

## Competition Policy

### Encouraging Thriving Markets for Development

**A literature review shows that competition policy reforms allow markets to work more efficiently for the benefit of consumers and drive sustainable economic growth. Three main insights emerge: Greater market competition matters for achieving greater innovation, productivity, and economic growth. Policies that help open markets and remove anticompetitive regulations can promote competition, resulting in lower prices and better deals for consumers and firms. And effective enforcement of competition rules across sectors—rather than the pure existence of competition laws—makes a difference in the impact of competition policies.**

In recent years governments in developing countries have improved the investment climate and streamlined procedures for starting a business so as to reduce barriers to market entry. But many markets in developing countries remain subject to entry barriers and to anticompetitive behavior by a few dominant players (figure 1). Drawing on a comprehensive set of studies, this Note outlines empirical evidence showing that policies to increase market competition can improve a country's economic performance, increase business opportunities and firm productivity, and ultimately benefit consumers through usually lower prices for goods and services.<sup>1</sup>

Competition policies involve a range of measures designed to reduce or eliminate impediments to well-functioning markets that arise from public policy interventions (such as statutory monopolies and price controls) and restrictive

business practices (such as cartel agreements and anticompetitive mergers). An effective competition policy usually includes pro-competition sectoral policies and effective economy-wide enforcement of antitrust rules designed to deter anticompetitive practices (figure 2). Together, these policies improve both domestic economic performance and international competitiveness.

#### **Competition matters for productivity growth**

Competition drives productivity growth through two key mechanisms: it shifts market share toward more efficient producers, and it induces firms to become more efficient so as to survive.<sup>2</sup>

Theoretical and empirical studies provide evidence that product market competition boosts innovation, productivity, and economic growth.<sup>3</sup> Firms facing vigorous competition have strong incentives to reduce their costs, to innovate, and

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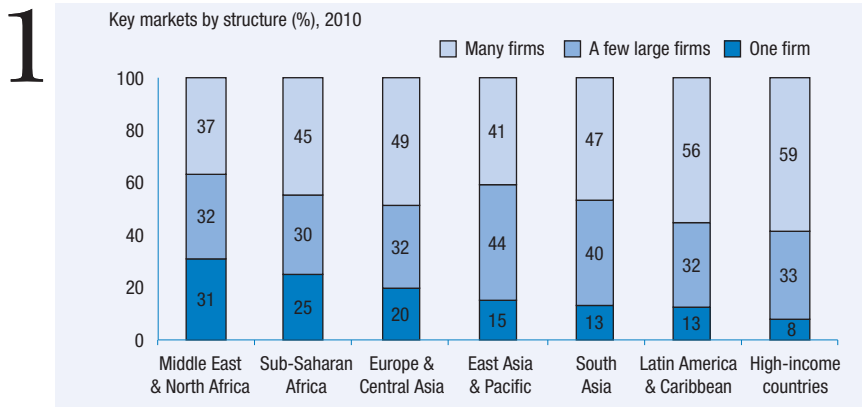


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Figure **Many markets in developing countries are dominated by a few firms**



Note: Data show averages for each region.  
Source: World Bank Group 2010.

to become more efficient and productive than their rivals.<sup>4</sup> This process motivates firms to offer competitive prices, higher quality, and new and more varied goods and services.

Conversely, lack of competition adversely affects productivity. Nickell (1996) found that a 10 percent increase in price markups resulted on average in a 1.3–1.6 percent loss in total factor productivity growth. Carlin, Schaffer, and Seabright (2004), focusing on 24 transition economies, showed that firms facing between one and three competitors saw real sales grow by almost 11 percent on average over three years while monopolists saw real sales decline by 1 percent.<sup>5</sup> Sekkat (2009) suggested that higher markups have had a significant negative effect on productivity growth in Jordan and Morocco.

Competition also leads to savings and greater access to markets for consumers. Analyzing data

for more than 40 African countries, Gebreab (2002) found that the entry of an additional operator increased mobile subscriptions by an average 57 percent. Conversely, an OECD study (2012a) showed that weak market competition in telecommunications alone cost the Mexican economy around US\$129.2 billion in 2005–09, or 1.8 percent of GDP a year. Also in Mexico, Urzua (2009) estimated that market power exerted by companies on key goods imposed welfare losses on poor households 20 percent higher than those on the highest-income households.

### Effects of opening markets to competition

Competition in domestic markets affects the international competitiveness of national firms. Firms typically acquire many of their inputs—transport, energy, telecommunications, financial services—in local markets. If these upstream markets lack competition, goods and services needed for production are not priced competitively. As a result, firms may be less competitive than their foreign rivals and domestic GDP growth may suffer. Reforms to open key markets to competition have boosted productivity and growth (table 1).

### A boost to agribusiness

Country studies point to the positive effects of pro-competition market reforms in agribusiness (Kompas and others 2009 for Vietnam; Porto, Depetris Chauvin, and Olarreaga 2011 for Sub-Saharan Africa). Investigating the effects of removing anticompetitive restrictions in East and Southern Africa, Jayne and others (1996) found that eliminating controls on prices and private trade in maize accounted for US\$10.1 million of consumer savings a year in Kenya. The reforms also increased the availability of whole maize, which had previously been restricted by regulation. Analysis showed that the market share of whole maize rose from 8 percent to about 49 percent in Zimbabwe and from about 10 percent to 35 percent in Kenya within several years after the reforms were implemented.

In Togo, Akiyama, Baffes, and Larson (2001) found that eliminating monopolistic commodity boards for coffee increased growers' share of the value received per unit of exports from less than 30 percent to 80 percent. Waithaka and

Figure **Competition policies in practice**

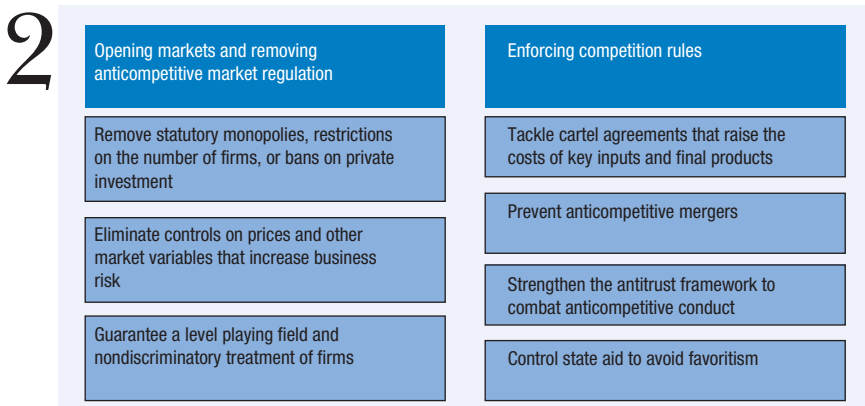


Table Effect of competition policy reforms at the sectoral level

Sector and country	Study	Reform	Effect
<b>Agribusiness</b>			
Vietnam	Kompas and others 2009	Land and market reforms moving from commune-based public ownership and output share contracts to private property and market-driven production and pricing	Large increase in total factor productivity in main rice-growing regions; national average annual increase in rice output of 3.5%
Kenya	Jayne and Argwings-Kodhek 1997	Opening of market and elimination of price controls for maize	Consumer savings of US\$10.1 million a year (due to lower milling costs)
Kenya, Mozambique, and Zimbabwe	Jayne and others 1996	Elimination of controls on private trade and development of alternative marketing channels in the maize market	Increase in market share of whole maize, provided by private millers, from 8% to about 49% in Zimbabwe and from 10% to 35% in Kenya
Togo	Akiyama, Baffes, and Larson 2001	Elimination of monopolistic commodity boards in coffee	Increase in share of export unit value growers received from less than 30% to 80%
Kenya, Tanzania, and Uganda	Waithaka and others 2011	Standardization of variety testing procedures, seed certification procedures, and plant introduction and phytosanitary procedures for maize	Combined social (consumer and producer) surplus of US\$18.5 million in Kenya, US\$15.2 million in Uganda, and US\$6.4 million in Tanzania; increase in demand for certified seed maize of 98% in Kenya, 175% in Uganda, and 85% in Tanzania in 2000–08
<b>Transport</b>			
Lao PDR	Arnold 2005	Breaking up of Lao PDR trucking cartel and opening of transit to all Thai truckers	Reduction in logistics costs on Bangkok–Vientiane route of 30%
Mexico	Ros 2011	Opening of air transport and routes to low-cost entrants	Reduction in air fares of up to 37% (on routes served by low-cost carriers)
Cross-country panel	Micco and Serebrisky 2004	Improvement in the quality of air transport regulation Introduction of “open skies” agreements to foster competition	Reduction in transport costs of 14% Reduction in transport costs of 8%
<b>Professional services</b>			
Italy	Pellizari and Pica 2011	Removal of price floors and advertising ban in the legal profession	More productive lawyers more likely to stay in the profession
Australia	EC 2004	Elimination of the exclusive rights of lawyers	Potential drop in overall legal costs of 12%
<b>Retail and services</b>			
Ukraine	Shepotylo and Vakhitov 2012	Liberalization of services	Increase in total factor productivity of 3.6%
India	Amin forthcoming	Opening of retail market to competition	Increase in labor productivity of as much as 87%
United States	Goos 2005	Deregulation of shop opening hours	Increase in employment of 4.4–6.4% and in total revenue of 3.9–10.7% in deregulating industries
United Kingdom	Maher and Wise 2005	Liberalization and pro-competition regulations in gas, water, and electricity	Increase in productivity growth of more than 10%

others (2011) estimated that more competition for seed in East and Central Africa led to savings of US\$49.1 million for consumers in Kenya, Tanzania, and Uganda between 2000 and 2008.

### Lower costs in telecoms and transport

There is abundant evidence of the positive effects of competition in telecommunications. In a

study of 30 African and Latin American countries Wallsten (2001) found that each additional competitor is associated with an increase of about 0.2 mainlines per 100 inhabitants. Similarly, in an analysis spanning 30 countries and more than 16 years Li and Lyons (2011) showed that more competitors, privatization, and the existence of an independent regulator increased subscriber

penetration from 2 percent on average to 97 percent.

In transport, eliminating anticompetitive behavior and entry barriers reduced transport costs and prices. In Chad the existence of cartels in the main corridors doubled transport prices (Arvis, Raballand, and Marteau 2010). Conversely, breaking the cartel in the Lao People's Democratic Republic and opening transit to all Thai truckers in 2004 reduced logistics costs on the Bangkok–Vientiane route by 30 percent (Arnold 2005). After Mexico opened road freight to competition in 1989, cheaper, more customer-responsive trucking services made it possible for downstream companies to offer new, previously unavailable products and reach previously unserved areas (Dutz, Hayri, and Ibarra 2000).

In air transport the entry of low-cost airlines and the liberalization of air cargo markets have been found to significantly benefit consumers through lower transport costs and greater price competition. Ros (2011) found that incumbents in Mexico charged prices 37 percent lower on average in routes where they faced competitors. Analyzing a panel data set, Micco and Serebrisky (2004) estimated that improving the quality of air transport regulation from the level of Ecuador (25th percentile) to that of France (75th) reduced transport costs by 14 percent—while introducing “open skies” agreements to foster competition reduced them by 8 percent.

#### Higher productivity in professional services

Greater competition also matters in professional services. Pellizari and Pica (2011) found that in Italy the removal of price floors and other restrictions on competition was associated with greater productivity and lower attrition among lawyers of higher ability. A study using product market regulation data from OECD countries suggested that liberalizing professions would generate among the most significant gains from deregulation and have a significant impact on growth in downstream industries (Barone and Cingano 2011). In Australia it was estimated that eliminating the exclusive rights of lawyers would reduce overall legal costs by 12 percent (EC 2004).

In developing countries the growth of professional services is usually constrained not only by

restrictive regulations imposed by local governments but also by self-regulations imposed by professional associations. In East Africa professional associations (of lawyers, notaries, accountants, and architects) impose minimum prices and high fees that increase service costs by more than 10 percent and restrict the entry of new providers (World Bank 2010).

#### Labor productivity gains in retail

In retail and services pro-competition sectoral policies have been found to increase both labor and total factor productivity growth. In an empirical analysis of 1,948 retail stores located in 41 cities in India, Amin (forthcoming) estimated that pro-competition reforms can improve labor productivity by about 87 percent.<sup>6</sup> And deregulation of shop opening hours has been found to increase employment in the sector (see table 1). Conversely, regulations such as price controls and restrictions on the establishment of large outlets impede efficiencies and productivity gains (Foster, Haltiwanger, and Krizan 2006).

#### Broad effects on employment and growth

Eliminating barriers to competition also has a positive impact on employment and growth. In a cross-country study Nicoletti and Scarpetta (2005) showed that reforms that would reduce the most pronounced state controls and barriers to competition observed in a sample of 20 OECD countries—to meet OECD best-practice levels—would increase long-run employment rates by 2.5–5.0 percentage points. And in a study of Croatia, De Rosa and others (2009) estimated that removing anticompetitive regulation in energy, telecommunications, and transport would increase GDP per capita by 1.35–2.77 percent.

#### The importance of effective competition enforcement

It is not the existence of competition rules, but their effective enforcement, that matters most for economic performance. In a study of 42 countries Kee and Hoekman (2007) found that in industries where competition rules were actively enforced, enforcement increased the number of domestic firms by 7.2 percent (table 2). Buccrossi and others (forthcoming) looked at the relationship between productivity growth and the overall

Table Effect of competition policy reforms at the economy-wide level

Policy area and country	Study	Reform	Effect
<b>Comprehensive competition law or policy</b>			
Cross-country	Kee and Hoekman 2007	Introduction of competition law; elimination of restrictive government regulations	Increase in domestic firms of 7.2%
Panel	Buccirossi and others forthcoming	Increase in quality of institutional and enforcement policies as measured by a competition policy index	Total factor productivity growth of 1% resulting from 20% increase on index scale—roughly equivalent to moving from level of enforcement in the Czech Republic to that in the United Kingdom
<b>Cartel or antitrust enforcement</b>			
United Kingdom	Symeonidis 2008	Introduction of cartel law (the Restrictive Trade Practices Act) in 1956	With intensification of price competition, closure of a 20–30 percentage point gap in labor productivity growth between cartelized and competitive industries
United States	Werden 2008	Cartel enforcement	Total consumer savings in 2000–07 estimated at about US\$1.85 billion
United States	Block, Nold, and Sidak 1981	Higher level of enforcement (as approximated by changes in budget of competition authority)	Reduction in price markups
<b>Leniency in antitrust enforcement</b>			
United States	Miller 2009	Introduction of leniency program in 1993	59% decrease in cartel formation; 62% increase in rate of discovery of existing cartels
<b>Merger control</b>			
Netherlands	Postema, Goppelsroeder, and Bergeijk 2006	Merger control	Net benefits to society estimated at about €100 million a year <sup>a</sup>
<b>Pro-competition sectoral and competitive neutrality policies</b>			
Australia	Australian Productivity Commission 2005	Elimination of anticompetitive regional policies; introduction of competitive neutrality principles	Drop in average real electricity price of 19%, in rail freight rates of 8–42%, and in real port charges of up to 50%; increase in GDP of 2.5%

a. This estimate is based on a cost-benefit analysis contrasting the potential and actual costs of implementing a merger control policy with its benefits to society.

quality of institutional and enforcement policies as measured by a competition policy index. A 20 percent increase on the index scale—roughly equivalent to moving from the level of enforcement in the Czech Republic to that in the United Kingdom—results in total factor productivity growth of 1 percent.

### Savings to consumers and firms

Cross-country studies reveal that antitrust enforcement has a significant positive effect on productivity growth. This result is robust across developed and developing countries alike. In developing countries de facto independence of the competition authority—as reflected in the autonomy of its decisions—and an emphasis on promoting competition play a crucial part in

driving total factor productivity growth. For a developing country, de facto independence of the competition authority will translate into a 17 percentage point reduction in the productivity gap with the United States (Voigt 2009).<sup>7</sup>

Country studies confirm these findings. In Australia competition policy reforms boosted GDP by 2.5 percent, or US\$20 billion, through higher productivity and lower prices during the 1990s (Australian Productivity Commission 2005; Crawford 2009).<sup>8</sup> Similarly, conservative estimates for the United Kingdom suggest that the enforcement of competition law has led to US\$112 million a year in direct consumer savings (U.K. Office of Fair Trading 2010). In the Netherlands the competition agency's overall activities are estimated to increase social welfare by US\$426 million (a three-



year rolling average) (Netherlands Competition Authority 2012).<sup>9</sup> And recent studies provide evidence that budgetary commitments to competition agencies and institutions are associated with higher per capita GDP growth (Clougherty 2009).

### Gains from combating cartels

Addressing cartel behavior is a critical area of antitrust enforcement. In developing countries cartels have been associated with price increases of 10–45 percent (Levenstein, Suslow, and Oswald 2003; Yu 2003). Besides increasing the cost of goods and services to do business, cartels are associated with low labor productivity and low incentives to innovate (Broadberry and Crafts 2001; Evenett, Levenstein, and Suslow 2001; Symeonidis 2003).<sup>10</sup>

Tough cartel enforcement is an effective tool for reducing the adverse effects of anticompetitive behavior (Symeonidis 2008; Alexander 1994). Moreover, evidence suggests that international cartels target countries without cartel enforcement (Evenett and Clarke 2002). Eliminating anticompetitive agreements has had a big impact in markets affected. Evenett, Levenstein, and Suslow (2001), analyzing a sample of 40 international cartels in the 1990s, found price drops on the order of 20–40 percent after cartels were broken up. Werden (2008) estimated consumer savings from cartel enforcement in the United States between 2000 and 2007 at about US\$1.85 billion.

Evidence suggests that cartel overcharges vary with the level of antitrust scrutiny. Bolotova, Connor, and Miller (2007), looking at time-series data covering 270 food product markets between 1780 and 2004, found that food cartels imposed an average overcharge of 19 percent. The longer the cartels were in place, the more successful they became in imposing higher prices; every five additional years a cartel operated added 1.54 percentage points to the overcharge. Cartel overcharges were lower in regions and periods with tougher antitrust enforcement.

An even stronger result on the importance of cartel enforcement comes from a natural experiment in the United Kingdom.<sup>11</sup> Symeonidis (2008) showed that cartels reduced labor productivity growth by up to 30 percentage points in a nine-year period. Before competition policy reforms, labor productivity declined by 2 percent

a year in industries characterized by collusion but grew by 16 percent a year in industries characterized by competition. When a strict cartel law was introduced and enforced, this gap disappeared.

### Benefits from other effective enforcement measures

Besides enforcement, other measures can help reduce the anticompetitive impact of cartels. Leniency programs—which reduce punishments for colluding firms that cooperate with competition authorities and provide information that helps in detecting a cartel—have been shown to provide an effective incentive for whistle-blowing. Miller (2009) found that a leniency program in the United States reduced the rate of cartel formation by 59 percent and increased the rate of cartel detection by 62 percent. A central part of cartel prosecution today, leniency programs complement pure economic reasoning and standard investigative techniques.

In addition, effective merger control policy has been found to prevent transactions that may cause significant harm to market competition. Postema, Goppelsroeder, and Bergeijk (2006) showed that merger control in the Netherlands led to net benefits of about €100 million a year. In the United States the Department of Justice reported consumer savings of about US\$1 billion for fiscal 2009. In the United Kingdom the Office of Fair Trading estimated consumer savings of at least £640 million in 2000–05, without taking into account the deterrence effects of merger control on anticompetitive transactions (OECD 2012b).

Competition rules to minimize distortive state aid schemes may also affect productivity. Recent research by Aghion and others (2012) revealed that lower growth is registered in sectors where subsidies and aid are concentrated in a few firms. Thus discriminatory or selective subsidization policies are mostly detrimental to productivity growth, especially in developing countries (Harrison and Rodriguez-Clare 2010).

### Conclusion

Competition policy is a key part of the development agenda. Evidence from the literature confirms that greater market competition has a positive effect on economic performance and productivity growth over a wide range of sectors.

Studies also show that competition policies can indeed increase or sustain competition within sectors and across economies. Reforms that open markets and remove anticompetitive regulation—such as price controls, statutory monopolies, restrictions on the number of firms, and discriminatory treatment of certain firms—lead to significant productivity gains. Effective implementation of competition and antitrust rules to address cartel behavior, anticompetitive mergers, and distortive subsidies is essential. The mere existence of laws and regulations is not enough.

## Notes

Markus Kitzmuller (mkitzmuller@worldbank.org) is an economist, and Martha Martinez Licetti (mlicetti@worldbank.org) a senior economist and the competition policy team leader, in the World Bank Group's Investment Climate Department. The authors thank Paulo Correa, Russell Pittman, and Tomas Serebrisky for valuable comments and suggestions. This Note further benefits from discussions and comments by Tania Begazo, Cecile Fruman, Jana Krajcovicova, Miguel Laric, Christine Zhenwei Qiang, Massimiliano Santini, and Erik von Uexkul. This Note presents the findings of studies that address whether competition reforms have a positive effect on productivity and economic performance. It does not attempt to provide an exhaustive review of the impact of competition reforms on other economic variables such as trade or foreign direct investment.

1. The studies reviewed include cross-country and panel data analysis as well as country-specific data and case studies.
2. *Productivity* as used in this Note refers to both total factor productivity and multifactor productivity, terms used interchangeably in the literature.
3. Firm-level evidence of the positive link between product market competition and productivity performance is provided by Nickell (1996); Blundell, Griffith, and Van Reenen (1999); and Aghion and others (2005).
4. For empirical results on the impact on productivity growth, see, for example, Conway and others (2006); Alesina and others (2005); and Aghion and Howitt (2006). On the impact of import competition, see Bloom, Draca, and Van Reenen (2011); and Fernandes and Paunov (2009).
5. Firms with more than three competitors exhibited sales growth rates of slightly less than 2 percent.

6. The analysis used instrumental variables to account or control for endogeneity and reverse causality.
7. This is consistent with a one-standard-deviation increase in independence.
8. This conservative estimate does not consider the effects of dynamic efficiency gains from more competitive markets.
9. The social welfare benefits were estimated using a method revised in 2008.
10. Levenstein and Suslow (2004) showed that price increases due to international cartels range from 10 to 100 percent. In 1997 roughly 3.7 percent of total imports to developing countries came from cartelized industries.
11. The natural experiment consisted of the change in the legal and policy environment, which made it possible to identify and attribute changes in productivity.

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For a list of all studies cited in this Note, along with other studies relating to the effect of competition policy reform, go to <http://www.worldbank.org/fpd/viewpoint331/bibliography>.

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