

# KYRGYZ REPUBLIC

Economic Update  
Spring/Summer 2018



Macroeconomics, Trade and  
Investment Global Practice

# **KYRGYZ REPUBLIC:**

***Favorable headwinds  
... time for structural reform***

***With a special focus on Digital Challenges***

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Kyrgyz Republic Economic Update No. 7

Spring/Summer 2018

Government Fiscal Year: January 1 – December 31  
 Currency Equivalents: Exchange Rate Effective as of June 30, 2017  
 Currency Unit = Kyrgyz Som (KGS)  
 68.6069 KGS  
 Weights and Measures: Metric System

### Abbreviations and Acronyms

EEU	Eurasian Economic Union
GDP	Gross domestic product
GoKR	Government of the Kyrgyz Republic
KGS	Kyrgyz Som
NBKR	National Bank of the Kyrgyz Republic
FDI	Foreign Direct Investment
US dollar	United States dollar
VAT	Value-added tax
TB	Trade Balance
GNI	Gross National Income
PIP	Public Investment Project
KIHS	Kyrgyz Integrated Household Survey
IMF	International Monetary Fund
NPL	non-performing loan
ROA	returns on asset
ROE	returns on equity
REER	real effective exchange rate
ICT	Information and Communication Technology
SCITC	State Committee of Information Technologies and Communications
G-Cloud	Government Cloud

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## Foreword

This edition of the Kyrgyz Republic *Country Economic Update* was prepared by Bakyt Dubashov (Senior Economist) and Aurélien Kruse (Senior Economist) with the help of Saida Ismailakhunova (Poverty Economist) for the Social sector section. The Special Focus Section was prepared by a team composed of Oleg Petrov (Senior Program Officer) and Juan Navas Sabater (Lead ICT Policy Specialist).

The first part of the Economic Update analyzes recent macroeconomic trends and presents an assessment of the country's short- and medium-term outlook.

The Special Focus Section discusses the challenges and opportunities the country faces to meet digital transformation.

The report benefited from comments and guidance by Maria Gonzalez-Miranda (Practice Manager) and Julio Revilla (Lead Economist for Central Asia). Zhypara Azhykanova (Team Assistant) provided editorial support.

We hope you find it useful and welcome your comments!

Maria Gonzalez-Miranda  
Practice Manager  
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## Overview

### **The Kyrgyz economy performed strongly in 2017**

**Economic growth was robust in 2017, above expectations.** This was thanks to favorable external developments in the region, continued expansionary fiscal policy, and growth in the gold sector. Real GDP growth reached 4.6 percent in 2017, up from 4.3 percent in 2016, and the fastest rate since 2013. During the first 4 months of 2018, growth slowed to 1.3 percent, from a year earlier, as a result of the contraction in gold production; excluding gold, output grew at 2.5 percent, up from 2.3 percent over the same period in 2017. In short, the economy appears to have fully recovered from the recent shock brought about by the fall in oil prices.

**Investment and consumption drove output growth last year.** Sources of growth appear to have been balanced. Growth was mainly driven by consumption and investment, with: private consumption growth returning to positive territory, after two consecutive years of contraction and high rates of public and private investment. Net exports also made a positive contribution, thanks to robust export growth.

**Exports rebounded.** The improved external environment together with increased gold production drove export growth (in US dollar terms), following three years in which exports had declined. At the same time import growth was again negative. With remittances also growing sharply the current account balance improved significantly.

### **Fiscal targets were met**

**Fiscal targets were met, albeit within an expansionary stance.** Although the deficit declined in 2017, fiscal policy remained expansionary. Following pre-election slippages, relative discipline was achieved through measures to contain current spending, particularly in the second half of the year. At the same time, capital outlays financed from both domestic and foreign sources increased.

### **Growth is expected to moderate in 2018 and pick-up thereafter**

**Real GDP growth is projected to decelerate slightly in 2018, before rising again thereafter.** For 2018, we project growth at 4.2 percent, reflecting a moderation in industrial output. In following years growth should converge toward 5 percent, by 2020. Growth will remain dependent on remittances, but an additional boost is expected to come from buoyant exports.

### **Long delayed structural reforms now need attention**

**With the regional downturn now over, it is time the authorities should seize the opportunity for fiscal reform.** First and foremost, action is required on the fiscal side to increase discipline and policy quality, transparency and consistency. In the past years, the authorities have deliberately delayed planned fiscal consolidation to accommodate the external shocks. As a result, public debt has remained elevated and fiscal buffers have been depleted. Moreover, fiscal discipline (in the context of relaxed targets) has been achieved at the cost of ad hoc measures, which entail reduced spending efficiency. It is now time to reverse this trend through implementing the recently adopted fiscal rule, tax administration reform and concrete measures to contain recurrent spending (to preserve room for investment). Additional steps to improve spending quality, include ensuring that planned amendments to the Public Procurement Law safeguard best international practice and that steps are taken to improve public investment management.

**And greater focus is needed on boosting productivity**

**In the long run the core challenge is to increase overall productivity in the economy.** Creating and preserving fiscal space for investment in infrastructure is key, including via reforming energy tariffs. Significant long-term payoffs can also be expected from implementing the ambitious digital agenda under the Taza Koom flagship program. The Special Focus section of this report highlights the main challenges the country will face in this regard.

## A. Recent Socio-Economic Developments

### Growth and inflation

**The regional environment helped solidify growth**

**The Kyrgyz economy has recovered from the external shocks of 2014-15.** Growth accelerated to 4.6 percent in 2017, from 4.3 percent a year earlier, and was the fastest since 2013.<sup>1</sup> Non-gold GDP grew 4.7 percent, up from 4.3 in 2016 (Table 1 and Figure 1).<sup>2</sup>

**At the sectoral level, this acceleration was based on an exceptional expansion of non-gold industry sectors.** Growth in non-gold industry, at an impressive 18.6 percent, was led by the electricity generation sector (+10.1 percent). The other main sectors - gold, construction, agriculture and services - grew respectively at 3.8, 7.1, 2.2 and 2.6 percent (Figure 2).

**On the demand side, consumption and investment drove this vigorous growth performance.** Private consumption increased by 3.4 percent; this came on the back of two consecutive years of contraction caused by the income shock that occurred when the ruble and the som depreciated sharply against the US dollar. Government consumption rose by 1.5 percent. Investment growth was also strong at 3.9 percent, although moderating from 8.1 percent a year before. Net exports also contributed positively. The volume of exports expanded by 3.1 percent, a positive development after declines in three previous years. At the same time the volume of imports continued to shrink by 1.7 percent, for the third year in a row, as domestic demand continued to adjust to the post-shock environment.

**Remittance grew very robustly,** as neighboring Russia and Kazakhstan recovered from the global oil price shocks and the ruble regained some ground vis-à-vis the dollar. Thus, private transfers (in US dollars) rose by 24 percent in 2017 reaching almost 27 percent of GDP, up from 24 percent a year earlier and 20 percent in 2015.

**Positive developments continued into 2018, although overall growth slowed.** Real GDP expanded only by 1.3 percent during January-April 2018, compared to the same period in 2017. However, this was solely due to a contraction in gold production. Output growth excluding gold accelerated to 2.5 percent from 2.3 percent, y-o-y. Similarly, while overall export performance was weak in the first quarter of 2018, non-gold exports increased by 4.6 percent in US dollar terms.

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<sup>1</sup> The National Statistics Committee has published revised GDP figures for 2016 and 2017. According to these revisions real GDP growth is now 4.3 percent in 2016 (up from the preliminary 3.8 percent) and 4.6 percent in 2017 (up from the preliminary 4.5 percent).

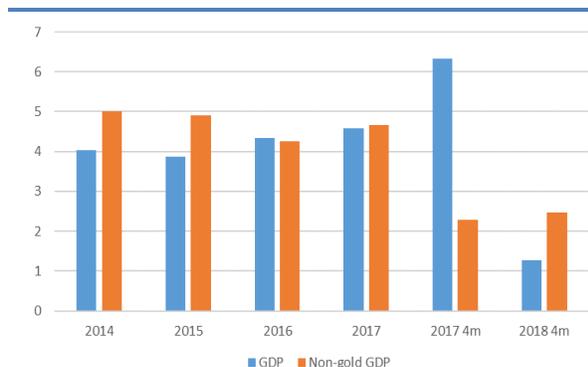
<sup>2</sup> Non-gold GDP refers to GDP excluding a value added from mining and manufacturing at the Kumtor gold mine.

**Table 1: Key macroeconomic indicators, 2014-2017**

	2014	2015	2016	2017	2017 4m	2018 4m
Real GDP (growth in percent)	4.0	3.9	4.3	4.6	6.3	1.3
Non-gold real GDP (growth in percent)	5.0	4.9	4.3	4.7	2.3	2.5
Real gold sector (growth in percent)	-5.8	-8.3	5.2	3.8	49.1	-8.1
Consumption (growth in percent)	2.4	-0.7	-0.3	3.1	...	...
Investment (growth in percent)	15.7	-2.3	8.1	3.9	...	...
Inflation (eop, in percent)	10.5	3.4	-0.5	3.7	3.8	2.0

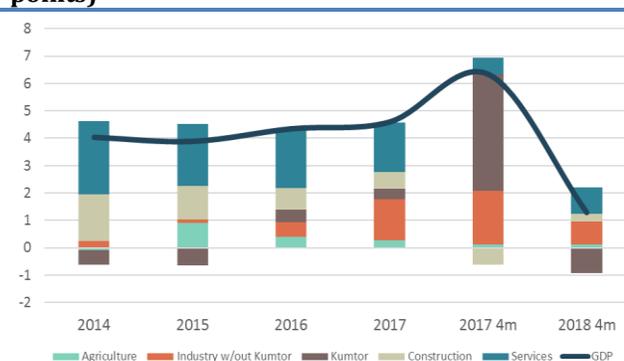
Source: National Statistics Committee and Bank staff estimates.

**Figure 1: Real GDP growth (percent)**



Source: National Statistics Committee.

**Figure 2: Contribution to growth (percentage points)**

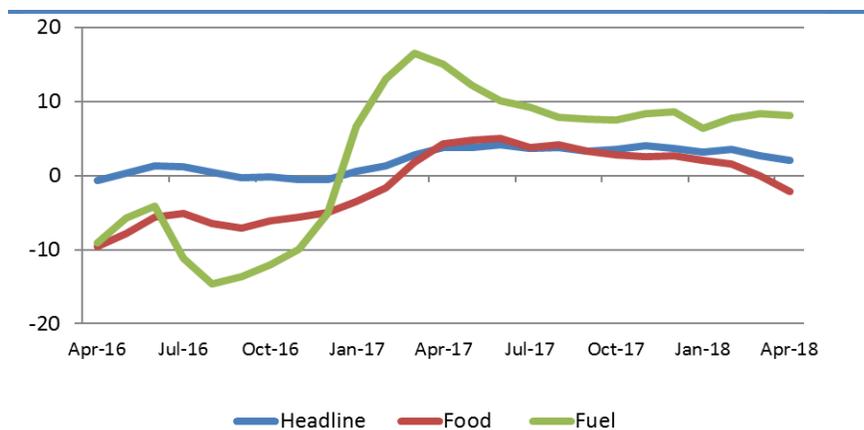


Source: National Statistics Committee.

**Buoyant demand was reflected in prices**

**With the growth acceleration, consumer prices came under pressure.** Inflation increased to 3.7 percent in 2017, from -0.5 percent in 2016 (Figure 3). This increase was driven by a relaxed monetary stance, in spite of robust aggregate demand, as well as by import prices particularly for fuel. However, inflation moderated slightly to 2 percent in April 2018, mainly thanks to a fall in food prices. Overall, price dynamics appear to be well aligned with economic fundamentals and consistent with growth developments.

**Figure 3: Inflation (percent)**



Source: National Statistics Committee.

## External sector

### **The current account deficit shrunk as private transfers grew strongly**

**The current account deficit narrowed in 2017 from a year earlier.** While the large trade deficit narrowed slightly to 31 percent of GDP in 2017 (from 31.6 percent a year earlier), the current account deficit shrunk to 7.1 from 11.6 percent in 2016 (Figure 4). This decline was due to strong growth in private transfers, of which the main component is remittances. In turn, the current account deficit was financed by foreign direct investment (US\$123 million) and public borrowing (US\$353 million). As in previous years, errors and omissions in the BOP were positive and significant, suggesting an underestimation of exports or unrecorded capital inflows, or both.

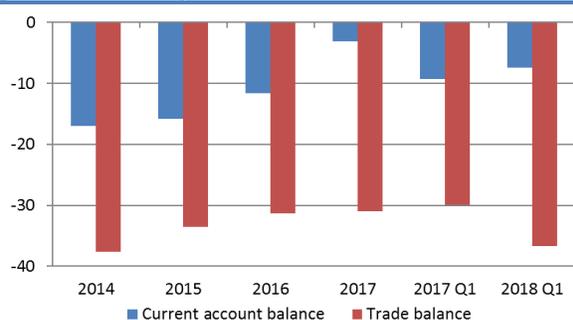
**Exports performance was strong in 2017.** Exports rose by 14.5 percent, in US dollar terms, reflecting a recovery in external demand and an increase in gold exports (Figure 5). Although compliance with the Eurasian Economic Union's (EEU) technical and quality standards remains a major issue for Kyrgyz producers, they appear to have benefitted from the trade arrangements under the EEU. Indeed, Kyrgyz exports of vegetables and fruit, and textile have grown to Russia and Kazakhstan, as these economies recovered from the global oil price fall in 2014-15. Outside of the EEU, exports to China have also increased rapidly, although from a modest base.

**Imports, in US dollar terms, rose due to price effect after a huge contraction during the previous three years.** Imports grew by 11.8 percent (Figure 5). This development reflects a buoyant domestic demand as well as a continued high level of public investments, which typically have a significant import component. Goods from Russia, Kazakhstan, China and Turkey continued to dominate in total imports.

**Trade grew briskly, though remaining below pre-shock levels**

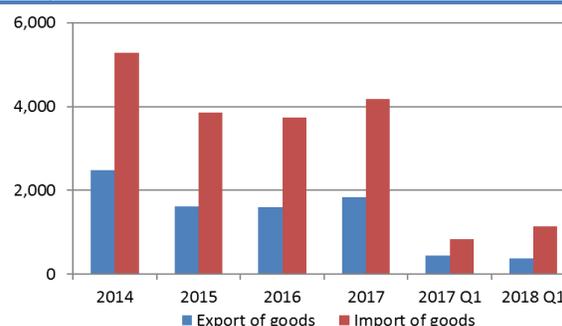
**External trade expanded in 2017, in US dollar terms, following a significant contraction in the previous three years.** External trade grew by 12.6 percent reaching 79.7 percent of GDP, up from 78.6 percent in 2016. However, this remains well below the pre-shock period level of 115.2 percent of GDP in 2013. From a geographical perspective, external trade increased significantly with traditional partners Russia and Kazakhstan (both EEU members), as well as with Uzbekistan following the dramatic improvement in relations between the two countries. To a lesser extent trade rose with Belarus (EEU member), Turkey, the USA and Germany.

**Figure 4: Trade and Current Account Balances (in percent of GDP)**



Source: National Bank.

**Figure 5: Exports and Imports (in millions of US\$)**



Source: National Bank.

## Financial sector

**Banking activity is picking up.**

**A buoyant increase in credit to economy has been supporting growth.** Loans increased by 19.4 percent as of April 2018 (y-o-y), compared to a 4.7 percent (y-o-y) increase in the same period a year before. This helped reduce the non-performing loan (NPL) ratio to 7.7 percent in April 2018, from 8.5 percent in April last year. Banking sector assets increased by 15.7 percent to 39.4 percent of GDP in April 2018 from 37 percent a year before.

**Banking sector performance indicators remain robust.**

**Overall, banking sector performance indicators remain robust.** Capital adequacy stood at 24.2 percent as of April 2018, twice as high as the minimum regulatory requirement of 12 percent. The liquidity ratio was 68.6 percent (marginally down from 68.8 percent in April 2017), well above the required level of 45 percent. Both returns on assets (ROA) and returns on equity (ROE) rose to 1.4 percent (0.4 percent in April 2017) and 9.1 percent (2.8 percent in April 2017), respectively.

## Social sector

### Poverty prevalence has remained high

**The absolute poverty rate was stagnant at 25.6 percent in 2017.** While remittances boosted consumption growth, households' income from selling agricultural products shrunk. The increase in fuel and food prices in 2017 also put pressure on the purchasing power of the bottom 40 percent. At this juncture around 1.6 million out of a total population of 6 million still live below the poverty line (of 32,093 soms per year per capita). Extreme poverty remains low and was equivalent to 0.8 percent of the population, corresponding to about 47,000 people unable to afford a minimum basket of food (estimated at 17,471 soms per year per capita). Out of these, eight out of ten live in rural areas.

### Poverty has been increasing in urban areas

**Although poverty is mostly a rural phenomenon, urban poverty has been increasing over last few years.** Most of the poor people – seven out of ten – live in rural areas. The rural poverty rate declined slightly (by 0.6 percentage points) from 29 percent in 2016 to 28.4 percent in 2017. By contrast, urban poverty increased by 1.8 percentage points to 20.4 percent from 18.6 percent in 2016. This was particularly so in the two largest cities – Bishkek and Osh.

### The high concentration of people around the poverty line indicates pervasive vulnerability

**Most Kyrgyz households are clustered near the poverty line, and thus vulnerable to shocks.** Given the distribution of households around the poverty line, small changes in consumption, for these households cause significant entry in / exit from poverty. For instance, a hypothetical shock reducing the consumption of those that are now considered non-poor by 5 percent would send an additional 4.9 percent of the population into poverty. This means that although people are moving out of poverty, they are still very vulnerable to income and price shocks. A significant share of poor households, is believed to be chronically poor, meaning that a further poverty reduction or its eradication will be increasingly difficult and require targeted interventions.

## B. Macroeconomic and Structural Policies

### Fiscal, monetary and exchange rate policies

#### Fiscal discipline was maintained, on aggregate

**The budget deficit improved in 2017, albeit modestly.** The government managed to reduce the overall deficit to 4.7 percent of GDP (including on-lending), down from 6.3 percent a year earlier (Table 2). However, that still represented a slower adjustment than initially anticipated.

**A combination of revenue growth and relative expenditure restraint helped to contain the deficit.** Total revenues rose to 33.2 percent of GDP in 2017 from 32 percent a year earlier. This increase was mainly thanks to non-tax revenues and grant support, while tax revenues increased only marginally as a share of GDP. Meanwhile, total expenditures declined to 37.9 percent in 2017 from 38.3 percent in 2016. Significant spending pressures during the first half of the year were subsequently met by restraint. As a share of GDP, spending on

wages and goods and services declined by 0.4 and 0.2 percentage points, respectively; driving a decline in current expenditures to 29.9 percent from 30.2 percent a year earlier. At the same time, capital expenditures rose to 8.3 percent of GDP from 8 percent, as the implementation of public infrastructure projects accelerated, and the authorities mobilized emergency financing following landslides.

**But not enough to address debt concerns sustainably**

**But capital spending continued to put pressure on debt aggregates.** The continued growth in capital spending was accompanied by an increase in foreign borrowing. As a result, public debt increased to 59.9 percent of GDP as of end-2017 from 59.1 percent a year before. This means that the debt sustainability of the country remains highly vulnerable to shocks, specifically to the exchange rate.

**Further restraint was manifest in 2018.** The budget performance was strong during January-April 2018 thanks to high tax revenues and a cut in goods and services spending (Table 2). As a share of GDP, tax revenues rose to 33.1 percent from 30.1 percent over the same period a year before. This tax increase was mainly due to greater VAT revenues collected from the import of goods from non-EEU countries. Public debt declined to 57.3 percent as of end-March 2018 as debt to Russia in the amount of US\$240 million was totally written-off.<sup>3</sup>

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<sup>3</sup> US\$60 million of a total US\$300 million debt to Russia was written-off in 2015-16 in line with the initial agreement, which envisaged a write-off in equal tranches over a 10-year period. The agreement was revised in 2017 to write-off the outstanding US\$240 million in early 2018.

**Table 2: General Government Budget**  
(in percent of GDP)

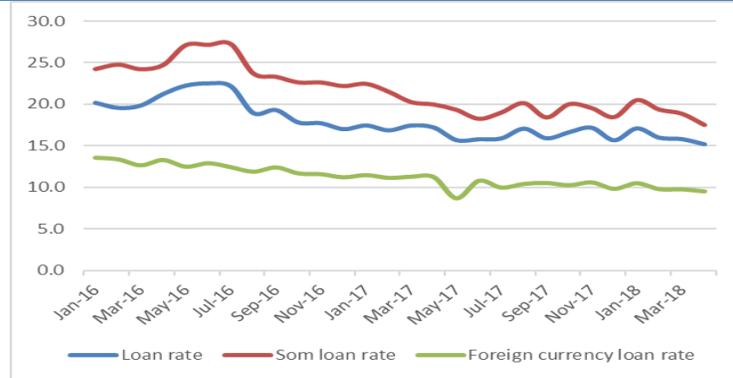
	2014	2015	2016	2017	2017	2018
				Prel.	Jan-Apr	Jan-Apr
Total revenues and grants	34.4	34.4	32.0	33.2	38.7	40.7
Total revenues	31.9	32.2	29.9	30.6	37.5	39.4
Current revenues	31.8	32.1	29.8	30.6	37.4	39.4
Tax revenues	25.1	24.2	24.2	24.3	30.1	33.1
Non-tax revenues	6.7	7.9	5.6	6.3	7.4	6.3
Capital revenues	0.1	0.1	0.1	0.1	0.1	0.1
Grants	2.5	2.2	2.1	2.6	2.6	1.2
Program grants	1.9	1.7	1.4	1.5	1.5	0.0
PIP grants	0.6	0.5	0.7	1.1	1.1	1.2
Total expenditure (incl. net lending)	38.5	37.4	38.3	37.9	44.8	40.4
Current expenditure	29.3	30.1	30.2	29.9	36.1	36.8
Wage	7.8	8.1	8.3	7.9	9.6	9.8
Transfer and subsidies	3.4	3.4	3.4	3.3	4.8	7.1
Social Fund expenditures	9.2	9.0	8.6	8.9	11.9	12.3
Interest	0.9	1.0	1.1	1.1	1.8	1.9
Purchase of other goods and services	8.1	8.6	8.8	8.6	7.9	5.7
Capital expenditure	8.4	7.2	8.0	8.3	8.8	3.8
o/w foreign financed	6.1	4.5	5.1	5.3	7.9	2.5
Net lending	0.6	0.1	0.0	-0.2	-0.1	-0.2
Overall balance	-4.1	-3.0	-6.3	-4.7	-6.1	0.3
Overall balance excluding on-lending	-0.2	-1.0	-4.0	-3.2	-3.8	1.2
Financing	4.1	3.0	-6.3	4.7	6.1	-0.3
External	5.5	3.8	4.0	3.4	5.0	-0.3
Domestic	-1.4	-0.8	2.3	1.3	1.1	0.1

Source: Ministry of Finance

### Monetary policy was neutral

**Monetary policy remained relaxed in the absence of unexpected price pressures.** The National Bank (NBKR) kept its policy rate unchanged at 5 percent throughout 2017 and during first 5 months of 2018. Similarly, NBKR's overnight interest rates for loans and deposits remained unchanged at 6.25 percent and 0.25 percent, respectively. The relaxed monetary setting and the stabilization of the exchange rate, together with a perception of reduced exchange rate risks going forward, allowed lending rates to decline gradually (Figure 6). The monetary base increased by 16.9 percent (y-o-y) in December 2017 and 16.2 percent (y-o-y) in March 2018. Money supply also rose by 17.9 percent (y-o-y) in December 2017 and 16.9 percent (y-o-y) in March 2018. Although inflation has increased, this is consistent with economic fundamentals and with the rebound in growth implying that the relaxed monetary stance was adequate.

**Figure 6: Loan rates (in percent)**



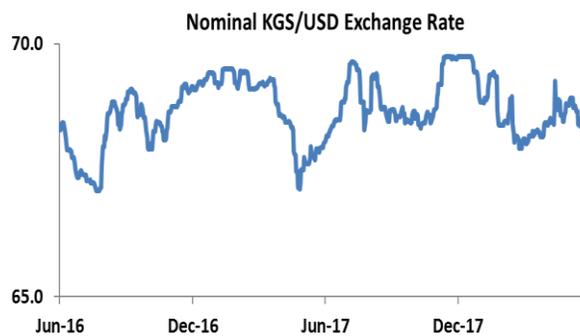
Source: National Bank.

To maintain an adequate level of liquidity, commercial banks used the NBKR’s credit facilities more frequently in 2017. The amount of overnight loans increased almost seven times to KGS13.8 billion, and the amount of refinancing loans increased 3.3 times to KGS4.8 billion. At the same time, excess liquidity was absorbed through a sale of NBKR notes; in 2017 the amount of notes increased to KGS4 billion from KGS2.2 billion a year earlier.

**Exchange rate management was limited to one-off interventions**

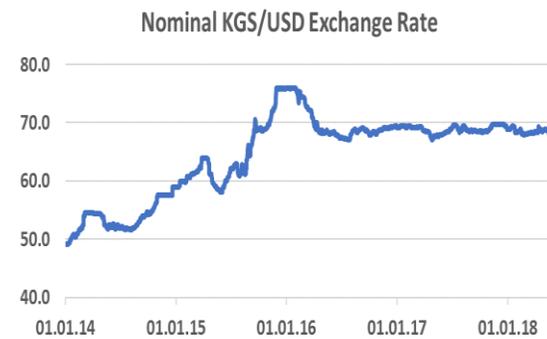
**The NBKR maintained a managed float for the exchange rate**, broadly allowing market forces to determine the equilibrium exchange rate, while intervening to smooth short term fluctuations.<sup>4</sup> The som appreciated slightly against the US dollar in 2017 and during the first 5 months of 2018, with monthly changes being driven by seasonal fluctuations (Figure 8). From a longer perspective, however, the som has stabilized at a new post-shock level since the second quarter of 2016 (Figure 7). The exchange rates relative to Russian ruble and Kazakh tenge have been broadly stable with monthly changes reflecting a seasonal behavior of these currencies as well as dynamic of bilateral trade activity (Figures 9 and 10).

**Figure 7: Exchange rate (soms per US\$1)**



Source: National Bank.

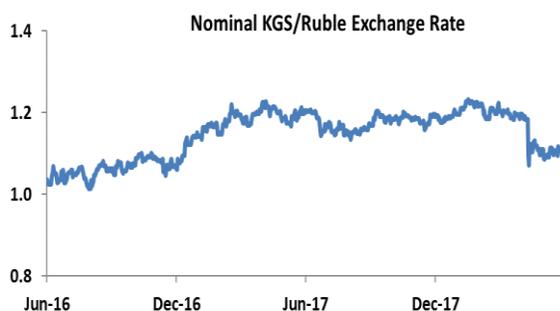
**Figure 8: Exchange rate (soms per US\$1)**



Source: National Bank.

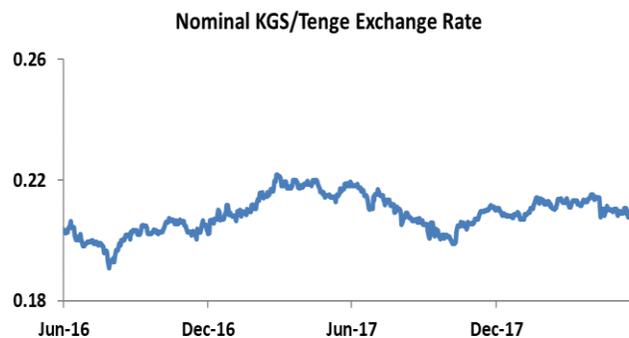
<sup>4</sup> The NBKR interventions are decided based on developments in the foreign exchange market.

**Figure 9: Exchange rate (soms per one ruble)**



Source: National Bank.

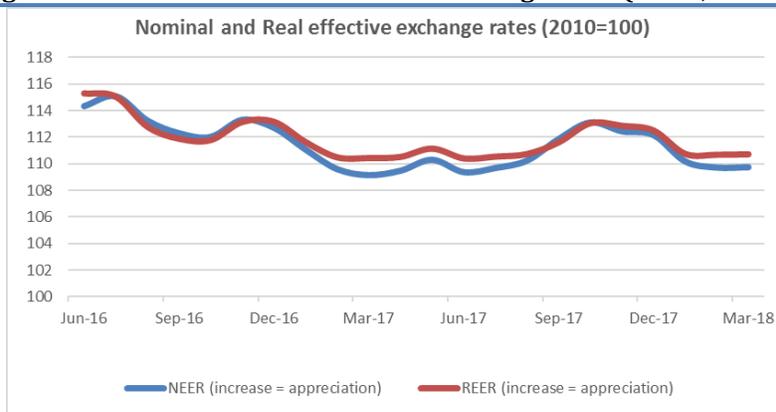
**Figure 10: Exchange rate (soms per one tenge)**



Source: National Bank.

The real effective exchange rate (REER) has been broadly stable since early 2017 with some appreciation in the last months of 2017 being reversed in early 2018 (Figure 11). The REER movement followed the nominal effective exchange rate suggesting small price level differentials between the Kyrgyz Republic and its main trade partners in aggregate. This also highlights the importance of the nominal exchange rate for maintaining competitiveness of the Kyrgyz exports. International reserves grew by 12 percent as of March 2018 (y-o-y) to US\$2.2 billion, equivalent to around 4 months of imports, reaching the pre-shock level.

**Figure 11: Nominal and real effective exchange rates (index, 2010=100)**



Source: National Bank.

## C. Economic Outlook and Risks

**Growth should converge gradually toward 5 percent**

**Real GDP growth is projected to decelerate slightly to 4.2 percent in 2018 - as industrial output growth moderates- and then pick-up to reach 5 percent by 2020 (Annex 1).** This scenario assumes that recovery continues in Russia and Kazakhstan, benefiting the Kyrgyz economy via the traditional remittance and trade channels. An additional boost is expected to come from exports, thanks to a number of developments, which include: (i) gradually enhanced access to the EEU market; and (ii) improved bilateral relations with Uzbekistan, which should

lead to higher trade between the two countries. These effects should mitigate the anticipated moderation of public expenditure. Supply-side factors supporting this growth projection includes moderate growth in gold production, agriculture and services, and robust growth in non-gold industry and construction.

**On the demand side sources of growth are expected to remain balanced.**

Average consumption growth is projected at 3.5 percent during 2018-20 mainly reflecting anticipated rise in remittances. Investment is expected to grow at 5-6 percent as public capital outlays will remain high. The volume of exports and imports are projected to expand, with net exports making a positive contribution to growth.

**Inflation is projected to rise to 5 percent in 2018,** driven largely by fuel prices.

Thus, over the medium-term, it is envisaged to remain in line with the NBKR target of 5-7 percent, assuming no significant global food price increases and relative exchange rate stability.

**The current account deficit is expected to remain high though stable.**

While remittance inflows are expected to grow further, the current account deficit is projected to remain elevated at around 8 percent of GDP, reflecting structural features of the economy and a significant import content of public investment projects.

**Fiscal consolidation will need to happen**

**After deliberate accommodation in the face of external shocks it is now time to rebuild buffers.** The authorities have committed to bring the fiscal deficit down to 3 percent of GDP by 2020 (including on-lending) and to commit to this target in a flexible manner in the context of a newly introduced fiscal rule.

**On the revenue side this will require:** measures to increase tax revenues and curtail current spending, while capital expenditures would remain high at about 7.3 percent of GDP on average (although falling to 5.9 percent in 2020, as externally financed projects decline). Over 2018-20, tax revenues should increase as a share of GDP, with measures to: (i) expand the tax base by encouraging businesses to formalize, (ii) improve the administration of taxes (e.g. roll out the use of electronic system for trade transactions, e-reporting, etc.), (iii) reduce tax exemptions (e.g. the VAT exemption on wheat and flour effective January 2018), and (iv) increase excise tax rates. In addition, non-tax revenues are expected to increase resulting from better management of state owned companies and from increasing the share of the NBKR profits to the state budget from 70 to 90 percent.

**In parallel spending will also require significant adjustment.** Over the same period, expenses are targeted to decline by over 4 percentage points (from 37 percent in 2018) as a result of efforts to (i) streamline non-priority purchases of goods and services, (ii) reduce the wage bill as a share of GDP, through eliminating redundant and ineffective public entities/departments, refraining from increasing public staff and saving unused wage allocations, and (iii) strengthen public procurement by implementing an electronic system.

**Poverty is projected to decline over the medium-term**

**Modest increases in growth in agriculture and construction, and a solid performance of remittances, are likely to support rural poverty reduction.**

Social transfers will continue to play an important role in driving poverty reduction in both urban and rural areas. A scheduled increase in pensions should also benefit poor households given that pensions represent close to 15 percent of income among the poor. The poverty rate is projected to decline to 18.5 percent in 2018 and 16.7 percent in 2020.

**Growth outlook is subject to downside risks ...**

**Growth will continue to be highly dependent on exogenous regional developments.** Specifically, a slowdown in Russia and Kazakhstan could affect negatively the baseline scenario, via remittances and trade. Adverse exchange rate developments could heighten competition in the domestic and EEU markets. In this respect, a core challenge continues to be to accelerate the process of convergence of local production to EEU standards. This would help Kyrgyz producers to boost exports of agricultural and textile products in the short and medium run.

**... which makes it imperative to find new sources of economic dynamism**

**Relative economic vulnerability means that constant efforts are required to boost the productive potential of the economy, including through leveraging the digital transformation.** The current model of growth is risky because it is exposed to the regional economic cycle and unsustainable fiscal stimulus. Thus, a core challenge is to boost the productivity potential of the economy. One avenue, explored in the following chapter is to deliver on the ambitious digital agenda for the country.

## D. Special Focus:

### Can the Kyrgyzstan Leapfrog Through Digital Transformation?

#### Why the Digital Economy agenda is a priority?

**The digital economy is key to national competitiveness**

**The development of the digital economy has become a key driver of innovation, growth, and prosperity.** With half of the world now connected to the internet, the deployment of ICT helps to boost the productivity of the economy (making firms more efficient, helping them reach broader markets), and ICT industries have become core activities in their own right.

#### Box 1: How the Digital Revolution has Boosted Growth

- In Great Britain, the digital economy has led to the rapid expansion of the workforce. About 1.8m people or 6 percent of workers are now employed in a type of job that did not exist in 1990. Almost 1,500 job titles have been added to the official labor classifications since then.
- From 2006 to 2016, in the USA, the digital economy grew at an average annual rate of 5.6 percent, outpacing overall economic growth of 1.5 percent per year. In 2016, the digital economy supported 3.9 percent of total U.S. employment. Digital economy employees earned \$114,275 in average annual compensation compared with \$66,498 per worker for the total U.S. economy.
- Small businesses in Ireland have used digital trade to increase in their sales by 21%, they recruit on average 1.4 more employees, and 3 out of 5 businesses began to export.

Sources: Financial Times<sup>5</sup>, NTIA.doc.gov<sup>6</sup>, DCCAE.gov.ie<sup>7</sup>

**And to improving services**

**The 'digital dividends' extend beyond GDP growth and employment, and also include improved - faster and better - services, including in remote areas.** For instance, in India, high school students are using the Internet to learn foreign languages<sup>8</sup>. New technologies can be leveraged as a powerful tool in the fight against corruption. In Chile, the web portal of the Integrated Audit Control System became an effective communication channel between auditors and citizens, allowing the public to participate in a simplified and risk-based auditing process<sup>9</sup>.

<sup>5</sup> <https://www.ft.com/content/5ac2e590-c741-11e4-9e34-00144feab7de>

<sup>6</sup> <https://www.ntia.doc.gov/blog/2018/initial-estimates-show-digital-economy-accounted-65-percent-gdp-2016>

<sup>7</sup> <https://www.dccae.gov.ie/en-ie/news-and-media/press-releases/Pages/Trading-Online-Enterprise-Impact-Reports.aspx>

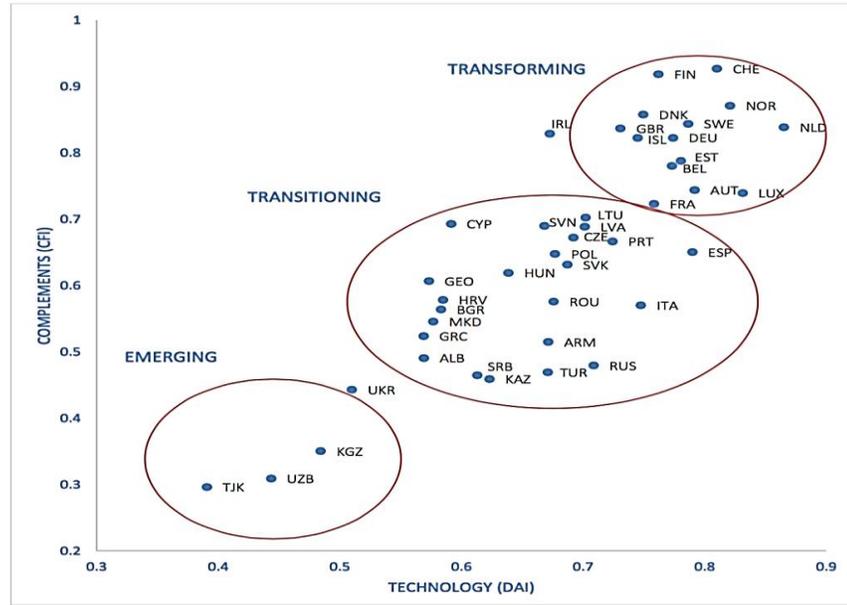
<sup>8</sup> <https://www.enterpriseinnovation.net/article/bridging-indias-digital-gender-divide-797246309>

<sup>9</sup> <https://www.weforum.org/agenda/2017/12/how-technology-is-becoming-a-powerful-ally-in-the-fight-against-corruption-in-latin-america-and-the-caribbean>

**But this is a highly competitive arena**

**However, not everyone is able to reap the benefits of digitization and there are major inequalities both between and within countries.** Developing countries start with a significant handicap. The challenge, for them, is to catch-up, and possibly leapfrog by adopting the latest technologies and practices, and inventing new models. In its 'Digital Dividends: Leveraging the Internet for Development in Europe and Central Asia (ECA), 2017', World Bank experts have offered their perspective on this race.

**Figure 12: Digital Economy Development in Europe and Central Asia**



Source: World Bank (2017).

**Leapfrogging will require focused action**

**Launching and implementing a national digital economy agenda is critical to the development of emerging countries such as Kyrgyzstan.** Learning from the leaders and trailblazers, the country can leap forward but this will not be an easy task. Fundamentally, the Kyrgyz Government must tackle the weaknesses of underlying institutions and legacy systems.

### Kyrgyzstan has begun laying foundations but still has a lot of ground to cover

**Prerequisites include “analog” and digital foundations**

**For the digital economy to take off, strong foundations are required** including both “analog” (non digital) and digital prerequisites:

- “Analog” foundations:
  - (i) a commitment to the digital transformation and innovation at the highest level of leadership
  - (ii) robust institutions, governance models and innovative funding mechanisms and business models
  - (iii) favorable legislation and regulation for doing business digitally
  - (iv) digital skills in the population
- Digital foundations:
  - (i) digital infrastructure and platforms
  - (ii) data and digital services
  - (iii) emerging technologies (i.e. Big Data, blockchain, Internet of Things, Artificial Intelligence, robotics, etc.)

## Leadership and vision for digital transformation

**Leadership is there**      **The Kyrgyz Government has committed to digital transformation.** The recently established Expert Council on Digital Transformation under the President of the Kyrgyz Republic demonstrates high-level political support. The institutional structure for digital development has been updated and the State Committee of Information Technologies and Communications (SCITC) was recently assigned as the executive body responsible for digital transformation.

**The Digital Transformation vision provides an umbrella**      **The national program of digital transformation is a good start.**<sup>10</sup> It intends to leverage the power of new technologies to improve the lives of the people and create new economic opportunities. The ambition is to

- (i) build world-class digital infrastructure based on green technologies and clean energy
- (ii) create a favorable environment for sustainable innovative development
- (iii) develop human capital, and
- (iv) build an open and transparent state.

**The World Bank' Digital CASA is supporting this vision**      **The World Bank's regional Digital CASA (Central Asia and South Asia) program will support this** by helping to:

- (i) establish effective mechanisms to incentivize private investments in network infrastructure development and service provision
- (ii) build cloud-based infrastructure and platforms to securely deliver better services to citizens
- (iii) strengthen and harmonize the laws and regulations related to the Digital Economy
- (iv) develop relevant policies and strategies
- (v) strengthen digital leadership, and digital skills development

## Where does Kyrgyzstan stand today on digital transformation?

**Kyrgyzstan has made relative progress**      **Kyrgyzstan has improved its global ranking on digital development and adoption.** On digital development, the country climbed to 95<sup>th</sup> place in 2016 (from 118<sup>th</sup> in 2014), in the World Economic Forum's ranking<sup>11</sup>. In terms of digital adoption, it performs better than Uzbekistan, Tajikistan and Turkmenistan, but it lags significantly behind Kazakhstan<sup>12</sup> (Figure 13). The Kyrgyz mobile market is one of the strongest in the region, with mobile penetration at well over 100 percent<sup>13</sup> and social media is used widely for sharing information and communications.

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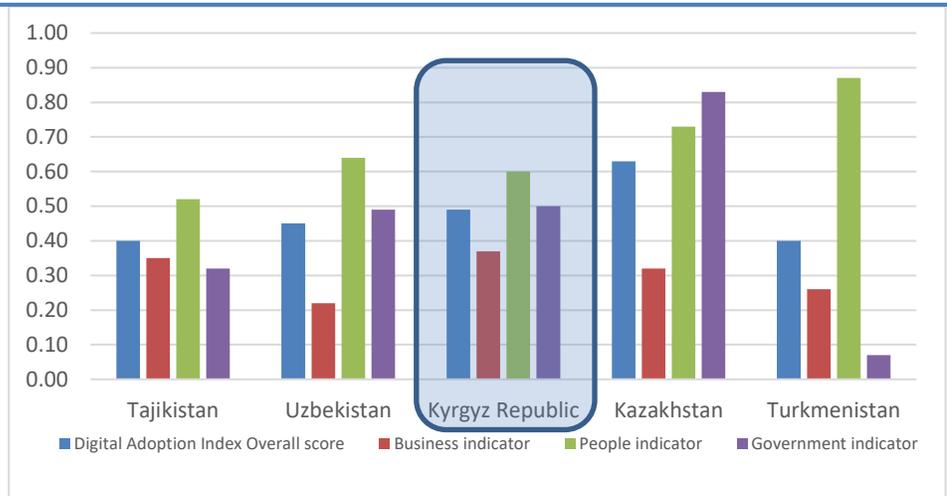
<sup>10</sup> <http://tazakoom.kg/site/concept/22>

<sup>11</sup> <http://reports.weforum.org/global-information-technology-report-2016/networked-readiness-index>. The index represents "factors, policies and institutions that allow countries to leverage ICT for increased competitiveness and well-being"

<sup>12</sup>DAI (Economy) = DAI (Business) + DAI (People) + DAI (Government), World Development Report 2016: Digital Dividends. World Bank, 2016 <http://www.worldbank.org/wdr2016>

<sup>13</sup> Strategic Evaluation of the Kyrgyz Republic Broadband Market, July 2017, Terabit Consulting Inc.

**Figure 13: Digital Adoption by Business, Government and People**

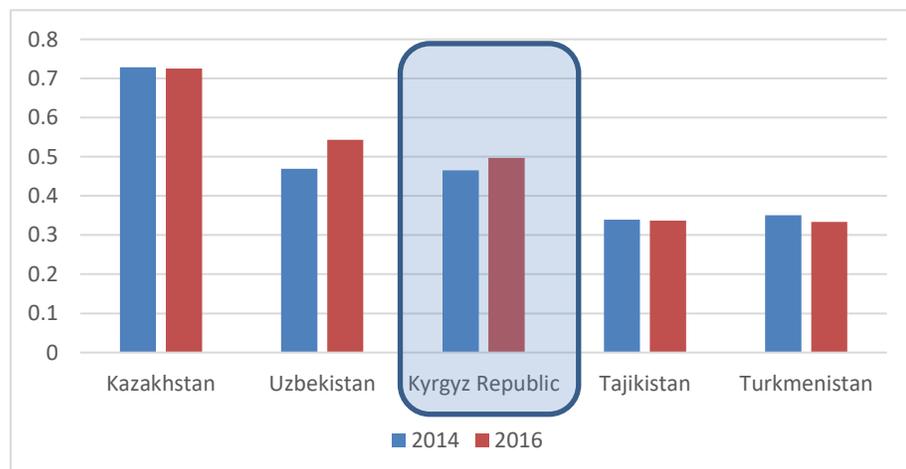


Source: World Bank WDR2016 data

**E-government is improving from a low base**

**Kyrgyzstan was able also able to improve its position in the United Nations' E-Government Development Index, to 97<sup>th</sup> out of 193 countries in 2016 (against 101<sup>th</sup> in 2014)<sup>14</sup>. In this respect, however, it is below both Kazakhstan and Uzbekistan (Figure 14).**

**Figure 14: E-Government Development in Central Asia**



Source: UN EGDI

**Public services provided by the government are**

**Today, a number of transactional public services are available through the national e-services portal<sup>15</sup>. For instance: customs declarations of goods are only available digitally; companies and citizens can submit tax declarations and reports electronically, with a digital signature or using the authentication system<sup>16</sup>; one's personal pension status can be accessed from the Social Fund's e-service; citizens**

<sup>14</sup> <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2016>

<sup>15</sup> Source: State Committee of IT and Communications of the Kyrgyz Republic

<sup>16</sup> <http://www.sti.gov.kg>

**increasingly  
accessible online**

can apply online and via mobile devices for State Registration services (passport, vehicles, real estate, identification biometric)<sup>17</sup>; and, an e-visa service for tourists was launched in 2017.

**An interoperability platform was created.** To enable data exchange among government agencies<sup>18</sup> and between key databases (on population, businesses, real estate, transport vehicles, legislation, etc.) the Government created an interoperability platform known as *Tunduk*. Moreover, the Kyrgyz e-procurement system provides a single point of access for electronic procurement<sup>19</sup>. An e-payment system has been used for utilities, fines, taxes, and traffic tickets.

**Kyrgyzstan is  
moving towards  
Open and  
Participatory  
Governance**

**Kyrgyzstan has become the first country in Central Asia to join the Open Government Partnership**, an international platform of 74 countries and 15 subnational governments<sup>20</sup>. As a result of its Open Data activities, Kyrgyzstan rose to 34<sup>th</sup> place in the 2015 Global Open Data Index (up from 98 in 2014)<sup>21</sup>. The National Statistics Committee has launched its own open data portal and developed a mobile application; and it is now in second place for coverage and openness of national statistical systems, according to the Open Data Inventory Index 2017<sup>22</sup>. Government budgets, legislation, procurement tenders, weather forecast, national statistics, and election results are openly available. The State Registration Agency and the Kyrgyz Software and Services Developers Association jointly developed an open data portal. In terms of E-Participation, Kyrgyzstan ranked 67<sup>th</sup> in 2016 (against 81<sup>th</sup> in 2014)<sup>9</sup>. The Government installed 453 information kiosks in municipal buildings across the country to provide access to information and online public services for citizens in remote areas. According to the Law on Legal Acts of the Kyrgyz Republic, citizens can provide feedback on drafts of legal acts that are required to be published for public discussion.

**Skills development  
is burgeoning**

**In 2016, the Ministry of Education and Science adopted a "Smart School" program**, which calls for improving the competence and digital skills of teachers in using IT in the educational process.<sup>23</sup> In Bishkek the Kyrgyz IT community and academic institutions recently opened an IT Academy that aims to train youth in coding and app development skills.

**Kyrgyzstan has  
adopted basic  
legislative  
foundations**

**The current legislation provides a basis for digital development though it is still fragmented and inadequately enforced.** The law on personal data protection and use has adopted international principles and standards. The legislation recognizes e-information as equal to (printed) information, e-transactions as equal to face-to-face transactions, e-certificates as equal to physical certificates, digital signature as equal to physical signature, and legitimates e-procurement and e-payment. Laws on e-governance, e-signature, and amendments to the legislation on

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<sup>17</sup> [www.services.srs.kg](http://www.services.srs.kg)

<sup>18</sup> Source: State Committee of IT and Communications of the Kyrgyz Republic

<sup>19</sup> <http://zakupki.okmot.kg>

<sup>20</sup> <https://www.opengovpartnership.org/about/news-and-events/kyrgyz-republic-joins-open-government-partnership>

<sup>21</sup> <https://index.okfn.org/>

<sup>22</sup> <http://odin.opendatawatch.com/>, the first index that assesses both the coverage and openness of national statistical systems

<sup>9</sup> Same source

<sup>23</sup> <http://edu.gov.kg/ru/for-parents/save-schools/shkolnoe-obrazovanie/programma-akylduu-mektepumnaya-shkola/>

personal information, and public and municipal services were adopted recently<sup>18</sup>. New legislation on procurement allows government agencies to buy ICT solutions and equipment based on centralized procurement processes, if they intend to obtain similar IT products<sup>24</sup>. In 2015, the National Bank developed normative acts on electronic money and on licensing activities related to the issuance of e-money.

### **Digital innovations stem mostly from vibrant digital entrepreneurs**

**Small and medium enterprises are driving innovation.** The State Agency of Innovations and Intellectual Property (Kyrgyzpatent) is responsible for innovations. However much of the momentum has come from the private sector, and ICT companies which formed the Kyrgyz Software and Service Developers Association in 2008. A High-Tech Park was created in 2011 with special legal and tax benefits for companies involved in export of ICT services. As part of the digital innovations agenda, a range of smart city technologies including traffic ticket POS terminals, RFID-sensors, and "smart" camera tracking sensors are being developed and implemented. Local IT developers created a range of new apps and services during a series of hackathons and specialized programs launched since 2014 using open data of the Ministry of Justice, the National Statistical Committee, Ministry of Education, Ministry of Health and SRS. The most popular local mobile applications were developed for entertainment and public transport and taxi services. The Ministry of Emergency Situations launched a free mobile application "112 Kyrgyzstan", which allows the National Center of Crisis Management to receive real-time videos and photos of accidents and natural disasters. A few government agencies, such as the Council for Defense, use data analytics for improved decision-making. In 2018, Bishkek hosted the Central Asian Hackfest "Generation Z" which resulted in innovative solutions to address challenges faced by children - a mobile app to improve communication skills of children with autism, e-service identifying children at risk of economic exploitation, 3D game teaching safe behavior at roads and in schools<sup>25</sup>.

## **Recognizing the Challenges**

### **E-services are still immature**

**The quality and uptake of public e-services provided by Government agencies remain poor.** Many of them still require several visits to relevant government agencies to submit and to obtain paper documents. Since citizens and business are not engaged in the design of e-services, they are not always user-friendly and easy to use.

#### **Specifically, key obstacles to the development of e-services include:**

- Insufficient integration of key databases and information systems of government agencies, leading to fragmentation and duplication of efforts at the level of the government as a whole.
- Poor utilization of national e-identification systems and digital signatures due to bureaucratic procedures.

#### **Major reasons for low quality and uptake include:**

- lack of sufficient financial and human resources to deploy and maintain quality e-services
- insufficient collaboration among government agencies

<sup>18</sup> <https://digital.report/komitet-parlamentna-kyrgyzystana-odobril-vo-vtorom-chtenii-zakonyi-ob-etstp-i-e-upravlenii/>

<sup>24</sup> <http://cbd.minjust.gov.kg/act/view/ru-ru/111125>

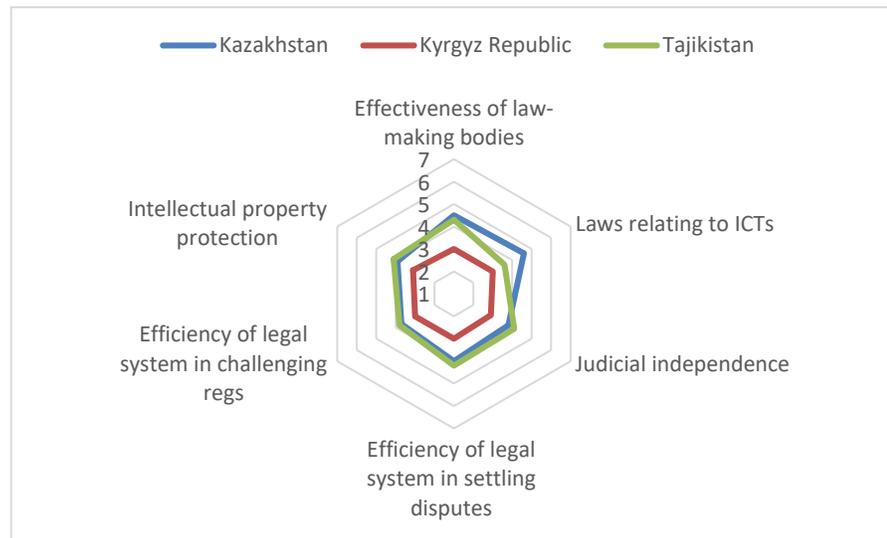
<sup>25</sup> <https://www.unicef.org/kyrgyzstan/press-releases/international-hackfest-bishkek-digital-solutions-children-central-asia>

- lack of digital literacy and poor digital skills
- inadequate legal and regulatory frameworks
- limited IT infrastructure which is not secure, reliable and cost-effective.

**Gaps in legislation and policies slow down digital development.**

**Although major laws for digital development have been adopted, the legal framework remains fragmented and poorly enforced.** There are some 100 legal and normative acts related to digital development<sup>26</sup>. Some of these norms are outdated and ill-suited to support new opportunities arising from digital technologies<sup>27</sup>. Policy gaps exist specifically for: shared IT infrastructure, e-payments, open data, data sharing, and cybersecurity. Adopted standards related to digital development are not enforced and some important standards have not yet been introduced, for example, standards related to cybersecurity.

**Figure 15: Regulatory environment in Central Asian Countries (7=best)**



Source: NRI WEF 2016

**Limited funding and poor PPP capacity inhibit digital development**

**Funding gaps are important.** ICT projects in 2011-2015 were mostly funded by international donors (85%), with relatively minor (15%) contributions from the state budget. Ministries and agencies have to use their own budgets to fund internal ICT projects and to procure hardware and software from vendors. As a result, the most public ICT projects are under-funded, and pilot IT systems supported by donors cannot be scaled up or sustained. Access to finance is also binding for businesses that wish to invest in digital innovations. Limited capacity for developing effective public-private partnerships (PPP) also constrains the ability of private financing to substitute for insufficient public resources.

<sup>26</sup> Smart Nations Assessment in Kyrgyzstan, 2017, World Bank

<sup>27</sup> <http://opendata.undp.kg/wp-content/uploads/2015/presentation/24112015/13.pptx>

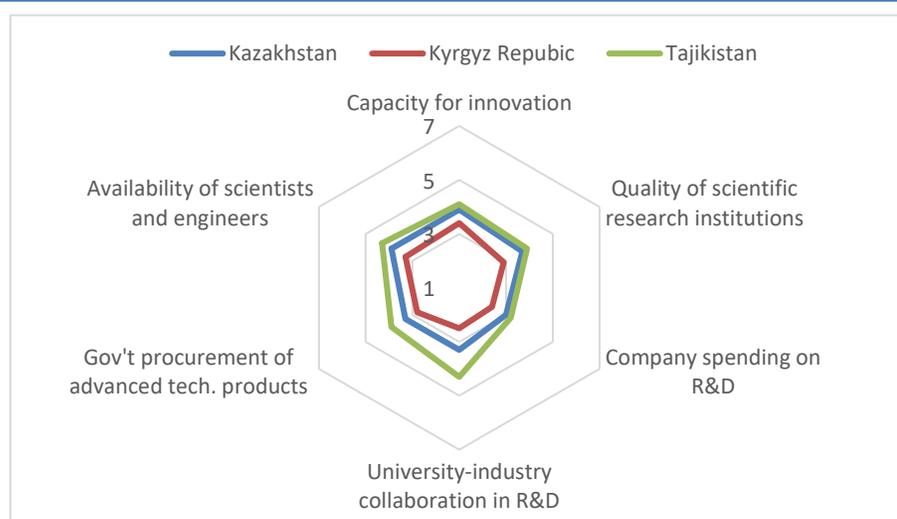
**Institutional capacity and digital skills are insufficient**

**Overall limited digital skills in the population hinder the participation of citizens and businesses in the digital economy, and their ability to access digital services.** The public sector faces a shortage of IT managers, and governmental officials and civil servants typically have limited digital literacy. This also means that open data initiatives are underleveraged to support data driven innovations. In turn academic institutions have been slow to develop innovative educational programs for digital transformation.

**The digital Innovation Ecosystem is nascent**

**Digital innovation ecosystems typically require:** (i) public and private spending on research and development, (ii) collaboration between universities and industry, and (iii) scientific research institutions (figure 16). The Kyrgyz Republic, however ranks low on all of these dimensions, at 126<sup>th</sup> place among 137 countries in the Global Competitiveness Index (GCI) measure of innovation readiness<sup>28</sup>.

**Figure 16: Innovation in Central Asian Countries**



Source: GCI 2017-2018, WF

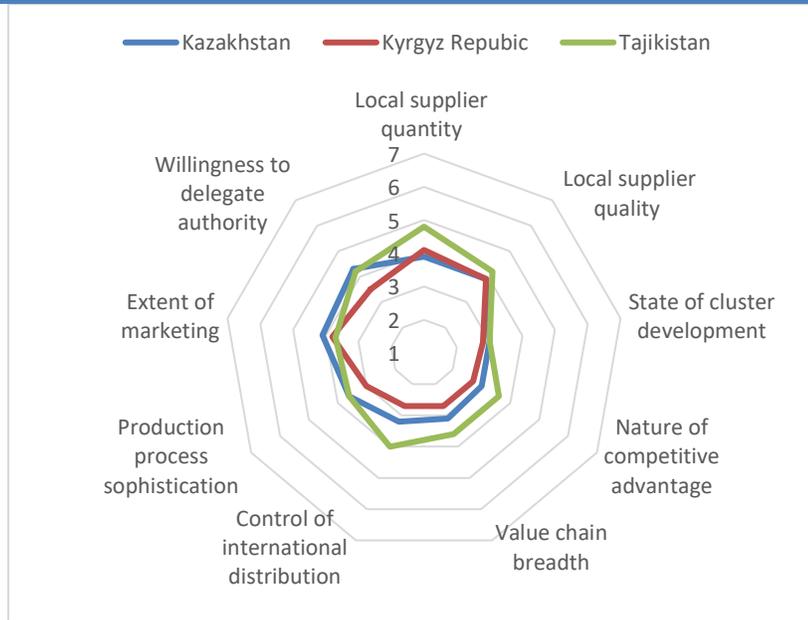
**Technological adoption by firms is low**

**Firms are not leveraging ICT.** Only 56% of firms have their own website and further adoption is undermined by (i) slow Internet speeds<sup>29</sup> and (ii) insufficient resources for innovation. As a result, Kyrgyzstan lags behind other Central Asia countries on indicators of business sophistication (figure 17) and e-commerce adoption (figure 18).

<sup>28</sup> Global Competitiveness Index, WEF, 2017

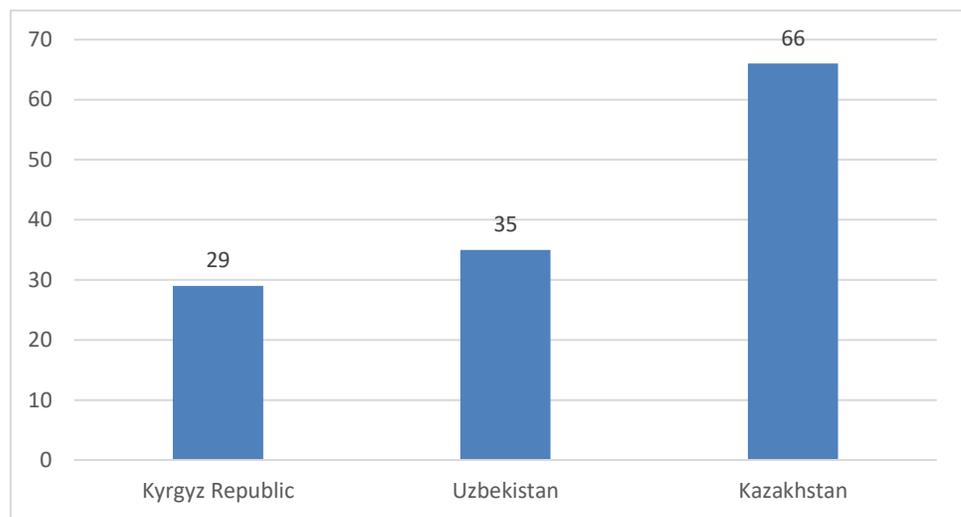
<sup>29</sup> World Development Report 2016: Digital Dividends. World Bank, 2016 <http://www.worldbank.org/wdr2016>

**Figure 17: Business sophistication in Central Asia countries**



Source: GCI 2017-2018, WEF

**Figure 18: B2C E-commerce Index Value (%)**



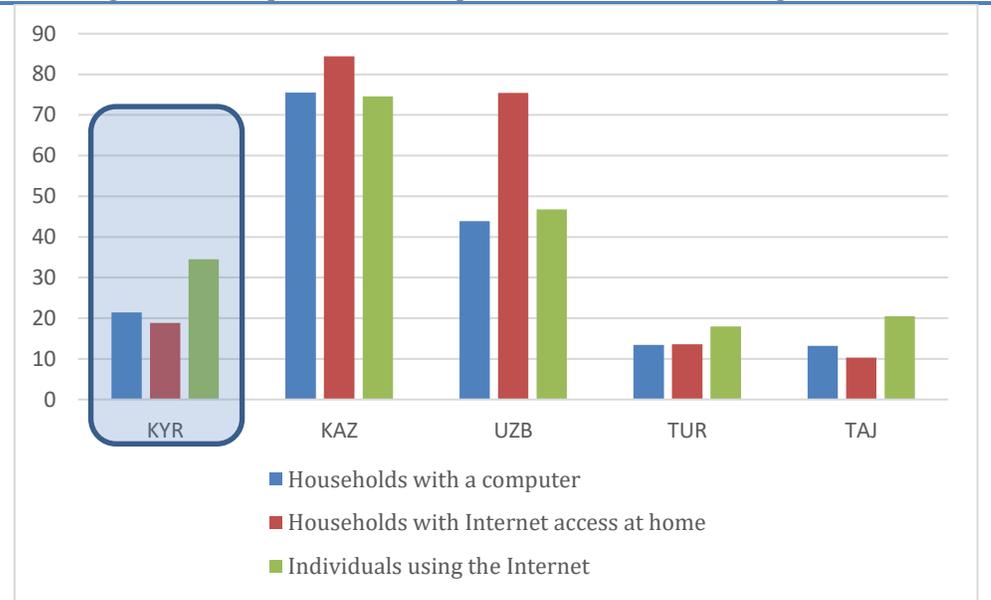
Source: UNCTAD 2017, N/A Data for Turkmenistan & Tajikistan

**Immature digital infrastructure hampers rapid digital development**

**Kyrgyzstan faces high costs for increasing connectivity and access to the Internet.** The constraints linked to its small market and remoteness are exacerbated by insufficient international telecommunication connections with neighboring countries, which leads to dependence on Internet providers in transit countries. As a result, Internet use remains low - Internet user penetration (including mobile broadband) stands at 34.5%. Based on "Internet live stats" information, Kyrgyzstan ranked 106th

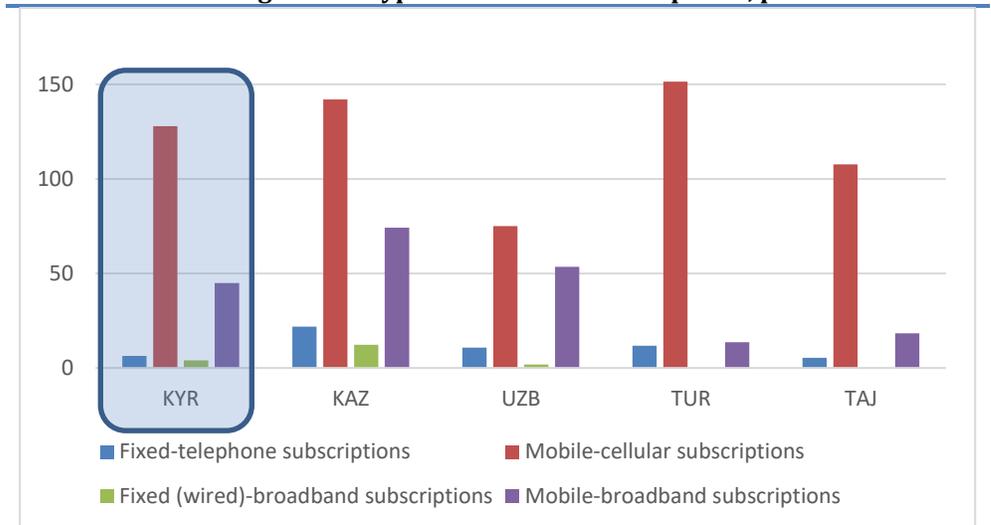
in the number of Internet users in 2016, with 2.08 million users - about one third of the population<sup>30</sup>.

**Figure 19: Computer ownership, Internet Access and Usage, %.**



Source: ITU Country Profiles 2016

**Figure 20: Types of Internet Subscriptions, per 100**



Source: ITU Country Profiles 2016

**National datacenter**

**Few government agencies have standalone servers for data storage.** Yet, according to SCICT estimations, only 10-15% of existing datacenter capacity is utilized by government agencies. A National Data Hub has not been built yet and there is currently no cloud infrastructure (G-Cloud) in the country. According to the Cloud Readiness

<sup>30</sup> <http://www.ca-portal.ru/article:29125>

**infrastructure is underdeveloped**

Assessment of Kyrgyzstan – 2017<sup>31</sup>, the environment is highly inefficient, which means the risks of support systems failure in the event of a disaster are significant. Fragmented and uncoordinated funding also affects compatibility of new ICT systems with existing databases and services. As a result, Kyrgyzstan now has many incompatible systems and databases, which cannot be incorporated into a single intra-governmental data exchange platform without additional expensive upgrades.

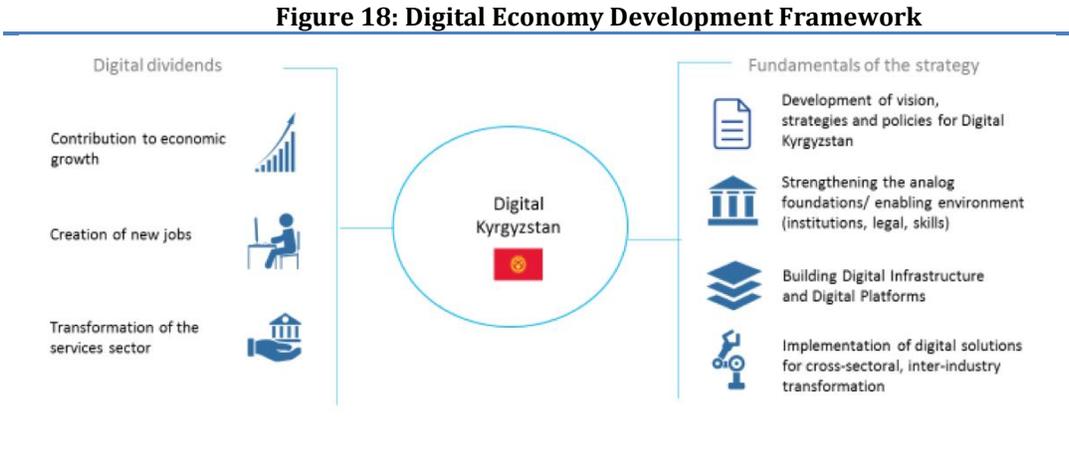
**Cybersecurity and privacy are major trust concerns in a developing digital economy.**

**There has been a significant increase of cyberattacks** in the public and private sectors in the last few years, including from abroad. Considering these threats, Kyrgyzstan has started to prioritize cybersecurity with the establishment of the SCITC, which became responsible for overall national cybersecurity capacity. However, even though cybersecurity and privacy measures have been incorporated in the laws regulating security and privacy issues, there is no single cybersecurity policy in Kyrgyzstan. The institutional framework is also relatively weak, with no dedicated government authority to ensure information security, and no Computer Emergency Response Team. Safeguarding mechanisms for data and processes are inexistent, particularly at the regional and local levels.

**Policy Priorities for Reaping Digital Benefits**

**Kyrgyzstan can become more competitive by leveraging the power of the Digital Economy.**

**To maximize digital dividends, Kyrgyzstan should:** not only implement infrastructure and connectivity reforms, but also focus on the “analog” foundations of the digital economy, specifically leadership, skills, institutions, and regulations (Figure 18).



Source: World Bank WDR 2016

<sup>31</sup> Kyrgyzstan ICT Data Center Consolidation and Cloud Computing Transition Readiness Assessment, 2017

## Dividends for EEU cooperation

**Participation in the EEU Digital Agenda will enable Kyrgyzstan to reap additional digital dividends**

**In mapping its Digital Transformation strategy, Kyrgyzstan should fully leverage the Eurasian Economic Union (EEU) Digital Transformation agenda.** The vision of an integrated EEU digital space is based on the creation of common, secure, scalable digital infrastructure and platforms. Extended and improved broadband Internet access in all countries of the Union will create opportunities for innovative industries, new types of services, and increased efficiency of interactions between Member States. According to the recent World Bank study on digital transformation in EAEU<sup>32</sup>, coordinated digital transformation in the region would have significant payoffs in terms of GDP growth, new employment opportunities and improved public services.

## From Vision to Strategy

**Digital development requires a focused vision and a forward-looking strategy**

**The Taza Koom National project provides a vision that needs to be translated into an implementation strategy.** The strategy should:

- assign leadership
- provide effective institutional structures
- propose a results framework
- identify supportive legislation and regulations to enable users to seize digital opportunities and encourage innovations and competition
- include digital skills upgrading initiatives in the public and private sectors.

## Fostering an Enabling Environment

**Strong leadership and effective governance are critical**

**Several institutions will need to push the digital agenda.** The recently established Expert Council for Digital Transformation under the President of Kyrgyz Republic will provide guidance and ensure engagement of all stakeholders in shaping and implementing state policies. The Interagency Coordination Committee can serve as a coordination mechanism together with digital transformation positions in key ministries and agencies. The SCITC will lead the development of shared digital platforms and tools, and manage cross-agency coordination and partnerships. A good model is Singapore's national-level coordinating agency – the Smart Nation Program Office under the Prime Minister's Office – that works with government agencies to put in place infrastructure, policies, ecosystem and capabilities.

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<sup>32</sup><http://documents.worldbank.org/curated/en/850581522435806724/The-EAEU-2025-digital-agenda-prospects-and-recommendations-overview-report>

**Favorable legislation and regulation is essential to build trust in the digital economy and catalyze innovation**

**In the Kyrgyz Republic priority areas for enhancing legislation, regulation, policies and standards include:**

- privacy and protection of personal and sensitive data
- cybersecurity
- data sharing and interoperability
- e-payment
- open data
- shared digital infrastructure and platforms
- cloud computing and competition in the telecom market,
- intellectual property, and
- effective strategies against possible cyberattacks.

**Appropriate funding mechanisms and business models for digital transformation and innovation**

**Adequate funding will also be key.** To ensure that digital economy programs and projects can be deployed successfully, the Kyrgyz Republic needs to:

- develop effective PPP models. Funding mechanisms for catalyzing digital innovations
- promote foreign investment, possibly through granting incentives
- support local software developers
- provide grants to foster the deployment of government e-services by the private sector.

Venture capital funding can boost digital innovation by startup firms and small businesses that show potential for long-term growth. In addition, crowdfunding platforms may provide new sources of finance through peer-to-peer lending for small start-ups that can't raise capital from traditional sources.

**Kyrgyzstan needs a skilled labor force to succeed in the digital era**

**To build the relevant skills in and out of government the Kyrgyz Republic could consider:**

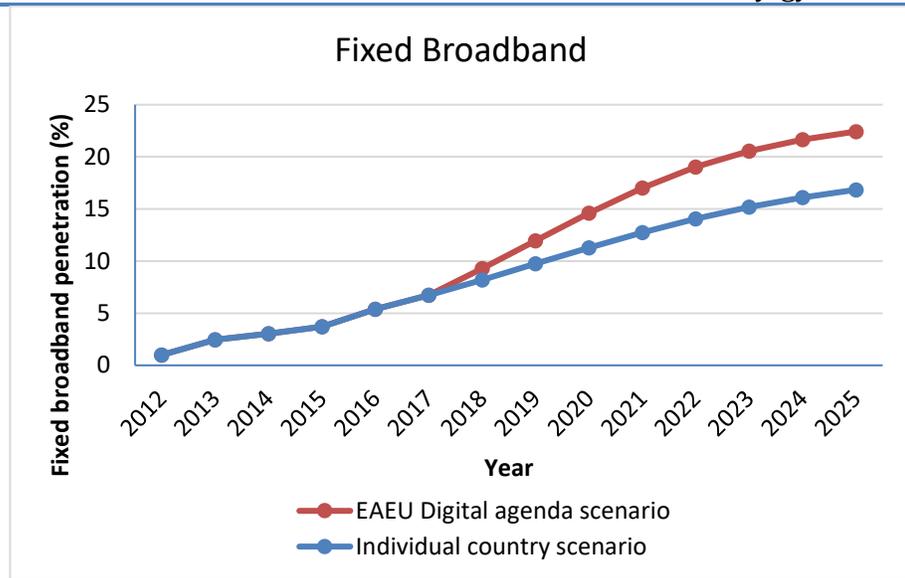
- A digital leadership competency framework for public officials
- Digital skills development programs in the public sector
- Fellowships and bilateral agreements with digital leaders from other countries
- Vocational education programs of digital literacy development
- Stronger cooperation with academic institutions and private sector to prepare specialists in business and data analytics, system architecture, media and digital platforms design, data management, and cloud computing among others
- ICT education at schools to support digital inclusion.

## **Building Digital Infrastructure and Platforms**

**Building and maintaining an open, competitive, private sector-driven broadband connectivity.**

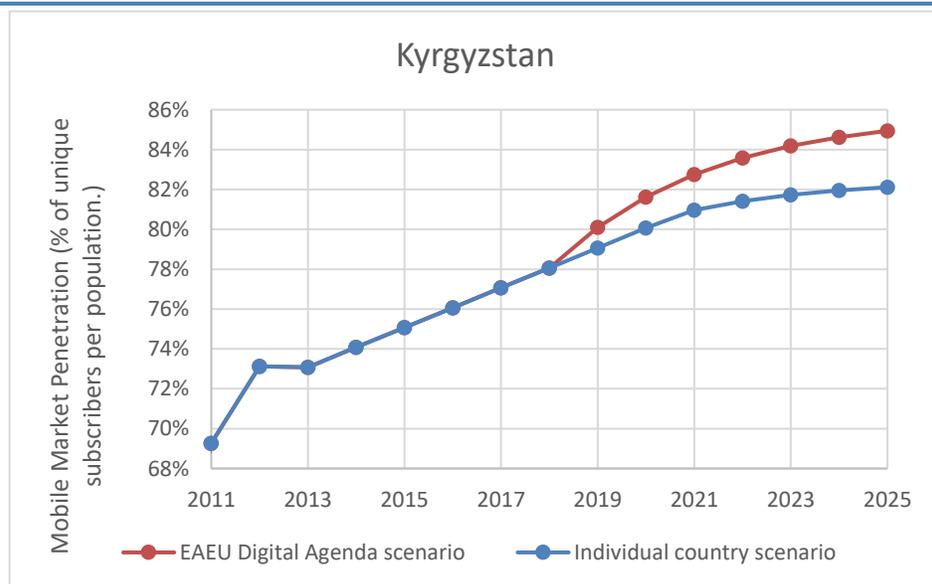
**Telecommunication services need to be made more available and affordable across the country.** For this, the government should consider PPP models for developing a broadband network on a competitive basis. It could provide tax incentives for companies to deliver communication services in rural areas. In addition, Kyrgyzstan can significantly increase its broadband and mobile penetration by leveraging the Eurasian Economic Union's Digital Agenda 2025 (Figures 19 and 20). The EEU Digital Agenda aims at accelerating of economic growth through expansion of digital trade, digital transport corridors, digital industrial cooperation, digital traceability of goods, services, assets, and data flows streamlining.

**Figure 19: Forecast on Fixed Broadband Penetration Growth in Kyrgyzstan**



Source: EAEU Analytical Study, World Bank, 2017

**Figure 20: Forecast on mobile penetration growth in Kyrgyzstan (unique subscriptions, percentage of population)**



Source: EAEU Analytical Study, World Bank, 2017

**Shared digital platforms are key for service delivery**

**Critical data and digital services should be shared amongst government agencies and with the private sector.** Digital platforms for authentication, verification, identification, payments and data exchange, should be properly deployed for shared use. Specifically, a number of initiatives should be pursued as a matter of priority:

- The recently implemented biometric e-ID should be used as authentication tool for end-users and to control the access of government agencies to personal data. While many national registers and databases have begun to be digitized, they should be further updated to enhance reliable and secure data exchange and interoperability, and to improve access of population to services.
- The Government Cloud (G-Cloud) will help increase efficiency, reduce cost and improve the reliability of shared digital resources.
- To increase uptake of public services, mobile platform for service delivery should be developed with simplified online forms and functions.
- Finally, e-payment platforms are essential not only to enable tax and utility payments but also to advance digital trade, e-commerce and develop digital markets.

## Implementation of Digital Solutions

**E-services delivery needs further advancement with smart digital solutions**

**Innovative solutions should be developed** by leveraging open data, big data and new analytical tools, and other emerging technologies such as blockchain, artificial intelligence, internet of things among others. Hackathons and partnerships with local and regional private sector and technology hubs can help spur the development of digital solutions, mobile-based apps, and e-services that address local problems. To ensure that effective use of public services provided online and through mobile devices, a focused marketing strategy could be developed.

## Annex 1: Selected Macroeconomic and Social Indicators, 2014–2020

	2014	2015	2016	2017	2018	2019	2020
				Prel.	Projections		
(Percent, unless otherwise indicated)							
<b>National Income and Prices</b>							
Nominal GDP (bln. of soms)	400.7	430.5	476.3	521.0	551.1	593.0	640.1
Nominal GDP per capita (US\$)	1,279	1,121	1,078	1,109	1,139	1,178	1,222
Real GDP growth	4.0	3.9	4.3	4.6	4.2	4.8	5.0
Real non-gold GDP growth	5.0	4.9	4.3	4.7	4.7	4.8	4.9
Private consumption growth	3.0	-0.9	-0.6	3.4	3.2	3.5	4.0
Gross investment (percent of GDP)	29.2	29.4	30.1	32.1	32.5	31.5	31.5
Consumer price inflation, year-end	10.5	3.4	-0.5	3.7	5.0	5.0	5.0
Consumer price inflation, period average	7.5	6.5	0.4	3.2	4.5	4.8	5.0
Real effective exchange rate (2010=100)	120.2	109.3	112.9				
(Current US\$ millions, unless otherwise indicated)							
<b>External Accounts</b>							
Merchandise exports, <i>of which:</i>	2,483	1,619	1,608	1,840	1,944	2,266	2,514
Gold exports	717	665	702	700	679	713	749
Merchandise imports	5,290	3,860	3,744	4,187	4,729	5,204	5,522
Current-account balance	-1,191	-742	-792	-539	-727	-548	-623
as percent of GDP	-16.7	-15.9	-11.6	-7.1	-9.0	-7.9	-7.6
Foreign direct investment, net	233	1,009	579	489	519	554	560
Total official international reserves	1,958	1,778	1,969	2,089	2,217	2,383	2,394
External debt, as percent of GDP	80.5	94.5	90.3	88.5	87.7	85.6	85.4
(Percent of GDP, unless otherwise indicated)							
<b>Consolidated Fiscal Accounts</b>							
Revenues	34.4	34.4	32.0	33.2	33.0	31.3	29.7
o/w Taxes	25.1	24.2	24.2	24.3	25.1	25.6	26.4
Expenditures	38.5	37.4	38.3	37.9	37.0	35.7	32.7
Overall fiscal balance	-4.1	-3.0	-6.3	-4.7	-4.1	-4.4	-3.0
Overall fiscal balance excluding on-lending	-0.2	-1.0	-4.0	-3.2	-2.5	-2.5	-2.3
Primary fiscal balance	-3.2	-2.0	-5.2	-3.6	-3.0	-3.2	-1.9
Total public debt	53.6	67.2	59.1	59.9	60.0	60.2	59.3
(Percent, unless otherwise indicated)							
<b>Monetary Accounts</b>							
Base money growth	-11.9	4.0	27.6	11.1	10.3	9.9	8.7
Real growth of credit to the private sector	43.6	17.2	-0.8	12.7	12.3	13.0	10.2
Policy rate	10.5	10.0	5.0				
<b>Social Indicators</b>							
Population, total (millions)	5.8	6.0	6.1	6.1	6.2	6.3	6.3
Population growth (percent)	2.0	2.1	2.1	1.1	1.1	1.1	1.1
Unemployment rate (percent of labor force)	8.0	7.6	7.6				
Poverty rate, international (percent of population)	29.2	32.9	32.8	31.7	30.2	28.3	27.2

Sources: World Bank staff calculations and estimates based on official data published and provided by the authorities.