | 12 |
| Turnover, million cigarettes | 10091 | 12444 | 15116 | 16241 | 12960 | 10969 | 11495 | 11343 | 11173 | 10921 | 10792 |
| Sales, million cigarettes | 10091 | 12444 | 15115 | 15606 | 13098 | 12699 | 11462 | 11432 | 10638 | 10637 | 10382 |
| Cigarette sales, UZS billion | 1032 | 1272 | 1523 | 1732 | 1821 | 2087 | 2164 | 2471 | 2688 | 3174 | 3694 |
| <i>Average price (soms per 20 cigarettes pack)</i> | <i>2045</i> | <i>2044</i> | <i>2015</i> | <i>2220</i> | <i>2781</i> | <i>3287</i> | <i>3776</i> | <i>4323</i> | <i>5054</i> | <i>5969</i> | <i>7117</i> |
| <i>Average price increase (previous year = 100)</i> | <i>101.4</i> | <i>99.9</i> | <i>98.6</i> | <i>110.1</i> | <i>125.3</i> | <i>118.2</i> | <i>114.9</i> | <i>114.5</i> | <i>116.9</i> | <i>118.1</i> | <i>119.2</i> |
| Illicit trade estimates, million cigarettes | 1853 | 2140 | 2461 | 1618 | 1248 | 883 | 544 | 468 | 430 | 345 | 282 |

Source: Euromonitor data, different years.

Using annual Euromonitor data on cigarette sales in monetary and physical terms, we calculated average annual cigarette prices (Table 2). The calculated average prices were stable in 2007-2009, but then they were going up by 10-25% annually.

Tobacco taxation

Cigarette taxation system in Uzbekistan has undergone several changes. In 1991-2004, ad valorem system was in place with the differential taxation of different classes of cigarettes; further on in 2005, the country applied a specific taxation system [14].

² <https://nuz.uz/ekonomika-i-finansy/24758-top-5-dostizheniy-za-20-let-samarkandskaya-fabrika-gotovitsya-otmetit-yubiley.html>

³ <https://nuz.uz/poslednie-novosti/33806-pochemu-v-uzbekistane-sokraschaetsya-proizvodstvo-i-potreblenie-sigaret.html>

In 2008-2017, specific excise rate for domestic filter cigarettes increased more than 7-fold (Table 3). The largest excise rate increase (120%) was implemented in 2018. Since 2015, unified specific rates have been used for both filter and non-filter domestic cigarettes.

Table 3. Excise rates for cigarettes

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|--|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Filter cigarettes (soms per 1000) | 5206 | 5727 | 7159 | 8949 | 10739 | 13424 | 17451 | 19196 | 28794 | 37432 | 84222 |
| Annual excise rate increase, % | 0 | 10 | 25 | 25 | 20 | 25 | 30 | 10 | 50 | 30 | 120 |
| Non-filter cigarettes (soms per 1000) | 1476 | 1919 | 2 879 | 4319 | 5183 | 6479 | 8423 | 19196 | 28794 | 37432 | 84222 |
| Imported cigarettes (USD per 1000) | 10 | 10 | 10 | 10 | 13 | 18,2 | 18,2 | 18,2 | 18,2 | 18,2 | 18,2 |

Source. Decrees of the President of Uzbekistan, site <http://lex.uz/ru/>.

The excise tax rate for imported cigarettes is set in US dollars. In 2018, the rate was 18.2 USD = 149,700 UZS, which is 78% higher than the specific rate for domestic cigarettes. In 2008-2017, the actual specific rates for imported cigarettes were two-three-fold higher than the rates for domestic cigarettes.

From June 2018, an additional excise tax was introduced (1000 UZS per 1000 cigarettes) which should be used to finance the governmental Sports Foundation⁴.

Cigarettes produced in Uzbekistan are subject to a 20% value-added tax (VAT). Imports are also levied with a Customs Fee, which consists of four administrative customs payment (0.2% of CIF value) and customs duty (30% of CIF value).

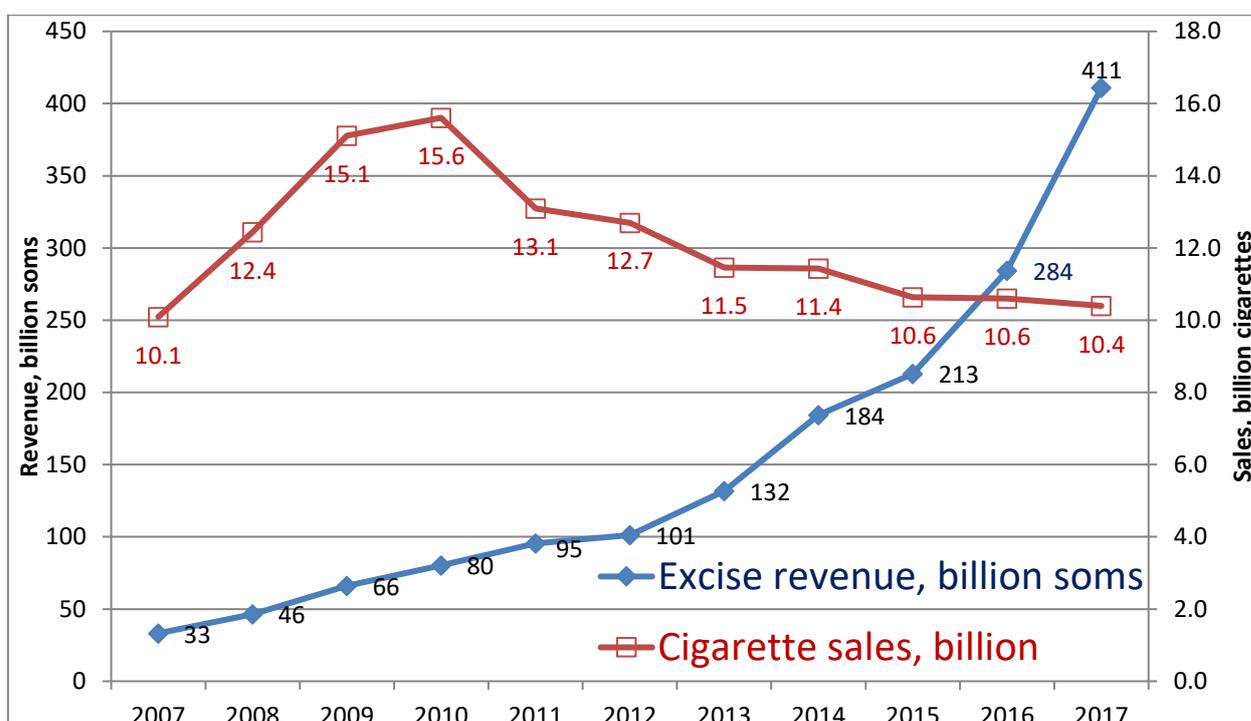
Tobacco excise revenue

In 1999, the real excise revenues doubled, which was due to a sharp increase in excise duty [14]. Between 1999 and 2005, a significant annual reduction in excise tax revenues in real terms was observed. A reduction in excise rates in 2002 and their retention at the same level in 2003-2004 did not yield any revenue increase; on the contrary, fiscal revenue fell more than three-fold compared to the level of 1999. A substantial augmentation of revenue in real terms was only observed in 2006, 2008 and 2009, but this was due to a sharp increase in cigarette sales. In 2010-2011, revenues increment was caused by the increase of the real rate of excise duty by 9-10%, despite the decline in cigarette sales in those years.

Trends in excise revenue in 2007-2017 are presented in Figure 1.

Figure 1. Tobacco excise revenue and cigarette sales.

⁴ <https://nuz.uz/obschestvo/30880-sportivnyy-sbor-v-uzbekistane-proizvoditeley-tabaka-i-alkogolya-obyzali-oplachivat-razvitie-sporta.html>



Sources: Sales – Euromonitor; Revenue – information from the Ministry of Health and media publications.

In 2007-2009, tobacco excise revenue increased mainly due to cigarette sales growth, while in 2011-2015, the revenue increased each year despite the cigarette sales reduction. In the 2011-2017, cigarette sales decreased by 21%, but the revenue increased by 331% in nominal terms and by 214% in real (inflation-adjusted) terms.

We estimated the expected revenue increase as follows: Change in cigarette sales (from Table 2) * Change in excise rate for filter cigarettes (from Table 3) and compared them with real change in excise revenue (Table 4).

Table 4. Comparison of actual and expected increases in the cigarette excise revenues

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Excise rate increase, % | 25,0 | 25,0 | 20,0 | 25,0 | 30,0 | 10,0 | 50,0 | 30,0 |
| Expected revenue increase, % | 29,1 | 4,9 | 16,3 | 12,8 | 29,7 | 2,0 | 50,0 | 27,5 |
| Actual revenue increase, % | 21,2 | 19,0 | 6,1 | 30,2 | 39,8 | 15,5 | 33,5 | 44,6 |

Some differences between the expected and the actual revenues are caused by the following factors: (1) excise taxes in January are paid by lower rates of previous year, (2) different excise rates for filter and non-filter cigarettes were effective till 2015, (3) higher excise rates were applied to imported cigarettes and some other factors. However, the difference between expected and actual excise revenues became rather prominent in recent years. In 2015, the excise rate was increased just by 10%, and the reported cigarette sales declined, but actual revenue increased by 16%. An explanation behind that could be an anticipation of the excise rate increase by 50% from January 2016. Manufacturers increased production and stock of cigarettes in the last months of 2015 to pay taxes by a much lower rate of 2015. So, a substantial number of cigarettes was taxed in 2015 but sold by retail in 2016. Thus, the actual revenue increase in 2016 was much lower (34%), than the expected increase (50%). A similar process was observed in 2017: while an expected revenue increase should be 28%, in reality, it was much higher (45%). Again, in anticipation of the excise rate increase by 120% from January 2018, manufacturers increased production and stock of cigarettes in the last months of 2017. Therefore, the revenues in 2017

were much higher than expected. However, similarly to what was observed in 2016, we can forecast that the excise revenue in 2018 will be lower than expected.

Such a phenomenon is known as forestalling. The FCTC Guidelines on Article 6 [15] recommend preventing this from occurring and to ensure that the authorities receive the extra revenue from tax increases, rather than producers or importers. For this, Parties should consider implementing anti-forestalling measures, such as:

- restricting the release of excessive volumes of tobacco products immediately prior to a tax increase;
- levying the new tax on products already produced or kept in stock, and not yet supplied to the final consumer, including those in retail (known as a floor-stock or inventory tax).

Cigarette prices

National statistics bodies do not provide data on cigarette price in Uzbekistan, so we used the calculated average annual cigarette prices from Table 2. In 2008-2010, the average price was stable, but in 2011-2017, it increased 3.2-fold.

We used data from the WHO Global reports on tobacco epidemic and other sources on prices for the most popular cigarette brand in Uzbekistan--Pall Mall brand (according to the Euromonitor reports, the market share of this brand exceeded 50% over last seven years)--to assess the price components (Table 5).

Table 5. Price and price components of the Pall Mall cigarettes (in soms per pack of 20 cigarettes)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Increase 2017/2010 | |
|------------------|------|------|------|------|------|------|------|------|------|--------------------|--------------------|
| | | | | | | | | | | Nominal | Inflation-adjusted |
| Price | 1100 | 1500 | 1700 | 2000 | 2200 | 2500 | 3300 | 4500 | 6000 | 4.1 | 2.46 |
| Excise | 143 | 179 | 215 | 268 | 349 | 384 | 576 | 749 | 1684 | 5.2 | 3.14 |
| VAT | 183 | 250 | 283 | 333 | 367 | 417 | 550 | 750 | 1000 | 4.1 | 2.46 |
| Net-of-tax price | 773 | 1071 | 1202 | 1398 | 1484 | 1699 | 2174 | 3001 | 3316 | 3.9 | 2.33 |

Sources: WHO Global reports on tobacco epidemic and information from the Ministry of Health.

In 2010-2017, the nominal price of Pall Mall cigarettes increased more than 4-fold (or by 310%), and in 2010-2018, more than 5-fold. Inflation-adjusted price in 2010-2017 increased by 146%. The main factor of the price increase was the excise tax increase, but the tobacco industry also substantially (by 133% in inflation-adjusted form) increased its (net-of-tax) part of the price. In 2017, the net-of-tax price was 4-fold higher, than the excise rate.

Comparison of cigarette prices and taxes in Uzbekistan and neighboring countries

The comparison of excise rates and cigarette prices in Uzbekistan and neighboring countries (Table 6) reveals that both taxes and prices in Uzbekistan are the lowest in the region.

Table 6. Cigarette prices and taxes in Uzbekistan and neighboring countries in August 2018

| Country | Minimum excise rate for 1000 cigarettes | | Pall Mall or similar brand price for pack of 20 cigarettes | | Excise tax share in retail price, % |
|--------------------|---|-------------|--|-------------|-------------------------------------|
| | national currency | USD | national currency | USD | |
| Kazakhstan | 7500 | 20,4 | 360 | 0,98 | 42 |
| Kyrgyzstan | 1250 | 18,1 | 55 | 0,80 | 46 |
| Russian Federation | 2335 | 35,9 | 115 | 1,77 | 41 |
| Tajikistan | 9,8 euro | 11,1 | 8 | 0,85 | 26 |
| Uzbekistan | 84222 | 10,2 | 6000 | 0,73 | 28 |

Sources: Official sites of the relevant countries and other open sources.

Such price differences encourage cigarette smuggling from countries with lower prices, so cigarette smuggling OUT OF Uzbekistan is much greater than cigarette smuggling INTO the country.

Over recent years, the cigarette excise rates were increased in the neighboring countries. In Kyrgyzstan, the minimum excise rate for filter cigarettes in 2009-2014 was increased 4-fold, and the tobacco excise revenue increased 5-fold [16], while in 2014 the only tobacco factory in the country was closed. In July 2018, Tajikistan increased the excise rates by 9.8-fold.

In January 2019, Russian Federation increases cigarette excise rates by 10%, Kazakhstan – by 16%, and Kyrgyzstan – by 20%.

Total tax share in the cigarette price in Uzbekistan (28%) is lower than in Russia, Kazakhstan, and Kyrgyzstan (41-46%).

Cigarette affordability trends

In the current analysis, a modified tobacco affordability index (TAI) [17] is used to estimate the changes in tobacco affordability in 2007–2017. TAI is calculated as the percentage annual change in disposable income per capita divided by the tobacco price increase: $TAI = (\text{income increase} / \text{price index tobacco} - 1) * 100$. A negative TAI value means that tobacco became less affordable, and tobacco consumption is expected to decrease.

As national statistics do not provide indicators of the individual or household income for recent years, we used the World Bank indicator *Annual percentage growth rate of GDP per capita based on constant local currency*⁵. As the GDP change is expressed in constant (adjusted for the effects of price inflation) local currency, the price indicator also should be expressed in real (inflation-adjusted) terms. For inflation, we use the National statistics committee data on the consumer price index for all items.

We used both official consumer price index for tobacco products⁶ and calculated average annual cigarette prices from Table 2 to estimate the trends in cigarette prices and affordability (Table 7).

⁵ <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG>

⁶ <https://stat.uz/ru/ofitsialnaya-statistika/tseny/statisticheskie-tablitsy/189-ofytsyalnaia-statystyka-ru/tseny-ru/4202-indeks-potrebitelskikh-tsen>

Table 7. Estimates of cigarette affordability

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Annual growth rate of GDP per capita based on constant local currency (previous year = 100) | 108.0 | 107.7 | 106.3 | 105.5 | 105.4 | 106.6 | 106.3 | 106.0 | 106.1 | 105.9 | 103.6 |
| Consumer price index, all items (December previous year = 100) | 106.8 | 107.8 | 107.4 | 107.3 | 107.6 | 107.0 | 106.8 | 106.1 | 105.6 | 105.7 | 114.4 |
| Consumer price index, tobacco products (December previous year = 100) | | | | | | 100,8 | 101,0 | 105,0 | 110,4 | 108,7 | 119,0 |
| Average cigarette price annual change (previous year = 100) | 101.4 | 99.9 | 98.6 | 110.1 | 125.3 | 118.2 | 114.9 | 114.5 | 116.9 | 118.1 | 119.2 |
| Tobacco Affordability Index, official CPI-tobacco | | | | | | 13.2 | 12.4 | 7.1 | 1.5 | 3.0 | -0.5 |
| Tobacco Affordability Index, calculated average prices | 13.7 | 16.2 | 15.8 | 2.8 | -9.5 | -3.5 | -1.2 | -1.8 | -4.2 | -5.2 | -0.7 |

Sources: World Bank database, National statistics committee web-site <https://stat.uz/ru/>.

In 2007-2009, cigarette prices did not increase, and cigarettes became much more affordable. Starting from 2010, cigarette prices annually increased by 10-25%, and in 2011-2017 cigarettes were annually getting less affordable. However, only in 2011, the affordability reduction was sufficient to decrease cigarette sales (see Figure 1).

When the official CPI for tobacco products is used, cigarette affordability continued to grow in 2012-2017. According to the official report⁷, in 2005-2016 average annual CPI (inflation) was 106.9, while average annual CPI for tobacco products was 103.6, so tobacco price increase was below the inflation rate in those years. However, in 2015-2017 tobacco price increase was above the inflation (see Table 7).

In the first six months of 2018, cigarette prices increased by 15.2%, while inflation constituted 6.2%⁸.

Cigarette smuggling

Cigarettes in Uzbekistan are less expensive than in Kazakhstan, Kyrgyzstan and Tajikistan (see Table 6) but the price difference is not large enough for large-scale smuggling, just some cigarette bootlegging takes place.

The Euromonitor estimates annual volumes of illicit cigarette sales into Uzbekistan (see Table 2). In 2007-2009 (when cigarette prices were rather stable), the estimated volumes of cigarette smuggling increased and reached 2.5 billion cigarettes in 2009. Then the volumes of smuggling decreased every year, and in 2017 only 0.28 billion cigarettes were smuggled into Uzbekistan, while during that period of time cigarette prices substantially increased (see Table 2 and Table 4).

In Turkmenistan, Russia, and some other countries, cigarettes are much more expensive, than in Uzbekistan, and this creates incentives for cigarette smuggling out of the country. In 2011, more than 60 attempts to smuggle tobacco products from Uzbekistan into Turkmenistan were disclosed [14]. More

⁷ <https://stat.uz/ru/ofitsialnaya-statistika/tseny/statisticheskie-tablitsy/433-analiticheskie-materialy-ru/2040-analiticheskaya-informatsiya-ob-indeksakh-tsen>

⁸ <https://stat.uz/uploads/doklad/2018/yanvar-iyun/ru/2.pdf>

than 100 attempts to smuggle cigarettes out of Uzbekistan were disclosed in the Tashkent airport in 2016⁹.

Tobacco control

In 2012, Uzbekistan Republic ratified the World Health Organization Framework Convention on Tobacco Control (FCTC). This prompted the development of related legislation. In October 2011, the President of Uzbekistan signed a law "On restriction of distribution and consumption of alcohol and tobacco products".

Article 12 of the law requires tobacco packs to have health warnings on 40% of both the front and back sides of the tobacco packs with text and/or pictorial. Article 8 of the law entitles the Ministry of Health to develop and adopt the text. Ministry of Health issued the Order N317 of November 17, 2011, whose Annex 2 includes the texts of health warnings. Currently, the text of the main health warning on the front of the pack (wrap) should be one of the following: "Smoking kills" or "Smoking shortens your life" or "Smoking causes serious harm to your health and the health of those around you". The text of the additional health warning on the back of the pack (wrap) should be one of the following: "Smoking causes lung cancer" or "Smoking during pregnancy harms your baby" or "Protect children: do not let them inhale tobacco smoke" or "Smoking causes strong nicotine addiction".

Article 18 of the law bans tobacco advertising in Uzbekistan. The Law on Advertising of Uzbekistan includes Article 23 with more detailed provisions including a ban of sponsorship, ban of goods with tobacco images, and ban of information about tobacco in points of sale. However, the ban is not comprehensive because point-of-sale advertising is widely used.

Article 19 of the law prohibits tobacco use in workplaces, health, educational and sports facilities, fire-dangerous places, like petrol stations, except specially designated smoking areas, and public transport. Since 2016, a fine of one-third of the minimum wages was imposed for smoking in all public places¹⁰.

In 2015 [18], tobacco control policies in Uzbekistan were assessed at 21 out of 37 points.

In July 2018, the Law on restrictions of water-pipes and electronic cigarettes smoking in public places was adopted¹¹.

Discussion

In 2010-2013, cigarette excise rates were increased by 20-25% every year. In 2014-2017, the average annual increase of cigarette specific excise rates was 30%. Such taxation policy has had the following results:

- Tobacco excise revenue in 2010-2017 increased more than 3-fold in real (inflation-adjusted) terms;
- Annual cigarette sales in 2010-2017 decreased by 33%, or by 5 billion cigarettes;
- Estimated cigarette smuggling into the country decreased almost 9-fold in 2009-2017.

Cigarette prices in 2010-2017 increased by 300% in nominal terms, but it was caused not only by taxation, as tobacco industry increased its (net-of-tax) part of the price well above the inflation (see Table 5).

⁹ <https://nuz.uz/sobytiya/21304-grazhdanki-uzbekistana-pytalis-vyvezti-v-turciyu-krupnuyu-partiyu-sigaret.html>

¹⁰ <https://www.gazeta.uz/ru/2015/12/30/smoking/>

¹¹ <http://lex.uz/ru/docs/3803255>

The recent WHO-NCI monograph on tobacco taxation [12] states: *The best strategy for a monopolist would be to set the retail price lower than the short-run profit-maximizing position when the business environment is good. However, when the environment is unfavorable to the industry (e.g., when tobacco control legislation is passed or when the excise tax increases consistently), a more appropriate strategy would be to set the retail price much higher in order to maximize short-run profits, given the expected lower future profits. Ironically, the industry engineered a greater decrease in cigarette consumption in the short term by raising prices than the government was able to achieve by increasing the excise tax alone.*

By increasing the net-of-tax price, the tobacco industry managed to secure its profits on declining cigarette market in Uzbekistan.

Cigarettes became less affordable in Uzbekistan in 2011-2017 (see Table 7) and their consumption declined, which is very beneficial for the population health. However the rates of affordability reduction were rather modest in recent years, and in 2013-2017, the decrease in cigarette sales was only 9.5% in five years.

In 2018, cigarette excise tax was increased by 120%, but during the first six months of 2018, cigarette prices increased only by 15.2% as excise tax is only 28% of the cigarette retail price. So, there is a great potential for further excise rate increase. If in 2019 the excise rate is increased by 60%, the price of Pall Mall cigarette pack will increase only by 25%, provided that the industry increases its (net-of-tax) price by 7%.

Despite the excise hike of 2018, cigarette excise taxes and prices in Uzbekistan in 2018 were lower than in all neighboring countries. It was partly caused by the recent devaluation of the national currency. As most of the neighboring countries scheduled further excise rate increase for 2019, the excise rate increase in Uzbekistan should be high enough to reach the rates in other countries.

Conclusions and recommendations

Annual substantial increases of tobacco excise taxes implemented in Uzbekistan in 2010-2018 reduced tobacco affordability and tobacco consumption in the country and also increased governmental tobacco excise revenues.

It is recommended to continue such policy in the next years and to increase specific excise rate for cigarettes at least by 50% annually.

To receive the extra revenue from tax increases, the government should consider implementing anti-forestalling measures in line with the FCTC recommendations.

Special policies aiming to discourage nasway use and related surveillance activities [5] should be implemented in Uzbekistan, while the introduction of excise or other taxes for such a home-made product can hardly produce substantial benefits.

Effective policies to counteract tobacco smuggling into and out of the country should be implemented in line with provisions of the FCTC Protocol to Eliminate Illicit Trade in Tobacco Products, which is recommended to be ratified by the country.

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