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South Caucasus and Central Asia: The Belt & Road Initiative

Tajikistan Country Case Study

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This Country Case Study was prepared by the South Caucasus and Central Asia MTI in collaboration with the staff from other World Bank Global Practices covering the two sub-regions. The main objective of the Country Case Studies is to provide an informed view of the potential impact of the Belt and Road Initiative over the countries of Central Asia and Caucasus and policy recommendations to reap the benefits and mitigate risks. The main authors of the Country Case Study were Kazi Matin and Evgenij Najdov, with contributions from the Central Asia and Caucasus MTI team and from Michele Ruta, Cristina Constantinescu and Alen Mulabdic in the Trade and Regional Integration Unit. The team is grateful for the guidance from Sandeep Mahajan (Practice Manager), peer reviewers Michele Ruta, Abdulaziz Faghi and Paul Vallely and for useful comments from Sascha Djumena and contributions from Violane Konar-Leacy, Victor Aragones and Ian J.D. Gillson.

Acronyms and Abbreviations

BRI	Belt and Road Initiative
CAC	Central Asia and Caucasus
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ICT	Information and Communication Technology
MSR	Maritime Silk Road
O&M	Operations and Maintenance
SOE	State-Owned Enterprise
SREB	Silk Road Economic Belt
WTO	World Trade Organization

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Executive Summary

Tajikistan is benefiting and will benefit more from the integration opportunities of the Belt and Road Initiative (BRI) if it implements policies to complement BRI improvements in transport. Falling shipment time raises FDI, trade and GDP. Chinese FDI inflows into mining and agriculture have already increased, but to leverage fully the BRI opportunities for integration the Tajik government must continue to implement complementary policies that reduce border-crossing time, liberalize restrictions on investment and trade, remove sectoral constraints, improve human capital, and promote mobility of workers. To minimize the fiscal risks of scaling-up infrastructure investments and sustain the benefits, adopting better fiscal and debt management practices will be important too.

Chinese financing of infrastructure has benefited the country before BRI, but there has been a significant scale-up since the BRI. It also supported and motivated Tajik neighbors to invest more in their own transport and donors to finance more of it. Of the six overland BRI corridors, one transits through Tajikistan and onwards to Afghanistan, but Tajikistan can access the other routes too because of recent investments in improving its domestic road and rail network as well as investments by the Kyrgyz Republic and Uzbekistan, in theirs.

Estimates show that the impact of completing the envisaged BRI transport projects in the Central Asia and Caucasus (CAC) region and around the world can be magnified by reforms that double efficiency of crossing borders. Tajik shipment time is estimated to fall by nearly 4 percent and its trade cost by 4.5 percent on account of BRI improvements in transport infrastructure; the reduction in shipment time could be more than four times that estimate if BRI improvements in transport infrastructure is accompanied by reforms that double border-crossing efficiency. Lower shipment time is estimated to increase Tajik exports by between 4 and 8 percent and GDP by between 5 and 31 percent. If Tajikistan wants to realize the higher of the two impact estimates, it must implement reforms in trade facilitation and logistics. Given the high cost of transport projects, the complementary reforms that improve the integration gains and that strengthen fiscal institutions and governance become even more important to ensure that welfare gains remain positive.

Estimates also show that the BRI boost to exports is greater for more time-sensitive items like agriculture, processed food, metals and leather exports. As these items also face favorable external demand and line up well with Tajik comparative advantage, their potential to grow is considerable. The challenge will be to attract adequate foreign investors with the requisite technology to produce these goods competitively in the country and to sustain higher FDI inflows. This requires complementary reforms to improve investment and trade climate, to remove sector-specific constraints, and to increase number of workers with adequate skills.

The benefits of falling shipment time from BRI investments to-date are already visible. Tajik trade flows increased prior to the COVID-19 pandemic, especially its exports of metals and agriculture. FDI inflows have jumped to more than US$300 million a year in 2014-18 from only around US$80 million a year in 2005-13, the bulk of it coming from China. Chinese state-owned enterprises (SOEs) and private firms have invested substantially in the two Free Economic Zones in Istiklol near Khujand and in Danghara near Dushanbe.

Within Tajikistan, the spatial distribution of benefits is expected to be uneven, though Tajik policies could reduce the extent of that unevenness. Developed urban hubs closer to border crossings and with bigger BRI improvements in transport gain disproportionately more than others. Given Tajikistan's economic structure this may mean more limited opportunities compared to peers. Policies that enhance

mobility of Tajik workers across the country, improve transport links of other provinces and expand access to education across regions can all reduce the extent of unevenness.

Availing the benefits from BRI on a sustained basis will also depend on reducing the fiscal risks from borrowing for infrastructure. With the country already at 'high risk of debt distress' the size of future borrowing and its terms should be managed prudently. While scaling-up of infrastructure investments is important for development of a mountainous, land-locked small country dependent on trade, it is equally important to exercise restraint in borrowing and to obtain more favorable terms.

Stronger regional cooperation is needed to reap the benefits of improved physical infrastructure. There has been no lack of cooperation initiatives in South Caucasus and Central Asia, though these appear to have had only limited usefulness, including due to selective coverage of trade and transport issues, complex rules, as well as lack of functioning dispute resolution mechanisms. To strengthen regional cooperation, countries will need to build on the existing arrangements, but also establish new ones. In the case of Tajikistan, it would be important to ensure that regional integration efforts are done in line with good international practice and do not result in welfare losses. In addition, harmonization and standardization with corridor countries will result in interoperability which is imperative for efficient and effective trade and transport flows along a corridor.

While the COVID-19 pandemic is reshaping supply chains, the integration agenda will remain a key ingredient of development strategies for countries like Tajikistan. This note presents results of modeling exercises undertaken prior to the COVID-19 pandemic and does not capture the ongoing discussions about near-shoring production and reconfiguring global value chains. In fact, the growth of global value chains in global trade had stalled even prior to the pandemic and COVID-19 has strained them further (World Bank, 2020). Still, a common transport infrastructure continues to make sense as the case for international trade, through differences in comparative advantage, specialization and economies of scale, remains strong. In fact, a number of the CAC countries, including Tajikistan, could benefit from efforts of companies to diversify production from China. These countries will; however, need to pay more attention to debt sustainability and put more efforts in improving trade facilitation to better manage the risks from the slowdown of the global economy and ensure transport chains remain stable.

1. Introduction

1. Tajikistan is the poorest country in the region despite strong growth for nearly two decades; sustaining growth in future will need substantially higher growth in private investment and exports. Its per capita income (GNI) is close to US$1,000 but nearly a third of its population, of around 9 million, live in poverty. Its growth of 6-7 percent per year since 2000 was fueled by growth in consumption and public investment, the latter driven mainly by rising remittances and export receipts from aluminum and cotton. Private investment and growth of other exports remained weak, and the fiscal situation, fragile for most of that period. Accordingly, the National Development Strategy 2030 (NDS) seeks to address those weaknesses.

2. In a poor land-locked country, private investment and exports are inhibited by the cost of land transport and the BRI can be a great opportunity to reduce time and money cost of transport. At independence, the country was the least connected in Central Asia. Public investment since 2000, supported by concessional financing, improved its transport connections dramatically. But limited external financing and its mountainous terrain kept cost of transporting goods insufficiently competitive. Since 2013, the BRI provided substantial additional financing from China to scale-up not only Tajik investments in road and rail but also supported and motivated neighboring countries to do the same, making domestic and cross-border transport increasingly more competitive; FDI-inflows and exports are already responding to the change.

3. With two-thirds of the population in rural areas and agriculture accounting for a fifth of GDP, rising agricultural exports and agricultural productivity can drive both growth and poverty reduction. Cotton, the biggest agricultural export, grows throughout the country together with barley, potatoes, vegetables and melons, while wheat, the next big agricultural crop, grows mainly in the southern plains of Khatlon together with barley. Apricots, pears, plums, apples, cherries, pomegranates, figs, and nuts are produced mostly in the northern Sugd region. They all suffer from relatively low yields largely because Tajik farmers lack the necessary agricultural 'infrastructure' and technology to do better. Their access to water and fertilizer, to superior quality seeds and to extension services is quite limited. Difficult transport conditions also make perishable items difficult to export. Though agricultural land is not as plentiful as in Kazakhstan and Uzbekistan, increasing agricultural productivity and exports is an important objective of the Tajik NDS.

4. The country's potential for mineral and metal exports is considerable. Most of its territory remains unexplored and/or most known reserves, inadequately exploited. It has reserves of antimony, mercury, gold, silver, copper, zinc, gypsum, gravel, crude petroleum, and natural gas (US Bureau of Mines 2014) and produces many of them, though at levels considerably below potential. Weaknesses in the country's investment climate and in its transport infrastructure have inhibited exploration, exploitation and production of metals. The situation has begun to change in recent years with rising FDI in the mineral sector.

5. This note attempts to highlight the potential economic impact of BRI on the Tajik economy. It looks at how, if fully implemented globally, the BRI is expected to achieve better transport connections and greater economic integration of participating BRI countries, discusses improvements in Tajikistan's cross-border transport, electricity and ICT infrastructure to-date, and assesses the potential impact of the completion of all BRI transport projects on Tajik shipment time. It further looks at the likely economic impact of BRI reductions in shipment time on exports, FDI and GDP, and the spatial distribution of benefits within the country and at how complementary polices can enhance the positive impact and mitigate risks.

Finally, it examines the fiscal risk of Tajikistan's scaling-up of investment in BRI transport projects in the coming years without undermining medium-term debt sustainability.

Box 1: Quantifying the impact of BRI

The results presented in this Country Case study envisage the full implementation of all BRI transport infrastructure projects and as such are not an assessment of the impact or the cost and benefit of individual corridors or projects. The estimates were derived as part of the preparation of the World Bank's "Belt and Road Economics: Opportunities and Risks of Transport Corridors" report which uses empirical research and economic modeling to provide an objective analysis of opportunities and risks of BRI transports corridors. Estimates of the gains in shipment time were calculated by a combination of geographical data and network algorithms between 1,000 cities in 191 countries. The global network of railways and ports in 2013 is used to estimate the pre-BRI shipment times. The network is subsequently upgraded with planned infrastructure projects as part of the BRI to derive post-BRI shipment times. The projects were selected based on the criteria that the transport project is located on the corridor and that the project has been explicitly mentioned as part of BRI in an official document. This is neither exhaustive not an official list of BRI transport projects. On the two corridors that go through CAC, the report identifies around two dozen of transport connectivity projects. Out of these, around half were operational in 2019, six were under construction and the remaining were proposed.

Next, sectoral estimates of "value of time", considering each pair of countries and each sector, transform the reduction in shipment time into reductions of trade costs. Importantly, the analysis does not assume that all infrastructure projects are good. In fact, in a separate analysis of 68 BRI projects globally, Reed and Trubetskoy (2019) show that half of them generate little value when built in isolation; however, when the entire network of projects is built, this share falls to around one-third. This confirms the inter-dependence of projects as well as the importance of proper project selection and appraisal. Finally, a range of models (computable general equilibrium, structural general equilibrium and gravity models) are used to estimate the impact of the reduced trade costs on trade, FDI and GDP.

2. The 'Belt & Road Initiative'

6. The BRI, announced in 2013, is an ambitious multi-year Chinese effort to improve international transport infrastructure and increase economic integration. Its goal of better transport connections and greater economic integration is to be achieved through substantial Chinese financing of transport infrastructure[1], better policy coordination[2] among BRI countries, and larger flows of outward foreign direct investment (FDI) from Chinese private firms and SOEs, all aimed at promoting "orderly and free flow of economic factors, highly efficient allocation of resources and deep integration of markets" (NDRC et al, 2015).

7. The initiative envisages implementation of a series of transport infrastructure projects along the *Silk Road Economic Belt (SREB)* land corridors and along the *21st Century Maritime Silk Road (MSR)* sea-routes. The SREB seeks to improve China's transport overland to Europe, Russia, Central Asia, the Caucuses, Turkey, Iran, West Asia, South Asia, and Southeast Asia through six BRI corridors: i) the New Eurasian Land Bridge Corridor; ii) the China – Central Asia – West Asia Corridor; iii) the China – Mongolia – Russia Corridor; iv) the China – Pakistan Economic Corridor (CPEC); v) the China – Myanmar – Bangladesh – India (BCIM) Corridor and vi) the China – Indochina Peninsula Corridor. The MSR seeks to build or

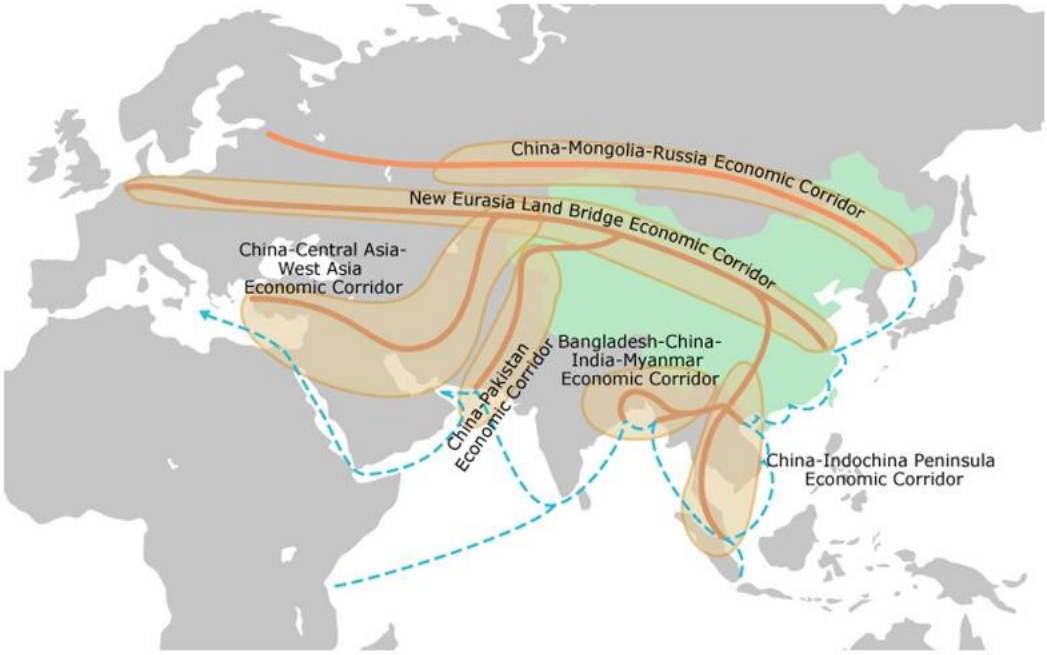
[1] The total cost of BRI infrastructure program has been variously estimated at US$1-4 trillion with Chinese infrastructure commitment to date at US$300-500 billion.

[2] "Countries along the Belt & Road may fully coordinate their economic development strategies and policies, work out plans and measures for regional cooperation, negotiate to solve cooperation-related issues and jointly provide policy support for practical cooperation and for large scale projects." (see pg 3 op. cit)

improve ports along the sea routes linking China's coast, one crossing the South China sea through the Malacca strait to the Indian Ocean and extending to Europe, and another crossing the South China sea and extending to the South Pacific. The BRI envisages investments not only in the corridor infrastructure (rail, road and port projects to improve cross-border transport), but also in complementary infrastructure like power and ICT. The BRI builds on a number of other initiatives aimed at improving connectivity and lowering trade time and costs in the CAC region[3]. The BRI however, not only provides a lot more financing than the other initiatives, especially valuable for poorer countries, but also better integration opportunities.

8. Of the six BRI corridors, two pass through the CAC region connecting China to Europe and China to Iran and West Asia, respectively, using five different routes. The first uses two rail routes, one through Kazakhstan and Russia and the other through Kazakhstan, the Caucuses and Turkey. The second uses three routes, one through Kazakhstan, Uzbekistan and Turkmenistan, another one through Kyrgyz Republic, Uzbekistan and Turkmenistan and the third through Kyrgyz Republic and Tajikistan, to Afghanistan and Iran. Only the last passes through Dushanbe.

Figure 1: BRI corridors



Source: Xinhua News Agency; Hong Kong Trade Development Council

9. The five routes are potentially viable corridors. First, most of the completed, ongoing and planned BRI transport projects in the region are along these routes and thus provide CAC countries with their most direct exposure to BRI. Second, at least one major city of each country[4] is on one or more of these routes and each country can thus connect faster to the large economies of China, Korea, Europe, Russia, Turkey, Iran, and West Asia, as well as to each other. Third, China's dependence on these routes for faster transport to the European cities and to cities in Iran and West Asia, means that both China and the CAC countries will have an interest to continually improve the operation of these corridors.

[3] These include the Transport Corridor Europe Caucasus Asia (TRACECA) initiative, the Central Asia Regional Economic Cooperation (CAREC) program and the Special Program for the Economies of Central Asia (SPECA).

[4] Armenia is the only exception because of the closed Armenia-Azerbaijan border and so Armenian cities could connect to China overland by rail through Russia, which is probably not competitive.

Importantly, while the BRI focuses largely on the main transport corridors, improvements to the transport network at the lower levels (for example, secondary and feeder roads) are needed to ensure that the countries and populations benefit fully from the main corridors.

Box 2: BRI corridors and routes passing through CAC

The **New Eurasian Land-bridge BRI Corridor** connects **China to Europe** using two routes:

- **Route 1: China** (various cities, Urumqi, Alashankou) – **Kazakhstan** (Dostyk, Mointy, Nur-Sultan, Petropavl) – **Russia** (Yekaterinburg, Moscow) – **Belarus** (Brest) – **Poland** (Małaszewicze) – **Germany** (Duisburg) and onwards to various European cities. (Note: all are operational rail connections).
- **Route 2: China** (various cities, Urumqi, Khorgas) – **Kazakhstan** (Altynkol, Almaty, Shu, Zharyk, Zhezqazghan, Saksaulskaya, Shalkar, Beyneu, Aktau) – **Azerbaijan** (Baku/Alyat, Ganja, Beyuk Kesik**) – Georgia** (Gardabani, Tbilisi, Akhalkalaki) – **Turkey** (Kars, Istanbul) and onwards by rail/road to various European cities. (Note: all are operational rail connections except Aktau to Baku, which is the Caspian Sea ferry segment).

China-Central Asia-West Asia BRI Corridor connects **China to Iran/West Asia** using three routes:

- **Route 3: China** (various cities, Urumqi, Khorgas) **- Kazakhstan** (Altynkol, Almaty) **- Uzbekistan** (Tashkent, Samarkand, Navoi) – **Turkmenistan** (Farab, Mary, Serakhs) – **Iran** (Sarakhs, Mashad) and onwards to West Asian cities (also India through Bandar Abbas port) (Note: all are operational rail connections).
- **Route 4: China** (various cities, Kashgar) – **Kyrgyz Republic** (Irkeshtam, Osh) – **Uzbekistan** (Andijan, Pap, Tashkent, Samarkand, Navoi) – **Turkmenistan** (Mary, Serakhs) – **Iran** (Sarakhs, Mashad) and to West Asia (also India through Bandar Abbas). (Note: the route is mainly rail, except Kashgar –Irkeshtam – Osh segment by road)
- **Route 5**: **China** (various cities, Kashgar) – **Kyrgyz Republic** (Irkeshtam, Sary Tash) – **Tajikistan** (Karamyk, Dushanbe, Vahdat, Yavan, Nizhny Panj) – **Afghanistan** (Shir Khan Bandar, Kunduz, Mazar-e-sharif, Herat, Ghurian) – **Iran** (Torbat-e Heydarieh, Tehran) to West Asia (also, India thru Bandar Abbas). (Note: route connected partly by rail with two large segments, Kashgar – Irkeshtam – Sary Tash – Karamyk – Dushanbe and Nizhny Panj - Shir Khan Bandar – Kunduz – Herat – that are connected only by road today).

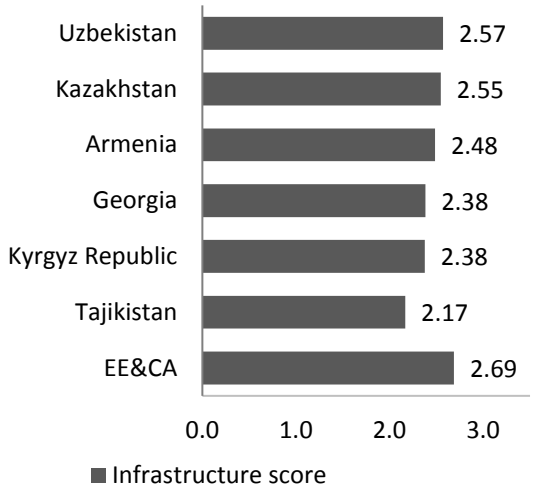
3. BRI Improvements in Transport Infrastructure and Gaps

10. Tajikistan's transport infrastructure is weak compared to most peers. The transport system depends more on road than rail because of the difficult mountainous terrain.[5] The inherited rail infrastructure had three segments in the north, center and south in the Sugd, Dushanbe and Khatlon regions respectively, but they were not connected to each other within the country; they were connected through Uzbekistan, but frequent border closures had made that connection un-useable. Most indicators of infrastructure services rank the country at the bottom of the CAC region. A closer look suggests that Tajikistan has difficult roads, but of decent quality, and limited railroads.[6] In addition, out of urban areas, road access is on par with the other countries in Central Asia, though this is a region that scores relatively low on rural accessibility, thus inhibiting the ability of the hinterlands to connect to markets.

[5] More than half of Tajikistan's mountainous terrain lies 3,000 meters above sea level.
[6] At the 2019 Global Competitiveness Report, Tajikistan's railroad infrastructure is ranked 63 globally, while its road infrastructure is ranked 125, with the quality of roads ranking at 50 but connectivity (measuring average speed and straightness of roads connecting major centers) at 137.

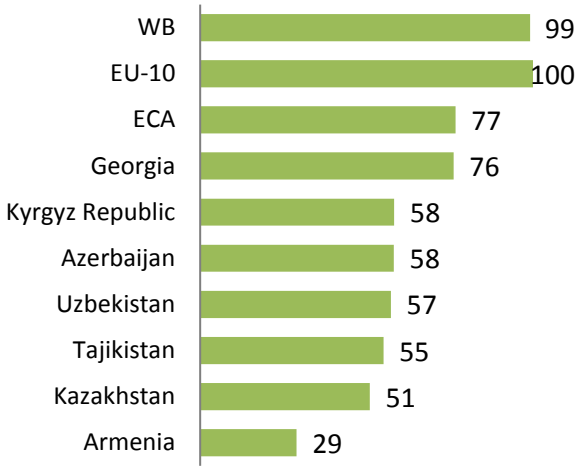
Table 1: Infrastructure quality needs to improve …

Transport infrastructure quality



Source: World Bank Logistics Performance Index

Rural Access Index

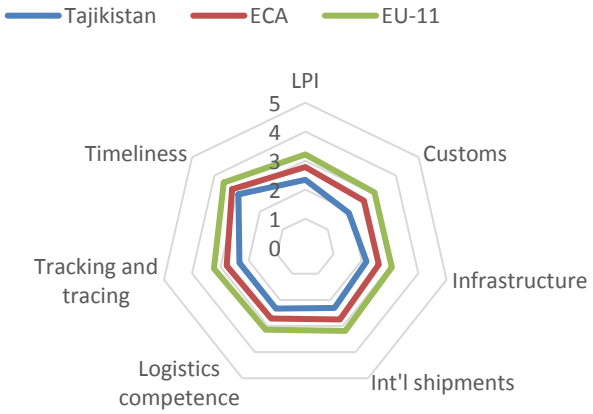


Note: rural people who live within 2 kms of an all-season road as a proportion of the total rural population.
Source: Mikou at all (2019)

11. Inefficiencies and delays at border crossings in the region are typically much greater than in many other regions and Tajikistan performs very poorly compared to its neighbors. In 2019, it ranked 148 in the world in the 'Trading across Borders' indicator of the Doing Business Report and 153 on the Logistics Performance Index (LPI), with similar ranking for both sub-indices on customs and on logistics competence. Border crossing with Uzbekistan and Afghanistan has traditionally been particularly difficult, though this has begun to change in recent years. Banya and others (2018) estimate time to trade for 70 countries and find that the time required in Tajikistan to trade with BRI partners is relatively high (almost 19 days) and with China, even higher (almost 32 days).

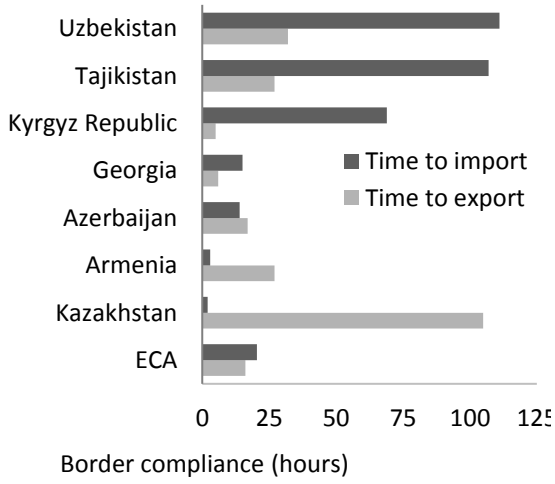
Table 2: … as should trade facilitation

Logistics Performance Index



Source: World Bank Logistics Performance Index

Time to import and export



Source: Doing Business

12. The impact of the inefficiencies in trade facilitation on trade costs are amplified by a somewhat restrictive trade policy. The simple average MFN tariff rate in Tajikistan, a WTO member since 2013, was 7.7 percent in 2018, above Georgia and the EEU members from the sub-region (Armenia, Kazakhstan and the Kyrgyz Republic), but below Azerbaijan (9 percent; 2015 data) and Uzbekistan (14.9 percent; 2015 data).

13. Tajikistan has made some investments in transport infrastructure since the BRI was announced, in some cases facilitated by Chinese financing. In rail, the central Dushanbe rail corridor was connected to the southern Khatlon rail corridor by adding the missing rail link between Vahdat and Yavan and thus connecting Dushanbe and Nizhny Panj at the border with Afghanistan by rail. In roads, missing segments were built, and existing ones were upgraded along the north-south road route that connect Dushanbe to Khujand and onwards to Isfara.[7] The improved Dushanbe, Khujand, Isfara road can connect with Batken, Osh, Bishkek link in the Kyrgyz Republic and onwards to Almaty in Kazakhstan, making transportation between Tajikistan and these two countries faster and relatively more reliable than was the case before. In addition, three dry ports/terminals in Tursunzoda, Jirgatol and Nizhny Panj, all at its borders with Uzbekistan, Kyrgyz Republic and Afghanistan respectively, were built and/or upgraded as they are critical for consolidating and clearing cargo, as well as for transferring cargo between foreign and Tajik trucks. Total government capital expenditures on transport and communication were around 2 percent of GDP between 2013 and 2018 with Chinese loans to transport and communication sector providing financing of around 0.3 percent of GDP per year during 2014-2017.

14. Though only one BRI corridor route passes through Tajikistan, Dushanbe can connect to destinations on the other, more advanced, routes because of its links to Almaty, Osh and Tashkent. The BRI corridor route that passes through Tajikistan[8] connects Dushanbe to China in the east and Afghanistan and Iran in the southwest. Most of this route is by road except for the Dushanbe – Nizny Panj segment which is by rail and road. Tajik shippers can also connect to destinations on the other four routes through Almaty, Osh and Tashkent because the two major Tajik cities are connected to them by road. The two BRI corridor routes between China and Europe going through Kazakhstan have made the most progress compared to more than a decade ago when rail transport between them was no faster than shipment by sea. The first block train travelled in 2011 between Chongqing (China) and Duisburg (Germany) through Kazakhstan and Russia in 16 days, half the time it took by sea (Arvis & Rastogi 2015, Shephard 2016). Since then there has been remarkable progress along these two routes. The frequency of China-Europe trains has risen now to more than 10 a day and international and local logistics companies are offering varied services including refrigerated containers, less-than-full-container load consignments, door-to-door deliveries and pre-announced schedules[9]. Improvements in the BRI corridor routes to-date as well as in Tajikistan's own transport infrastructure have reduced travel time from Dushanbe and Khujand to many of the destinations along the five routes.

15. Domestically, transport connectivity has also been improving. Travel time by car between Dushanbe and Khujand has been reduced from more than 10 hours to around 5 hours. In addition, Khujand, in the country's north, is well connected to cities in the Sughd province like Isfara, Panjakent, Gafurov, and Istaravshan by both rail and road while its connection to Dushanbe and Khatlon province is

[7] The Dushanbe – Khujand – Isfara segment was in poor condition with Anzob tunnel and the Shahristam pass being dangerous or un-useable in the winter months until recent investments have upgraded the tunnels and segments of that road.

[8] Tajikistan has access to another road route to China from Khorog and Murghob in Gono-Badakshan through the Kulma pass to Kashgar, built originally around 2005 with Chinese and ADB financing and upgraded since.

[9] The China-Europe trains started as a 'customer-driven' model of full 'block' trains organized by companies but has evolved increasingly to a 'retail model' of regular trains based on agreements between international logistics companies and operators/agencies in transit countries, where logistics companies organize train schedules.

only by road. Dushanbe, located in the Gissar valley, is also connected by both rail and road to cities around the central region and in the Khatlon province but only by road to the northern part of Tajikistan. The Sughd province has also improved its road connections to border crossings with Uzbekistan and the Kyrgyz Republic through recently completed rehabilitation of the Kuchkak, Kim, Isfara, and Guliston road as well as the Dehmoi, Proletarsk and Madaniyat roads (World Bank 2018).

16. Despite the improvements, significant gaps in transport connections remain. The first one is the rail connection between Khujand and Dushanbe which is missing; each city is connected to its respective northern and central rail networks, but not to each other. The second rail gap is along the BRI corridor route five, though a BRI rail project connecting Kashgar, Irkehstam, Sary Tash, Karamyk and Dushanbe is planned. There will also have to be upgrades of existing rail infrastructure in central and southern rail routes of the country, replacement of its aging rolling stock as well upgrades of the three dry-ports at the borders with Uzbekistan, Kyrgyz Republic and Afghanistan. Furthermore, significant parts of the rural population remain without access to an all-season road.

4. Estimates of BRI Impact on Shipment Time and Trading Costs

17. The completion of BRI transport projects around the world[10], including the CAC region, will complement the improvements from investments undertaken in Tajikistan. The projects in different parts of the world increase the number of rail[11] and port connections in the global transport network, improve the speed of travel along upgraded or newly-built rail segments and seaports of the network, and adds to the available options on routes for shippers to reach their destinations. Because all countries are linked to each other through the global transport network, any fall in a country's shipment time in one region due to BRI transport projects in that region affects the shipment time of countries in other regions as they are part of that same global network. Tajikistan's average shipment time with its trading partners falls not only because of the BRI corridors in the CAC region but also because of similar projects in countries of other regions in the global transport network.[12]

18. Trading times currently are relatively high and are expected to decline significantly as envisaged BRI projects are completed. Currently, it takes almost 19 days to trade between Tajikistan and its BRI trade partners on average, and almost 32 days to trade with China. The completion of ongoing and planned BRI transport projects is estimated to lower Tajikistan's average shipment time by 3.9 percent. Among the CAC and other BRI countries, it is one of the lower reductions in shipment time.[13] Nevertheless, given the long times it takes to trade currently, the available estimate still results in a considerable reduction, for example, shipment time in trade with China could be reduced by a full day. More importantly, the percentage reduction in Tajik shipment time could be more than four times higher than the above estimate, if the completion of BRI transport projects is accompanied by reforms in trade facilitation and logistics that halve the border crossing delays along the transport network.

19. Shipment time affects trade flows just as tariffs and freight costs do. Thus, reductions in shipment time, through either improvement in transport infrastructure and/or in the efficiency of border-crossing, will lower trade costs, too. However, the same fall in shipment time in two countries can

[10] BRI transport projects globally have been compiled in De Soyres 2018 and Reed and Trubetskoy 2019.
[11] Most international trade is carried by sea, with rail as the second most important mode of transport and so estimates of shipping-time is based on the impact of BRI rail and port projects only.
[12] The BRI is estimated to reduce the average shipping time for all country-pairs in the world from 22.9 days to 22.3 days (upper bound) i.e. a reduction of around 15 hours or of 2.7 percent and all countries include those that have no BRI transport-projects.
[13] This may be in part because these estimates are based on improvements in rail and port infrastructure whereas most of the improvements in Tajikistan's own transport and its connections to neighboring countries is in roads.

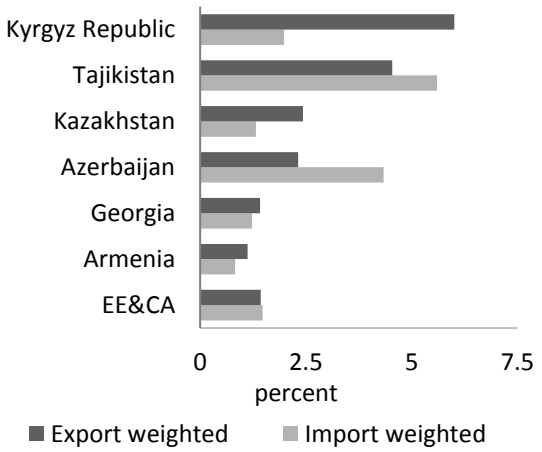
generate differing magnitudes of decline in trade cost because some goods are more time-sensitive than others and the composition of trade in respect of such goods may differ in the two countries. Tajikistan's export-weighted trade costs are estimated to fall by 4.5 percent[14] as a result of BRI transport projects. Import weighted trade costs are expected to decline by 5.6 percent. Trade cost will fall by much more if complementary reforms double border crossing efficiency across the corridors.

Table 3: Investments will lower the time to trade

	Average time to trade to		Reduction in time to trade	
	BRI	China	Lower bound	Upper bound
ARM	15.5	32.1	2.2	2.8
AZE	13.8	22.5	6.1	7.1
GEO	14.6	32.6	2.6	3.5
KAZ	15.4	12.0	4.4	8.3
KGZ	20.7	15.2	8.5	12.9
TJK	18.7	31.7	3.0	3.9
UZB	17.3	27.0	13.6	15.2

Lower bound refers to a scenario of preference for maritime links. In the upper bound, this preference is removed.
Source: Baniya et al 2019

Figure 2: as well as the costs of trade



Source: Constantinescu et al (2019), unpublished

Box 3: Electricity and ICT infrastructure and gaps*

The analysis in this note is focused on transport connectivity and economics; however, other infrastructure will also be important for countries to be able to reap the benefits of improved transport connectivity and this box provides some information on the infrastructure and gaps in energy and ICT.

Energy. Tajikistan's power sector is critical not only for the power it provides to all sectors, but also as a potential source of economic growth through hydropower exports. Businesses that need power to grow complain about unreliable power supply and how that constrains their production and investment. This is due to a combination of poor functioning of the transmission and distribution system, shortages in winter generation of power, and the weak management and financial performance of the state-owned power utility, Barki Tajik, including below cost-recovery pricing. Overall, power consumption is unbalanced with one enterprise, TALCO, an aluminum producer, consuming half of the total. Most of industry and agriculture are deprived of access to reliable and adequate power. Electricity generation, transmission and distribution have a seasonal aspect and a reliability-of-access aspect. Although total annual generation is adequate, the winter season is rife with shortages when demand rises, and the supply of hydropower declines given falling reservoir levels. Also, some of the infrastructure stock is quite old and vulnerable to frequent breakdowns leading to reliability of access problem.

The power sector has received substantial support from China. Dushanbe's major power plant was modernized and expanded the city's heating system completely overhauled by Chinese construction companies and financed by China's Exim Bank. Two major transmission lines connecting Dushanbe to regions of the country were completed with the same support. This has improved the reliability of power in the city and surrounding regions.

The power sector can feature strongly in Tajikistan's growth agenda, but challenges remain. The government is pursuing the construction of a massive hydropower plant, the Rogun project and has a goal of exporting summer surplus power to the south to Afghanistan and Pakistan. This also involves construction of a transmission line to Afghanistan. However, so long as winter season generation-consumption deficiency remains, assured round-the-year power availability for firms and households is likely to remain an issue.

[14] This estimate is from an unpublished Note by Constantinescu et al (2019).

ICT. Tajikistan's state-owned operator holds a de jure monopoly on the international connectivity gateway; however, some companies may have autonomous international links (via Uzbekistan and/or the Kyrgyz Republic). There are five international fiber links. Most traffic is routed through the Kyrgyz Republic, and around 30 percent of the it goes through Uzbekistan and China. Estimated total international bandwidth at the end of 2018 was 40,000 Mbps, which was a 32 percent increase over the prior year. Six companies operate their own fiber backbone infrastructure, although the incumbent dominates. Network infrastructure overall is underdeveloped, needs significant investment and is dominated by the state-owned incumbent. Being landlocked limits Tajikistan's options to reduce the cost of international connectivity. Most operators primarily use fiber links via the Kyrgyz Republic and Kazakhstan to reach Russian backbones, in particular the Transit-Europe-Asia (TEA) cable. There is also cross-border fiber between Tajikistan and Afghanistan at Shir Khan Bandar, but applications for operators to use this route or to lay their own fiber have not been authorized as yet.

Tajik Telecom and China Telecom announced a plan in 2008 to build a fiber connection between the two countries, but this has not yet come to fruition. In February 2016, it was announced that a fiber cable would be laid along the infrastructure of the planned gas pipeline from Turkmenistan to China, via Tajikistan (and the Kyrgyz Republic), known as the China-Central Asia gas pipeline network, but in March 2017 the Tajik section of the project was suspended indefinitely. It is possible that other cross-border links with China will be explored, but the long distance and mountainous terrain between Dushanbe and the Chinese border would make this an expensive route, and traffic would likely be subject to China's firewall.

Despite international commitments to establish an independent telecommunications sector regulator, Tajikistan is yet to do so, with continued gaps in regulation policy and legislation and practical implementation of their norms. A law for establishing a single international gateway was approved in January 2016, meaning that all international connections have to go through a single switching center hub operated by Tajik Telecom. The restructuring of Tajik Telecom into functionally separate wholesale and retail operations is key. There were relatively high levels of taxation on the ICT sector, which have been increased in the past two years. This includes sector-specific taxes on renting mobile numbers, as well as other taxes that are estimated to add 33 percent to the cost of internet connections. Mandatory registration of users also discourages greater adoption.

*/ Energy information based on Aldayarov et al (2017); ICT on Raja (2019, unpublished).

5. Potential Economic Impact of the BRI

20. BRI transport projects in the region and around the world will have a favorable impact on Tajikistan's trade, FDI and GDP. The BRI-induced fall in shipment time will raise total exports and also change its composition towards more time-sensitive items. Higher FDI inflows into increasingly profitable opportunities in such items and greater access to imported inputs are likely to boost productivity and GDP. However, the benefits will not be equitable shared. The government can help magnify the impact of BRI and mitigate its risks if complementary reforms in several areas accompany the improvements in transport. Reforms that improve trade facilitation, promote better logistics and transport services, and/or liberalize the country's trade and business climate further, and/or policies that enhance domestic supply of time-sensitive goods are likely to magnify the positive impact of BRI. In addition, complementary investments in power and/or in roads that connect hinterland to the country's major transport hubs and/or expansion of education and health services around the country and facilitating labor mobility are also likely to enhance the BRI effect. This note presents the results of the analysis undertaken prior to the COVID-19 pandemic and does not take capture the ongoing discussions about near-shoring production and reconfiguring global value chains. While these are likely to have an impact on economic relations, the case for international trade, through differences in comparative advantage, specialization and economies of scale, remains strong.

Recent Trade Flows

21. Prior to the COVID-19 pandemic, Tajikistan's trade had been growing. Tajikistan's total trade grew from around US$1.5 billion to around US$5.2 billion between 2000 and 2018. Rapid growth in imports (from US$0.6 billion in 2000 to US$3.6 billion in 2018) contributed most to the expansion in trade. Exports, on the other hand, doubled, mostly due to growth in exports of metals, mainly aluminum and gold, which now comprise around a third of total exports. Other ores (zinc, lead, copper) account for another third of exports, cotton for 10 percent and vegetables/fruits comprise nearly 5 percent. However, there is evidence of significant trade not captured in the official statistics. This includes cross-border trade (trade within 25-30 kilometers of international borders) as well as trade under "simplified" clearance regimes. It includes imports, mostly from China, which are not consumed domestically but are intermediated through "bazaars" and re-exported to other countries in the region and further to Russia. At the height of the operations of "bazaars", the value added from their intermediation was estimated at 2.1 percent of GDP (2010) in Tajikistan. More recently, these trade flows appear to have contracted somewhat.

Table 4: Share of Major Trading-Partners in Tajik Trade
(in % of total)

	EU		Russia		China	
	2000	2018	2000	2018	2000	2018
Total Trade	21.4	6.0	24.9	31.8	1.0	11.3
Total Imports	11.7	8.1	15.5	38.7	1.8	8.5
Total Exports	29.8	1.1	33.1	14.9	0.4	18.3

Source: IMF, Direction of Trade

22. In terms of trade shares, China has been gaining in importance until 2013 according to official statistics, but that trend has been reversed more recently. Total trade between Tajikistan and China increased by more than 17 percentage points between 2000 and 2013 to reach 18.4 percent of total trade. Since then, the share of China moderated to 11.3 percent. This reflects robust increase in exports from Tajikistan, with China accounting for almost 40 percent of all exports around 2010's. However, China's share in Tajikistan exports has since retreated to around 18.3 percent. During the same period, the share of the European Union (EU) dipped by 15 percentage points to only 6 percent of total trade, mostly accounted for by imports from the EU. The share of Russia increased by around 7 percent points (to 32 percent of total trade), as Russian producers solidified their position on the Tajik market.

Impact on Exports

23. The completion of BRI transport projects is estimated to increase Tajikistan's total exports by 3.6 percent (Baniya et al 2019).[15] The estimated impact is larger than in most of the 70 BRI countries for whom this estimate is available, with 47 countries estimated to have a lower impact. Complementary reforms in trade facilitation and logistics in Tajikistan and along the transport network can magnify the estimated impact of BRI with Tajikistan's exports expected to rise by 7.9 percent, more than twice the increase from BRI transport projects alone, if border delays are reduced by 50 percent. Other measures to facilitate trade[16] can also have a favorable impact on exports; for example, improving market access (lowering tariff rates among BRI countries by half) can push up the export growth rate to above 30 percent.

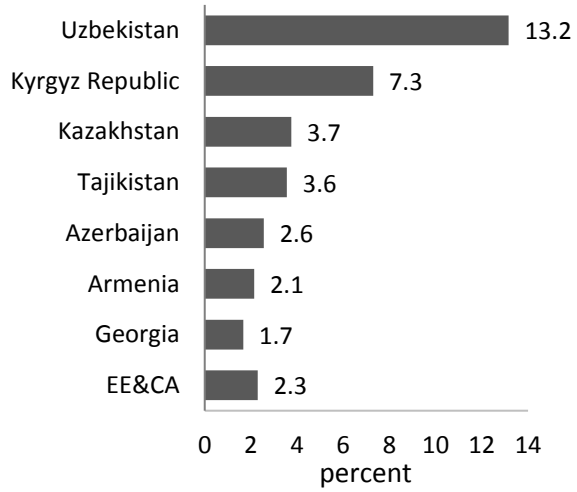
[15] Total exports between BRI countries are estimated to rise by 5.2 percent. These estimates here refer to upper-bound estimates based on the assumption that shippers can switch transport modes from maritime to rail when BRI improvements in transport infrastructure make such switching optimal.

[16] Scenarios analyzed include more efficiency corridor management, deepening trade agreements and improving market access.

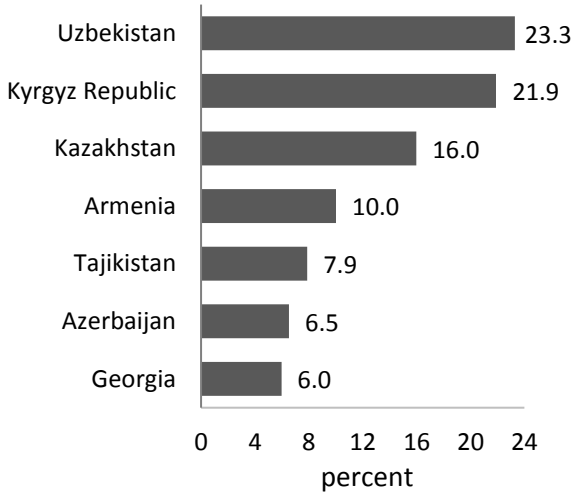
24. The completion of BRI projects will also affect the composition of exports, shifting it towards more time-sensitive goods. Baniya and others (2019) uses a gravity model to estimate the responsiveness of 15 different export groups to shipment time and find considerable variation among them, with some exports many times more responsive than others. The following product groups were analyzed and are presented here in descending order in terms of their responsiveness: wood products, glass products, vegetable products, mineral products, raw hides, skins and leather, animal products including meat, chemicals, metals, textiles, electrical machinery, transport equipment and footwear. Maliszewska and Van der Mensbrugge (2019), using a CGE model, also confirm that there are large variations in responsiveness of different export groups in BRI countries. The largest percentage increases in export volumes of different export groups are found for exports from Central Asia as a whole. Again, in descending order of percentage increases are the following export groups: transport equipment, leather goods, machinery, wood products, metals, wearing-apparel, agriculture, and textiles. On the other hand, coal, oil and gas have the lowest increases, with other groups being somewhere in between.

Figure 3: Trade is expected to increase, but much more if complemented by trade facilitation reforms

(in %)



(in %, assuming 50 percent reduction in border delays and no maritime preference)



Source: Baniya et al. 2019

25. Notwithstanding the potential for high responsiveness of the above export groups to reduced shipment time, not all of them will translate into strong export growth for every Central Asian country. That will depend on how they line up with a country's comparative advantage and how adequate is their external demand and domestic supply conditions. Of the more time-sensitive export groups, agriculture, processed food, and metals line up well with the Tajik current comparative advantage and face favorable external demand. Tajikistan could grow these exports in a sustained way if complementary policies improve domestic supply conditions in respect of the overall investment climate, relevant sector-specific constraints and so on. Some of the others, like leather products, textile and wearing apparel could also do well, but it is not clear if these sectors can withstand third-country competition, which is likely to intensify following the improvements in transport connectivity.

Impact on FDI

26. The BRI is expected to increase FDI inflows to BRI countries. First, a reduction in shipment time raises competitiveness of exports, especially of those that are more time-sensitive, making them more

attractive to foreign investors. Second, under the BRI, outward FDI from Chinese private and SOEs to BRI countries is encouraged and is, in many cases, part and parcel of BRI efforts to catalyze trade and growth in these countries and promote deeper integration in general, and with China in particular. Recent estimates of the BRI impact on FDI (Chen and Lin, 2018) confirm that reductions in shipment time would raise overall FDI as well as Chinese FDI. A 10 percent reduction in shipment time increases overall FDI flows into BRI countries by 12 percent on average, and Chinese FDI flows into them by 7 percent.

27. Annual FDI inflow into Tajikistan has jumped to more than US$300 million a year in 2014-18 from an average of around US$80 million in 2005-2013 (IMF 2019). Chen and Lin (2018) estimates that the fall in shipment time will raise total FDI to Tajikistan by a healthy 13 percent. Though there is no equivalent estimate on BRI's impact on Chinese FDI to the country. Nevertheless, there has been a substantial rise in actual FDI inflows from China's SOEs and private firms after 2013 (Wolters 2018, Aminjonov and Kholmatov 2019). They have accounted for the bulk of the increase in total FDI inflows to Tajikistan between 2014 and 2018. Media reports suggest that such inflows went into mining, agriculture, and manufacture of building materials, fertilizer, agricultural machinery and cotton-related products.[17]

28. Mining is reported to have taken the lion's share of Chinese FDI inflow to Tajikistan. Such investments are in exploration and production of metals as well as in metallurgical plants for their processing. These projects are focused not only on gold but increasingly on zinc, lead, and antimony. Many are green-field operations, but some are investments in existing operations to modernize and expand mines and processing facilities (Wolters 2018). While these investments have no doubt contributed to growth in Tajik exports of metals as evident in the trade numbers, the absence of serious studies on Tajikistan's mining sector growth makes it difficult to assess their overall development impact.

29. Chinese FDI has also been going into Tajik agriculture and bringing with it better production and processing technology. Though arable land is not as plentiful as in other countries, the import of agriculture know-how has the potential to raise agricultural productivity from the current low Tajik level. For example, the Zhongtai group from Xinjiang is producing cotton more productively for its own spinning and weaving mills in Tajikistan and exporting yarn and fabrics.[18] Two Chinese companies, Jing Yin Yin Hai and Huang Fan, have relatively large scale wheat and cotton farming, as well as vegetable and fruit production and seed production in Khatlon province. They use contract farming with local farms for production, providing fertilizer and seeds as well as technical advice (Hofman 2016) and have built a vertically integrated agricultural operation.

30. Like in other BRI countries, two of Tajikistan's free economic zones[19] (FEZs) have received substantial inflow of FDI from China's SOEs and private firms. In the Danghara FEZ, located a few miles south of Dushanbe, Chinese investments include, among others, an integrated cotton-growing and yarn/fabric/ manufacturing complex[20], a chemical fertilizer plant, a flour mill, an oil pressing mill, a feed mill, an agricultural mill, a cement plant[21] and an oil refinery. The Istiklol FEZ located near Khujand in the

[17] The Global Investment Tracker, compiled by AEI and the Heritage Foundation, records data on individual investment transactions that are typically larger than US$100 million. Unsurprisingly, only three Chinese FDI transactions are reported for Tajikistan as most Chinese FDI projects are likely to be less than US$100 million.

[18] Zhongtai (Danghara) Sin Silu Textile Industry Co., Ltd has been producing and exporting quality yarn as well as fabrics to Russia, Turkey, Italy and Poland (Liang and Liena 2017).

[19] Devonshire-Ellis 2019 lists these two among other Chinese overseas special economic zones. Unfortunately, there is little information on whether Chinese firms built these two industrial zones' infrastructure in collaboration with Tajik government, so that clusters of Chinese firms might find it easier to invest in multiple subsectors, as China has done in several parts of Africa.

[20] The Zhongtai complex includes 17,000 hectares of cotton cultivation, as well as plants for spinning, ginning, weaving, dyeing, printing and finishing, creating substantial local employment.

[21] Cement plants in Yovon in Khatlon province and in Ghafurov in Sughd province also involved Chinese FDI, all of which produce for both domestic market and exports to neighboring countries.

Ferghana valley, is connected by road with neighboring countries, and through them to China and has attract FDI from China[22] as well as from neighboring countries.

Box 4: Chinese FDI in Mining in Tajikistan

- Chinese company Tibet Huayu Mining Co. Ltd and TALCO have invested into a gold and antimony mining joint venture to produce 1.5 tons of gold and 16,000 tons of antimony, annually.
- Zijin Mining of China invested in 75 percent shares of JV Zerafshan Gold Company that holds mining rights to 300, 000 hectares in Panjekant in northern Tajikistan and recently built two concentrators and a refining shop to produce nearly 70 percent of gold in the country
- China Nonferrous Gold Limited, a London Stock Exchange AIM-listed Chinese mineral exploration and development company, invested in Pakrut Mining LLC, that includes a metallurgical plant to process lead and zinc deposits;
- YanTai Yuancheng Gold Co. of China invested in a gold-mining joint venture Aprelevka LLC to modernize and expand ore production of deposits in Aprelevka's licensed areas.
- Xinjiang Tacheng International Resources Co. Ltd. of China invested in the Altyn-Topkan mine for zinc, including a processing plant;
    - China Global New Technology Import & Export Co., Ltd. of China, main investor in Tajik-China Mining Co, is investing in a metallurgical plant in sughd province Zarnisori Shimoli deposit to produce 50,000 ton/year each of lead and zinc.
    - Kashgar Xinyu Dadi Mining Investment Company signed an agreement to invest in major Yakchilva silver deposit in Murghab region, including the necessary transport and power infrastructure.

Sources: USGS Minerals; Ergasheva 2014; Chorshanbiyev 2013; Jafurova 2015; Rafiiyeva 2016; Silk Road Briefing posts 2018-19

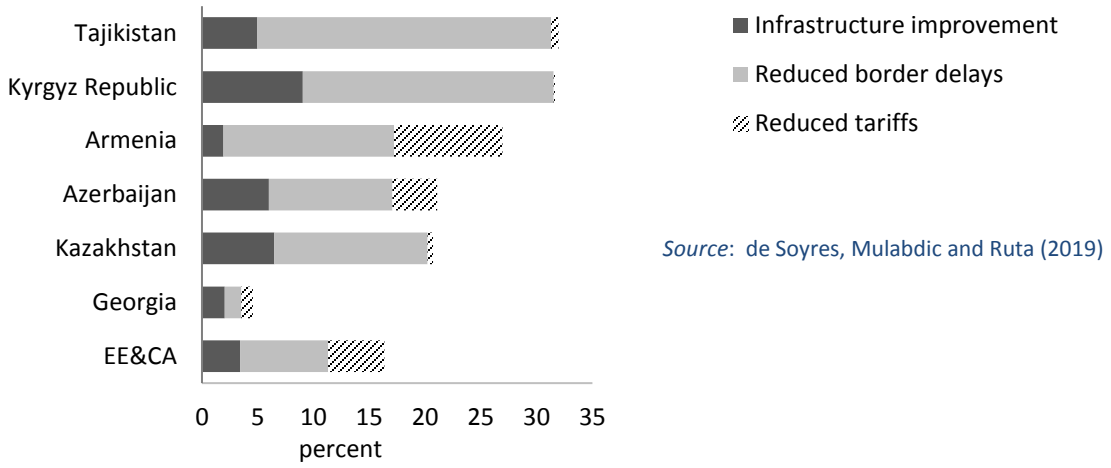
Impact on GDP

31. The estimated BRI impact on Tajik GDP is significant. Lower shipment time generates higher FDI and exports which in turn improves productivity and raises GDP. Lower shipment time can also lower prices of imported inputs and the resulting fall in production cost, when passed on to downstream industries, results in reallocations of specialization and productivity growth. Recent estimates of the impact of BRI on individual countries find that Tajikistan's GDP could rise by 32 percent (De Soyres 2019). The economy would be bigger by 5 percent as a result of transport infrastructure improvements alone. However, complementary reforms in trade facilitation and logistics that halve border crossing delays can add an additional 26 percent of GDP.

32. However, taking into account the cost of building the infrastructure lowers the gains significantly. The welfare impact[23] is calculated by comparing the long-term real income gains noted above with an estimate of the infrastructure cost that the country is expected to pay. This adjustment lowers the welfare gains for Tajikistan significantly; actually, in a scenario of only infrastructure improvements, Tajik welfare is not expected to improve. Given that large transport projects frequently cost more than expected, welfare gains could be negative. This highlights the importance of the complementary reforms that improve the integration gains and that strengthen fiscal institutions and governance.

[22] There are reports that Chinese investment has gone into the construction of a whole new town near Khujand (Colarizi 2015).
[23] In the SGE model, welfare is defined as total consumer revenues divided by the relevant consumption price index. Total revenue takes into account payments to factors of production, revenues derived from the portfolio share and from import tariffs, and the cost of the transport infrastructure.

Figure 4: Increases in GDP
(in % from baseline, SGE analysis)



Source: de Soyres, Mulabdic and Ruta (2019)

Spatial Impact

33. Spatial analysis suggests that benefits of improvements in transport are likely to be associated with regional concentration of economic activity. Economic growth is unbalanced (World Bank, 2009); for example, urban hubs that are closer to border-crossings tend to gain disproportionately more while those farther away will be relative losers. At the same time, transport improvements alone cannot offset disadvantages of unattractive locations. Cities and regions with better amenities and a significant manufacturing sector can benefit substantially more because of the potential for increasing returns and agglomeration economies.

34. Similarly, improvements in BRI connectivity are likely to be associated with more spatial concentration, rather than dispersion of economic activity within countries. Most of the gains expected from the improved connectivity do not accrue from the direct impact of the reduction in trade costs, rather, they accrue from income gains related to the response of economic agents which tend to increase scale and to benefit from agglomeration by locating near other firms engaged in similar and related activities. The results of a spatial general equilibrium model[24] for Central Asia confirm these results suggesting that economic adjustment generates gains overall, but also winners and losers. Under the baseline scenario (limited adjustment), the model finds that overall gains will be limited to the direct impact of reduced trade costs. However, some economic mobility (allowing firms to enter and exit) brings higher benefits for some countries, though overall gains are smaller. Finally, allowing firms and labor to adjust increases the overall gains for the entire region with some countries benefiting significantly more; however, some countries benefit much less. Such a differentiated spatial impact also increases risks for part of the population.

35. Given Tajikistan's economic structure this may mean more limited opportunities compared to peers. Given the relatively small potential for agglomeration gains (weak manufacturing base, few large urban areas, limited opportunities for specialization and clustering), the expected additional gains for Tajikistan are limited. The results of the spatial general equilibrium model suggest that without economic adjustment, the gains from the decline in transport costs are around 1.6 percent for Tajikistan, above the

[24] The model analysis few scenarios of economic adjustment: a) Armington, where it is assumed that producers and consumers change behavior while number of firms remains unchanged; b) monopolistic competition where firms' entry and exit is allowed and c) increasing returns and labor mobility.

aggregate gains of 1.4 percent for the sub-region. However, the growth in real income is marginally higher (1.7 percent) in a scenario of limited economic adjustment (i.e. Armington scenario). Allowing for business to change location or assuming labor mobility and increasing return to scale in manufacturing actually ends up lowering the real income gains for Tajikistan as economic activity concentrates in centers with bigger potential for agglomeration of economic activity, which are mostly out of Tajikistan.

Table 5: Real income gains, by country

	Direct effect of transport cost decline	Average real income growth		
		Armington	Monopolistic competition	Increasing returns and labor mobility
China (3 provinces)	1.2	1.2	2.0	2.5
Kazakhstan	1.9	1.6	2.1	5.2
Kyrgyz Republic	1.6	4.9	4.4	4.6
Pakistan	1.5	1.8	2.3	6.3
Tajikistan	1.6	1.7	1.5	1.0
Turkmenistan	0.4	0.3	0.0	-0.3
Uzbekistan	0.7	0.8	1.0	1.6
Aggregate	1.4	1.4	1.0	1.6

Source: Belt and Road Economics

36. The differentiated impact also increases risks for part of the population. In fact, industries that will face greater competition from third countries following the reduction in trade time and costs (for example, manufacturing) could lose jobs. For example, the contraction in manufacturing is behind the expected reduction in real income gains in Tajikistan suggested above.

6. Complementary Policies to Accompany BRI Transport Projects

37. The estimates of the BRI impact make clear that notwithstanding the importance of better transport infrastructure for trade and development of Tajikistan, complementary policies accompanying better infrastructure can amplify the benefits while mitigating risks. This is particularly relevant where border-crossing is very slow due to inefficiencies in trade facilitation and logistics, or where the extent of private investment or FDI response to lower shipment time is restrained by a poor investment climate, or where weak education and health services fail to equip labor with necessary skills in order to widen the impact of an investment response. This section identifies some of the measures that may be needed in these areas in Tajikistan.

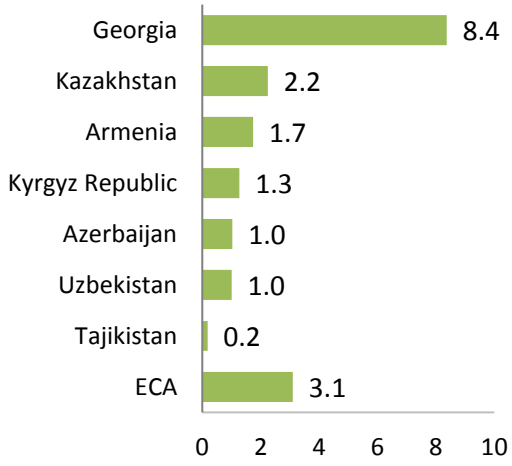
a) *Reform trade facilitation and logistics to reduce border delays:* All estimates of BRI impact on exports and GDP highlight how the favorable impact of better transport infrastructure is magnified by more efficient border crossing and Tajikistan's borders perform poorly in this respect. Some reforms are ongoing. On trade facilitation, Tajik Customs Administration and the National Trade Facilitation Committee are streamlining procedures and establishing a "green corridor" designed to expedite the export of agricultural products by implementing streamlined terminal and border procedures, including joint controls and reduced inspections.[25] The efficiency and predictability of customs clearance procedures could improve through: submission of pre-arrival information on goods; greater use of risk-based assessments; introducing an Authorized Operators program; promoting electronic payment of duties, taxes and fees; fostering inter-

[25] These parallel the development of procedures for authorized trusted operators to receive priority treatment and clearance in return for compliance and provision of accurate information to Customs and other border agencies.

agency coordination, avoiding the duplication of collected information and multiplicity of methods and procedures; and so on. There is also room to create a more open and competitive trucking sector given the large share of cross-border traffic that uses roads as well as to liberalize the entry and operation of international logistics companies in the country.

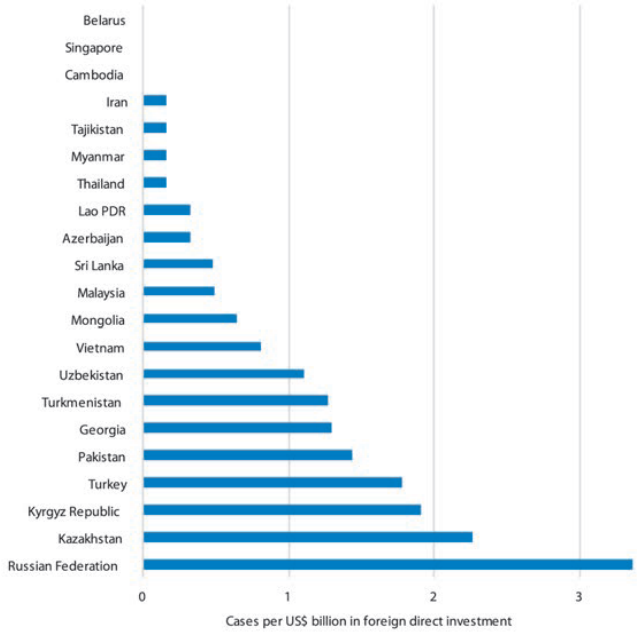
b) *Liberalize the climate for investment:* Tajikistan ranks 126 in Doing Business and thus has a lot to do to improve its investment climate. Cumbersome approval process for investors, continual inspections and arbitrary application of tax code to exact burdensome tax payments and poor access to finance all make it difficult for investors. Simplifying approval process through the one-stop window, rationalizing tax collection to make it supportive of private sector and strengthening banks system and lending more to private firms may be helpful in improving the investment climate and generating a larger investor response to better transport infrastructure.

Figure 5: Firm entry is low
(firm entry per 1,000 working age population)



Source: World Bank
Note: Data is for 2016.

Figure 6: Investor-state dispute are frequent
(arbitrage cases per US$ billion in FDI)



Source: Kher and Tran (2018), based on UNCTAD Investment Dispute Settlement Navigator.

c) *Stronger regional cooperation*: The estimated gains from improved infrastructure are conditional on the improvements being undertaken on the entire transport network. This calls for stepped-up cooperation between countries. While there has been no lack of cooperation initiatives in South Caucasus and Central Asia, these appear to have had only limited usefulness. The CAC economies are parties to numerous trade and transport facilitation frameworks which aspire to create frameworks for more efficient trade and economic integration.[26] However, selective coverage of trade and transport issues, complex rules, as well as lack of functioning dispute resolution mechanisms have limited their effectiveness. To strengthen regional cooperation, countries will need to build on the existing arrangements, but also establishing new ones. In the case of Tajikistan, it would be important to ensure that regional integration efforts are done in

[26] These include: the Eurasian Economic Community; the Shanghai Cooperation Organization; the Economic Cooperation Organization; the Transport Corridor Europe-Caucasus-Asia (TRACECA), the Central Asia Regional Economic Cooperation (CAREC) and so on.

line with good international practice and do not result in welfare losses. In addition, harmonization and standardization with corridor countries will result in interoperability which is imperative for efficient and effective trade and transport flows along a corridor.

d) *Improve enrollment in early childhood, basic, secondary and vocational training and enhance their quality*: Tajikistan's Human Capital Index (HCI) indicators are lower than the average for its region making a lot of the next generation unequipped for emerging opportunities arising out of BRI, thereby limiting its benefits to a few. The Government needs to implement its ongoing reform measures more effectively in order to enhance the quality and coverage of early childhood education, improve completion rates in basic and secondary education, and overhaul the educational curriculum so as to prepare students in line with the economy's demand for skills (World Bank 2018). This will ensure not only that adequate labor is available for firms and farms, but that worker productivity can continue to rise to provide better incomes.

7. Fiscal Risk of Scaling-Up Public Investment for BRI Infrastructure

38. The scale and bunching of BRI infrastructure investments and the size of borrowing to finance such investment and their terms have raised questions about the risk to debt sustainability of BRI countries. Tajikistan has been a significant investor in BRI corridors in recent years and plans to invest more in the coming years. These investments have been funded by borrowing from various multilateral and bilateral sources as well as substantial financing from China under the BRI. Tajikistan's fiscal risk stems from the size of scale-up of its public investment in BRI infrastructure projects, their loan financing and the terms of those loans. The amount of estimated BRI debt financing in Tajikistan is expected to exceed the public and publicly guaranteed debt-to-GDP ratio as of end-2016 (Bandiera and Tsiropoulos, 2019). Though many Tajik BRI projects in road and rail have been implemented or are ongoing, there is only limited information on actual value of such annual public investment. While the size of government borrowing from China provides a proxy for the magnitude of investment in BRI projects, it could also overstate or understate their size, if all Chinese borrowing was not for infrastructure or if some BRI investment was financed from other sources. In addition, Chinese financing of infrastructure comes in several formats. One format is the standard or traditional one of loans to government in US dollar or in Chinese yuan with maturity and grace periods and a fixed or variable interest-rate[27] which then is part and parcel of a country's outstanding public debt in the debt-recording system. But some other formats where loans for infrastructure are agreed to be repaid in exports of identified mineral resources or financing in the form of exchange loan for equity in mineral resource mines[28], are typically not recorded together with traditional standard format loans[29].

39. Tajikistan has had a legacy of fiscal difficulties. The room for much needed public spending on infrastructure and on social sectors has generally been limited. Public investment had to be prioritized carefully for growth. Large recurring quasi-fiscal deficits in the electricity sector due to below-cost pricing of electricity, and in state-owned banks due to their large loan losses, have frequently threatened fiscal

[27] China's financing for infrastructure typically comprise of sovereign loans to governments with varying bilateral terms. China's concessional loans can have 2 or 3 percent interest with a repayment period of 15 to 20 years including five-to-seven years of grace period (Tian 2017 Ch. 3 OBOR book 2017).

[28] There are reports that suggest that loans for power sector were secured by licenses for gold-mining in the north of the country i.e. gold reserves East Duoba and Upper-Kumarg (Refer 'China to Develop Tajik Gold deposits' in Chinamining.org, 2015-01-08).

[29] In high-risk and low-return regions, China is known to use a resource-backed model where a loan for infrastructure is to be repaid in the form of exports of agreed natural-resource over time. The Angolan model is one where a infrastructure-financing is provided in exchange for equity in a resource-mine of the country, resulting in no recurring debt-burden (Kassenova 2013)

stability. Its ability to raise more revenue beyond current levels has been limited. The government thus continued to request development partner assistance in the form of grants where possible and build infrastructure mainly with concessional foreign assistance[30]. However, the country has been tapping the private capital and financial markets in a limited way in recent years.

40. The fiscal situation took a turn for the worse since 2014 with a fall in regional growth and remittance inflows, turmoil in the banking sector and a rise in total government spending. The fiscal deficit spiked to 9 percent of GDP in 2016, up from a largely balanced budget between 2012 and 2014. In addition, costs for recapitalizing problem banks and providing liquidity support totaled around 6 percent of GDP in 2016. Fiscal consolidation has picked up pace; the deficit was reduced to 6 percent of GDP in 2017 but declined sharply to below 3 percent of GDP in 2018 and 2019. Still, among ECA countries, only Montenegro had a higher average fiscal deficit between 2014 and 2019. This was mainly because total spending went up, driven by higher current and capital spending, while the authorities struggled to preserve existing revenues levels. Capital spending increased too from an annual average of 11.2 percent in 2010-13 to 14.3 percent of GDP in 2014-17.

41. Consequently, public debt rose, especially from China. Debt increased from 28 percent of GDP in 2014 to around 50 percent of GDP by 2017 driven by higher fiscal deficits and a large depreciation of the somoni. Debt levels declined to around 45 percent of GDP in 2019 as growth recovered and the exchange rate stabilized. Chinese debt grew also, and by 2018 it amounted to around 41 percent of Tajikistan's total outstanding public external debt.[31]

42. The COVID-19 pandemic reversed these trends. The fiscal deficit in 2020 is expected to widen to around 7 percent of GDP, reflecting the collapse in economic activity and the pressures on expenditures to respond to the pandemic. As a result, public debt is projected to go above 50 percent of GDP.

43. As a result, the risks to Tajikistan's public finances remain elevated; under these conditions, it would be prudent to be restrained in increasing BRI investment in the coming years. In fact, the Debt Sustainability Analysis (DSA) (IMF 2020) classified Tajikistan at *high risk of debt distress* and thus with limited space for scaling up BRI infrastructure investments in the coming years beyond the baseline[32]. The DSA baseline, however, projects an average annual capital spending of a very high 12-13 percent of GDP (around half of this is expected to be for the Rogun project). Overall risk of public debt distress is high under the baseline due to breaches in external debt indicators; however, a contingent liability shock has the largest impact on public debt sustainability. Public debt becomes sustainable conditional upon fiscal consolidation and avoidance of non-concessional borrowing.

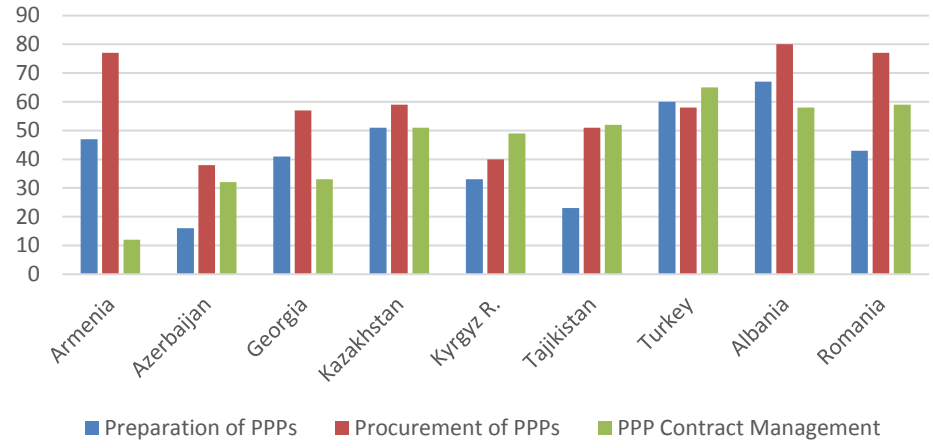
44. Additional investments for BRI are unlikely to generate sufficient growth to off-set the impact of higher borrowing on the debt-to-GDP ratio. Bandiera and Tsiropoulos (2019) estimate that implementation of all BRI related projects in Tajikistan over the next five-year period will generate additional GDP growth of up to 1.9 percent by 2023. They conclude that the public debt to GDP ratio is expected to *decline* even in this scenario; however, the debt-to-GDP ratio in 2030 will be higher compared to a scenario excluding these. In addition, they also highlight a number of fiscal risks associated with large investment projects (cost overruns, delays, overestimated benefits and so on) which, if they materialize, could affect the debt position of Tajikistan.

[30] Roghun hydro-power project is a major exception as it is using commercial loans.
[31] Not all Tajik loans were signed after 2012 though the bulk of it was. Most of them were dollar-denominated and had a maturity of 20 years, a grace period of 5 years and a fixed rate of interest of 2 percent.
[32] Other analysis (Hurley et al 2017) also arrives at the same finding.

45. To minimize the risk of fiscal instability, Tajikistan ought to adopt and implement a credible macro-fiscal framework and strengthen its fiscal management along several dimensions. First, given the multi-year implications of scaled-up infrastructure investments and their recurrent spending requirements, establishing and implementing medium-term budget frameworks[33] can avoid frequent reallocations and/*or* delays in project-execution because of the need to re-prioritize investment annually to avoid unanticipated breach of fiscal deficit targets. Second, it is important to formulate and execute budgets with real time data which depends on an effective revenue management system and a well - functioning public expenditure management system. Third, to ensure the latter, the government should expedite implementation of its public financial management reform strategy, especially in improving its procurement functions, strengthening public investment management[34] and increasing accountability. This will be critical to mitigating fiscal and projects risks and ensuring value-for-money from the investments. According to the Worldwide Governance Indicators, Tajikistan's ability to control corruption is very low. Fifth, there should be an institutionalized ex-post assessment of the adequacy of operations and maintenance (O&M) budget for transport-projects, because there is a systematic bias in under-estimating O&M at the stage of investment proposals.

46. The role of the private sector in infrastructure provision could also be strengthened, though its prospect in Tajik road or rail sectors is likely to be limited. Tajikistan's experience with the engagement of the private sector in infrastructure has been limited; the World Bank's database on Private Participation in Infrastructure lists only five cases, two in telecommunications and three in the energy sectors. However, this would require stronger capacity to analyze projects, share risks as well as disclose and manage those risks. According to the World Bank Procuring Infrastructure PPPs, the performance of Tajikistan is on par with regional peers, but significantly weaker compared to better performing peers in the broader ECA region. In addition, sector policies would need to be amended to ensure efficient pricing and regulation.

Figure 7: Quality of PPP processes
(score, on a scale from 0 to 100, higher values indicate better performance)



Source: World Bank Procuring Infrastructure Public-Private Partnership

[33] Medium-term budget planning is ensured through three-year budget requests that cover capital spending and the needs of public investment projects. More improvements are clearly needed.

[34] The program of Public Investments, Grants, and Capital Construction has become a core medium-term strategic planning tool in recent years and resolutions establishing procedures for public investment have created bases for the PIM system. Yet much more still has at appraisal and evaluation stage to heighten value for money in public investments (World Bank 2014).

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Annex: BRI Transport Projects in the Central Asia and Caucuses Region

BRI Transport Projects	New, Upgrades and Expansion	Countries	Status: Operational, Ongoing, Planned
Urumqi-Khorgas rail proj.	Urumqi-Khorgas new rail link	China	-2012
Khorgas New Dry Port	New Rail Terminal, Truck Terminal, Logistics Center & Free Trade Zone	China, Kazakhstan	-2012 (partly) -2015 (fully)
Moscow-Kazan rail proj.	Moscow-Kazan High Speed Rail upgrade	Russia	-Under construction
Khorgas-Aktau Rail Project	-Khorgas-Zhetigan (293 km) -Jezkazgan-Saksaulsky (546 km) -Beyneu-Salkar	Kazakhstan	-2014 -2014 -2016
Aktau Seaport Expansion	-Sealink -Container port -Expansion of Port Facilities	Kazakhstan	-2000 -2014 -Under construction
North South Uzen-Gorgan rail proj.	-Uzen-Bolashak -Serkhetyaka-Bereket- Iran border -TKM border-Gorgan	Kazakhstan Turkmenistan Iran	-2013 -2014
Baku-Alyat seaport	-Sea-link to Aktau -Sea link to Turkmenbashi	Azerbaijan, Kazakhstan Turkmenistan	-2014 -2016
Baku-Tiblisi-Kars-Istanbul rail proj.	Baku-Tbilisi upgrade Tbilisi-Kars new rail segment	Azerbaijan, Georgia Georgia, Turkey	-2016 -2017
Marmaray Tunnel	Marmaray rail project	Turkey	-Under construction
Kashgar-Pap Tashkent rail project	Kashgar-Irkeshtam-Osh rail proj Angren-Pap rail link to Tashkent	China, Kyrgyz Republic Uzbekistan	-Proposed -2015
Samarkand-Mashad rail	Samarkand-Mary-Sarahs-Serakhs-Mashad upgrade	Uzbekistan, Iran, Turkmenistan	-2016
Mashad-Tehran rail Upgrade	Mashad-	Iran	-Ongoing
Kashgar-Dushanbe rail proj.	Kashgar-Irkehstam-Karamyk-Dushanbe new rail link	China, Kyrgyz Republic, Tajikistan	-Proposed
SherKhan_Herat rail	SherkhanBandar-Kunduz-MazareSharif-Herat new rail & upgrade	Afghanistan	-Under construction
Dry ports and hubs			
Atyrau, Shymkent, Astana, Almaty		Kazakhstan	Except for Astana, proposed for modernization & expansion
Andijan, Samarkand, Bukhara		Uzbekistan	
Bishkek, Osh		Kyrgyz Republic	
Tursunzade, NiznyPanj, Jirgital		Tajikistan	

Source: Reed & Trubetskoy (2018) compiled a list of BRI projects from which projects in the CAC region are cited.