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UZBEKISTAN AND THE EAEU: PROSPECTS AND POTENTIAL IMPACT OF ECONOMIC INTEGRATION

Reports and Working Papers **21/2**

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This report assesses the potential effects of integration of the Republic of Uzbekistan with the Eurasian Economic Union (EAEU), and lists the most promising areas of cooperation between the current Union member countries and Uzbekistan. The authors have examined the key indicators of social and economic development of Uzbekistan and the main areas of trade and investment cooperation between the republic and the EAEU, and have presented an in-depth review of two sectors that are critical for Uzbekistan and for Central Asia as a whole: transport and the water and energy complex. The authors have concluded that, inasmuch as Uzbekistan is a large and strategically positioned Central Asia player, resolution of regional development issues without its participation will not make much progress. Deeper economic integration between Uzbekistan and the EAEU may become a major driver of investment and trade cooperation.

Keywords: Uzbekistan, Eurasian Economic Union, integration, economic effects, mutual trade, investments, infrastructure, water and energy complex, transport, labour migration.

JEL: F15, F21, F22, O11, O18, O47, O53.

The electronic version of this document is available at https://eabr.org/en/analytics/special-reports/

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ACRONYMS AND ABBREVIATIONS

ADB – Asian Development Bank

AM – Republic of Armenia

APEC – Asia-Pacific Economic Cooperation

ASEAN – Association of South East Asian Nations

BoY – beginning of year

BY – Republic of Belarus

CA – Central Asia

CAPS – Central Asia Power System

CAREC – Central Asia Regional Economic Cooperation

CIS – Commonwealth of Independent States

COVID-19 – COronaVIrus Disease 2019

EAEU, the Union – Eurasian Economic Union

ECE – energy conversion efficiency

EDB, the Bank – Eurasian Development Bank

EEC – Eurasian Economic Commission

EFSD – Eurasian Fund for Stabilisation and Development

EoP – end of period

EoY – end of year

EU – European Union

FDI – foreign direct investment

GDP – gross domestic product

Goskomstat UZ – State Statistical Committee of the Republic of Uzbekistan

GVA – gross value added

HPP – hydro power plant

IDB – international development bank

IFI – international financial institution

IMF – International Monetary Fund

ITC – International Trade Centre

JSC – joint-stock company

KG – Kyrgyz Republic

KZ – Republic of Kazakhstan

LLC – limited liability company

LPI – logistics performance index

OECD – Organisation for Economic Cooperation and Development

NPP – nuclear power plant

PJSC – public joint-stock company

PLC – public limited company

pp – percentage point

PPP – purchasing power parity

PRC – People's Republic of China

PTL – power transmission line

PVPS – photovoltaic power system

RECCA – Regional Environmental Centre for Central Asia

RES – renewable energy sources

RU – Russian Federation

SME – small and medium enterprises

SS – substation

TJ – Republic of Tajikistan

TLC – transport and logistics centre

TPP – thermal power plant

TRACECA – Transport Corridor Europe – Caucasus – Asia

UN, UNO – United Nations Organisation

UNCTAD – United Nations Conference on Trade and Development

USA – United States of America

USD – United States dollar

UZ – Republic of Uzbekistan

VAT – value added tax

WTO – World Trade Organisation

% y/y – year-on-year growth rate

SUMMARY

Uzbekistan is a large Central Asian (CA) economy with a GDP of USD 57.7 billion and a population of 34.6 million (2020). The country is rich in natural resources, and has a well-developed production base. In dollar terms, Uzbekistan's GDP is equivalent to slightly more than 3% of the aggregate EAEU GDP, and comparable to the Belarusian GDP.

Macroeconomic Indicators of the EAEU Member Countries and Uzbekistan

	Armenia	Belarus	Kazakhstan	Kyrgyzstan	Russia	Uzbekistan
GDP (USD billions, 2020)	12.6	60.4	169.8	7.7	1487	57.7
Real GDP growth rate (average per year, 2011–2019)	4.7	1.2	4.7	4.7	1.7	6.6
PPP-based GDP per capita (USD thousands, 2020)	13.3	20.2	26.6	5.0	27.9	7.4
Inflation rate (% y/y, 2020 EoY)	% 3.7	% 7.4	% 7.5	% 9.7	% 4.9	% 11.1
Public debt (% of GDP, 2020 EoY)	67.3	48	29.4	68.1	17.6	40.4
International reserve assets (USD billions, 1 January 2021)	2.6	7.5	35.6	2.7	595.8	34.9
Population (millions, 2021 BoY)	2.96	9.35	18.9	6.6	146.17	34.6
Unemployment rate (% of total workforce, 4Q 2020)	16.0	4.1	4.9	3.0	6.1	10.5

In 2011–2019, Uzbekistan's economy grew at an average rate of 6.6%. This is higher than reported by the EAEU member countries. Despite the vigorous economic growth, the income gap between Uzbekistan and the EAEU member countries remains significant.

In terms of income per capita, Uzbekistan lags behind most EAEU member countries. In 2020, its PPP-based GDP per capita amounted to USD 7,400. That is more than in Kyrgyzstan, but less than in Russia and Kazakhstan (by a factor of more than 3.5), Belarus (by a factor of more than 2.5), and Armenia (by a factor of almost 2).

One of the reasons for the income gap is the low productivity of various sectors of the national economy: in agriculture (which accounts for 25% of total GDP), it is half of that in Russia and Belarus; in manufacturing and construction – merely a quarter of that in Kazakhstan. In systemic terms, increase of productivity in the economy is hampered by the shortage of investments and technologies, and by the current state of physical infrastructure.

Uzbekistan's potential GDP growth rate is about 5.5% p.a. By comparison, in Kazakhstan and Kyrgyzstan it is currently estimated at about 3%, and in Russia at 1–1.5%, while in Belarus it hardly exceeds 1%.

Uzbekistan's largest trading partners are China, Russia, Turkey, and Kazakhstan. Gold is the key export item (about 45% of total trade volume). Almost half of the goods imported by Uzbekistan are machines and equipment.

At the start of 2021, Uzbekistan's international reserve assets stood at USD 34.9 billion. That is comparable to Kazakhstan's reserve assets, and exceeds the aggregate reserve assets of Armenia, Belarus, and Kyrgyzstan by a factor of more than 2.5. Moreover, **Uzbekistan's international reserve assets are sufficient to cover almost 20 months of imports of goods and services.** That is considerably higher than the conventional reserve assets adequacy measure of three months of imports. External liabilities of the national government at the end of 2020 amounted to almost 37% of GDP.

The structural and economic reforms launched by Uzbekistan's leaders in 2017 noticeably changed the country's economy: the country opened up to the world; the business environment, prices, commerce, and the currency market were liberalised; capital expenditures increased, and the country sought to boost production of high added-value products and to diversify its exports. That significantly improved the investment climate, and created new opportunities for raising external funding to finance future economic growth. However, Uzbekistan still has a long way to go before it can revamp its infrastructure, gain better access to global and regional markets, and create a favourable institutional environment. The economic and institutional support that can be provided in the course of integration with the EAEU member countries can drive and facilitate comprehensive development of Uzbekistan.

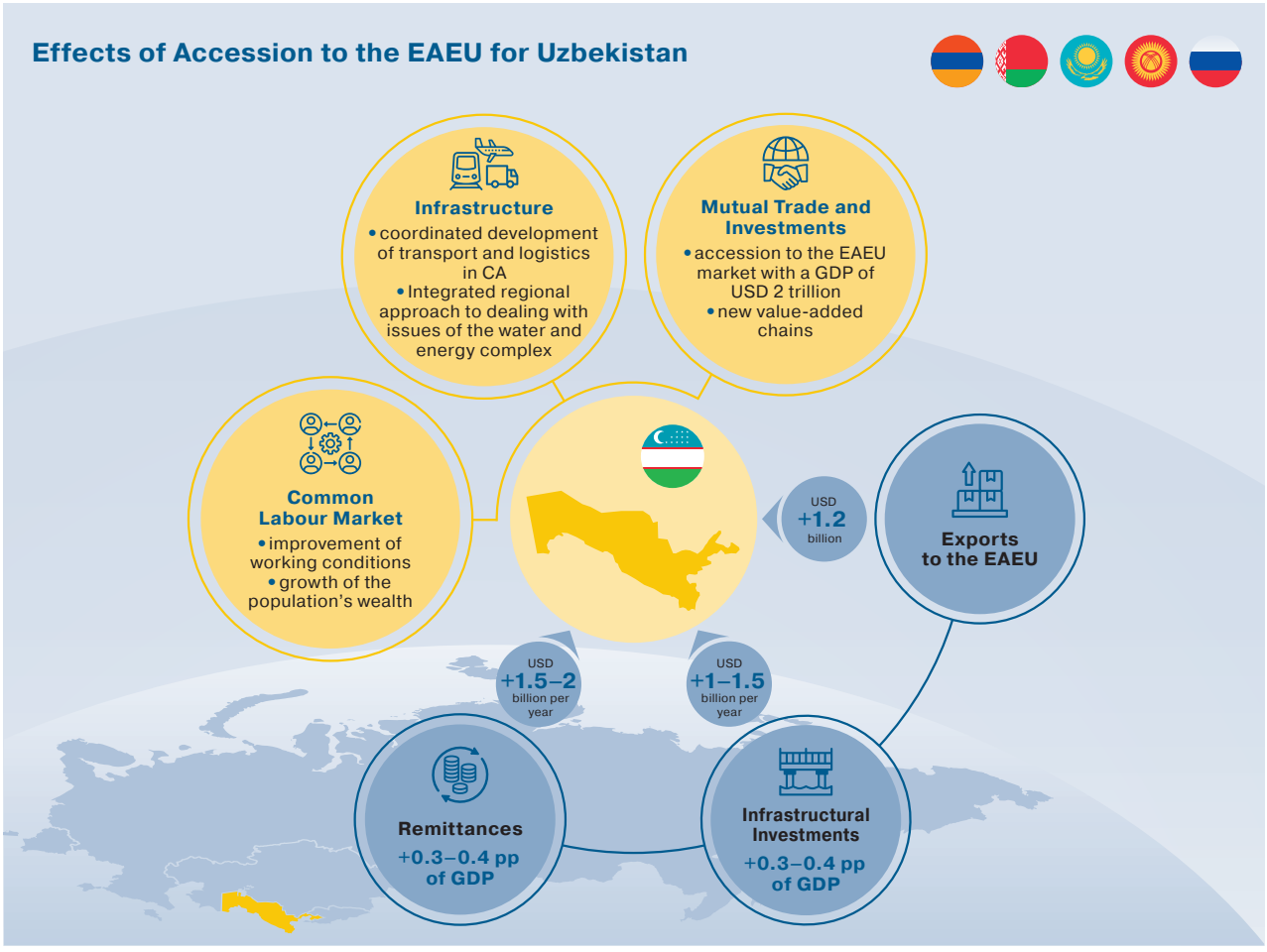
The 2020s and 2030s: demographics for rapid growth. During that period, the demographic factor will support economic growth in Uzbekistan. According to UN estimates, about 70% of the country's population will be of working age by 2040 (United Nations, 2017). During that "demographic window", the **share of the working-age population (workforce)** in the country's total population will **reach its peak.**

Potential Impact of Integration on Uzbekistan's Economy

Potential infrastructural investments by the EAEU in Uzbekistan are estimated at USD 1–1.5 billion per year. That will secure an additional real GDP increase of 0.3–0.4 pp per year. Uzbekistan is an attractive business and FDI destination for the current EAEU member countries: the republic has substantial natural and labour resources, and the required production base. Investment capital inflow will spur labour productivity increase in Uzbekistan due to both renovation of the physical infrastructure and introduction of new technologies.

Access to the common EAEU labour market will produce an additional average inflow of remittances to Uzbekistan of USD 1.5–2 billion per year. The extra contribution to annual real GDP growth will be 0.3–0.4 pp. The increase in the amount of inward remittances will build up the wealth of Uzbekistan's population, which, in turn, will have a positive impact on consumer demand. Labour migration to EAEU member countries will mitigate the adverse social and economic consequences of unemployment and underemployment in the country.

Expansion of intra-industry trade and industrial cooperation between Uzbekistan and the current EAEU member countries will help diversify the structure of the economy and Uzbekistan's export basket.



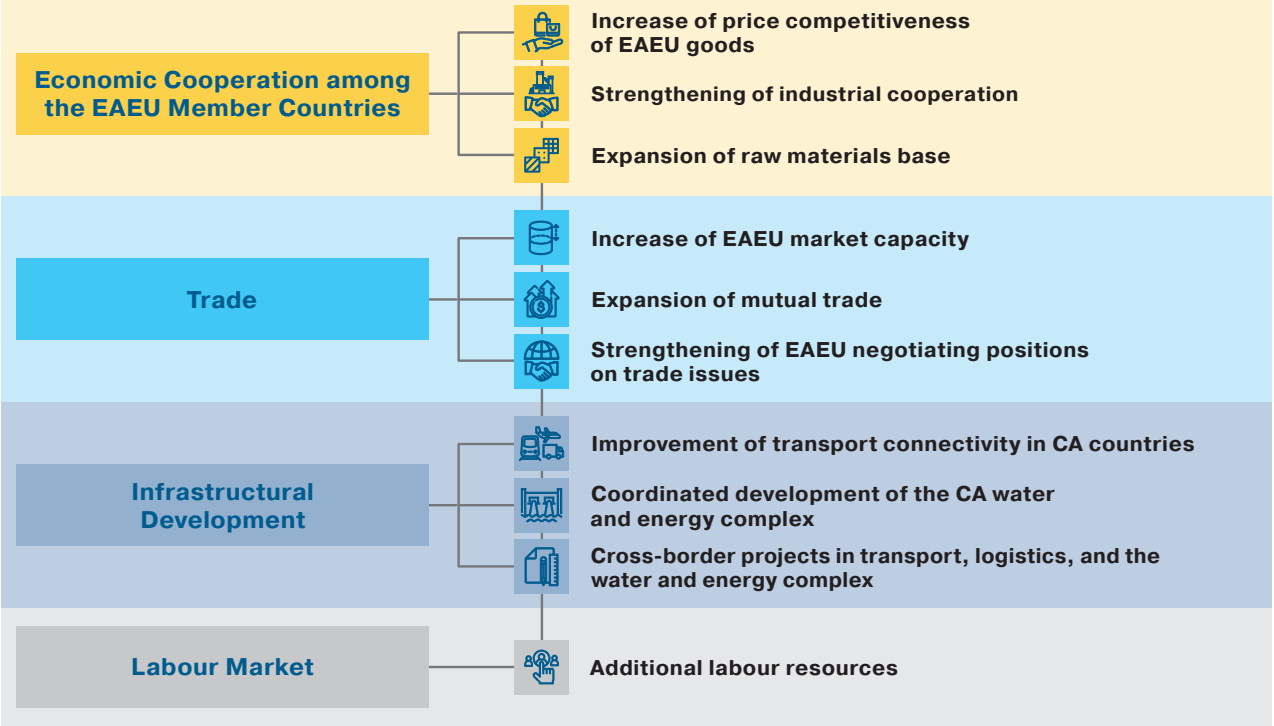
Uzbekistan's exports to the EDB member countries may additionally increase by USD 1.2 billion. That is the estimated volume of unrealised export potential of Uzbekistan relative to the existing EDB member countries. Uzbekistan's manufacturers can boost exports not only to Russia, the country's key trading partner, but also to all other EDB member countries. At the end of 2020, total exports to those countries reached USD 3 billion.

The key to intensification of mutual trade and mutually beneficial reduction of non-tariff barriers is the harmonisation of Uzbekistan's technical regulations and phytosanitary standards with the requirements currently in effect in the EAEU. The problems caused by the institutional transformation and adaptation of Uzbekistan's national legal framework can be offset by organisational, financial, and technical support on the part of the current EAEU member countries.

Potential Impact of Integration on the Current EAEU Member Countries

Expansion of industrial and investment cooperation. Simplification of access to labour resources and raw materials creates the preconditions for strengthening of economic cooperation and the emergence of new production chains in the EAEU area. Free movement of goods, services, capital, and labour will create favourable conditions for companies from EAEU countries to develop their businesses in Uzbekistan. Resource crossflows will improve the efficiency of the industrial base for the entire integration association, and make its goods more competitive.

Effects of Uzbekistan's Accession to the Union for the EAEU Member Countries



Expansion of mutual trade. The possible accession of Uzbekistan to the EAEU will lift the remaining external trade restrictions, and open access to the republic's ample consumer market for all current EAEU member countries. That will enable an increase of exports of goods and services. The unrealised **EDB–Uzbekistan export potential is estimated at USD 1.6 billion.** The most promising export commodities include engineering products, ferrous metals, wheat, mineral products, timber, plastics, and rubber.

Strengthening of EAEU negotiating positions on trade issues. A larger membership of the EAEU strengthens its positions in trade agreement negotiations with third countries. Third-country suppliers are more interested in the purchasing power of the united region rather than of separate small economies. In bilateral negotiations, it is easier for a regional association to get more favourable external trade terms than it is for small economies.

However, "expansion for the sake of expansion" can diminish performance of an active regional organisation. Accession of each additional member increases the probability by 1.5% that an active integration association will be transformed into a "discussion forum". The Asia-Pacific Economic Cooperation (APEC) may be regarded as an example of such a "discussion forum" (EDB Centre for Integration Studies, 2016).

Strengthening of competition in the EAEU labour market. The possible accession of Uzbekistan to the EAEU will increase competition among migrant workers from Armenia, the Kyrgyz Republic, and Tajikistan, among other things, in consequence of the numerical superiority of migrants from Uzbekistan.

Uzbekistan Is a Key Element of the Economic Integration "Puzzle" in Central Asia

Uzbekistan is a large and strategically positioned player in Central Asia, and it will be difficult to deal with regional development challenges without its participation. That fully applies to transport, logistics, and the water and energy complex, where it is impossible to come up with optimal solutions without coordination of efforts and mutual understanding of all stakeholders. The sustainability and success of regional and Eurasian integration processes will hinge on the depth and

intensity of Uzbekistan's involvement. More active economic integration between Uzbekistan and the EAEU may become a major driver of investment and trade cooperation.

Uzbekistan as a promising and strong partner in the development of trans-Eurasian transport corridors. The republic is situated at the Central Asian crossroads of international West–East and North–South transport routes, and may become a critical element in the evolution of CA transport and logistics systems, including through participation in the Belt and Road Initiative. Coordinated efforts by the current member countries of the Bank and Uzbekistan, directed at development of transport and logistics infrastructure, will reinforce the region's transport links with emerging Asian markets (Iran, Turkey, Pakistan, Afghanistan, India).

End-to-end cross-border projects are the key to the development of transport and logistics infrastructure. That requires cooperation of all countries of the region. Cooperation among Eurasian countries can be maximised if the existing predominantly latitudinal (West–East) transport infrastructure is complemented with meridional (North–South) branches, which are now underdeveloped. Alignment of Uzbekistan's interests with those of the EDB member countries and intensification of their collaboration will improve the chances of raising additional funding for the republic's transport and logistics infrastructure. According to some estimates, **the funding needs of Uzbekistan's transport infrastructure until 2030 may amount to about 2.1% of GDP per year.**

Accession of Uzbekistan to the Eurasian institutions (EAEU, EDB) will contribute to coordinated development of the CA water and energy complex. Due to the complementary nature of its grid architecture, power generation structure, and water resources management system, the CA water and energy complex will remain viable only if energy and water use issues faced by the region are resolved in an integrated fashion. **Uzbekistan and the other CA countries need to identify new approaches to shaping and steering the regional market** on the basis of cutting-edge technologies and digital solutions.

Cooperation between Uzbekistan and the EDB member countries in dealing with the problems faced by the CA water and energy complex is an economic necessity. Collaboration of the countries of the region will help Uzbekistan deal with inferior performance of the water and energy complex (severe wear and tear on production facilities, massive losses, low ECE, power supply failures during peak hours), offset the shortage of water resources and, consequently, boost productivity in the agricultural sector. An integrated approach to dealing with issues of the CA water and energy complex will increase the investment appeal of Uzbekistan's power sector, and facilitate its access to appropriate infrastructure funding sources. **The funding needs of Uzbekistan's electric power industry until 2030 may amount to about 2.9% of GDP per year.**

Success of integration with Uzbekistan will depend on the growth of national wealth of the stakeholder countries and the density of real economic ties among them. Establishment of trade and economic ties among the countries of the region on the basis of effective projects (production facilities) is a critical condition for their sustainable long-term economic development. Such projects need to be globally competitive. In the course of its evolution, the integration association should not seek "expansion for the sake of expansion" – that path will ultimately impair the efficiency of the regional organisation.

INTRODUCTION

Geographically and geopolitically, Central Asia is the centre of Eurasia, with an aggregate GDP of about USD 300 billion and a population of 74 million. The region is rich in natural resources, and has an unrealised potential in many areas. Of all the Eurasian macro-regions, CA is the most isolated from the main centres of global economic activity: North America, Western Europe, East and Southeast Asia. The countries of the region are landlocked, which significantly increases the price they have to pay for access to global markets. In addition, the transport and logistics infrastructure inherited by the Central Asian countries from the Soviet past makes them dependent on each other in many respects. Until recently, that mutual dependence was a major source of conflict (for example, in the area of power industry and water use), which on the one hand led to isolation of the Central Asian countries from global markets, and on the other underscored the need to develop regional cooperation.

The multipolarity of interactions within CA, combined with its landlocked status and the severe mutual dependence of its countries on each other, allow us to draw the following conclusions:

- CA is "doomed" to cooperation with the other Eurasian macro-regions to support economic development and gain secure access to global markets.

- To ensure sustainable development, CA countries need full-fledged membership in various agreements with a broad range of participants, including agreements with regional associations.

Uzbekistan is one of the key elements of the CA economic integration "puzzle". The sustainability and success of regional and Eurasian integration processes will hinge on the depth and intensity of the republic's involvement. An analysis of Uzbekistan's development during the post-Soviet era has demonstrated that the self-sufficient state option is not viable. Its position at the "crossroads" of Eurasia will inevitably require Uzbekistan to be embedded in a Eurasian integration interaction format.

For the Eurasian Economic Union, a young and vibrant regional association, the transition to a new, more qualitative level of economic interaction with Uzbekistan is of special interest. Even today the economies of the EAEU member countries and Uzbekistan are tied to each other by thousands of threads – from trade and investment to labour migration and cultural traditions. The significance of the republic both within the region and among EAEU member countries will continue to grow.

There is an understanding that, inasmuch as **Uzbekistan is a large and strategically positioned CA player, it will be extremely difficult to deal with regional development challenges without its participation**. That fully applies to transport, logistics, and the water and energy complex, where it is impossible to come up with optimal solutions without the coordination of efforts and mutual understanding of all stakeholders. Deeper economic integration between Uzbekistan and the EAEU may become a major driver of investment and trade cooperation.

This report provides an assessment of the potential impact of full integration of the Republic of Uzbekistan and the EAEU, and lists the most promising areas of cooperation between the Union member countries and Uzbekistan.

The report consists of five chapters. The first chapter (*Uzbekistan's Economy: Structure, Potential, Prospective Development Areas*) reviews the most important indicators of Uzbekistan's social and economic development (general economic indicators, external sector, monetary and fiscal policies, development of the key sectors of the economy) in comparison with EAEU member countries. The second chapter (*Interactions between Uzbekistan and the EDB Member Countries: Trade, Investments, Labour Market*) looks at how Uzbekistan interacts with the EDB member countries in three areas: mutual trade, investment, and labour market. An assessment is made of the most promising areas of development of trade and investment cooperation. The third chapter (*Development of Uzbekistan's Infrastructure and Potential for Cooperation with the EDB Member Countries*) focuses on transport and the water and energy complex – two sectors that are critical both for Uzbekistan and for the entire CA region. The authors describe the most important characteristics of those sectors, assess their potential and prospects, and draw conclusions regarding the most relevant problems and development areas. The last two chapters (*Potential Effects of Accession to the EAEU for Uzbekistan* and *Potential Effects of Uzbekistan's Accession to the EAEU for the EAEU Member Countries*) summarise quantitative and qualitative assessments of the integration's impact on both Uzbekistan and the EAEU.

1. UZBEKISTAN'S ECONOMY: STRUCTURE, POTENTIAL, PROSPECTIVE DEVELOPMENT AREAS

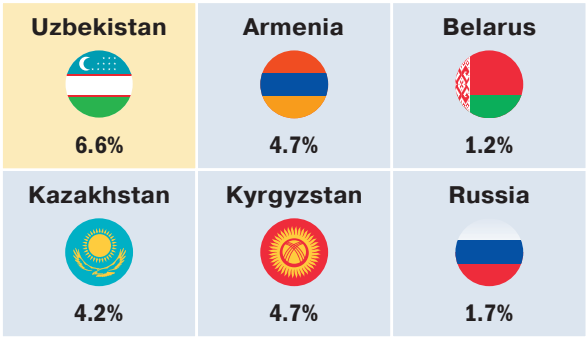
1.1. Size, Structure, and Growth of the Economy

Uzbekistan is a large Central Asian economy. In 2020, its GDP amounted to USD 57.7 billion, which is 7.5 times that of Kyrgyzstan and 4.6 times that of Armenia, but is merely one-third of Kazakhstan's GDP (see Figure 1). In dollar terms, Uzbekistan's GDP is equivalent to slightly more than 3% of the aggregate EAEU GDP, and comparable to the Belarusian GDP.

Uzbekistan has significant natural resources, and the potential to increase their extraction. Gold deposits are estimated at 2,500–5,000 tonnes, and are in the world's Top 10 (Alekseyev et al., 2019). In 2018–2019, Uzbekistan mined about 100 tonnes of gold per year, which places the republic in the 11th place in the world (World Gold Council, 2020). Uzbekistan has significant deposits of silver, copper, uranium, tungsten, coal, and natural gas. The available resource base is being underutilised – the republic could expand its value chain presence in non-ferrous metals, construction materials, and the chemical and petrochemical industry (Alekseyev et al., 2019).

Figure 1. Nominal GDP of Uzbekistan and the EAEU Member Countries
(USD billions, 2020)

Figure 2. Increase of Real GDP of Uzbekistan and the EAEU Member Countries*



Note: * average per year for 2011–2019.
Source: EEC, national statistical agencies and central/national banks of the EAEU member countries and Uzbekistan.

In 2011–2019, Uzbekistan's economy grew at an average annual rate of 6.6%. This is higher than reported by the EAEU member countries (see Figure 2). To a significant extent, production has been the key source of growth of Uzbekistan's GDP during the period under review: agriculture, industry, and construction contributed 1.4 pp, 1.1 pp, and 0.7 pp, respectively. Services contributed 2.7 pp to GDP growth (see Figure 3).

Figure 3. Contribution of Individual Sectors to Uzbekistan's GDP Growth *(pp)*

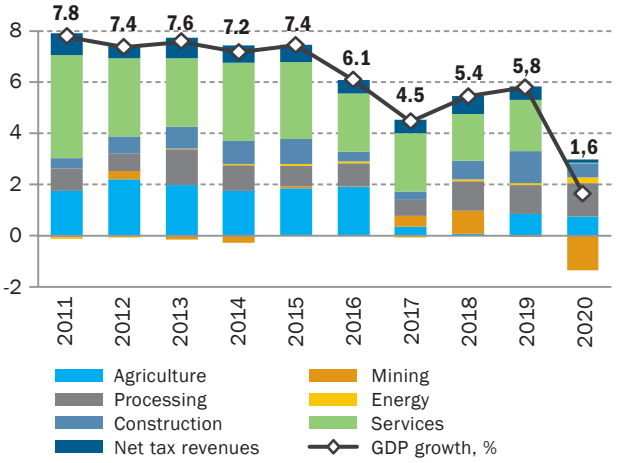
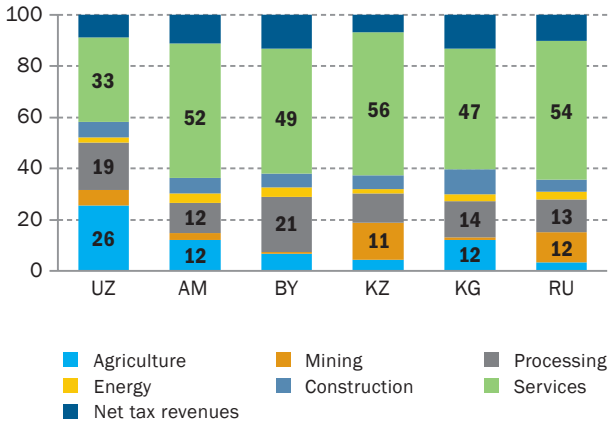


Figure 4. GDP Structure in Uzbekistan and the EAEU Member Countries *(%)*



Note: Water supply is reported as part of the power industry.
* end of 2019.
Source: EEC, national statistical agencies of the EAEU member countries and Uzbekistan.

In terms of income per capita, Uzbekistan lags behind most EAEU member countries. The World Bank assigns Uzbekistan to the group of countries with below-average income. In 2020, the republic's PPP-based GDP per capita amounted to USD 7,400, which is more than in Kyrgyzstan, but less than in Russia and Kazakhstan (by a factor of more than 3.5), Belarus (by a factor of more than 2.5), and Armenia (by a factor of almost 2) (see Figure 5).

Despite vigorous economic growth, the income gap between Uzbekistan and the EAEU member countries is closing slowly. Uzbekistan's PPP-based GDP per capita increased relative to Russia's from 24.6% in 2010 to 26.7% in 2020, and relative to Kazakhstan's from 27.4% in 2010 to 28% in 2020 (see Figure 6). During the same period, Armenia managed to increase its PPP-based GDP per capita from 34.2% to 49.8% of Russia's. Those data indicate that Uzbekistan's economy has significant growth potential.

Figure 5. PPP-Based GDP Per Capita in Uzbekistan and the EAEU Member Countries *(USD thousands, 2020)*

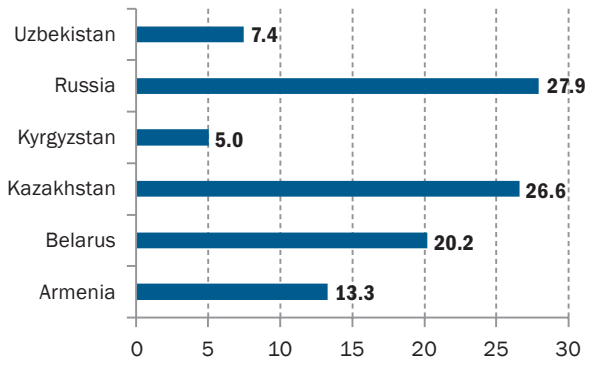
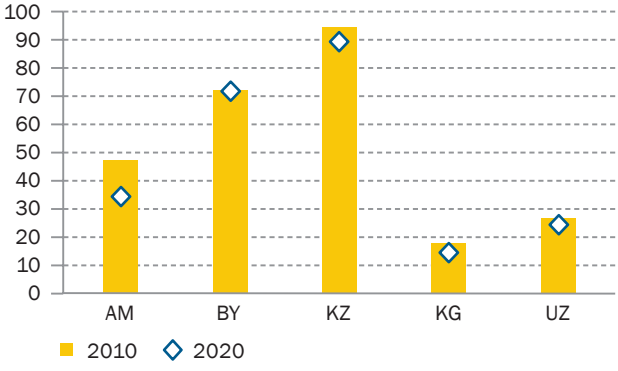


Figure 6. PPP-Based GDP Per Capita in Uzbekistan and the EAEU Member Countries *(% of Russia's level)*



Source: IMF.

The slow rate of convergence of income levels in Uzbekistan and the EAEU member countries is attributable to the low productivity of the key sectors of the republic's economy. Agriculture accounts for more than 25% of the country's GDP, which is considerably higher than in the EAEU member countries. However, PPP-based GVA in agriculture per employee in Uzbekistan amounted to USD 17,700, while in Russia and Belarus the productivity of labour is twice as high (see Figure 7). Manufacturing contributes almost 20% to Uzbekistan's GDP; mining and construction contribute approximately 6% each. Productivity of labour in manufacturing and construction in Uzbekistan is almost in Kazakhstan, three times lower than in Russia, and two times lower than in Belarus. Services account for 30–35% of the republic's GDP. Productivity of labour in that sector is four times lower than in Kazakhstan and Russia, and three times lower than in Belarus and Armenia (see Figure 7).

Figure 7. Productivity by Sectors of the Economy in Uzbekistan and the EAEU Member Countries
*(USD thousands of PPP-based GVA per person employed)**

	Uzbekistan	Armenia	Belarus	Kazakhstan	Kyrgyzstan	Russia
Agriculture	17.7	21.4	34.1	19.2	9.7	35.4
Manufacturing and Construction	26.0	41.7	45.5	97.2	15.0	71.6
Services	11.5	38.4	34.8	48.2	13.2	47.7

Note: PPP-based GVA values for individual sectors are products of their relevant shares in the GDP and the amount of the nominal PPP-based GDP in US dollars.

* end of 2019.

Source: World Bank, EEC, national statistical agencies of the EAEU member countries and Uzbekistan.

Lack of investment, deterioration of physical infrastructure, and difficulties in access to it constrain the growth of productivity of Uzbekistan's economy. The capital/employment ratio in Uzbekistan is 3.4 times less than in Russia, 1.9 times less than in Belarus, 1.6 times less than in Kazakhstan, and 1.3 times less than in Armenia (see Figure 8). The *Conceptual Framework for the Development of the Republic of Uzbekistan until 2013* points out that more than 35% of water pipelines and water supply networks require urgent repairs (Buyuk Kelajak, 2019). The OECD notes the high energy intensity and carbon intensity of Uzbekistan's economy. To produce one unit of GDP, the republic uses 60% more energy than Kazakhstan, and four times more energy than the world average (OECD, 2020).

Figure 8. Capital/Employment Ratio in Uzbekistan and the EAEU Member Countries
*(USD thousands on PPP basis per person employed)**

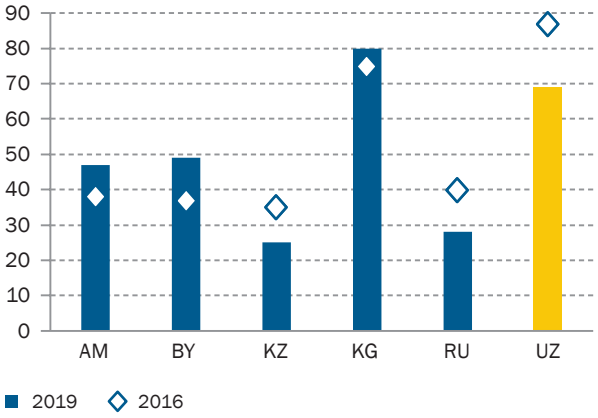
Uzbekistan	Armenia	Belarus
80	102	152
Kazakhstan	**Kyrgyzstan**	**Russia**
130	33	271

Note: The "capital/employment ratio" is the quotient of PPP-based capital reserves in US dollars by the number of people employed in the economy.

* end of 2019.

Source: Penn World Table 10.0 (Feenstra, Inklaar, Timmer, 2015).

Figure 9. *Doing Business* Rankings of Uzbekistan and the EAEU Member Countries



Note: 2016, 2019 – years of publication of *Doing Business* ranking tables.

Source: World Bank.

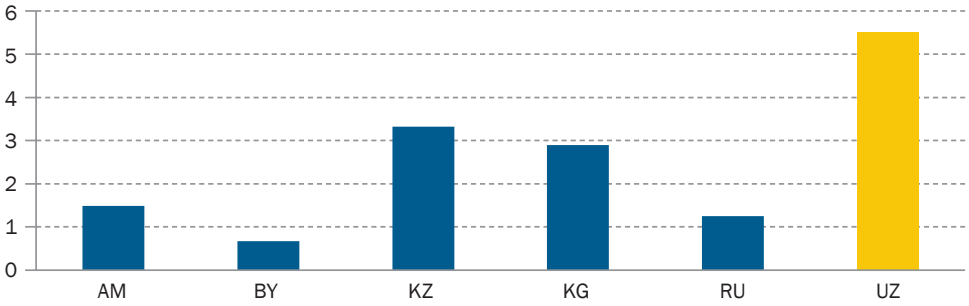
The opening of the economy and liberalisation of the business environment have improved Uzbekistan's investment climate. In the World Bank's *Doing Business* ranking, Uzbekistan rose from the 87th position in 2016 to the 69th position in 2019 (World Bank, 2019a). Uzbekistan is still ranked lower than most EAEU member countries, meaning that its business climate can be further improved (see Figure 9). In 2017–2020, the share of investments in the GDP almost doubled to reach 40.9% in 2019 and 37.1% in 2020. In 2017–2020, the share of net inward FDI in the GDP increased to 3–4%.

In 2020, Uzbekistan's economy was affected by the adverse shock produced by the COVID-19 pandemic. By the end of 2020, GDP growth had slowed to 1.6%. Domestic quarantine restrictions, social distancing measures, and reduction of incoming remittances curtailed consumer demand. Transport- and logistics-related challenges, deterioration of economic sentiment, and weakening of business activity abroad translated into a drop of investment demand. By the end of 2020, growth of household consumption in Uzbekistan had slowed to 3% (against 5.6% in 2019), while gross fixed capital formation had decreased by 8.2%. The economy was supported by the easing of fiscal and monetary policies. As for the individual sectors of the economy, mining, transport, and hospitality suffered a slump, while construction reported a growth slowdown (see Figure 3).

Uzbekistan's potential GDP growth rate is about 5.5%.[1] By comparison, in Kazakhstan and Kyrgyzstan it is currently estimated at about 3%, and in Russia at 1–1.5%, while in Belarus it hardly exceeds 1% (see Figure 10). The rate of growth of Uzbekistan's potential GDP has decreased by more than 0.5 pp since 2016. On the other hand, the impact of structural transformations and reforms should improve the economic growth potential over the long term.

[1] A multidimensional Kalman filter was used to measure potential output.

Figure 10. Potential GDP Growth Rates in Uzbekistan and the EAEU Member Countries *(%)*

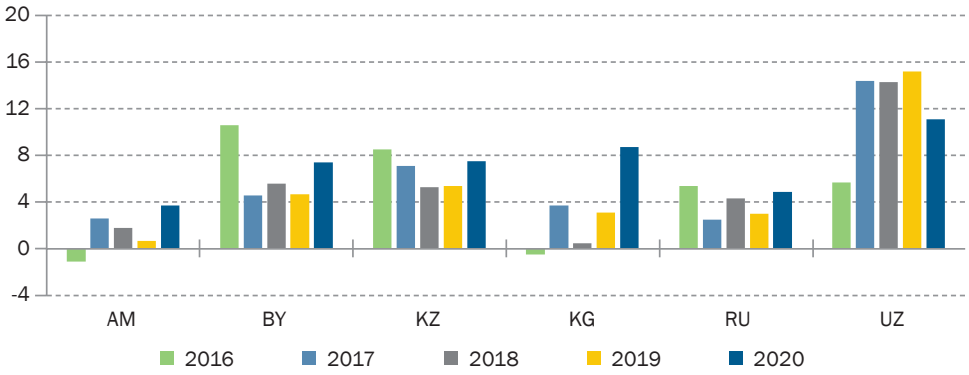


Source: Authors' calculations, Kuznetsov et al. (2020).

1.2. Inflation

Liberalisation of prices, trade, and the FX market has resulted in two-digit inflation. In 2017–2020, the rise of consumer prices in the republic remained within the 10–16% range. That is significantly higher than reported by the EAEU member countries (see Figure 11). The high inflation in Uzbekistan has been driven by three key factors. Devaluation of the som in 2017 following a liberalisation of the currency market generated additional pressure on the prices of imported goods. The opening of external trade has forced alignment of domestic and global prices, particularly food prices. As regulated prices and tariffs are hiked and driven to breakeven levels, they will keep up inflationary pressure until 2023. The Central Bank of the Republic of Uzbekistan (2020a) projects that in 2020–2022 the inflation rate will remain around 10%, to go down to the target level of 5% by the end of 2023.

Figure 11. Inflation in Uzbekistan and the EAEU Member Countries
(%, December on December of previous year)



Source: EEC, Central Bank of Uzbekistan.

1.3. External Sector

Liberalisation of trade and build-up of domestic investments produced a current account deficit which in 2018–2019 averaged 6.5% of GDP (see Figure 12). Imports of goods have increased

by almost USD 9 billion since 2017, to exceed USD 21 billion at the end of 2019 (see Figure 14). Exports for the same period expanded by almost USD 4 billion to USD 14 billion (see Figure 15).[2] In 2020 external trade turnover decreased by 9.2% because of the COVID-19 pandemic, according to the Central Bank of the Republic of Uzbekistan. Imports dropped by 10.1%, mainly due to the weaker domestic demand and transportation challenges. Exports decreased by 7.7% because of the lower external demand.

Figure 12. Uzbekistan's Current Account Balance *(% of GDP)*

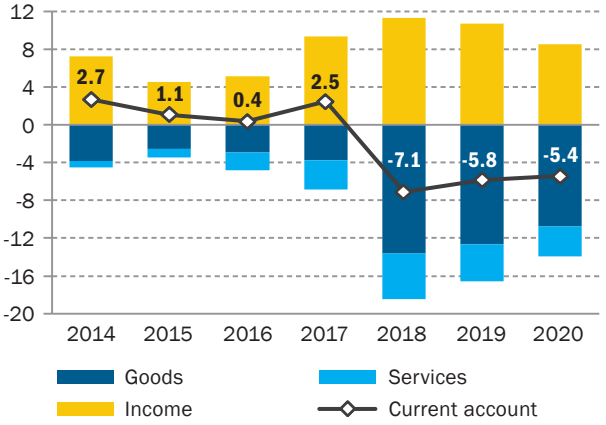
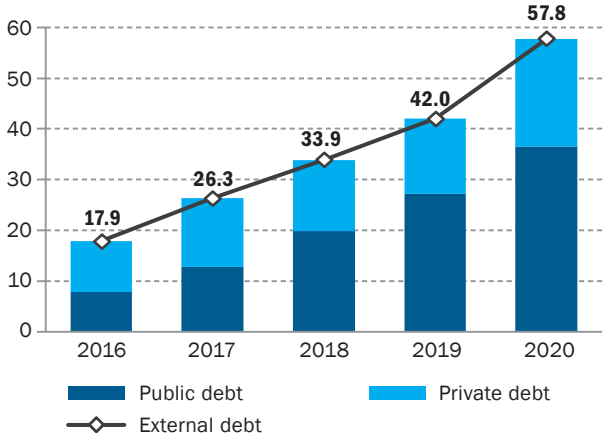


Figure 13. Uzbekistan's External Debt *(% of GDP, EoP)*



Source: Central Bank of Uzbekistan, Goskomstat UZ.

Uzbekistan's largest trading partners are China, Russia, Turkey, and Kazakhstan (see Table 1). Goskomstat UZ classifies almost half of Uzbekistan's exports under "Special Categories". Breakdown by partner countries for such categories is not available. Judging by the mirror statistics published by UN Comtrade, those are gold exports. In 2020 Uzbekistan's gold was imported by the United Kingdom (almost 100 tonnes, worth USD 5.97 billion), according to UN Comtrade.

Almost half of the goods imported by Uzbekistan are machines and equipment. Since 2017, the volume of machines and equipment brought into the country has almost doubled due to a significant growth of domestic investment (see Figure 14). Uzbekistan's major imports include chemicals (17.3% of total imports in 2020), food (10.8%), ferrous metals (7.4%), and energy products (5.5%).

Uzbekistan's exports are dominated by primary commodities. According to Goskomstat UZ, by the end of 2020 the share of gold in total exports reached 44%. More than 10% of deliveries abroad are food, 7% are non-ferrous metals, and more than 6% are chemicals (see Figure 15). The share of energy products in total exports in 2020 went down to 5% (2019: 18%). That was related to the decline in global demand and prices for natural gas due to the COVID-19 pandemic. Over the medium term, the Government of Uzbekistan intends to discontinue natural gas exports, and process all gas inside the country (Prime, 2020b).

The need to finance the current account deficit resulted in an increase of Uzbekistan's external debt in 2018–2020. At the end of 2020, the EDB estimated the country's external debt at 57.8% of GDP. Since the beginning of 2017, it has increased by almost 40% of GDP (see Figure 13).

[2] In 2019, imports of goods accounted for 36.7% of GDP (2017: 20.9%), and exports for 24.1% (2017: 17.2%).

On 1 January 2021, Uzbekistan's reserve assets stood at USD 34.9 billion. That is comparable to Kazakhstan's reserve assets,[3] and exceeds the aggregate reserve assets of Armenia, Belarus, and Kyrgyzstan by a factor of more than 2.5 (see Figure 16). As of 1 January 2021, Uzbekistan's reserve assets were sufficient to cover almost 20 months of imports of goods and services. That is considerably higher than the conventional reserve assets adequacy measure of three months of imports.

Figure 14. Imports of Goods to Uzbekistan *(USD billions)*

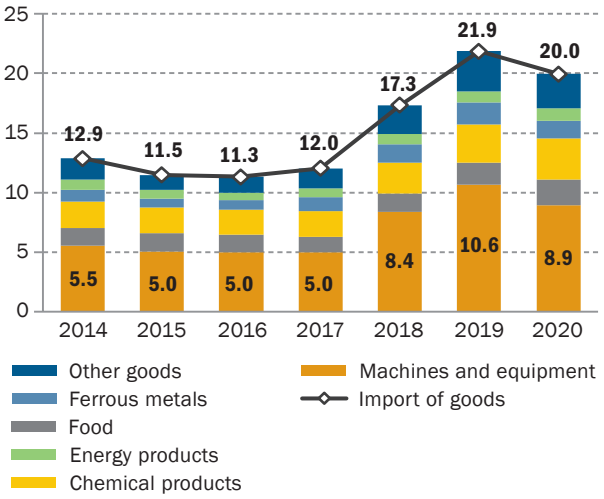
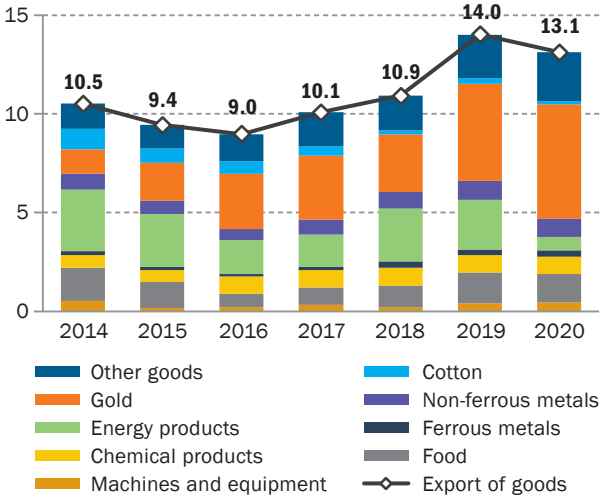


Figure 15. Exports of Goods from Uzbekistan *(USD billions)*



Source: Goskomstat UZ.

Table 1. Main Trading Partners of Uzbekistan *(at the end of 2020)*

A. Uzbekistan's Export Destinations*

Country	Exports *(USD millions)*	Share *(%)*
1. China	1,341	10.2
2. Russia	1,172	8.9
3. Turkey	985	7.5
4. Kazakhstan	761	5.8
5. Kyrgyzstan	740	5.6
6. Afghanistan	571	4.4
7. Tajikistan	289	2.2
8. Canada	141	1.1
9. Iran	136	1.0
10. Ukraine	119	0.9
EAEU Countries	**2,716**	**20.7**
Total Exports	**13,124**	**100.0**

B. Uzbekistan's Import Sources

Country	Imports *(USD millions)*	Share *(%)*
1. China	4,426	22.2
2. Russia	4,080	20.4
3. Kazakhstan	2,094	10.5
4. South Korea	1,935	9.7
5. Turkey	1,073	5.4
6. Germany	692	3.5
7. Lithuania	471	2.4
8. Czech Republic	456	2.3
9. India	420	2.1
10. Turkmenistan	396	2.0
EAEU Countries	**6,536**	**32.8**
Total Imports	**19,955**	**100.0**

Note: * Half of Uzbekistan's exports are assigned to special commodity categories for which no partner country information is available.

Source: Goskomstat UZ.

[3] The National Bank of the Republic of Kazakhstan also manages the assets of the National Fund of the Republic of Kazakhstan, which at the beginning of 2021 amounted to USD 58.7 billion.

Liberalisation of the currency market in 2017 contributed to strengthening the export potential and competitiveness of Uzbekistan's economy. The government moved to the floating exchange rate regime, lifted restrictions from current account payments and transfers, took steps to soften FDI inflow limitations, and permitted the sale of FX cash to individuals residing in the country (IMF, 2020a). The Uzbek som weakened against the US dollar by 72% in 2017, and by 58% in 2018 (see Figure 17). Combined with the other measures, that made it possible to eliminate multiple exchange rates.

Figure 16. International Reserve Assets of Uzbekistan and the EAEU Member Countries
(USD billions as of 1 January 2021)

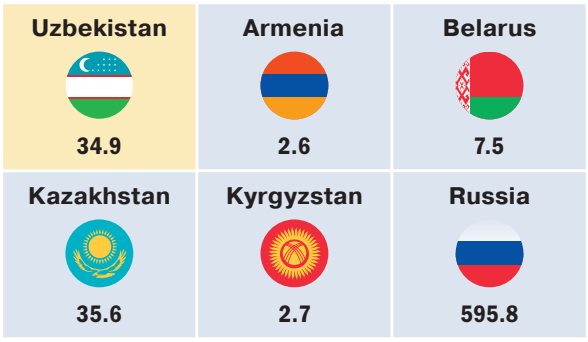
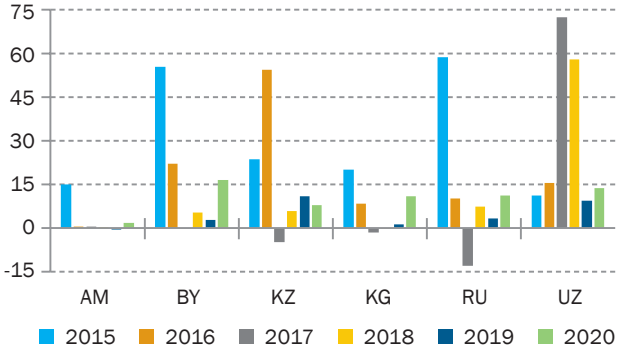


Figure 17. Changes in Average Rates of National Currencies against the USD
(% y/y)



Source: EEC, central/national banks of the EAEU member countries and Uzbekistan, CEIC.

1.4. Fiscal Policy

The consolidated budget of the Republic of Uzbekistan relative to GDP lies within the range typical for the EAEU region. In 2016–2020, the share of public expenditures and public revenues in the GDP averaged 26.4% (see Figure 18) and 26.5% (see Figure 19), respectively. In the EAEU member countries, those parameters range from 22.0% to 38.7% of GDP for revenues, and from 19.2% to 28.2% of GDP for expenditures.

Figure 18. Consolidated Budget Expenditures
(% of GDP, average for 2016–2020)

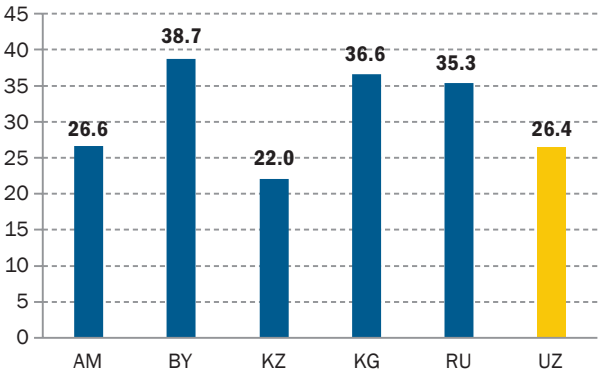
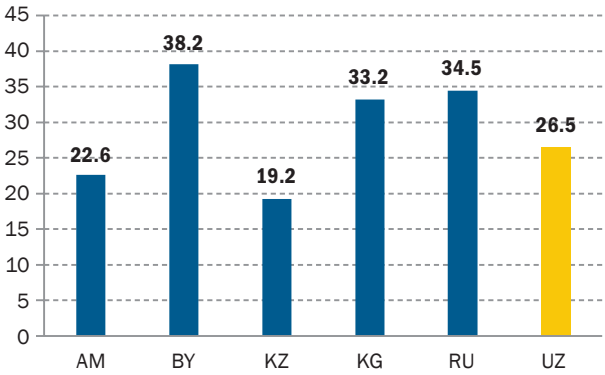


Figure 19. Consolidated Budget Revenues
(% of GDP, average for 2016–2020)



Source: Authors' calculations based on IMF data.

Since the middle of the 2010s, external public debt has been growing because of the expanding BoP current account deficit (see Figure 13). In particular, external liabilities[4] of the government increased from USD 5.4 billion to USD 21.1 billion (3.5% of GDP). The increased debt in 2020 was largely attributable to the borrowings raised by the government to combat the pandemic.[5] More than 95% of Uzbekistan's external public debt is denominated in foreign currencies, which increases exposure of the country's public finance to FX risks.

In 2020, the Government of Uzbekistan established an anti-crisis fund in the amount of USD 1 billion (about 2% of GDP), seeking to overcome the negative aftermath of the pandemic (IMF, 2020b).[6] The government also took steps to temporarily relieve the tax burden, and increased the amount of loans extended through the Reconstruction and Development Fund. Additional spending resulted in the budget deficit expanding to 3.3% of GDP at the end of 2020 vs. 0.3% of GDP at the end of 2019.[7]

Over the medium term, the Government of Uzbekistan intends to improve the sustainability of public finance. To that end, the deficit of the consolidated budget will be reduced to less than 2% of GDP. According to IMF estimates (IMF, 2020c), the government's plan will make it possible to stabilise public and publicly guaranteed debt at around 35% of GDP. In that case, the probability that the government will encounter any debt service problems remains low.

1.5. Monetary Policy and the Financial Sector

The Central Bank of the Republic of Uzbekistan is in the process of transition to an inflation-targeting regime. Transformation of the country's monetary policy in that direction was initiated by the government in 2017 (President of the Republic of Uzbekistan, 2017a; 2017d). Liberalisation of the currency market became the key reform. The Central Bank was given additional monetary policy and banking supervision powers. Inflation targets were set at 10% for 2021, and at 7.5% for 2022. Starting in 2023, the Central Bank of the Republic of Uzbekistan expects to move to targeting inflation at a permanent rate of 5%. The key rate is the main monetary policy tool. The Central Bank uses open market operations to ensure that short-term interest rates in the interbank loan market are set close to the key rate within the approved interest rate corridor. The Central Bank conducts currency interventions to smoothen short-term fluctuations of the som exchange rate. The impact that operations with gold have on money supply is sterilised.

In 2020, ordinary loan interest rates converged with soft loan interest rates, and soft lending volumes were reduced (see Figure 20 and Figure 21). It is expected that more steps in that direction will be made in 2021: banks will receive the right to independently set interest rates and, where necessary, use partial interest rate setoff mechanisms (President of the Republic of Uzbekistan, 2019).

[4] Based on National Summary Data Page.

[5] The Government of Uzbekistan hopes to get USD 1 billion in soft loans from international financial institutions (UNDP and Ministry of Finance of the Republic of Uzbekistan, 2020), and plans to issue treasury bonds with a total principal amount of UZS 1.4 trillion.

[6] The anti-crisis fund was abolished by Resolution of the President of the Republic of Uzbekistan on 1 January 2021.

[7] According to IMF estimates.

Implementation of those measures within the framework of consistent and coordinated monetary and fiscal policies will be conducive to the attainment of the inflation targets set by the Central Bank for 2021–2023.

Commercial banks with state equity participation play the key role in Uzbekistan's financial sector (their share in total banking system assets is 85%). At the beginning of 2021, there were 32 active banks in the country (Central Bank of the Republic of Uzbekistan, 2020b). The government has equity stakes in the largest of those banks, such as Uznatsbank (the country's largest bank), Uzpromstroybank, Asaka bank, Ipoteka bank, Agrobank, Narodny bank, etc. Hamkorbank is the only 100% privately owned bank in the Top 10 of Uzbekistan's banks with the largest assets.

Figure 20. Changes in Interest Rates
(%)

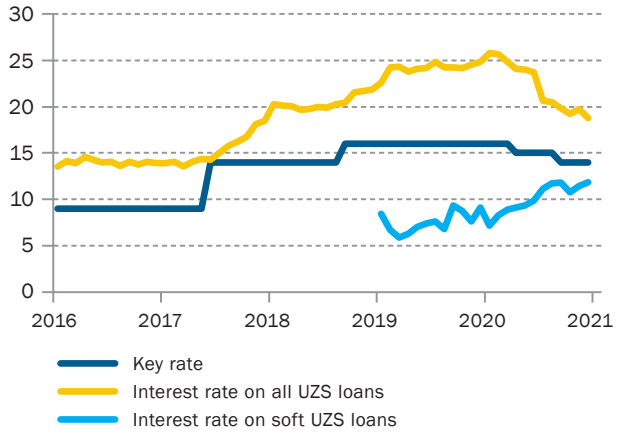
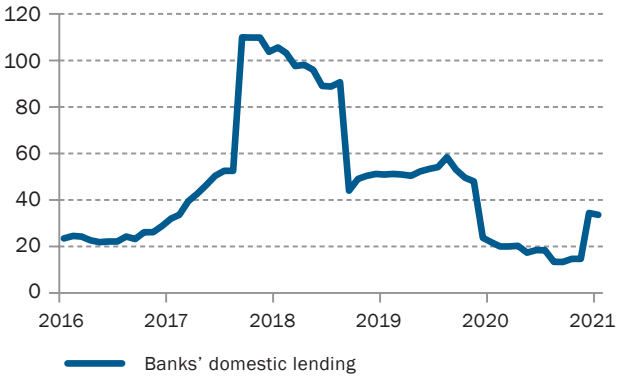


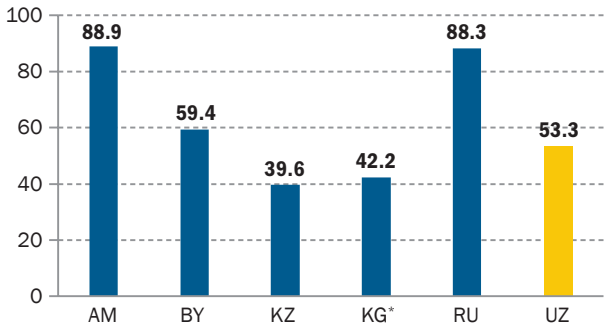
Figure 21. Changes in Total Business Loans
(% y/y)



Source: Central Bank of the Republic of Uzbekistan.

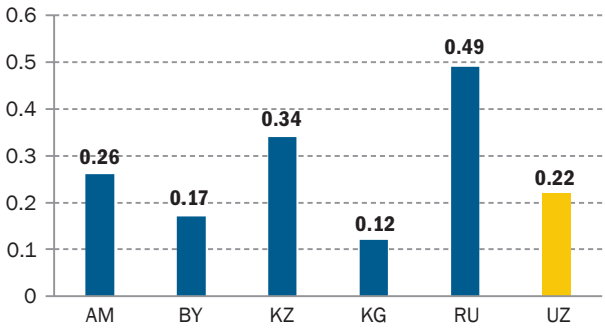
In terms of sophisticati**on of the financial system, Uzbekistan is comparable to most EAEU member countries** (see Figure 23). The depth of Uzbekistan's bank sector (measured as the ratio of total bank assets to GDP) is greater than in most Central Asian countries (see Figure 22). Bank sector assets have increased due to the rapid growth of lending in the country in 2017–2019. During that period, commercial banks' domestic lending grew by a factor of 3.8.

Figure 22. Commercial Bank Assets
(% of GDP as of 1 January 2020)



Note: * as of 1 October 2020.
Source: Central (national) banks of the EAEU member countries and Uzbekistan.

Figure 23. Financial Development Index*



Note: * in 2018.
Source: IMF.

To strengthen Uzbekistan's economic growth potential and create new jobs, it is critically important to facilitate access of small and medium businesses to financing. According to the International Finance Corporation, the SME funding gap in Uzbekistan stands at about 17% of GDP. The key obstacles include high interest rates, collateral and guarantee requirements of the banks, and complicated lending procedures (IFC, 2017).

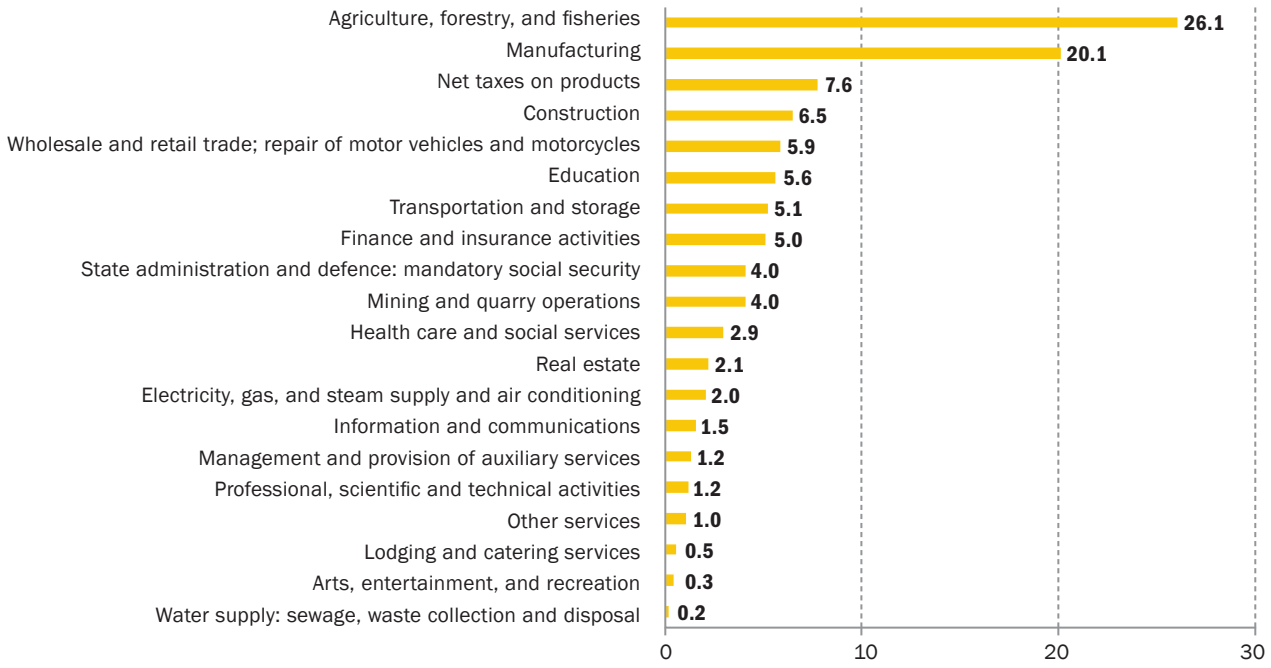
1.6. Sector-Specific Development

Metallurgical Industry

The leading industrial sector is metallurgy (ore mining and production of metals). The share of that sector in total industrial output increased from 8.1% in 2010 to 21.6% in 2020 (see Figure 25). The metallurgical industry has been growing at 4.5% per year. During the COVID-19 pandemic, the sector provided significant support to the economy: in 2020, it reported growth at the rate of 6.3% (see Annex 2).

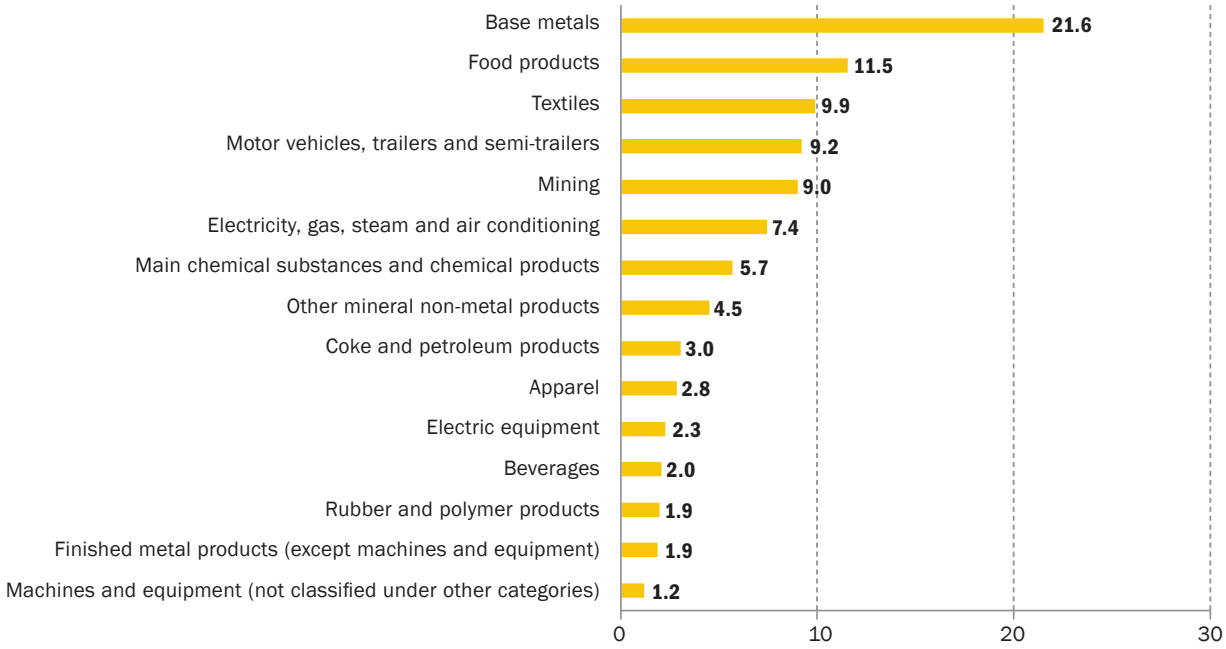
Structurally, metallurgy is dominated by non-ferrous metals, as Uzbekistan has rich deposits of noble, non-ferrous, and rare metals. According to the *State Program for Development and Reproduction of the Mineral and Material Base for 2020–2021*, Uzbekistan intends to double gold and silver production from 150 tonnes to 300 tonnes per year (Prime, 2019). The Government of Uzbekistan has announced plans to invest up to USD 750 million in development of the Muruntau Field (Gold and Technologies, 2020). Government plans also include development of the jewellery sector. The ferrous metals sector still does not have a sustainable mineral and material base.

Figure 24. Sectoral GDP Structure in 2020 *(%)*



Source: CEIC.

Figure 25. Top 15 Industrial Sectors in 2020
(% of total industrial output)



Source: CEIC.

Food Industry

Food production remains important for the economy despite the significant decrease of the share of that sector in total industrial output from 14.5% in 2010 to 11.5% in 2020. In 2010–2020, the food industry grew at 8.9% per year. The sector has a priority status due to its strategic and social significance in dealing with food safety and employment policy issues (Trade Representative Office of the Russian Federation in the Republic of Uzbekistan, 2018). State-wide and regional development programs envisage large-scale investment projects aimed at deep conversion of raw materials and deployment of innovative technologies. During the COVID-19 pandemic, the sector provided significant support to the economy: in 2020, the food industry reported 8.7% growth (see Annex 2).

Agriculture

Agriculture plays a key role in Uzbekistan's economy. In 2010–2020, its share in GDP decreased slightly from 28.7% to 26.1% (see Figure 24). The sector is characterised by steady growth (4.7% average per year in 2010–2020). In 2020, agriculture reported growth at the rate of 3.0% during the COVID-19 pandemic. Among CIS countries, Uzbekistan is one of the leading producers of cotton, fruits, vegetables, and berries.

Mechanical Engineering

Car manufacturing was one of the flagships of Uzbekistan's industry in 2010–2020. The share of that sector in total industrial output remains relatively steady at about 9% (2020: 9.2%). Annual output growth in that sector has averaged 15.1% due to state support measures and steps taken to close the domestic market to foreign companies (high duties and VAT). Motor vehicles are used in the domestic

market and exported to the EAEU/CIS and other countries. In 2020, the sector reported a 0.2% year-on-year decline caused by the adverse impact of the COVID-19 pandemic (see Annex 2).

Other notable mechanical engineering segments are agricultural engineering and electrical engineering. The first segment is represented by the holding company Uzagrosanoatmashholding. The company combines eight large enterprises that manufacture tractors, trailers, cotton and grain harvesters, and various tilling, sowing, forage harvesting, and spraying machines. The second sector is represented by JSC Uzeltechsanoat, which combines 50 enterprises that manufacture electrical products, cables, and household appliances.

Light Industry

The textile and clothing/knitting industry (apparel production) form the basis of Uzbekistan's light industry sector, and is developing at a rapid pace. In 2010–2020, those segments reported average annual growth of 9.4% and 11.8%, respectively. Despite that, their combined share in the economy has somewhat declined – from 14.5% of total industrial output in 2010 to 12.7% in 2020 (see Annex 2). Development of Uzbekistan's light industry is closely linked to the republic's cotton production potential and the government's plans to increase the technological sophistication of manufacturing and expand local production (tax preferences, soft loans, subsidies, etc.).

Mining

Mineral exploration in Uzbekistan focuses primarily on production of all types of organic fuels, such as oil, natural gas and gas condensate, brown and semi-coking coal, and combustible shales. A total of 235 oil and gas fields have been discovered in Uzbekistan's five oil and gas regions, with deposits of non-associated gas, oil, and condensate found in 199, 121, and 157 fields, respectively (Trade Representative Office of the Russian Federation in the Republic of Uzbekistan, 2018). Coal is produced at three fields. Proven natural gas reserves in Uzbekistan amount to about 1.85 trillion cubic metres (0.6% of total world reserves, 21st position in the world), while oil reserves stand at about 82 million tonnes (44th position in the world), and coal reserves at 1,900 million tonnes. Uzbekistan is actively expanding extraction of potassium salts, rock phosphates, kaolin, and many types of raw materials used for the production of construction materials.

Following implementation of a number of large-scale projects, the average annual growth rate reported by the mining industry in 2010–2019 was 6.5%. Still, its share in total industrial output has decreased slightly from 15% in 2010 to 13.5% in 2019 (2020: 9%, see Annex 2). Due to the COVID-19 pandemic, in 2020 the mining industry has posted a significant decline (-21.9% y/y), which had a material effect on overall industrial output. Enterprises were forced to comply with quarantine restrictions, which delayed implementation of investment projects. Natural gas exports sustained a major decline due to shrinking demand. In particular, exports of natural gas to China decreased by a factor of 3, while exports to Russia stopped completely (Prime, 2020a; Babadzhanov, 2020).

Services and Transport

The Services sector generally plays the dominant role in Uzbekistan's economy. In 2010–2020, its share in GDP stayed within the 31–37% range (2020: 33.5%). The sector accounts for more than 40% of total jobs.

Development of Uzbekistan's transport and logistics infrastructure – accompanied by industrial output growth, accelerated development of tourism, and expansion of trade networks – had a predictably positive impact on freight turnover, and on transport services in general.

According to Goskomstat UZ, over the last several years freight traffic (excluding pipelines) in Uzbekistan has been growing at an average rate of 6% per year. At the end of 2020, total freight traffic amounted to 1.3 billion tonnes,[8] a 4.5% increase year-on-year. Road transport reported the largest freight traffic. In 2020, its share in total freight volume (excluding pipelines) stood at 94.7% (1.2 billion tonnes). Railway transport accounted for 5.3% of total freight volume (0.07 billion tonnes) (see Figure 26).

In 2020, freight turnover by all types of transport (excluding pipelines) amounted to 40 billion tonne-kilometres, which is 1.2% more than in 2019. In the 2020 EoY freight turnover structure by type of transport (excluding pipelines), railway transport held the leading position with 59.6%, while road transport accounted for 39.9% (see Figure 27).

Figure 26. Freight Traffic Structure by Type of Transport *(%)*

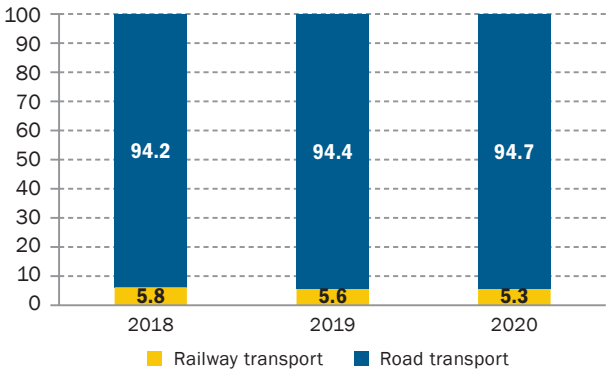
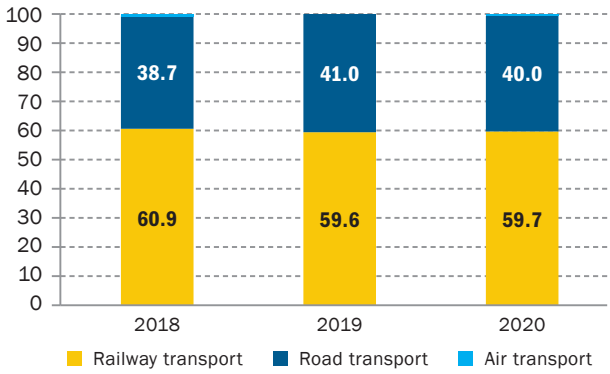


Figure 27. Freight Turnover Structure by Type of Transport *(%)*



Source: Goskomstat UZ.

The share of transport services in total services at the end of 2020 was 24.6%. In terms of type of transport, road transport and railway transport accounted for 54.3% and 15.1%, respectively. The remaining 30.6% was distributed among pipeline services, air transport services, and auxiliary transport operations (17.6%, 5.8%, and 7.2%, respectively).

Efficiency of transport and logistics services is directly linked to the state of transport infrastructure (see Section 3.2 for additional information). To improve the efficiency of transport services, the government is conducting institutional and legal reforms, and actively implementing large-scale projects designed to enhance road, railway, and aviation infrastructure and expand logistical centres. Uzbekistan is actively working on incorporation in existing transport corridors, such as China–EAEU–EU and Europe–Caucasus–Asia (TRACECA), and expansion of transport links to Central Asia (CAREC), Iran, Afghanistan, Turkey, and other countries. Several large-scale projects are under way to expand local road networks and complete electrification of railways. There are plans to modernise stations and airports, and implement modern urban transport solutions.

[8] For comparison, according to the EEC, in Russia that indicator stood at 7.8 billion tonnes, in Kazakhstan at 4 billion tonnes, and in Belarus at 0.4 billion tonnes.

2. INTERACTIONS BETWEEN UZBEKISTAN AND THE EDB MEMBER COUNTRIES: TRADE, INVESTMENTS, LABOUR MARKET

2.1. Mutual Trade between Uzbekistan and the EDB Member Countries and Its Potential

The reforms implemented by the Government of Uzbekistan since 2017 have invigorated the country's external trade. The Economic Openness Index (ratio of external trade turnover to GDP) increased from 24.8% of GDP in 2016 to 62% in 2019 (2020: 57.3%). One of the vectors envisaged by the *Action Strategy for Further Development of Uzbekistan in Five Priority Areas in 2017–2021* ("Strategy 2017–2021") is expansion of external trade ties, primarily through cooperation with neighbouring countries. Three of those – Kazakhstan, Kyrgyzstan, and Tajikistan – are EDB member countries. In addition, priorities set by the Strategy 2017–2021 include the strengthening of bilateral cooperation with Russia. Other important development areas are import substitution, promotion of agricultural exports, geographical diversification of deliveries to foreign markets, increasing the share of high value-added products in total exports, and preparation for accession to the WTO.

The steps taken to promote exports[9] and optimise imports have increased Uzbekistan's trade turnover with the EDB member countries: In 2019, it reached a 20-year high of USD 10.7 billion (see Figure 28). The COVID-19 pandemic slowed that process down, and in 2020 the aggregate turnover with the EDB member countries decreased to USD 9.6 billion (29.8% of the republic's total external trade turnover).

During the external trade recovery period (2016–2019), Uzbekistan's exports to the EDB member countries increased by a factor of 1.8 from USD 2.3 billion to USD 4.2 billion (see Figure 29). During that period, exports to Russia and Kazakhstan increased by a factor of 1.7 and 1.4, respectively, and in 2019 reached USD 1.2 billion and USD 761 million, respectively. As regards Tajikistan and Kyrgyzstan, the growth was even more impressive, with exports increasing by a factor of 6.7 and 6.5, respectively. In 2019, exports to Belarus reached a 20-year high of USD 44.4 million.

[9] The lifting of restrictions on the conversion of the Uzbek som was an effective external trade incentive.

Figure 28. Uzbekistan's Trade Turnover with the EDB Member Countries

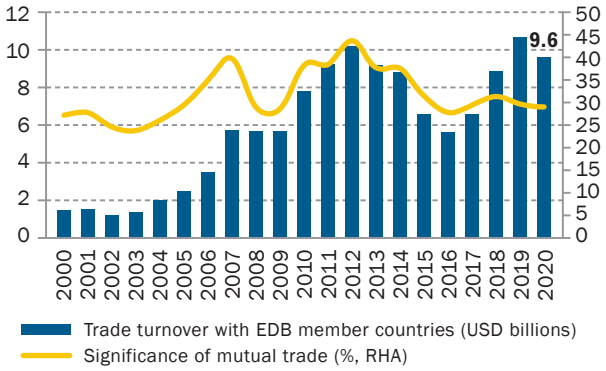
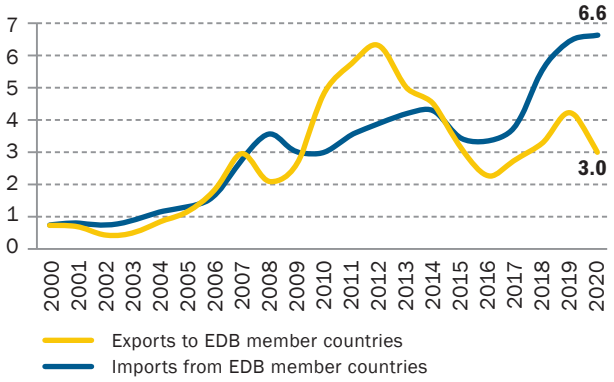


Figure 29. Uzbekistan's Export and Import Operations with the EDB Member Countries *(USD billions)*



Source: Calculations based on Goskomstat UZ data.

In 2020, with the COVID-19 pandemic leading to imposition of quarantine restrictions and reduction of demand and economic activity, Uzbekistan's exports to the EDB member countries decreased by 28.9% y/y to USD 3 billion. Notably, during the same period the trade turnover with Armenia, Kyrgyzstan, and Tajikistan continued to grow at a high rate in value terms.

Recovery of external trade was accompanied by a transformation of the structure of Uzbekistan's exports – specifically, an increase of the share of high value-added products (products of light industry, mechanical engineering, and the chemical industry). Still, at the end of 2019, fuel and energy products (primarily natural gas) became the leading commodity group in the structure of Uzbekistan's exports, at about 34% of the total exports to EDB member countries.

Over the last five years, Uzbekistan's imports from the EDB member countries were considerably higher than exports to those countries. The negative balance of trade between Uzbekistan and the EDB member countries in 2020 amounted to USD 3.6 billion, or 6.3% of GDP (see Figure 30). The largest deficit was reported in trade with Russia and Kazakhstan, which accounted for 54.5% and 29.6% of the aggregate turnover, respectively (see Figure 31).

Figure 30. Balance of Uzbekistan's External Trade

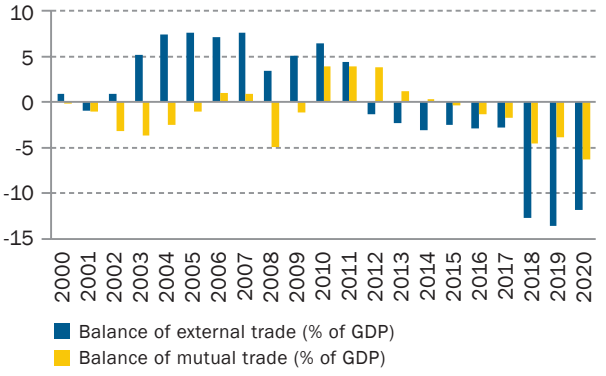
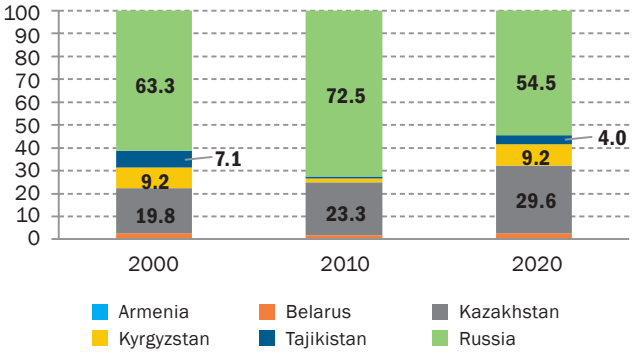


Figure 31. Country Structure of Trade Turnover with the EDB Member Countries *(%)*



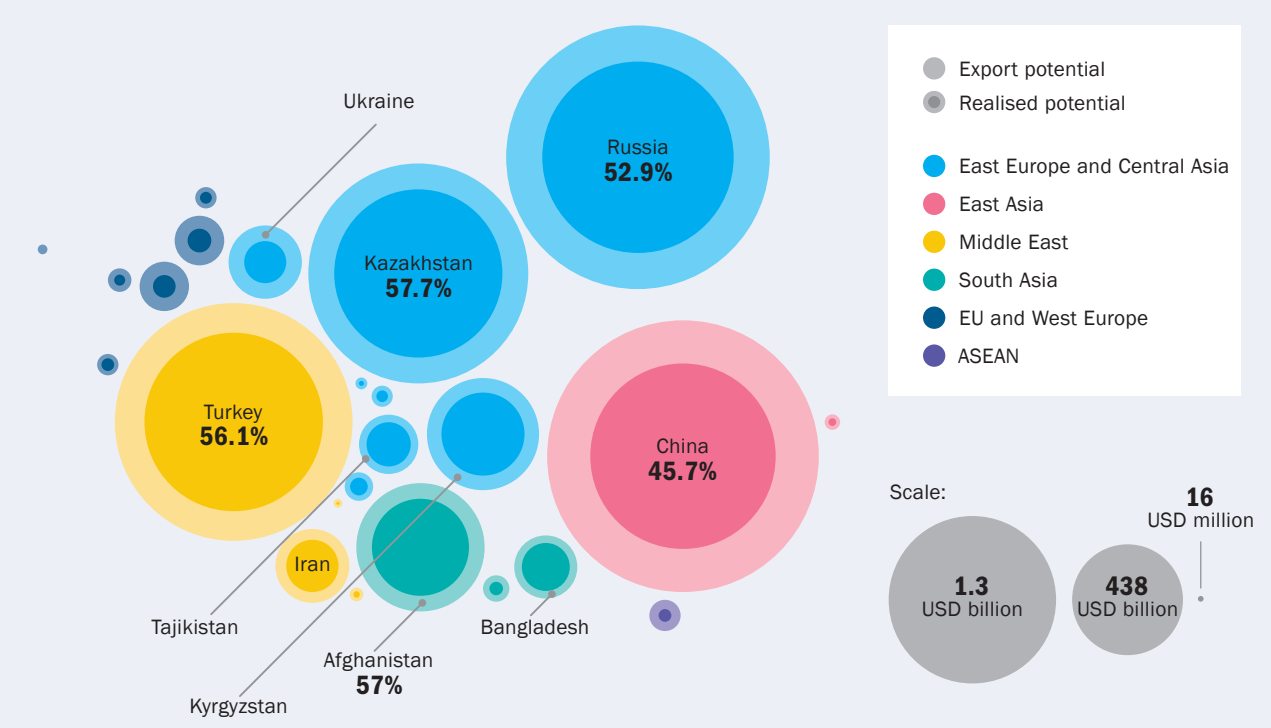
Source: Calculations based on Goskomstat UZ data.

Mutual Trade Potential

According to the International Trade Centre (ITC) and UNCTAD, **the markets of China, the Russian Federation, and Turkey have the highest potential for exports from Uzbekistan.**[10] In addition to Russia, the Top 10 best export destinations include three other EDB member countries: Kazakhstan, Kyrgyzstan, and Tajikistan.

According to the ITC, **the aggregate unrealised export potential of Uzbekistan relative to the existing EDB member states is estimated at USD 1.2 billion**. Russia remains the most promising sales market, with an unrealised export potential of USD 559 million (see Figure 32). By comparison, for China, traditionally one of the largest trading partners of the republic, that indicator stands at USD 696 million. The unrealised export potential of Uzbekistan relative to Kazakhstan, Kyrgyzstan, and Belarus is USD 363 million, USD 125 million, and USD 61 million, respectively (for more details on Uzbekistan's export potential, see Annex 3).

Figure 32. Markets with the Highest Potential for Uzbekistan's Exports



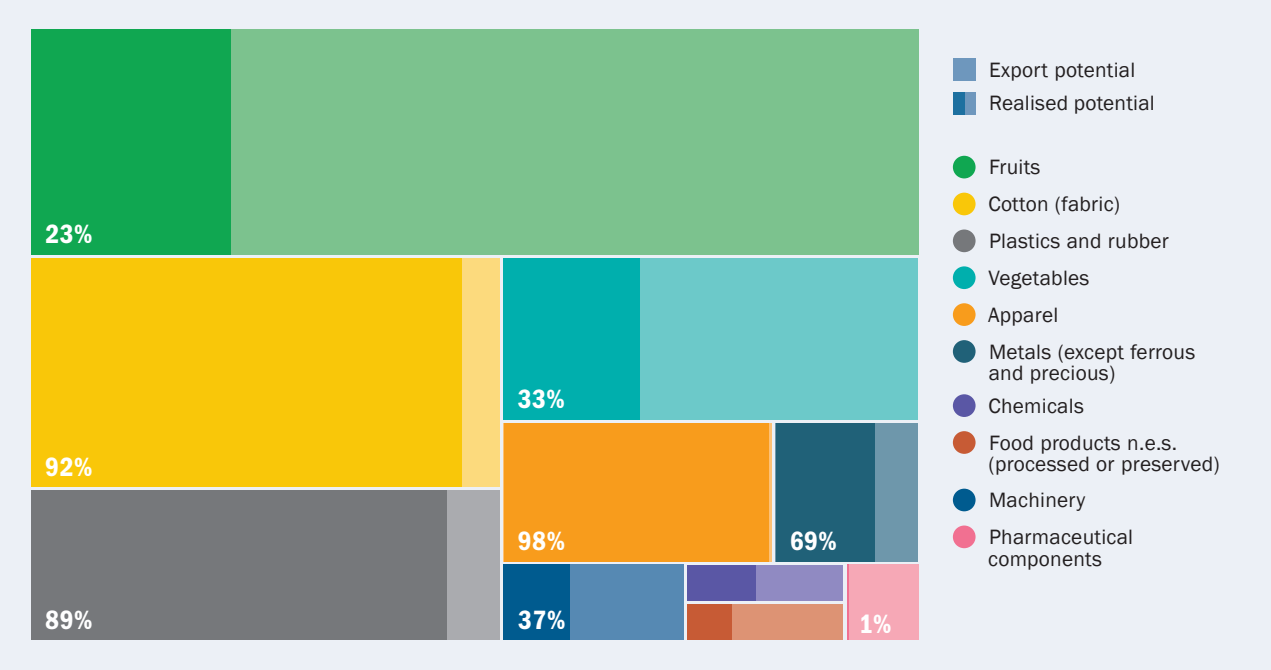
Note: Percentages indicate the realised share of the export potential.
Source: Export Potential Map (ITC).

The sectors which currently account for substantial shares in total exports to, and imports from, the EAEU have the largest growth potential in the event of full-fledged economic integration between Uzbekistan and the Union. For example, **exports of food products to Russia may triple** (see Figure 33).

[10] Export potential assessment methodology is described in Decreux and Spies (2016).

According to the World Bank (2018c), the comparative advantage that Uzbekistan has in terms of horticultural production can be attributed both to the favourable agroecological conditions, conducive to cultivation of high-quality fruits and vegetables at a relatively low cost, and the growing exports.

Figure 33. Top 10 Commodity Groups with the Largest Unrealised Potential in the Structure of Uzbekistan's Exports to Russia



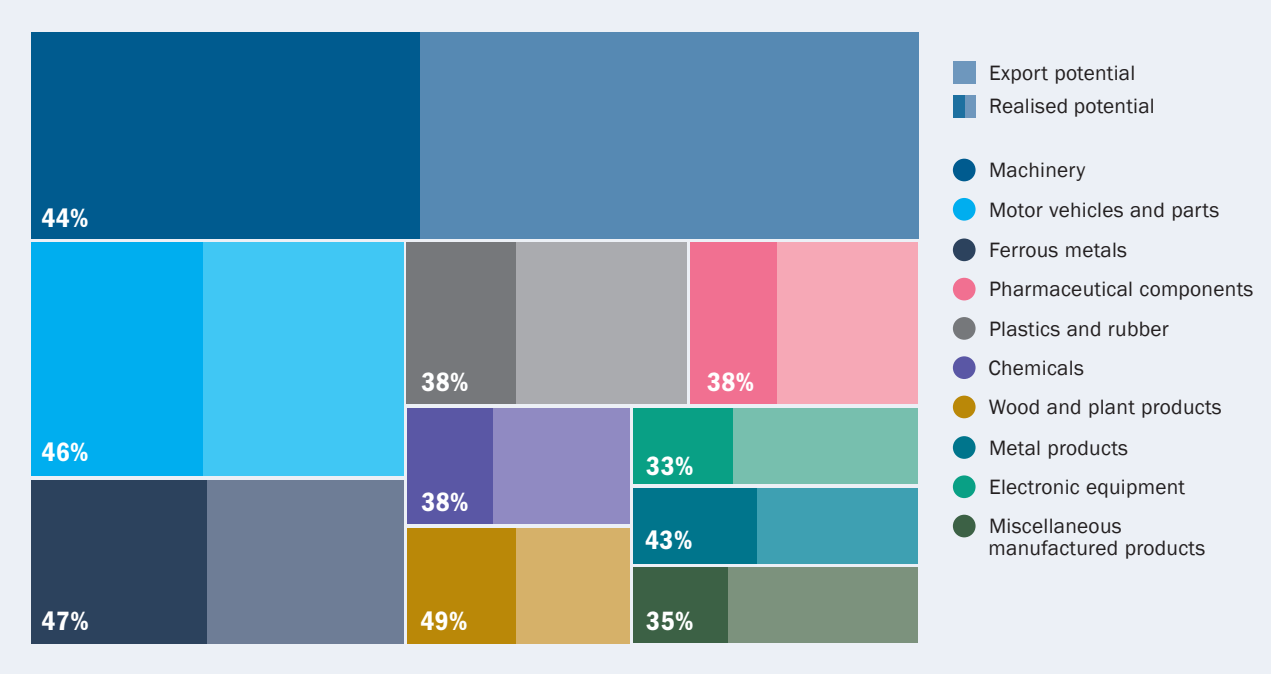
Note: Percentages indicate the realised share of the export potential.
Source: Export Potential Map (ITC)

Both tariff and non-tariff factors give Uzbekistan a competitive edge in the markets of the EDB member countries. On the one hand, in 2013 Uzbekistan joined the CIS free trade area, and no import duties are used in the mutual trade among member countries. That creates a contrast with the situation in China and Turkey, which actively employ tariffs to reduce imports of agricultural produce.

On the other hand, a review of non-tariff barriers that apply to Uzbekistan's key exports shows that the number of regulatory restrictions imposed by its trading partners on imports from the country is widely varied. For example, according to the ITC, in China Uzbekistan's exports face the most non-tariff barriers, while in Russia and Kazakhstan they are comparable and relatively lenient.

Potential for the growth of exports by the EDB member countries to Uzbekistan can be realised because the republic has a large and expanding market. The most promising exports to Uzbekistan are, first and foremost, high value-added commodities (mechanical engineering products), as well as ferrous metals, plastics, and rubber (see Figure 34).

Figure 34. Top 10 Commodity Groups with the Largest Unrealised Potential in the Structure of Uzbekistan's Imports



Note: Percentages indicate the realised share of the export potential.
Source: Export Potential Map (ITC).

An analysis of ITC data on the most promising areas of Uzbekistan's imports shows that the EDB member countries can increase export flows in a number of commodity groups. **Russia has the most significant potential for the growth of exports to Uzbekistan, at USD 1.2 billion.** A comparison of unrealised potential and actual exports indicates that almost all EDB member countries can considerably increase their exports to Uzbekistan. The exception is Kazakhstan, whose unrealised potential regarding exports to Uzbekistan is much less than the actual exports (see Annex 4).

2.2. Investment Cooperation between Uzbekistan and the EDB Member Countries

Investment cooperation between the EDB member countries and Uzbekistan displays a steady positive trend. Despite the fact that official statistical publications of central (national) banks describe Uzbekistan as a net exporter of FDI to the EDB member countries (see Annex 5), we can, with a certain degree of certainty, claim the opposite. In 2017, the EDB already estimated the volume of export of investments by the Bank's member countries at USD 5.4 billion (see Figure 35), and potential exports of Uzbekistan's FDI to the EDB member countries at about USD 50–100 million (see Figure 36) (EDB Centre for Integration Studies, 2017). Updated estimates of mutual investments by the Bank's member countries and Uzbekistan at the end of 2020 will be presented in a report entitled *EDB Monitoring of Mutual Investments,* which is scheduled for publication in the autumn of 2021.

Figure 35. FDI by the EDB Member Countries in Uzbekistan *(USD billions, EoP)*

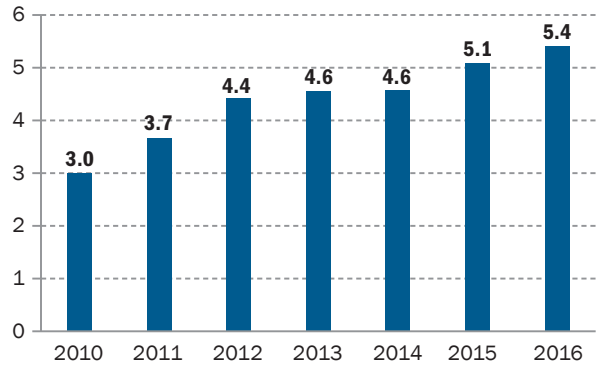
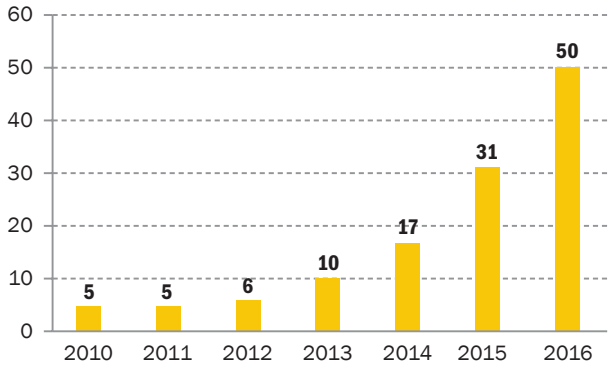


Figure 36. FDI by Uzbekistan in the EDB Member Countries *(USD millions, EoP)*



Source: EDB Centre for Integration Studies (2017).

Russia is the main exporter of direct capital investments in the economy of Uzbekistan. The volume of Russian FDI in Uzbekistan is estimated at more than USD 9 billion, including almost USD 8 billion of investments by PJSC LUKOIL in the Gissar and Kandym–Khausak–Shady projects (exploration and production of natural gas) (LUKOIL, 2019).

Other investors in exploration and production of hydrocarbons in Uzbekistan include the Russian PJSC Gazprom (Shakhpakhty and Ustyurt Plateau fields) and JSC Zarubezhneft (South Alamyshik, Khartoum, and East Khartoum oil fields). PJSC Tatneft is expanding its petrol station chain in Uzbekistan.

In addition to the oil and gas industry, Russian companies are focusing on mechanical engineering (localisation of assembly of Rostselmash harvesters and tractors, joint production of PJSC KAMAZ and JSC Uzavtosanoat trucks), communications (LLC Unitel is a subsidiary of the VEON Group), and agriculture and food products.

The total number of companies with Russian equity participation operating in the republic has exceeded 2,000.

Following a series of meetings with official delegations from Russia and Uzbekistan, work is under way on more than 100 industrial cooperation investment projects for a total amount of USD 5.8 billion, designed to organise production, in both countries, of high value-added products for subsequent sale to third-country markets (Ministry of Investments and External Trade, 2020). Some of those projects envisage creation of a joint cotton-textile production and logistics cluster, organisation by the GAZ Group of commercial vehicles production in Uzbekistan, opening of an Oil and Gas Innovation Centre to increase the efficiency of hydrocarbon production, etc. (Ministry of Economic Development of the Russian Federation, 2020).

Among the EDB member countries, **Kazakhstan is the second-largest investment partner of Uzbekistan.** Despite the relatively modest volume of mutual investments, companies from these two countries have significantly intensified their cooperation over the last several years. In 2020, there were more than 900 enterprises with Kazakhstan's equity participation operating in Uzbekistan. Upon

completion of extensive inter-governmental negotiations, the parties drew up a list of 13 investment projects envisaging creation of high-tech joint production facilities in agricultural engineering, light industry, pharmaceutical and food industry, cattle breeding, energy-saving technologies, and processing of agricultural products.

In November 2020, Uzbekistan and Kazakhstan approved a "roadmap" designed to expand and deepen their bilateral cooperation. The countries also discussed a project to create the Central Asia International Trade and Economic Cooperation Centre and strengthen, among other things, industrial cooperation between the two countries (Sputnik Uzbekistan, 2021).

Belarusian enterprises traditionally cooperate with Uzbekistan's companies in the area of mechanical engineering. Joint production projects with Uzbek partners are being implemented by PLC MTZ, PLC MAZ, and PLC Amkodor. In total, more than 80 companies with Belarusian equity participation are currently operating in Uzbekistan.

As of 1 January 2021, Uzbekistan had 183 operating enterprises with Kyrgyzstan's equity participation (+27 in 2020), 187 enterprises with Tajikistan's equity participation (+26), and 34 enterprises with Armenian equity participation (+1) (Goskomstat UZ, 2021a).

According to the Boston Consulting Group, over the next 10 years the **potential for attracting FDI to Uzbekistan is estimated at up to USD 65 billion, including up to USD 20 billion that can be invested in non-commodity sectors** (Abdymomunova et al., 2018). The republic's investment prospects are strongly supported by the improved investment climate in the country, ongoing reforms, macroeconomic stabilisation, positive trends in the liberalisation of legislation, and the overall internal potential of the national economy.

Uzbekistan's traditional sectors have the highest investment potential: oil and gas, textiles, leather and footwear, agriculture and food products, chemicals, mining, as well as some promising new sectors, including construction, finance, and telecommunications.

2.3. Labour Market in Uzbekistan and Labour Migration

Uzbekistan has significant and competitive labour resources. The population increased from 26 million at the beginning of 2005 to 34.6 million at the beginning of 2021. In 2020, total labour resources stood at 19.1 million people, with an economically active population of 14.8 million. That is equivalent to 16% of the total EAEU workforce, which in 2019 was estimated by the EEC at 93.6 million people. For comparison, Kazakhstan accounted for about 10% of the total EAEU workforce, Belarus for 5.5%, Kyrgyzstan for 2.8%, and Armenia for 1.4%. The average monthly salary in Uzbekistan in 2020 was USD 266, which is almost two times less than in Kazakhstan (see Figure 37). Abundant labour resources and low salaries increase the attractiveness of investment in the labour-intensive sectors of Uzbekistan's economy (Alekseyev et al., 2019).

Figure 37. Labour Market Indicators of Uzbekistan and the EAEU Member Countries

	Uzbekistan	Armenia	Belarus	Kazakhstan	Kyrgyzstan	Russia
Workforce *(millions)*	14.8	1.2	5.1	9.2	2.6	74.9
Unemployment *(% of total workforce)*	10.5	18.1	4.1	4.9	5.5	6.1
Remittances *(% of GDP)*	14.8	11.2	2.2	0.3	28.5	0.6
Salaries *(USD)*	266	388	508	515	239	710

Note: (1) workforce data: Uzbekistan, Belarus, Kazakhstan, and Russia – 2020, Armenia – 3Q 2020, Kyrgyzstan – 2019; (2) unemployment data: Uzbekistan – 2020, Armenia – 3Q 2020, Belarus, Kazakhstan, and Russia – 4Q 2020, Kyrgyzstan – 2019; (3) remittances data: 2019; (4) salaries data: 2020.

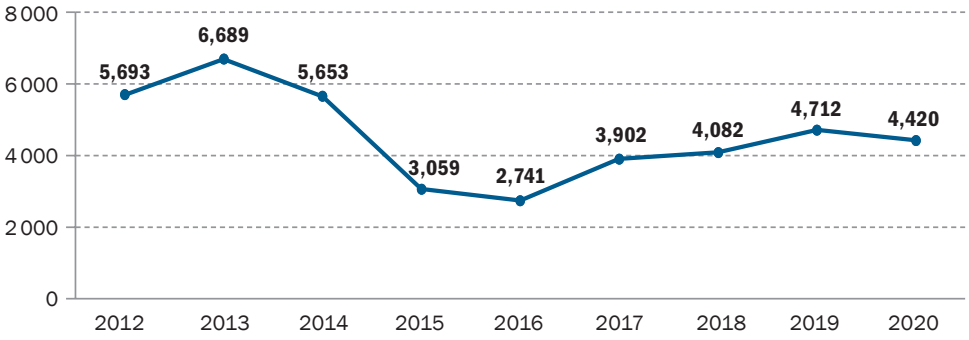
Source: Compiled by the authors based on the data provided by the World Bank, the EEC, national statistical agencies of the EAEU member countries and Uzbekistan.

An urgent problem for Uzbekistan is the shortage of jobs. In 2020, unemployment increased to 10.5% from 9% in 2019. For young people aged 16–30, that indicator reached 17.1%; for women – 14.7%. The number of people in need of employment exceeded 1.6 million. The shortage of jobs in the country forces Uzbekistan's citizens to seek employment abroad. In 2020, about 1.9 million people left the country, or 14.5% of total workforce (Ministry of Employment and Labour Relations of Uzbekistan, 2020). The Agency of Foreign Migration of Uzbekistan estimated the number of migrant workers at 2.6–3 million (Review.uz, 2019).

Uzbekistan is one of the largest supplies of labour resources and recipients of cash remittances in the CIS region. According to the CIS Statistical Committee, the number of migrant workers from Uzbekistan who arrived in the EAEU member countries in 2019 was as follows: Russia – 1,039,160, Kazakhstan – 2,903, Belarus – 1,345 (CIS, 2019). However, in reality the number of Uzbekistan's citizens who arrived in the EAEU member countries (including unregistered labour migrants) may be several times higher than the officially published figures (Gazeta.uz, 2020).

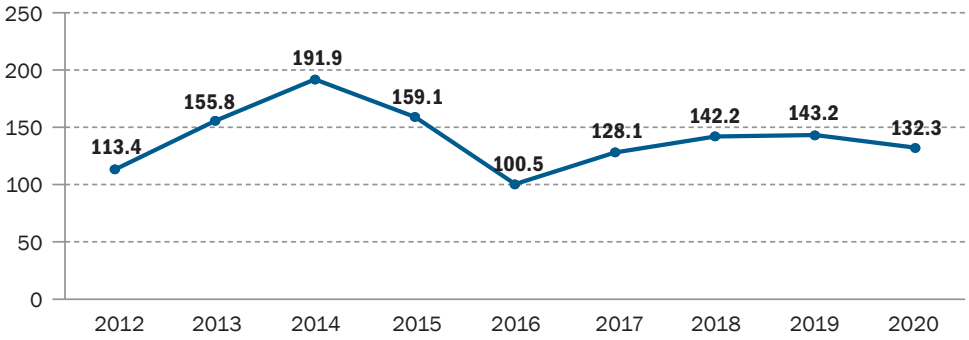
In 2018–2019, total remittances sent by migrant workers to Uzbekistan amounted to about 15% of the country's GDP. According to EDB calculations, in 2020 that indicator decreased to almost 12% of GDP due to the adverse consequences of the pandemic, but remained rather high. The high importance of these transfers increases the republic's exposure to external economic shocks. Only in one EAEU member country, the Kyrgyz Republic, do remittances account for a larger share of GDP (almost 30%). In Armenia, for example, that indicator stands at about 11%. In 2020, cross-border bank transfers from Russia to Uzbekistan amounted to USD 4.4 billion (Bank of Russia, 2020) (see Figure 38), and from Kazakhstan to Uzbekistan – USD 132.3 million (see Figure 39).

Figure 38. Cross-Border Individual Remittances from Russia to Uzbekistan in 2012–2020 *(USD millions)*



Source: Bank of Russia.

Figure 39. Personal Transfers (Individual Remittances) from Kazakhstan to Uzbekistan in 2012–2020 *(USD millions)*



Source: National Bank of the Republic of Kazakhstan.

The COVID-19 pandemic has had a serious impact on migration flows in Uzbekistan. According to the Ministry of Employment and Labour Relations of the Republic of Uzbekistan, it forced almost half a million of Uzbekistan's labour migrants to return home from abroad (Interfax, 2020).

By the end of 2020, as epidemiological restrictions were being lifted, Russia had the most interest (among all EAEU member countries) in attracting labour migrants. Russia's additional workforce needs were estimated at 0.6–1.4 million people, predominantly in the sectors that traditionally prefer foreign workers and have little appeal for the Russians (construction, courier deliveries, goods packaging, etc.). The workforce shortage in Russia could potentially be covered by labour migrants from Uzbekistan.

The republic's labour market is concurrently both a driver and a risk for the country's economic development. The relatively low ratio of involvement of the economically active population in the workforce in Uzbekistan is one of the key risks that may hamper future economic growth. The average number of new jobs created in the republic's economy is 280,000 per year (on a net basis); compare that to 600,000 jobs required each year solely for demographic reasons (World Bank, 2019b).

Creation of new productive jobs is currently the key economic challenge for Uzbekistan. However, because of the weak development of the private sector, the rate of creation of additional jobs lags behind the increasing supply in the labour market. The "Uzbek model" of economic development may be described in terms of growth without generation of a sufficient number of efficient jobs (World Bank, 2018a).

In 2020–2030, the demographic factor will support economic growth in Uzbekistan. Following a sharp reduction in mortality accompanied by rising birth rates, the share of the working-age population in the total population of Uzbekistan has been rapidly increasing since the late 1990s, creating conditions conducive to potential growth of the economy. According to UN estimates, about 70% of Uzbekistan's population will be of working age by 2040 (United Nations, 2017). During that "demographic window", the share of the working-age population (workforce) in the country's total population will reach its peak.

3. DEVELOPMENT OF INFRASTRUCTURE AND POTENTIAL FOR COOPERATION BETWEEN UZBEKISTAN AND THE EDB MEMBER COUNTRIES

3.1. Electricity Sector of Uzbekistan

Due to Uzbekistan's current energy security policy, total installed capacity of the electricity sector increased by 40% from 10.7 GW in 1992 to 15 GW in 2019. Inasmuch as the country has considerable natural gas reserves, it has mainly developed thermal power plants (TPPs). The structure of primary energy resources used to generate electric power at TPPs is dominated by gas (86.6%), followed by coal (10.8%), fuel oil (2.4%), and underground coal-derived gas (0.2%) (Executive Committee of the CIS Electricity Council, 2020). At the end of 2019, total installed TPP capacity amounted to 13.1 GW, or 87% of total capacity (see Table 2). **TPPs account for about 90% of total power generation.**

Table 2. Generating Capacity Structure (2015–2019)

	2015	2016	2017	2018	2019
Installed Capacity (MW)	**12,888.2**	**12,888.2**	**14,038.95**	**14,067.95**	**15,048.55**
TPPs	11,029	11,029	12,129	12,158	13,115
HPPs (>25 MW)	1,637.6	1,637.6	1,682.6	1,682.6	1,682.6
RES (including HPPs <25 MW)	221.6	221.6	227.35	227.35	250.95
Specific reference fuel consumption for electric generation (g/kWh)	374.9	375.8	353.1	354.6	345.5

Sources: CIS Electricity Council, EDB.

Hydro power stations (HPPs) retain their strategic significance in Uzbekistan's energy system, and account for 13% of total generating capacity. There are 42 HPPs in the country, most situated along the Chirchik River. Potential HPP generation capacity is 9 million MWh. Despite the limited volume of renewable domestic water resources (see Table 3), Uzbekistan is already utilising a considerable portion of its hydropower potential: from 27% to 40% (Ministry of Energy of the Republic of Uzbekistan, 2020; Eshchanov et al., 2019). The strategic interest in the development of HPPs is based on their importance for continued power supply during peak load periods, and for dealing with environmental issues and water management issues.

Table 3. Main Characteristics of Central Asia's Water Resources

Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Total water intake, billion m^3/year (2010)				
21.14	8.0	11.5	27.96	56.0
Total renewable domestic water resources, billion m^3/year (2014)				
64.35	48.93	63.46	1.41	16.34
Water dependency ratio (2014)				
40.64	1.13	17.34	97	80.07
Territories that can be used for irrigated cropping, hectares (2015)				
2,066,000	1,023,000	742,000	1,995,000	4,215,000

Source: adelphi and RECCA (2017).

The increase of Uzbekistan's generating capacity has not brought energy self-sufficiency, and the country still depends on mutual regional energy crossflows. Excessive power generation (positive difference between net generation and net consumption) has increased significantly since 2009, and currently averages 18% of net generation (see Figure 40). However, Uzbekistan's participation in mutual electricity crossflows with the neighbouring countries remains limited (see Figure 41). Export and import electricity flows have decreased considerably. This is also typical for the other CA countries, which previously were members of the common Central Asia Power System (CAPS). Still, to support regular electricity supply during peak load periods (particularly in winter) and to evenly distribute it across its entire territory, Uzbekistan has to import electricity from the neighbouring CA countries. Electricity is exported, on a very limited scale, to Afghanistan.

Figure 40. Production and Consumption of Electricity in Uzbekistan *(billion kWh)*

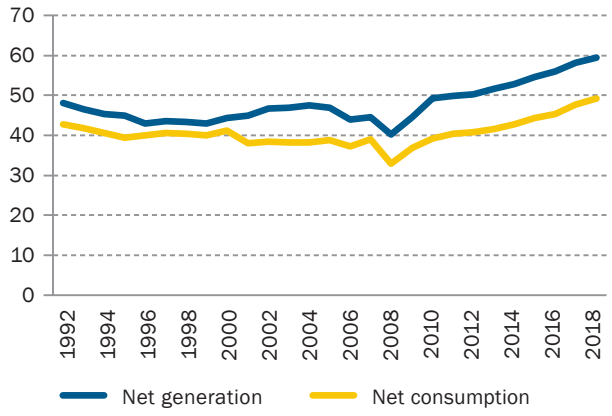
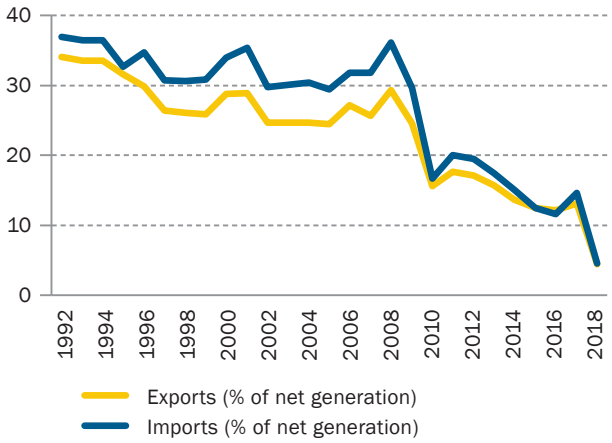


Figure 41. Uzbekistan: Electricity Exports and Imports



Source: EIA.

Uzbekistan's power industry: severe wear and tear on production facilities, large losses, low ECE. The shortage of demand management capacity leads to the need to repeatedly restart power units, resulting in excessive fuel consumption by TPPs. Because of significant wear and tear, TPPs have low ECE (25–35%) and high specific fuel consumption (twice that of modern combined cycle gas turbines [CCGT plants]). Many power grid facilities have been in operation for more than 30 years: 66% of transmission networks; 62% of distribution networks; 74% of substations; more than 50% of transformer units (Ministry of Energy of the Republic of Uzbekistan, 2020). High wear and tear on distribution networks and transformers results in interruptions and declining quality of the power supply. Inferior automation and digitisation of power facilities does not allow for the prevention and rapid elimination of technical failures. As a result, technical and commercial losses in the electricity sector range from 13% to 20% of net generation. According to World Bank estimates, the inefficiency of Uzbekistan's power industry gives rise to losses of about USD 1.5 billion per year, while losses related to substandard supply and disposal of water amount to about 8% of GDP (World Bank, 2016). The lack of solar and wind power generation capacity is a major challenge.

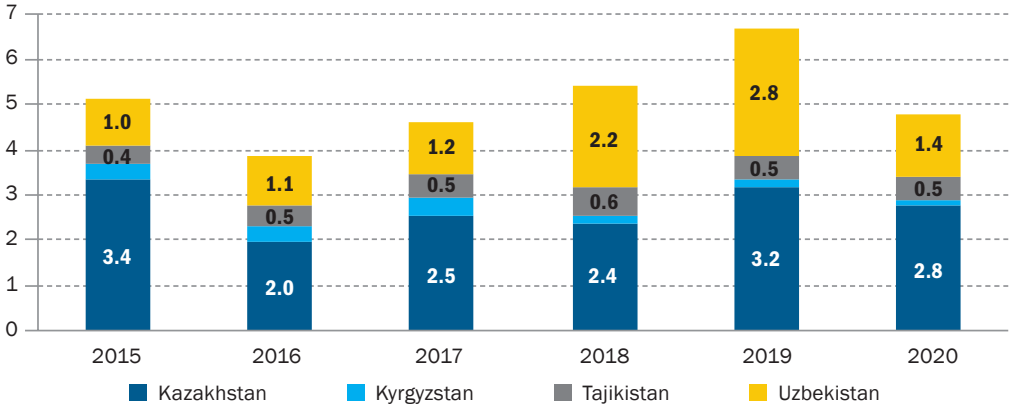
Uzbekistan's industry and agriculture are characterised by high energy intensity. Industry is the largest and the least efficient electricity consumer. The most energy-intensive sectors are metallurgy, construction materials (bricks and cement), chemicals, and mining. Those sectors use obsolescent and inefficient technologies. The high energy intensity of agriculture can be attributed to the sector's strong dependence on water pumping for irrigation, and the inefficiency of the pumping equipment used for this. Seventy-four percent of the electricity in agriculture is used to operate irrigation pumps. More than 94% of pumping stations are past their service lives and need to be replaced; 10.3% out of the 2,887 km of pressure pipelines require replacement (Conceptual Framework for the Development of Water Systems in the Republic of Uzbekistan in 2020–2030, 2020). Most water infrastructure facilities have been in operation for more than 50–60 years.

Agriculture accounts for 89–92% of total water consumption in Uzbekistan. High wear and tear on the irrigation infrastructure results in large water losses (up to 1/3 of total water consumed by agriculture). Minimisation of water losses is the main challenge related to the dearth of water resources, particularly because of the rapid growth of the country's population. In addition to modernisation of the irrigation infrastructure, water consumption can be further reduced by diversification of agricultural crops and water-saving technologies. Inasmuch as Uzbekistan accounts for more than 41% of the irrigated lands in CA (see Table 3), more efficient use of water resources by the country, including for agricultural purposes, will have a beneficial effect on the entire Central Asian region.

State programs and ongoing investment projects are designed to improve energy efficiency. Pursuant to the *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2020–2030*, thermal power plants continue to dominate power generation in the country. Implementation of a "roadmap" is under way to improve energy efficiency and save fuel and power resources at large energy-intensive enterprises. Several documents have been approved to support use of energy conservation technologies, develop hydro power, use renewable energy sources, and attract direct foreign investment in the power industry. Steps are being taken to increase the efficiency of utilisation and regulation of water resources, etc. The government has adopted the *Conceptual Framework for the Development of Water Systems in the Republic of Uzbekistan in 2020–2030.* An appropriate "roadmap" for 2020–2022 is being implemented to ensure attainment of the objectives set forth in the document.

Uzbekistan is one of the leaders of the CA region in the volume of investments in fixed capital[11] for the water and energy complex; in 2015–2019, investments increased by a factor of 2.8 (see Figure 42). However, in 2020, as a result of the COVID-19 pandemic, investments in fixed capital for the water and energy complex decreased by more than 50% to USD 1.4 billion. The country is characterised by a high share of state participation in investment projects for the water and energy complex.

Figure 42. Changes in Investments in Fixed Capital for the Water and Energy Complex in the EAEU Member Countries in 2015–2020 *(USD billions)*



Source: Compiled by the authors using data provided by statistical agencies and CEIC.

Development of the Water and Energy Potential of Uzbekistan will require sizable investments. In 2017, total investments in 32 hydro power generation projects were estimated at USD 2.6 billion. It was planned that 38% of total capital expenditures would be financed by foreign investors and IDBs. The value of investment projects scheduled for implementation in 2020–2030 and envisaging construction of new HPPs and modernisation of existing HPPs using the country's natural watercourses and waterworks was estimated at USD 1.7 billion (President of the Republic of Uzbekistan, 2017c) (see Annex 6).

Realisation of the potential of Uzbekistan's water and energy complex is hampered by the low level of regional cooperation in CA, resulting in considerable economic losses. In the countries located in the lower reaches of water basins (Uzbekistan and Kazakhstan), the problems created by temporary power supply shortages during peak periods have been exacerbated by the shortage of water and low productivity of the agricultural sector. During peak periods, those countries are forced to resort to power outages as a demand management tool, and to import electricity. In the countries that rely heavily on hydro power plants (Kyrgyzstan and Tajikistan), the dissolution of the CAPS aggravated the problem of electricity shortages during the winter and electricity surplus during the summer, and the problem of heavy reliance on imports of fuel. Annual economic damage and unrealised economic benefits in CA are estimated at up to USD 4.5 billion (adelphi and RECCA, 2017), which corresponds to 1.5% of the regional GDP. Losses in agriculture are estimated at 0.6% of CA GDP, and in the energy complex at 0.9% of CA GDP.

CA lacks a consistent inter-governmental policy in the area of development of regional cooperation in the water and energy complex; however, there are some positive changes.

[11] In this Report, the measure of investment in fixed assets of the water and energy complex is a sum total of indicators describing two types of economic activity: (1) supply of electric power, gas, steam, hot water, and conditioned air, and (2) supply of water; collection, processing, and disposal of waste; contamination removal.

In 2017, Uzbekistan, one of the largest consumers of water provided by the region's cross-border rivers, softened its position regarding the construction of the Rogun HPP in Tajikistan; supported the initiative for joint construction (with Kyrgyzstan) of the Kambarata-2 HPP on the Naryn River; took practical steps to restore parallel operation with Tajikistan's power system; and initiated restoration of the CAPS. Kazakhstan has traditionally taken a moderate position on the preservation of the common power system with Kyrgyzstan for mutual electric power supplies, but Kazakhstan opposes the construction of large hydropower facilities along the Syr Darya River without prior approval of all countries within its basin. Kyrgyzstan and Tajikistan are actively promoting projects for construction of large hydropower facilities along the beds of cross-border rivers and mechanisms enabling integrated management of regional hydropower infrastructure, insisting on possible compensation of costs incurred in the course of operation of international hydropower facilities.

Uzbekistan and the other CA countries need to identify new approaches to shaping and steering the regional market on the basis of cutting-edge technologies and digital solutions. New approaches should lead to an optimal allocation of surplus generation, satisfy the region's electricity and water needs using the most economical and environmentally sound methods, and contribute to convergence of pricing approaches. **Return to the CA water and energy complex regulation principles used in the USSR is not a viable option because of the ongoing development of the market economy and the introduction of new decentralised technologies.**

From the regulatory point of view, and considering the membership of Kazakhstan and Kyrgyzstan in the EAEU and the participation of Tajikistan in the EDB and the EFSD, **a future competitive electric power market in CA can emerge only in the context of regional integration.** Accordingly, accession of Uzbekistan to the Eurasian institutions (EAEU, EDB) would facilitate regionally coordinated development of the water and energy complex, simplify the republic's access to international capital resources, improve its investment appeal and thereby increase the inflow of FDI to the power and water industry, eliminate excessive investments, and enable a more efficient solution of the water sufficiency issue at the regional level.

The use of an integrated regional approach for interaction between Uzbekistan and the EDB member countries (instead of *ad hoc* arrangements at the level of individual countries) appears to be the most efficient strategy for settling differences over the international water and energy complex.

3.2. Transport and Logistics Infrastructure of Uzbekistan and Its Potential

Uzbekistan has a unique geographical position. On the one hand, the republic is one of the world's 44 landlocked countries (and all its neighbours are also landlocked). On the other hand, **Uzbekistan could become one of the main nodes of both East–West and North–South transport routes**, even though until 1991 it did not have access to international transport corridors (with the exception of the northern direction).

Since 1991, the government's efforts have been directed at development of the country's transport and logistics infrastructure. During the post-Soviet era, that work has focused on construction of new railways and creation of a common railway network. JSC O'zbekiston Temir Yo'llari (Uzbekistan

Railways), a company established in 1994 on the basis of the former Central Asia Railway, primarily to join the eastern part of the republic with its central regions, built the 700-km Navoiy–Uchkuduk–Sultonuvaystog–Nukus railway (construction completed in 2002). The next line to be built was the 223-km Tashguzar–Boysun–Kumkurgon railway (Dzhurayev, 2019a). A 681-meter railway/motorway bridge across the Amu Darya River was built near the settlement of Tashsaka to improve transport links between Khwarazm Region and Amu Darya District of the Republic of Karakalpakstan. Work is still under way to clear the bottlenecks in the existing transport infrastructure connecting Fergana Valley regions with the central part of Uzbekistan.

Within a relatively short time, Uzbekistan managed to create a network of new railways with a total length of more than 1,200 km, and to modernise and refurbish more than 3,800 km of railway lines (see Figure 43). As a result, the total length of the railways has reached about 6,500 km, of which more than 1,000 km have been electrified.

The most significant railway projects implemented over the last several years:

- Completion of electrification of the following railway sections: Angren–Pop, Qarshi–Termez, Marokand–Qarshi, and Samarqand–Bukhara.
- Work continues to complete electrification of the following lines: Pop–Namangan–Andijan–Kokand (continuation of the Angren–Pop line), and Bukhara–Urgench–Khiva. It is planned that electrification of the 452-km Marokand–Navoiy–Bukhara railway line will be completed by 2022.
- The Tashkent–Samarqand–Bukhara high-speed electric train line has been put in operation.
- In 2016, the 19.1-km Kamchik railway tunnel was put in operation (Angren–Pop railway line).

The project for construction of the China–Kyrgyzstan–Uzbekistan railway has been under discussion for the last 20 years, but is not likely to be implemented in the foreseeable future because the countries involved have not come to a consensus regarding the exact route of the transport corridor.

Development of motorways in Uzbekistan is also focused on dealing with infrastructural issues. The total length of the country's motorways today exceeds 183,000 km, including 42,700 km of public roads (international, national, and local). The length of the Uzbek National Motorway (west–centre–east) is about 3,000 km, and it provides access to the neighbouring countries: via Karakalpakstan to Beyneu in Kazakhstan and then on to Russia, via Alat to Turkmenistan and then on to Iran, via Termez to Afghanistan, and via Andijan to Kyrgyzstan and then on to China.

Completed infrastructural projects which are critical for cross-border interactions:

- A new 920-km Uzbekistan–Kyrgyzstan–China (Tashkent–Andijan–Osh–Irkeshtam–Kashgar) motor freight corridor was launched in February 2018.
- A new Beyneu–Akzhigit–Uzbekistan border route between Kazakhstan and Uzbekistan was opened in July 2019.

Figure 43. Uzbekistan Railway Network

Source: EDB based on data provided by JSC O'zbekiston Temir Yo'llari.

The projects for development, modernisation, and improvement of Uzbekistan's railway and motorway infrastructure are aimed primarily at increasing the intensity of freight and passenger traffic, reducing transport costs, and strengthening ties between the republic's regions and the neighbouring countries.

A network of modern transport and logistics centres (TLCs) is being established in order to create conditions that will attract transit traffic and processing of goods carried between destinations within Uzbekistan. Here are the most significant TLCs:

- *Navoiy International Intermodal Logistics Centre.* Created in 2008 at the airport of the City of Navoiy, the TLC's transport capacity is 100,000 tonnes of cargo per year. Freight processing, as well as customs clearance of export and import cargoes, are performed at the airport's cargo terminal around the clock.

- *Angren Logistics Centre.* Created in 2009 in Tashkent Region. The main task of the TLC is to provide a broad range of logistical services to ensure non-stop freight traffic between the Fergana Valley regions and other parts of the country. The TLC's transport capacity is up to 4 million tonnes of cargo per year.

- *Tashkent International Logistics Centre (United Cargo Centre).* Created in March 2017 on the basis of JV LLC INTERLOGISTICS. Located in the vicinity of major international and regional transport routes, it supports processing of various types of cargo, including perishable and outsize cargoes (Dzhurayev, 2019b).

The overall level of development of the transport and logistics complex of Uzbekistan can be assessed on the basis of several criteria: quality of transport infrastructure, quality of logistical services, efficiency of the customs and border guard services, organisation of international carriage, cargo-tracking capabilities, etc. One of the world's most popular indicators providing a composite rating of a transport and logistics complex is the World Bank's Logistics Performance Index (LPI). In 2018, Uzbekistan's position in the Global LPI Ranking was No. 99 (2007: No. 129).[12] This improvement shows that Uzbekistan is making progress in terms of logistics quality; however, it is still far behind Kazakhstan and Russia as concerns the current state of its transport and logistics infrastructure and the quality of relevant services.

The transport and logistics potential of Uzbekistan in the international goods traffic system is directly linked to the infrastructural potential of the neighbouring countries through which goods are transported.

Figure 44. Major Trans-Eurasian Railway Corridors

Source: EDB.

[12] To compare: in the 2018 Global LPI Ranking, Kazakhstan held position No. 71, Russia – No. 75, Armenia – No. 92, Belarus – No. 103, Kyrgyzstan – No. 108, and Tajikistan – No. 134 (World Bank, 2018b).

Railway Routes

Uzbekistan apparently stands to gain the most from connecting to the Central Eurasian Corridor (via the Saryagash–Keles border crossing), whose railway network provides access to the EAEU market as well as to the EU and PRC markets (see Figure 44). The link between the Central and Northern Eurasian corridors facilitates access to Siberia and Far East ports (via the Trans-Siberian Railway).

The Central Eurasian Corridor is developing at a rapid rate. In 2012–2020, container traffic along the China–EU–China route through the EAEU member countries demonstrated explosive growth – from 7,000 TEU to more than 540,000 TEU (TEU = twenty-foot equivalent unit). That became possible mostly due to the well-orchestrated operation of railway companies from Russia, Kazakhstan, and Belarus, and because the EAEU member countries completed a series of large-scale projects designed to improve the existing infrastructure, implement new technical solutions and digital technologies, upgrade rolling stock, and expand the range of containerised cargoes. The EAEU member countries removed all restrictions and barriers to the maximum possible extent.

Uzbekistan is interested in developing the Trans-Asian Corridor. Western China–Kazakhstan–Turkmenistan–Iran is the most extensively used and most promising route within the corridor (it makes ample use of the southern leg of the Central Eurasian Corridor, passing through Almaty and Kyzylorda). The efficiency of the Western China–Iran route can be increased by partially diverting freight traffic to Uzbekistan. The first steps in that direction have already been taken. Since 2019, Uzbekistan has been actively involved in serving direct container trains along the routes China–Kazakhstan–Uzbekistan–Turkmenistan–Iran and China–Kazakhstan–Uzbekistan–Afghanistan (to Mazar-i-Sharif) (Goskomstat UZ, 2021b).

Uzbekistan has also connected to the Trans-Asian Corridor through organisation of regular multimodal traffic along the routes Uzbekistan–Kazakhstan–Azerbaijan–Georgia–Turkey and Uzbekistan–Turkmenistan–Azerbaijan–Georgia–Turkey. However, due to the need to change modalities, those routes have a modest potential at best.

Using the existing railway service to Kazakhstan and Turkmenistan, Uzbekistan can connect to the already operational eastern leg of the North–South Corridor (Russia–Kazakhstan–Turkmenistan–Iran).

The project for construction of a trans-Afghan railway route (Uzbekistan–Afghanistan–Pakistan) is yet another direction of further development of the North–South Corridor. In February 2020, a Mazar-i-Sharif–Kabul–Peshawar railway construction “roadmap” was approved upon completion of negotiations among Uzbekistan, Afghanistan, and Pakistan. The length of the railway is about 600 km; the project is to be completed within five years; and the required funding is about USD 4.8 billion. According to the current version of the project, the railway is to reach Pakistani ports on the Indian Ocean (Karachi and Gwadar).[13] It is planned that the Trans-Afghan Railway will have a track gauge of 1,520 mm. That will facilitate its integration, via Uzbekistan, with the CIS railway network. One of the drawbacks of the project is the need to change bogies at break-of-gauge sites at the border between Afghanistan and Pakistan (Pakistani railways have a track gauge of 1,676 mm).

[13] A previous version of the project envisaged construction of a railway through Afghanistan from Mazar-i-Sharif to Herat and then on to Iran.

The Trans-Afghan Corridor may also have other routes. The use of the following lines to reach Pakistani ports is currently under review: Mazar-i-Sharif–Herat–Lashkar Gah–Bahramcha–Gwadar; Mazar-i-Sharif–Herat–Lashkar Gah–Quetta. However, those alternative options of the Trans-Afghan Corridor have been less studied, and their use requires construction of new railways.

As regards the North–South Corridor, Russia and Kazakhstan are interested in using Uzbekistan's transport infrastructure to carry exports[14] (by railway and road transport) to Iran, Tajikistan, and Afghanistan.

Motorway Routes

Road transport is playing the key role in the development of international transport services. The republic's motorway network is rather extensive. Over a short time, Uzbekistan has managed to implement important infrastructural projects enabling the use of road transport in West–East and North–South international freight traffic:

- The Tashkent–Andijan–Osh–Irkeshtam–Kashgar motorway corridor provides the most convenient way to reach the PRC. Alternative route to China: Tashkent–Almaty–Khorgos (Altynkol)–Urumqi;
- The Tashkent–Shymkent motorway corridor operates in the north of the republic;
- The Termez–Mazar-i-Sharif route provides access to Afghanistan;
- The Kungirot–Beyneu corridor leads towards Kazakhstan in the west;
- The southwestern direction towards Turkmenistan is served by the Bukhara–Turkmenabat motorway corridor.

The key restriction limiting the participation of Uzbekistan's transport sector in international foreign traffic is the need to cross numerous border checkpoints and change modalities (depending on the ultimate destination of the cargo). That has an adverse impact on the time *en route* and the cost of freight traffic.

A comparison of the attraction of transport corridors (routes) (both railway and motorway) for Uzbekistan shows that the Central Eurasian Corridor wins by most criteria. It has several critical advantages over the other options:

- The possibility of using the minimal number of transport modalities (e.g., only railroads);
- A minimal number of border crossing points – only two (China–Kazakhstan, Russia/Belarus–EU);
- "Habitual utilisation" and importance of the corridor (it is already used to carry cargo in both directions);
- The prices offered by the corridor are among the most competitive.

[14] Mostly grain, ferrous metals, petroleum products, timber, and food products.

Uzbekistan's existing transit potential is underutilised. Constraining factors: bottlenecks in transport infrastructure and logistics, transit and rate policy, imperfection of existing regulations and international contractual relations (President of the Republic of Uzbekistan, 2017b).

The shortage of investments in Uzbekistan's transport and logistics infrastructure directly impacts time *en route* and quality of transport service, and hikes transport and network operating costs. As a result, the economy of the republic underutilises its potential, while research points to suboptimal regional trade arrangements and their negative impact on the environment (ADB, 2019).

Uzbekistan's infrastructural restrictions can be overcome by adequate investments. Today the republic is suffering from a shortage of infrastructure investment capital. According to Branchoux, Fang, and Tateno (2018), the **funding needs of Uzbekistan's transport infrastructure until 2030 may amount to about 2.1% of GDP per year**. An OECD report says that the funding required to maintain and support the country's motorway network stands at about USD 1 billion per year (OECD, 2020).

According to an OECD survey, projects related to Uzbekistan's transport infrastructure (both planned and those already under way) are represented mostly by railway projects (70% of total investments, or USD 8.3 billion). The balance goes to road transport infrastructure (30%, or USD 2.4 billion). Most investment projects are incorporated in CAREC programs financed by the World Bank, the ADB, and the Export-Import Bank of China (OECD, 2020). The share of the Government of Uzbekistan in some projects reaches 50%.

Among the IDBs operating in Uzbekistan, the ADB plays the key role in the development of the republic's transport and logistics infrastructure. The Bank not only finances infrastructural projects, but also supports institutional development of the country (development of reform strategy, provision of technical assistance to the Ministry of Transport of the Republic of Uzbekistan and JSC O'zbekiston Temir Yo'llari). According to the ADB, the total value of transport projects (both completed and scheduled for implementation) amounts to about USD 5.6 billion (ADB, 2020).

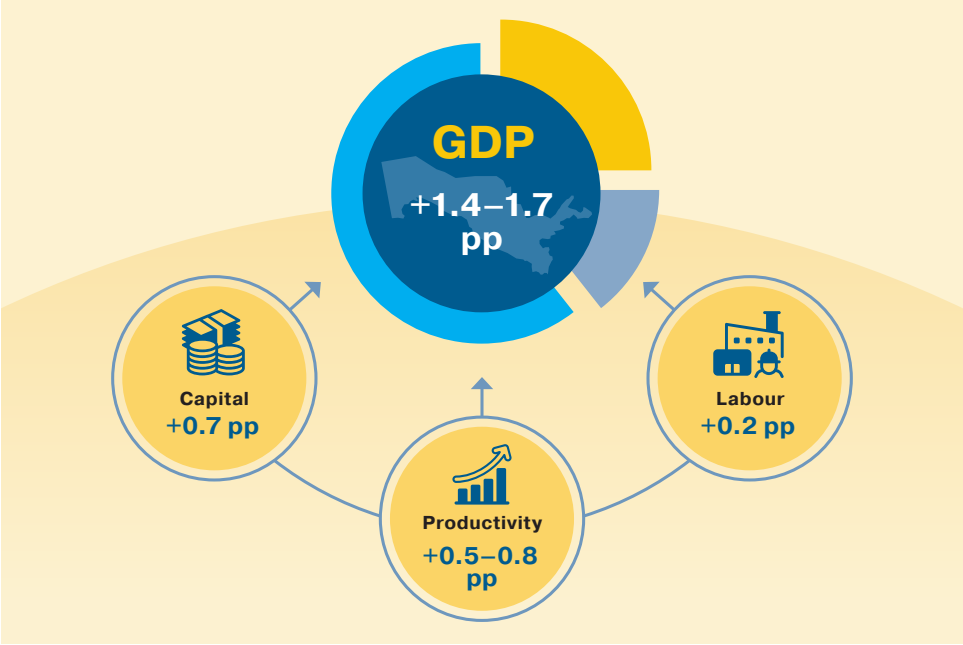
To improve the transport infrastructure and realise the transport and logistics potential of Uzbekistan, it is necessary to implement a number of cross-border projects. Improvement of transport and logistics and a deeper economic integration with the neighbouring countries will make the country's economy significantly more efficient, and enhance its transport links to the global and regional markets.

Deeper cooperation with the EAEU member countries offers the greatest potential in that context. Uzbekistan actively uses transport routes of neighbouring Kazakhstan which, according to some estimates, serve more than 90% of total exports from the republic. Accordingly, closer integration with the EAEU may reduce the cost of carrying cargo from Uzbekistan by 30%, and attract additional transit freight traffic from the EAEU member countries to other CA countries. At the same time, Uzbekistan together with the EAEU member countries will be able to contribute to the formation of the regional infrastructural development agenda, and improve the country's transport and logistics infrastructure taking into consideration its integration in trans-Eurasian transport corridors traversing the EAEU (News Agency Pordobno.uz, 2019).

4. POTENTIAL EFFECTS OF ACCESSION TO THE EAEU FOR UZBEKISTAN

Full-fledged integration of Uzbekistan in the EAEU will result in a long-term increase of the republic's potential GDP by 1.4–1.7 pp. The strengthening of investment activity and capital accumulation will contribute 0.7 pp of that increase. Creation of new jobs and involvement of labour resources in production associated with the utilisation of investments will add another 0.2 pp. Growth of productivity of production factors owing to the transfer of technologies and growth of competition among national manufacturers spurred by FDI inflow will secure another 0.5–0.8 pp (see Figure 45). As a result, the growth rate of Uzbekistan's potential GDP following accession to the EAEU may increase to 6.9–7.2% per year from the current 5.5%.

Figure 45. Assessment of the Impact of Uzbekistan's Accession to the EAEU on the Republic's Potential GDP



Source: Authors' estimates.

Assessment of the Impact of Uzbekistan's Accession to the EAEU on Economic Growth Components

Economic growth can be divided into three components: contribution of capital increase, contribution of labour increase, and contribution of productivity increase. In that model, the assumption is that

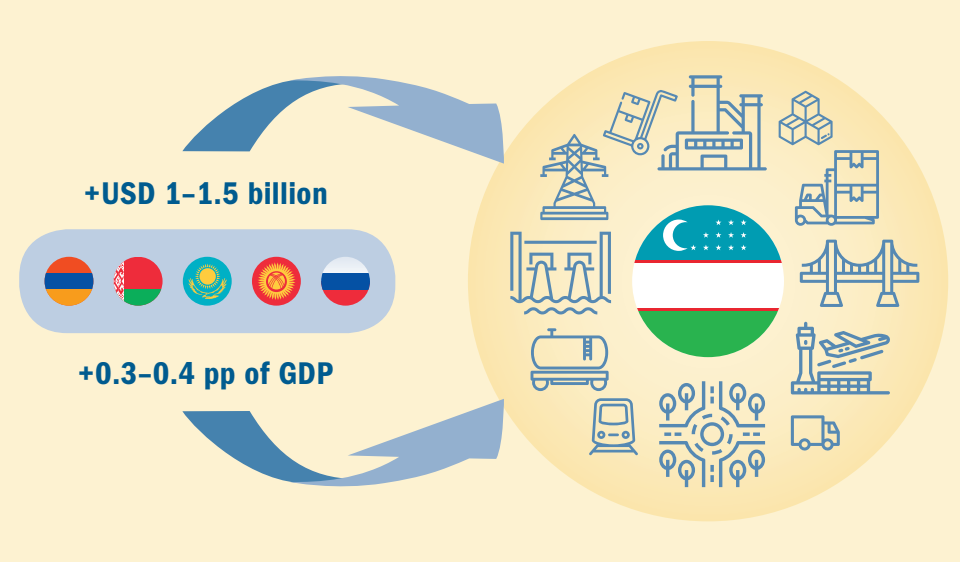
the GDP depends on two production factors (labour and capital) and on technological progress (total factor productivity).

The "difference-in-differences" approach was used to assess the potential impact on capital of Uzbekistan's accession to the EAEU. We used, as initial data, estimated capital reserves in constant prices and the number of people employed in the economy, as presented in the Penn World Table 10.0 (Feenstra, Inklaar, Timmer, 2015). The capital/labour ratio was measured as the quotient of capital divided by the total number of people employed. This ratio was calculated for two groups of countries (EAEU member and non-member countries), and for two periods (2010–2014 and 2015–2019). Armenia and Kyrgyzstan were assigned to the group of the EAEU member countries; Azerbaijan, Georgia, Moldova, Ukraine, Tajikistan, and Uzbekistan were assigned to the group of non-EAEU member countries. Selection of periods was linked to the establishment of the EAEU in 2015. The average annual capital/labour ratio for the countries included in the first group was 2.7% during the first period, and 4.2% during the second period. For the countries in the second group, those rates were 1.9% and 2.2%, respectively. The difference in the change of the annual average increase between the groups (1.3 pp) was interpreted as the impact of accession to the EAEU on capital. Application of capital elasticity of GDP for Uzbekistan (0.57, calculated on the basis of data from the Penn World Table 10.0) made it possible to estimate the potential impact of capital on the change of Uzbekistan's GDP growth rate in the event of its accession to the EAEU (+0.7 pp). To measure the contribution of labour, we used capital accumulation elasticity of GDP change through involvement of additional labour resources, as established by an EDB research project (EDB Centre for Integration Studies, 2013).

EDB Centre for Integration Studies research (2013; 2020) concludes that accession of Tajikistan to the Customs Union/EAEU could increase the contribution of total factor productivity to GDP growth by 0.5 pp. That estimate could be used as the starting point for Uzbekistan. In addition, according to the Penn World Table 10.0, the average annual growth of total factor productivity in Armenia and Kyrgyzstan in 2015–2019 stood at 2.7%, while the capital/labour ratio increased by 4.2%. Applying a similar ratio of the growth of production and capital/employment ratio to Uzbekistan, we can assume that the contribution of total factor productivity to the growth of Uzbekistan's GDP may increase by 0.8 pp following its full integration in the EAEU.

Potential infrastructural investments originating from the EAEU in Uzbekistan may amount to USD 1–1.5 billion per year. That will secure an additional real GDP increase of 0.3–0.4 pp per year (see Figure 46). Uzbekistan has a high investment potential which is severely underutilised. The deepening of cooperation with the EAEU member countries will support Uzbekistan's economic development. The republic is an attractive destination for business expansion and foreign direct investment by the existing Union member countries, due to the fact that it has ample natural and human resources and a suitable production base. New investment capital and technology crossflows will spur a labour productivity increase in Uzbekistan due to both renovation of the physical infrastructure and introduction of new technologies.

Figure 46. Assessment of the Impact of Infrastructural Investments Originating from the EAEU on Uzbekistan's Real GDP



Source: Authors' estimates.

Assessment of the Impact of Additional Infrastructural Investments Following Uzbekistan's Accession to the EAEU

Uzbekistan's annual infrastructural investment needs are estimated at about 7.4% of GDP until 2030 (Branchoux, Fang, and Tateno, 2018). According to the authors' estimates, the EAEU is potentially capable of providing about USD 1–1.5 billion of such investments (1.2–1.7% of GDP). Taking into consideration the share of investments in Uzbekistan's GDP and their import intensity, the contribution of infrastructural investments originating from the EAEU to the growth of Uzbekistan's GDP may amount, on the average, to 0.3–0.4 pp per year.

Calculation of the Contribution of Infrastructural Investments originating from the EAEU to Uzbekistan's GDP Increase

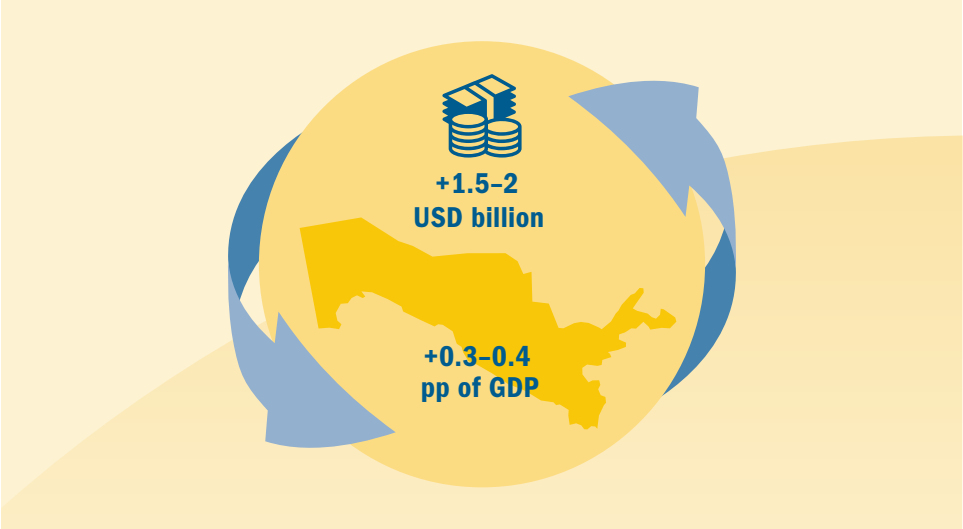
Annual investments in Uzbekistan's infrastructure originating from the EAEU, % of GDP	1.2	1.7
Share of gross fixed capital formation in Uzbekistan's GDP, average for 2018–2020, % of GDP	37	37
Import intensity of Uzbekistan Investments, %	31	31
Contribution of investments to Uzbekistan's GDP increase, average per year, percentage points	**0.3**	**0.4**

Note: Import intensity is the average share of imported capital equipment in Gross Fixed Capital Formation in 2018–2020. The contribution of investments to the GDP is calculated as the product of annual investments and the share of investments in the GDP adjusted by their import intensity.

Source: Authors' calculations.

Additional inflow to the country of remittances from migrant workers is estimated at USD 1.5–2 billion on the average per year following accession to the Union. That will create an additional contribution to the annual GDP increase of 0.3–0.4 pp (see Figure 47). When Uzbekistan becomes an EAEU member, it will gain access to the common labour market, with free movement of labour. The status of migrant workers from Uzbekistan will be upgraded to that of workers from the other EAEU member countries. In particular, the requirements of Russian legislation that apply to them will be significantly relaxed, and related costs will be reduced. Potentially, migrant workers from Uzbekistan could save more than USD 1.5 billion per year if they no longer have to pay for their "work patents" in Russia. The growth of incoming remittances will build up the wealth of Uzbekistan's population which, in turn, will improve consumer demand in the republic. Labour migration to the EAEU member countries will also mitigate the adverse social and economic consequences of unemployment and underemployment in Uzbekistan.

Figure 47. Assessment of the Impact of Additional Inflow of Remittances on Uzbekistan's Real GDP



Source: Authors' estimates.

Assessment of the Impact of Uzbekistan's Accession to the EAEU on Remittances

The impact of integration on the inflow of remittances was measured using an econometric model (panel regression with fixed effects by countries). The dependent variable in the model is the change in the amount of cash remittances (based on data from Kyrgyzstan and Armenia) attributable to the operation of such factors as the rate of increase of the real GDP in Russia, inertia of remittances, and a fictitious variable characterising accession to the EAEU (assumed to be equal to "0" in 2020–2015, and to "1" in 2016–2019). The results generated by the model indicate that elasticity ratios for explanatory variables are statistically significant, and the model explains up to 70% of the volatility of remittances in the selected countries. Based on those results, the additional annual rate of increase of USD-denominated remittances following the accession to the EAEU remains at 4.8 pp. According to the calculations performed by the authors of this Report, that corresponds to an average increase of the inflow of cash remittances by USD 1.5–2 billion per year following the accession of Uzbekistan to the EAEU.

Uzbekistan's exports to the EDB member countries may increase by USD 1.2 billion. That is the estimated volume of unrealised export potential of Uzbekistan relative to the existing member countries of the Bank. Uzbekistan's manufacturers can probably boost exports not only to Russia, the country's key trading partner, but also to all other EDB member countries. The increase of exports will have a positive impact on the well-being of the republic's population and its economic development.

Figure 48. Assessment of Unrealised Export Potential of Uzbekistan

Source: Authors' estimates.

At the same time, if Uzbekistan accedes to the EAEU, it will have to bring its customs duties into compliance with the rules currently in effect in the Union, while budget revenues generated by external trade will depend on the operational efficiency of the Union as a whole. External trade regulation matters arising at the Union level will be resolved by a supranational body – the Eurasian Economic Commission.

Harmonisation of domestic technical regulations and phytosanitary standards with the requirements currently in effect in the EAEU will result in a mutually beneficial reduction of non-tariff barriers. That is the key to intensification of mutual trade.

Integration will help Uzbekistan strengthen its positions in trade with third countries. Uzbekistan's share in global GDP by PPP is less than 1%. The republic is landlocked, which, considering the low economies of scale, increases its external trade costs. Upon accession to the EAEU, Uzbekistan will join a huge market with a total GDP of about USD 2 trillion. The country will join the agreements concluded by the EAEU with third countries and trade associations.

Protection of domestic manufacturers will weaken. As Uzbekistan joins the EAEU common market, its manufacturers will face tougher competition. With Uzbekistan's relatively low productivity of labour and capital/employment ratio, that will give rise to new challenges for domestic producers. Inefficient enterprises risk being squeezed out by producers from the EAEU member countries.

Integration will result in Uzbekistan's active involvement in the development of trans-Eurasian transport corridors. The republic is situated at the Central Asian crossroads of international West–East and North–South transport routes, and is capable of becoming a key link in the evolution of CA transport and logistics systems, among other things, through participation in China's Belt and Road Initiative. The fact that Uzbekistan's interests are aligned with those of the other countries in the region makes it easier to attract the funding required to finance development of transport infrastructure and improve the country's connections to global markets.

Cooperation between Uzbekistan and the current EAEU member countries and Tajikistan in dealing with problems faced by the CA water and energy complex is an economic necessity. Coordinated efforts of CA countries will help Uzbekistan deal with the problems created by power supply shortages during peak periods, the generally low efficiency of the power industry, and the shortage of water resources and low productivity of the agricultural sector. An integrated approach to dealing with issues of the water and energy complex will make it possible to increase the investment appeal of Uzbekistan's water and energy complex, and facilitate its access to appropriate infrastructure funding sources.

5. POTENTIAL EFFECTS OF UZBEKISTAN'S ACCESSION TO THE EAEU FOR THE EAEU MEMBER COUNTRIES

Possibilities for Expansion of the EAEU Production Base and Industrial Cooperation. With Uzbekistan's accession to the Union, the total population of the common market will increase by approximately 20%. Uzbekistan has a relatively young population,[15] while its income per capita is lower than in Russia, Kazakhstan, and Belarus. The republic has significant natural resources, and the potential to increase their extraction. Expansion of access of the current Union member countries to labour resources and raw materials creates conditions conducive to strengthening the economic cooperation in the EAEU area. Free movement of goods, services, capital, and labour will create favourable conditions for business expansion into Uzbekistan (closer to resource and labour centres). Resource crossflows will improve the industrial base efficiency of the entire integration association, and make its goods more competitive.

Strengthening of Competition in the EAEU Labour Market. The potential accession of Uzbekistan to the EAEU will increase competition for migrant workers from Armenia, the Kyrgyz Republic, and Tajikistan, including because of the numerical superiority of migrants from Uzbekistan. This problem may become particularly serious for citizens of Tajikistan, as the republic is not an EAEU member, and its representatives are subject to the Union's more rigorous labour legislation.

Creation of Conditions for Increasing the Capacity of the EAEU Market. The demographic factor creates advantages for the existing EAEU member countries in terms of expansion of markets for their products. For example, the population of Armenia is approximately 12 times less than the population of Uzbekistan, and the population of Kazakhstan is approximately two times less. Removal of external barriers and restrictions will give the current EAEU member countries access to a consumer market which is many times more extensive that the domestic markets of four out of five Union member countries. That will create conditions conducive to boosting exports of goods and services.

The unrealised EAEU–Uzbekistan export potential is estimated at USD 1.6 billion. The most promising export commodities include engineering products, ferrous metals, wheat, mineral products, timber, plastics, and rubber.

[15] According to Goskomstat UZ, at the beginning of 2020 the share of people aged 20–40 was 34.3%, while people aged 60 and above accounted for 8.1% of the total population.

Figure 49. Assessment of Unrealised Export Potential of the EAEU

Source: Authors' estimates.

Competition from Uzbekistan may reduce the share of the other EAEU member countries in the Russian market. For the current Union member countries, Russia is the key sales market. For Uzbekistan, the Russian market also has the highest potential for export of goods, while its commodity mix is dominated by the sectors already prominent in the structure of external trade with the Union member countries. Those are agricultural products (vegetables, fruits, cotton), light industry products, and metals.

Strengthening of EAEU Negotiating Positions on Trade Policy Issues. An increased membership of the EAEU strengthens its positions in trade negotiations with third countries. The united region with its combined purchasing power presents more interest for third-country suppliers than separate small economies. That opens way to more favourable external trade terms, which small economies usually find hard to achieve in bilateral negotiations.

However, **"expansion for the sake of expansion" can diminish performance of an active regional organisation.** Accession of each additional member increases the probability by 1.5% that an active integration association will be transformed into a "discussion forum". The Asia-Pacific Economic Cooperation (APEC) may be regarded as an example of such a "discussion forum". It is used to enable communications between officials and politicians from its member countries, and to design plans for unilateral and multilateral liberalisation of cross-border operations (EDB Centre for Integration Studies, 2016).

Improvement of transport connectivity in Central Asia countries. The landlocked status imposes restrictions on external trade, and increases the need for a transport network capable of moving people, goods, and businesses rapidly and at minimal cost. Uzbekistan neighbours on three of the six countries within the EDB operating region. Its territory is traversed by several trans-Asian transport routes.

Liquidation of bottlenecks in the transport and logistics infrastructure of Uzbekistan, and removal of cross-border restrictions will reinforce the transport links between current Bank member countries and emerging Asian markets (Iran, Turkey, Pakistan, Afghanistan, India).

Accession of Uzbekistan to the Eurasian institutions (EAEU, EDB) would contribute to coordinated development of the CA water and energy complex. Due to the complementary nature of its grid architecture, power generation structure, and CA water resources management system, Uzbekistan's water and energy complex will remain viable only if energy and water use issues faced by CA are resolved in an integrated fashion.

With Uzbekistan being a large and strategically positioned CA player, it will be extremely difficult to deal with regional development challenges without its participation. That fully applies to transport, logistics, and the water and energy complex, where it is impossible to come up with optimal solutions without the coordination of efforts and mutual understanding of all stakeholders. A deeper economic integration between Uzbekistan and the EAEU might become a major driver of investment and trade cooperation (Vinokurov, Libman, 2012).

Success of integration between Uzbekistan and the current EAEU member countries will depend on the growth of national wealth and the density of real economic ties. Establishment of trade and economic links between the countries of the region specifically on the basis of efficient projects (production facilities) is a critical condition of their sustainable long-term economic development. Such projects need to be globally competitive. **Development of the integration association should not pursue "expansion for the sake of expansion".** That path will ultimately impair the efficiency of the regional organisation (EDB Centre for Integration Studies, 2016).

ANNEX 1

Key Macroeconomic Indicators of Uzbekistan

Indicator	2017	2018	2019	2020
Population *(millions at BoY)*	32.7	33.3	33.9	34.6
Employed population *(millions)*	13.5	13.3	13.5	13.2
Unemployment rate *(% of total workforce)*	5.8	9.3	9.0	10.5
GDP *(USD billions)*	59.2	50.4	57.7	57.7
GDP *(increase, % y/y)*	4.5	5.4	5.8	1.6
Gross Fixed Capital Formation *(% of GDP)*	25.6	32.9	40.9	37.1
Inflation *(% y/y at EoP)*	14.4	14.3	15.2	11.1
Key Rate *(% at EoP)*	14.0	16.0	16.0	14.0
UZS/USD exchange rate *(EoP)*	8,120	8,340	9,508	10,477
UZS/USD exchange rate *(period average)*	5,114	8,070	8,837	10,054
External debt *(% of GDP)*	26.3	33.9	42.0	57.8
External public debt *(% of GDP)*	12.7	19.9	27.2	36.5
Government budget balance, + = **surplus** *(% of GDP)*	0.1	-0.2	-1.1	-2.3
Current account balance *(% of GDP)*	2.5	-7.1	-5.8	-5.4
Balance of external trade of goods *(% of GDP based on BoP data)*	-3.7	-13.6	-12.6	-10.8
Net FDI inflow *(USD billions)*	1.8	0.6	2.3	1.7
International reserve assets *(USD billions)*	28.1	27.1	29.2	34.9

Source: Compiled by the authors based on data provided by the Central Bank of Uzbekistan, Goskomstat UZ, Ministry of Economic Development and Poverty Reduction of the Republic of Uzbekistan.

ANNEX 2

Key Characteristics of Uzbekistan's Industries at the End of 2020

Industries	Share *(%)*	USD millions	Volume Index *(y/y)*
Food products	11.5	4,215.9	108.7
Textile products	9.9	3,603.5	115.4
Motor vehicles, trailers and semi-trailers	9.2	3,353.7	99.8
Mining and quarry operations	9.0	3,282.2	78.1
Electricity, gas and steam supply and air conditioning	7.4	2,704.7	112.5
Chemical products	5.7	2,081.0	106.7
Other non-metal mineral products	4.5	1,652.4	108.0
Coke and petroleum products	3.0	1,106.5	99.5
Apparel	2.8	1,015.7	105.3
Electrical equipment	2.3	829.4	105.3
Beverages	2.0	726.9	103.9
Rubber and plastic products	1.9	690.3	108.4
Finished metal products (except machines and equipment)	1.9	679.3	114.8
Machines and equipment (not elsewhere classified)	1.2	430.0	95.8
Computers, electronic and optical products	0.9	340.8	170.6
Core pharmaceutical products and medicinal drugs	0.7	239.3	113.4
Furniture	0.6	237.1	102.4
Paper and pulp products	0.6	228.9	108.4
Water supply; sewage, waste collection and disposal	0.6	215.9	92.1
Tobacco products	0.5	194.0	99.4
Leather and related products	0.5	164.6	99.3
Other finished products	0.4	160.8	105.7
Repair and installation of machines and equipment	0.4	138.5	101.7
Timber and cork products (except furniture), straw and basketry products	0.4	132.0	74.9
Printing and reproduction of recorded materials	0.3	115.3	80.5
Other transport equipment	0.3	97.1	112.9
For Reference			
Manufacturing industry	*83*	*30,307.0*	*107.1*
Industry	*100*	*36,509.8*	*100.7*

Source: CEIC.

ANNEX 3

Export Potential: Exports from Uzbekistan to the EDB Member Countries

Importing Country	Total Unrealised Potential by Partner *(USD millions)*	Actual Exports *(USD millions)*	Unutilised Potential by Product Groups *(USD millions)*		Actual Exports *(USD millions)*
Russia	559.2	920.8	Fruits	305.5	88.9
			Vegetables	90.2	47.6
			Plastics and rubber	15.6	127.1
			Metals (except ferrous and precious)	12.7	37.2
			Machines	17.3	18.9
Kazakhstan	362.8	565.0	Fruits	202.0	218.8
			Plastics and rubber	83.9	61.7
			Vegetables	21.5	78.8
			Metals (except ferrous and precious)	6.5	23.0
			Apparel	5.5	19.1
Kyrgyzstan	124.5	187.1	Apparel	53.4	36.6
			Cotton	29.6	10.2
			Nuts	8.4	0.2
			Textiles	7.7	1.6
			Fruits	4.7	47.3
Belarus	61.2	32.0	Fruits	34.1	5.1
			Vegetables	9.3	294
			Plastics and rubber	5.6	927
			Metals (except ferrous and precious)	1.2	1.2
			Machines	0.8	0.1
Tajikistan	48.8	75.5	Ferrous metals	27.0	8.8
			Plastics and rubber	4.5	6.2
			Wheat	3.2	1.9
			Fertilisers	3.1	22.4
			Cereals (processed)	2.7	0.1
Armenia	2.3	2.0	Ferrous metals	0.3	-
			Fruits	0.1	0.3
			Plastics and rubber	0.3	0.0

Note: "Actual Exports" is the arithmetic mean of data presented in Trade Map for 2015–2019.
Source: Export Potential Map (ITC).

ANNEX 4

Export Potential of EDB Member Countries to Uzbekistan

Exporting Country	Total Unutilised Potential by Partner *(USD millions)*	Actual Exports *(USD millions)*	Unutilised Potential by Product Groups *(USD millions)*		Actual Exports *(USD millions)*
Russia	1,200.0	2,600.0	Ferrous metals	227.4	544.9
			Timber and plant materials	158.5	426.0
			Plastics and rubber	92.6	117.2
			Wheat	173.9	2.4
			Vegetable oils and fats	19.7	143.4
Belarus	177.8	177.0	Motor vehicles and spare parts	20.4	111.5
			Timber and plant materials	32.6	7.0
			Machines	21.3	14.2
			Plastics and rubber	14.7	7.4
			Ferrous metals	14.4	0.2
Kazakhstan	153.5	1,100.0	Cereals (processed)	46.5	111.9
			Oil seeds	32.0	59.7
			Mineral products	6.0	42.6
			Vegetable residues and animal feed	2.2	16.5
			Fertilisers	2.0	11.9
Kyrgyzstan	45.3	44.2	Mineral products	27.0	22.3
			Glass articles	12.2	6.4
			Machines	0.7	2.5
			Ferrous metals	0.7	4.4
			Vegetables	0.6	0.7
Tajikistan	34.1	39.6	Mineral products	20.2	33.1
			Metals (except ferrous and precious)	13.4	2.2
			Metal products	0.3	4.6
Armenia	4.8	2.2	Live animals (except poultry)	1.3	0
			Alcoholic beverages	0.6	0.1
			Metals (except ferrous and precious)	0.5	0

Note: "Actual Exports" is the arithmetic mean of data presented in Trade Map for 2015–2019.
Source: Export Potential Map (ITC).

ANNEX 5

Uzbekistan and the EDB Member Countries: Mutual FDI Stock

A. FDI by the EDB Member Countries in Uzbekistan *(USD millions, EoP)*

	2017	2018	2019
EAEU Member Countries, Total	**201**	**140**	**188**
Armenia	0	0	0
Belarus	4	4	5
Kazakhstan	67	73	56
Kyrgyzstan	0	0	0
Russia	130	63	127
Tajikistan	0	0	0

B. FDI by Uzbekistan in the EDB Member Countries *(USD millions, EoP)*

	2017	2018	2019
EAEU Member Countries, Total	**1,109**	**869**	**854**
Armenia	0	0	0
Belarus	1	3	4
Kazakhstan	9	12	10
Kyrgyzstan	1	2	1
Russia	1,098	852	839
Tajikistan	0	0	0

Note: FDI stocks are presented on the basis of international investment positions of economies.
Source: IMF, central/national banks of the EAEU member countries.

ANNEX 6

Uzbekistan Electricity Sector Development Areas

I. Development of New Generation Capacity in Uzbekistan

1. **New High-Tech CCGT TPPs and Modernisation of Existing Capacity.** The *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2020–2030* envisages construction of six new TPPs with a total capacity of 3,800 MW, and reconstruction of six existing TPPs to increase their total capacity by 4,100 MW. In particular, there is a plan to build regulating power plants to cover peak loads with a total capacity of about 1,200 MW on the basis of small gas turbine units (50–100 MW) and gas reciprocating engines. Another project envisages modernisation of Power Units Nos. 1–5 at Novo-Angrenskaya TPP to increase their total capacity by 330 MW.

2. **Solar and Wind Power Generation Capacity.** The *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2020–2030* envisages development of solar photovoltaic power systems (PVPS) with a total capacity of 100–500 MW, mostly in the central and southern parts of the country (Jizzakh, Samarkand, Bukhara, Qashqadaryo, and Surxondaryo Regions). However, 50–200 MW solar PVPS will also be built in the other regions. In wind power generation, the main vector of development will be the creation of large-scale wind parks with a unit capacity of 100–500 MW, mostly in the northwestern part of the country.

3. **Nuclear Power Generation.** Consideration of a USD 11 billion project to build an NPP in Jizzakh Region of Uzbekistan is currently under way. GK Rosatom is one of the project's participants, pursuant to the relevant inter-governmental agreement between Russia and Uzbekistan. The project envisages construction by 2030 of two power units using VVER-1200 water-cooled and water moderated reactors with a capacity of 1.2 GW each.

4. **Hydro Power Generation.** During the period ending in 2030, the *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2030–2020* envisages implementation of 62 projects, including construction of 35 HPPs with a total capacity of 1,537 MW, and modernisation of 27 existing HPPs to increase their total capacity by 186 MW.

II. Development of Uzbekistan's Power Grid

1. **Transmission Networks.** Taking into consideration the wear and tear on electricity networks and the need to integrate new sources of generation, including RES, Uzbekistan's stakeholder agencies are working on a transmission network development plan. In particular, pursuant to the *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2020–2030*, all power nodes will be joined into a single 500 kW electric power grid to increase reliability of the power supply. The World Bank will join development of the transmission networks development plan until 2030. Construction, modernisation, and reconstruction of transmission networks will be financed with proprietary and borrowed funds of JSC National Electric Grid of Uzbekistan.

2. **Distribution Networks.** To ensure successful implementation of the *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2020–2030*, the Government of the

Republic of Uzbekistan has set the task of developing a government program for construction of new and modernisation of existing 35–110 kV networks. There is a plan to continue modernisation and reconstruction of the low-voltage distribution network in 2021–2025, and to adopt an appropriate government program in 2022–2025. The works related to the construction of new and modernisation and reconstruction of existing electric power transmission lines (EPTLs) and substations (SSs) will be financed with long-term IFI loans and JSC Regional Electric Networks' own funds.

As there emerge new types of generation and a more competitive market, Uzbekistan will face the need to create smart grids capable of not only delivering power to the consumer, but also of taking off surplus power.

III. Establishment of a Competitive Electricity Market

1. **National Market.** The *Conceptual Framework for the Supply of Electric Power in the Republic of Uzbekistan in 2020–2030* envisages transition of Uzbekistan to a competitive wholesale electricity market. That transition will be completed in stages by 2023. It involves provision of equal and free access to transmission networks for all producers.

2. **Regional CA Market.** The following projects are currently at various stages of implementation: CASA-1000; construction of the Surkhan–Pol-e-Khomri EPTL (USD 110 million, funding to be provided by the ADB) to connect Uzbekistan and Afghanistan; restoration of a 63.5 km section of the trunk transmission line from the Guzar 500 kV SS (Uzbekistan) to the Regar 500 kV SS (Tajikistan) (funding in the amount of USD 35 million has been provided by the ADB). The project for the creation in Tashkent of a regional exchange for electricity producers from CA countries is currently under development. Uzbekistan, in particular, intends to use the exchange to replenish power shortages for future deliveries to Afghanistan.

IV. Development of Water Systems

This area is the subject matter of the *Conceptual Framework for the Development of Water Systems in the Republic of Uzbekistan in 2020–2030*. The document lists the following key tasks: to reduce annual power consumption by pump stations used by the Ministry of Water Management by 25%; to install *Smart Water* metering and control devices at all irrigation facilities, and implement digital technologies in the water metering process; to automate water management processes at 100 large water facilities; to increase the total area of land covered by water-saving agricultural irrigation technologies to 2 million hectares, including up to 600,000 hectares of lands covered by trickle-drip irrigation technologies; to implement 50 public-private partnership projects in the water management system.

The *Conceptual Framework*, in particular, stipulates the need to modernise the irrigation system and increase the share of canals with concrete coating; to replace the existing pump station units with energy-saving units at 46.9% of all stations; to replace obsolescent pump station electric engines with new engines at 70.5% of all stations; to modernise, restore, and upgrade instruments, controls and alert systems at water reservoirs and other large facilities, etc.

The above areas of development of Uzbekistan's electricity sector and water systems offer opportunities for cooperation with the EDB member countries at both the international and corporate level (e.g., for energy producers, power engineering plants, producers of electrical equipment, cables and conductors, various vendors of digital solutions for the electricity sector and water management systems, irrigation pumping solutions, etc.).

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EDB Publications 2020–2021

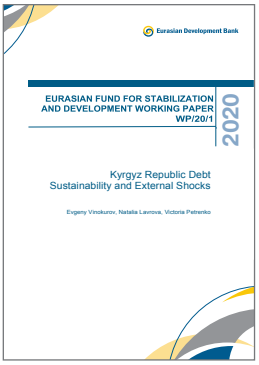
Macroeconomic Review (RU)

A regular EDB publication, which provides a timely overview of the current macroeconomic conditions in the EDB member states and estimates their development in the short-term perspective.

Macroeconomic Forecast (RU/EN)

Strong Recovery Growth in 2021

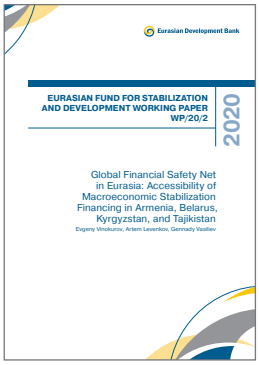
The year 2021 will become a period of strong economic recovery for EDB member states. The Bank projects the aggregated GDP growth rate of its member countries at 3.3%, after a 3% decline in 2020.



Working Paper WP/20/1 (RU/EN)

Kyrgyz Republic Debt Sustainability and External Shocks

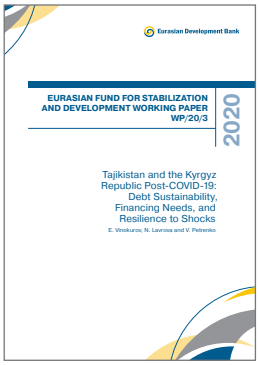
The document examines the resilience of the Kyrgyz debt under three stress-scenarios: (1) a global recession, (2) a financial crisis, and (3) the combination of a global recession and a financial crisis.



Working Paper WP/20/2 (RU/EN)

Global Financial Safety Net in Eurasia: Accessibility of Macroeconomic Stabilization Financing in Armenia, Belarus, Kyrgyzstan, and Tajikistan

The document estimates the availability of stabilization financing for Armenia, Belarus, the Kyrgyz Republic, and Tajikistan based on three approaches.



Working Paper WP/20/3 (RU/EN)

Tajikistan and the Kyrgyz Republic Post-COVID-19: Debt Sustainability, Financing Needs, and Resilience to Shocks

The COVID-19 outbreak has revealed the sensitivity of economies and their debt positions to a wide range of disruptions.

Report (RU)

Economic Effects of Tajikistan's Accession to the Eurasian Economic Union

The report examines the main advantages of Tajikistan's possible accession to the EAEU.

Working Paper WP/20/4 (RU/EN)

Optimal Debt and the Quality of Institutions

Amid the COVID-19 pandemic policymakers now face the dilemma of whether to stimulate infrastructure development by raising debt, which may reduce future flexibility, or to strengthen their fiscal positions.

Report 21/1 (RU)

Promoting the Role of the EAEU Currencies in Global Transactions

EAEU currencies service around 2% of global trade. As for the EAEU countries, payments in their currencies have notably increased over the past seven years – their share in trade flows jumped from 63% in 2013 to 74% in 2019.

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