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South Caucasus and Central Asia: The Belt and Road Initiative Kyrgyz Republic 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 support from the Central Asia and Caucasus MTI team. The team is grateful for the guidance from Sandeep Mahajan (Practice Manager), peer reviewers Michele Ruta, Abdulaziz Faghi and Paul Valley 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	MSR	Maritime Silk Road
CAC	Central Asia and Caucasus	O&M	Operations and Maintenance
EU	European Union	PIM	Public Investment Management
FDI	Foreign Direct Investment	SOE	State-Owned Enterprise
GDP	Gross Domestic Product	SREB	Silk Road Economic Belt
ICT	Information and Communication Technology	WTO	World Trade Organization

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Executive Summary

The Kyrgyz Republic is benefiting and will benefit more from China’s Belt and Road Initiative (BRI) if it implements much needed complementary policies. Falling shipment time, resulting from BRI improvements in transport infrastructure, can raise FDI, trade and GDP substantially. But to leverage fully the BRI opportunities for integration, the Kyrgyz government should continue to implement complementary policies that reduce border crossing time, liberalize restrictions on investment and trade, remove sectoral constraints on expanding output, improve human capital, and promote worker’s mobility. To minimize fiscal risks of scaling-up infrastructure investments and sustain its benefits, adopting better fiscal and debt management practices will be important too.

Chinese financing of infrastructure has been present in the country for a while but received a boost since the BRI. It also motivated Kyrgyz neighbors to invest more in their own transport and donors to finance more of it. Two of the BRI corridor routes to Iran/West Asia pass through a common Kyrgyz segment with one transiting westward through Uzbekistan and Turkmenistan and another, southward through Tajikistan and Afghanistan. Kyrgyz shippers can also access the other routes more rapidly because of recent investments in its domestic road network as well as those by its neighbors in theirs.

Estimates show that the impact of completing the envisaged BRI transport projects can be magnified by reforms that double border-crossing efficiency. Kyrgyz shipment time is estimated to fall by 13 percent and its trade cost by 7 percent on account of completion of the envisaged BRI transport projects; improvements could be twice as large if reforms double border-crossing efficiency. This is estimated to increase Kyrgyz exports by between 7 and 22 percent and GDP by between 9 and 32 percent. The bulk of the gains come from reforms in trade facilitation and logistics. Some of the benefits of falling shipment time to-date are visible with Kyrgyz trade picking up and FDI inflows increasing modestly, notably from China as well. 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, leather products and wearing apparel. These items face favorable external demand and line up well with Kyrgyz comparative advantage which suggests considerable potential for sustained growth. The challenge will be to attract adequate foreign investment with the requisite technology to produce these goods competitively in the country and to sustain higher FDI inflows. This will require complementary reforms to improve the investment climate, to remove sector-specific constraints, and to increase the available number of workers with the requisite skills.

The spatial distribution of benefits is expected to be uneven, though policies could reduce the extent of that unevenness. Developed urban hubs closer to border crossings and with bigger BRI improvements in transport are likely to gain more than others leading to spatial concentration of economic activities. The northern region, with its well-developed and connected capital city of Bishkek and close to the borders of Kazakhstan and Uzbekistan, is well placed to gain the most. Domestic policies that increase mobility of labor, goods and services across the country can mitigate the impact.

Reducing fiscal risks of scaling-up infrastructure investment will be equally relevant for sustaining the benefits from BRI. With the country already at ‘moderate 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 the Kyrgyz Republic, harmonizing procedures with countries along the corridor could go a long way to improving the reliability of the corridor and increasing the attractiveness of the Kyrgyz Republic.

While the COVID-19 pandemic is reshaping supply chains, the integration agenda will remain a key ingredient of development strategies for countries like the Kyrgyz Republic. 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 role 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 the Kyrgyz Republic, 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. The Kyrgyz Republic is one of the poorest countries in the CAC region with a multi-ethnic population of around 6.3 million. Its per capita income was US\$1,220 in 2018 and close to a fifth of its population lives in poverty.¹ Unlike some Central Asian countries which are endowed with hydrocarbons, the country is rich in mineral resources that are mostly unexplored or unexploited, though one gold mine accounts for a disproportionate share of exports and industrial output. Agriculture accounts for a fifth of GDP but almost half of employment. There has been some movement of labor from agriculture but to low-productivity service sectors rather than to manufacturing. As a result, the services sector has grown rapidly to account for around 50 percent of GDP compared to 20 percent for agriculture and 20 percent for industry, the latter comprised of gold-mining, light-manufacturing and utilities.

2. The Kyrgyz economy has been, since its earliest days, the most liberal and open among Central Asian countries resulting in an atypical structural transformation with limited productivity growth. It was the first Central Asian country to become a WTO member in 1998 and its trade share in GDP is the highest in the region. This is largely due to the flourishing cross-border trade with Kyrgyz Republic's large markets, Dordoi and Kara-Su, intermediating large volumes of goods: importing goods through both formal and informal trade systems, mainly from China, and re-exporting (in few cases with some value-addition) most of that to other economies in the region. It has highly entrepreneurial traders and a logistics-system that caters well to this large 'entrepot' trade. Agriculture and light manufacturing have contributed to its exports.

3. The country grew at an average annual rate of slightly above 4 percent between 2003 and 2017. The economy has been buffeted frequently by domestic and external shocks making its annual growth rates quite volatile. Consumption, investment and GDP have grown mainly on the back of large remittances, development partner inflows, re-exports from its bazaars and gold export receipts, but this is unlikely to be sustained.

4. Going forward the country needs higher FDI, exports and productivity to ensure sustained growth in GDP and employment. Agriculture has considerable potential for productivity growth and exports; but land-ownership is fragmented while farmers lack the agricultural 'infrastructure' – access to water and fertilizer, to superior quality seeds and extension service and of course good transportation services – to increase productivity and exports. Furthermore, the country also has considerable mineral resources that are mostly unexplored or unexploited; there are 68 known gold deposits with only a few of them mined. Given how little of its land area has been explored, the potential for more exploration and exploitation exists. Increased connectivity will also provide a boost for other sectors, such as light manufacturing.

5. However, Kyrgyz Republic is also one of the least connected economies in CAC. The transport infrastructure is poor with limited international and domestic transport connections due to its land-lockedness and its mountainous terrain and inadequate quality of transport infrastructure. Cargo transportation depends more on road than rail because of the difficult mountainous terrain. Inefficiencies and delays at its border-crossings make for even longer transport-times than its transport infrastructure warrants.

6. The BRI and the improved cross-border transport connections can provide an anchor for increasing growth and reducing poverty. The BRI envisages investments in transport projects along six BRI corridors connecting China by rail to cities in Russia, Europe, Turkey, Iran, West Asia, Pakistan, South

¹ Measured at the international poverty line for lower-middle income countries of \$3.2 in 2011 PPP.

Asia and South East Asia. Two of those BRI corridors transit through the Central Asia and Caucuses (CAC) region using five routes to connect China to Europe, Turkey, Iran and West Asia. Two of the routes pass through the Kyrgyz Republic; in addition, Kyrgyz traders can connect to destinations on the other four routes because of their recently improved road links internally and to Almaty, Osh, and Tashkent. The BRI is an opportunity to upgrade/build needed transport, power and ICT infrastructure and mobilize FDI (including from the envisaged relocation of many of China’s lower-tech production in BRI countries) and increase productivity and exports.

7. This note summarizes the potential impact of BRI over connectivity and the Kyrgyz 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 the Kyrgyz cross-border transport, electricity and ICT infrastructure to-date, and the potential impact of the completion of BRI transport projects (both in the Kyrgyz Republic and around the world) on lowering Kyrgyz shipment time. It further looks at the likely economic impact of the reduced shipment time on exports, FDI and GDP, the within-country regional distribution of that impact and how complementary policies can enhance the positive impact and mitigate potential risks. Finally, it also examines the fiscal risk of Kyrgyz government scaling-up investment in BRI transport projects in the coming years without undermining its public 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 nor 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 Trubetsky (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.

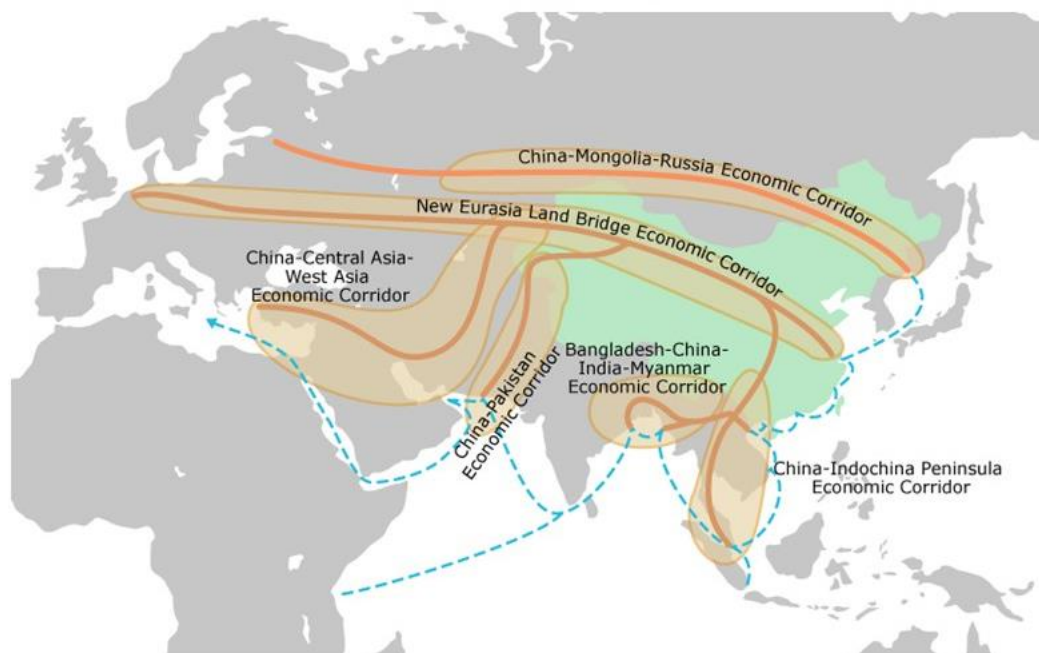
2. The Belt and Road Initiative

8. 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

infrastructure² and other complementary infrastructure in the BRI countries, better policy coordination among the 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 pg2).

9. 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 Caucasus, 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 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 the number of other initiatives aimed at improving connectivity and lower trade time and costs.³ These initiatives have helped to bring down time and money cost of transport, but these remain significant.

Figure 1: BRI corridors



Source: Xinhua News Agency; Hong Kong Trade Development Council

10. The two BRI corridors transiting through the CAC region connect China to Europe and China to Iran and West Asia, respectively. The first uses two rail routes to reach Europe; one through Kazakhstan, Russia and Belarus while the other, through Kazakhstan, the Caucasus and Turkey. The second uses three

² 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.

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) program.

routes to reach Iran and West Asia. One of the routes goes through Kazakhstan, Uzbekistan and Turkmenistan, the second, through the Kyrgyz Republic, Uzbekistan and Turkmenistan and the third, through the Kyrgyz Republic, going southward through Tajikistan and Afghanistan; the latter two routes (Box 1) use the same Kyrgyz segment i.e. Kashgar-Irkeshtam-Sarytash segment. Thus Bishkek, Osh and other Kyrgyz cities can connect westward to Uzbekistan and Turkmenistan to reach Iran and southward to Tajikistan and Afghanistan.

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).

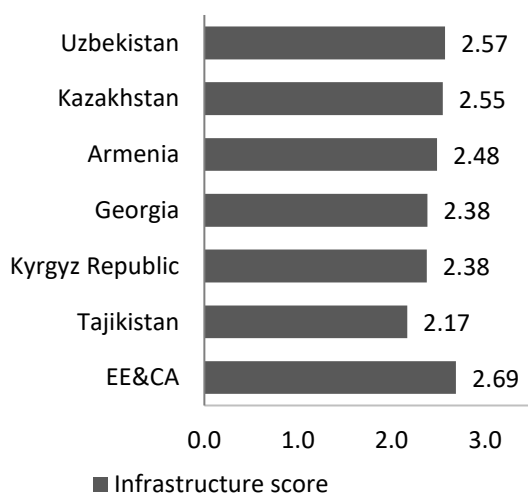
11. The five routes are potentially viable corridors through the CAC region. First, most of the completed, ongoing and planned transport projects in the region are along these routes and thus provide CAC countries with their most direct exposure to BRI. Second, at least one major city of each country⁴ 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. 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.

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 and to Europe through Armenia-Georgia border.

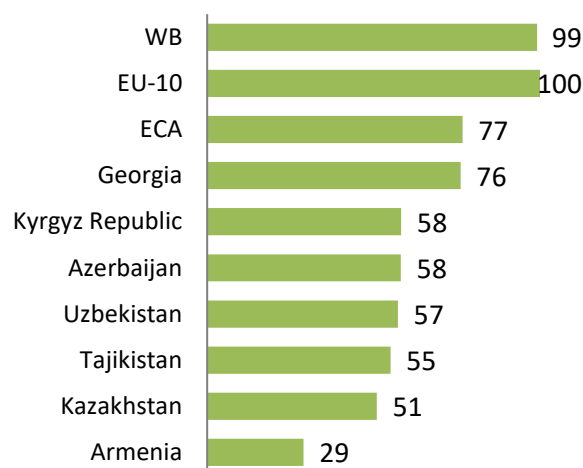
3. Improvements in Transport Infrastructure and Gaps

12. Freight and passenger transport in the Kyrgyz Republic depends mainly on roads because of the country’s difficult terrain with its northern and southern regions separated by mountain ranges. The rail system it inherited is limited, but, in principle, integrated with the railways of the bigger Central Asian countries. Many of the existing roads are not in good condition. All indicators of infrastructure services rank the country at the bottom of the CAC region. The quality of the transport infrastructure is perceived to be among the weakest among the CAC countries and significantly below the average for the countries in the Europe and Central Asia (ECA) region reflecting low scores on all transport modes (roads, rail and air transport). A closer look suggests that the Kyrgyz Republic has difficult roads, of poor quality, and limited railroads.⁵ 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.

Table 1: Infrastructure quality needs to improve ...
 Transport infrastructure quality



Rural Access Index



Source: World Bank Logistics Performance Index

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

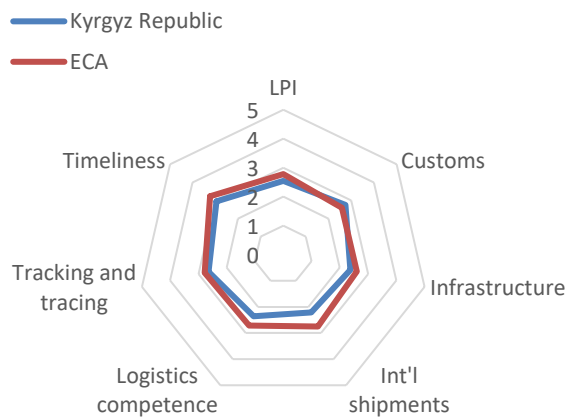
13. Inefficiencies and delays at its border crossings have reduced but remain substantial. According to the 2020 Doing Business report, border compliance for exports took 5 hours in 2019, compared to 278 hours in 2015. Similarly, there were improvements in the cost for compliance. Still, in 2018, the Kyrgyz Republic ranked 89 in the world in ‘Trading across Borders’ (with a score of 74.7 out of 100) due to still high times and costs for documentary compliance for exports as well as limited improvements in the time and costs for border clearance and documentary compliance for imports. The country ranked 108 on the 2018 Logistics Performance Index (LPI), though its ranking for some of its subcomponents is considerably worse; for example, for logistics quality and competence it is ranked 114, while for ease of arranging competitively priced international shipments it is ranked 138. (Banya et al, 2018) estimate trade times for 70 countries and find that the time required to trade with BRI partners in the Kyrgyz Republic is the

⁵ At the 2019 Global Competitiveness Report, Kyrgyz railroad infrastructure is ranked 83 globally, while its road infrastructure is ranked 128, with the quality of roads ranking at 113 but connectivity (measuring average speed and straightness of roads connecting major centers) at 110.

eight highest (almost 21 days). Furthermore, trading with China takes on average more than 15 days, a relatively good performance among the 70 countries, but still high given that the Kyrgyz Republic shares a border with China.

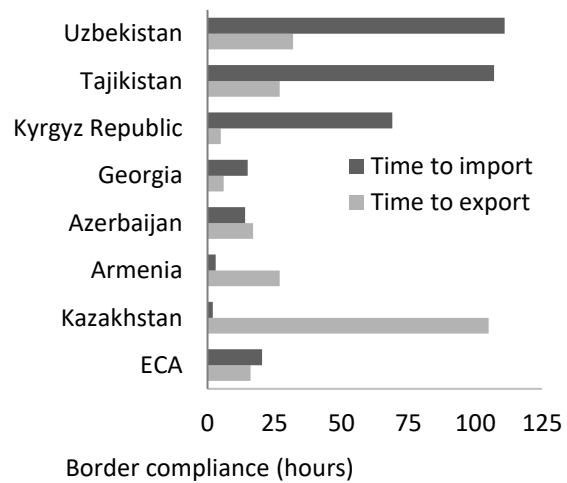
14. A more restrictive trade policy in recent years has added to costs of trading. With a simple average MFN tariff rate of 4.6 percent and almost half of all tariff lines being duty free earlier this decade, the Kyrgyz Republic, a WTO member since 1998, had one of the most liberal trade regimes in the region. As part of its accession to the Eurasian Economic Union (EEU), the Kyrgyz Republic aligned its rates with those in the EEU resulting in the average tariff in 2018 increasing to 6.5 percent. It is on par with other EEU members from the sub-region (Armenia and Kazakhstan), below Azerbaijan and Tajikistan, but well above Georgia.

Table 2: ... as should trade facilitation
 Logistics Performance Index



Source: Global Competitiveness Report

Time to import and export



Source: Doing Business

15. Though only two BRI corridor routes connect through a common Kyrgyz stretch of road, Bishkek and Osh can connect to destinations on the other routes because of its Bishkek-Almaty corridor. 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 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 in these two routes. The frequency of China-Europe trains has risen now to 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 schedules⁶. The shippers from the Kyrgyz Republic can now ship much faster to cities in the Caucasus, Turkey and Europe than before BRI.

16. The two routes that pass through the Kyrgyz cities to connect China to Iran are intermodal (Box 1). One of them, through Uzbekistan, is mostly by rail except for the Kashgar (China) – Irkhestam – Osh

⁶ 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.

segment that is by road, while the other, through Tajikistan, is mostly by road except for the Dushanbe - Nizny Panj segment that is also passable by rail.

17. The government of Kyrgyz Republic has been investing in the Kyrgyz segments of these two routes as well as in upgrading its road links to Kazakhstan. The Bishkek-Almaty road was upgraded as was the Osh-Andijan (Uzbekistan) road and rail connection. Several upgrades were made to other road links to its various border-crossings, including the Bishkek – Torugart and the Osh – Irkeshtam ones to the Chinese border, the Bishkek – Taraz road to the Kazakhstan border, the Osh – Sary Tash – Karamyk road to the Tajik border, and the Osh – Batken – Isfana road (ongoing) to the Uzbek border.

18. As a result, domestic connectivity has been improving between its northern and southern regions. The capital city of Bishkek and southern city of Osh are well connected by a recently upgraded road that is open round the year. The Balykchy – Jalal-Abad road is still under construction. Osh is well connected with southern cities like Jalal-Abad and Batken, while Bishkek is well connected with northern cities like Kara Balta, Talas, Tokmok, and Naryn.

19. Despite these improvements, gaps remain. There are several gaps in rail connections along the two BRI corridor routes, including some Kyrgyz segments. These relate to the Kashgar – Irkeshtam – Sary Tash as well as Sary Tash – Osh – Andijan rail segments on BRI corridor route 4 (Box 1). The Kashgar-Dushanbe BRI rail project (see Annex) when completed will fill the first gap, but the status of the second is unclear. 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

20. The completion of BRI transport projects around the world⁷, including those in the CAC region, will complement the improvements from investments undertaken in the Kyrgyz Republic. The BRI transport projects in different parts of the world increase the number of rail⁸ and port connections in the global transport network, improves the speed of travel along upgraded or newly-built rail segments and seaports on the network, and adds to the available options on routes for shippers to reach their destinations. With all countries 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 the same global network. The average shipment time for trade with the Kyrgyz Republic can fall not only because of the BRI corridors in the CAC region but also because of similar projects in other regions in the global transport network⁹.

21. Trading times currently are relatively high and are expected to decline significantly as envisaged BRI projects are completed. Currently, it takes almost 21 days to trade between the Kyrgyz Republic and its BRI trade partners on average, and almost 15 days to trade with China. The completion of ongoing and planned BRI transport projects is estimated to lower Kyrgyz shipment time by up to 12.9 percent (Baniya et al 2019).¹⁰ This is the second largest reduction in shipment time among the 70 BRI countries that were

⁷ All BRI transport projects have been compiled into a list in De Soyres 2018 and Reed and Trubetskoy 2019

⁸ 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.

⁹ 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. This average is taken with respect to all possible country pairs in the world, some of which are not or are very little affected at all by the BRI.

¹⁰ Refers to the upper bound estimate which assumes the ability to switch trade between different transport modes once transport projects are completed. Restricting trade to the same transport mode (lower bound) results in a reduction of time to trade of 8.5 percent.

included in the analysis. This would mean that shipping goods from the Kyrgyz Republic would be shorter by 2.5-3 days. The percentage reduction in that shipment time could be twice as high at 28 percent if reforms that halve border-crossing delays accompany BRI transport projects.

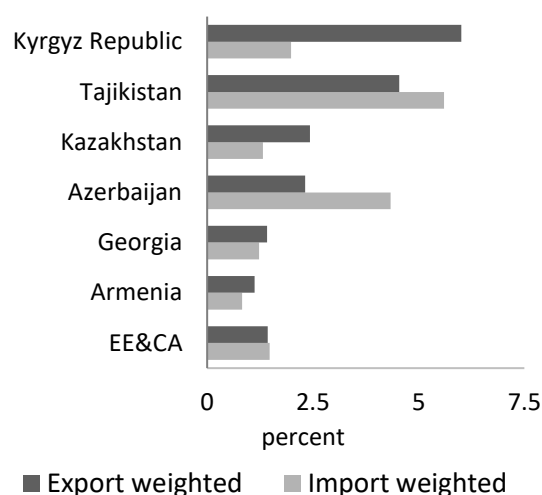
22. Trade costs will fall too. Shipment time¹¹ affects trade flows just as tariffs and freight costs do, because customers and firms’ value accessing goods in a timely manner, and any delay in serving different markets reduces trade flows. Reductions in shipment time, either through improvement in transport infrastructure and/or in the efficiency of border-crossing, will lower trade costs too.¹² Kyrgyz’s export-weighted trade costs are estimated to fall by more than 6 percent¹³ (2 percent in case weighted by imports) when BRI transport projects are completed (De Soyres et al 2018). But if the reduction in shipment-time is higher, as is the case where reforms that increase border-crossing efficiency are combined with transport projects, then the fall in trade cost would be greater too.

Table 3: Investments will lower the time to trade Figure 2: as well as the costs of 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



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. Kyrgyz Republic’s power sector is critical for the power it provides to all sectors, but also as a potential source of economic growth through its hydropower exports. However, businesses complain about unreliable power supply and that constrains it places on production and profitability, as well as new investment. The Kyrgyz Republic is ranked 143 in the world for ‘Getting Electricity’ in the Doing Business rankings, due to excess number of procedures that take a lot of time and high costs to complete. At the same time, businesses ranked Kyrgyz Republic on 102 spot (out of 137 countries) on the quality of electricity supply in the 2017-18 World Economic Forum Global Competitiveness Report. 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

¹¹ Trade cost equals the sum of the cost of tariff, the cost of freight and cost of shipment-time, all expressed in ad valorem terms.

¹² However, the same fall in shipment time in two countries can generate differing magnitudes of decline in trade costs 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.

¹³ This estimate is from an unpublished note by Constantinescu et al (2019).

performance of the state-owned power utility. The below cost-recovery prices of electricity (at around 3.6 US\$ cents per kWh) lowers the attractiveness of investment in the sector.

Old and under-maintained assets put power supply reliability and quality at risk. Nearly half of the available generation capacity is beyond its useful service life; similarly, transmission and distribution systems are old. Generation assets (CHPs and heat-only-boilers) operate at 20-50 percent of their installed capacity and network losses often exceed 25 percent of the output. The risk of unexpected network failures and outages is high.

With demand growing, additional investments to meet winter peak demand is needed. Available financing has to be allocated to priorities on a least-cost basis. This includes rehabilitation as well as construction of new generation, transmission and distribution infrastructure. Priority investments should also include the continued implementation of loss-reduction measures as it would reduce the need for additional generation capacity.

The Kyrgyz power sector has been receiving support from China. Bishkek's major power plant was modernized and expanded, and its heating system overhauled by Chinese companies with financing from the China's Exim Bank. However, the rehabilitated power plant became dysfunctional soon after the rehabilitation, pointing to weaknesses in project management and governance arrangements. A major high-voltage power line to connect the north and south of the country was put into operation few years ago. There have also been discussions between China's Power Investment Corporation and the government for the construction of Kazarman chain of hydropower plants on the Naryn river, though a final decision has not been reached so far.

ICT. The digital connectivity of the Kyrgyz Republic is limited. Only 38 percent of the population was connected to the internet, a very low ratio even by regional standards, suggesting that many Kyrgyz remain untouched by the digital revolution. The Kyrgyz Republic has four international providers with an estimated total international bandwidth of 88,661 Mbps (as of end of 2018). This was an 81 percent increase over the prior year. There are seven international terrestrial fiber connections. The total length of fiber optic links by the end of 2018 was 21,302 km, of which backbone lines were 9,477 km. Nine providers reportedly have domestic long-haul and inter-city networks.

More than 90 percent of Kyrgyz's territory is mountainous, which makes internet connectivity to rural settlements and villages particularly challenging. Mobile coverage is growing rapidly. All of the major mobile network operators (MNOs) have their own fiber optic networks. The northern parts of the country have more extensive infrastructure coverage. Expanding the backbone coverage in the south would help spur further investment.

Chinese investors have been engaged in the Kyrgyz ICT sector. The Kyrgyz Republic and China signed a Memorandum of Understanding in 2018 to build a national fiber ring under a public-private partnership (PPP) arrangement, but the proposed project has not moved forward as yet. In addition, Huawei and ZTE are the main vendors of telecommunication equipment for mobile operators and ISP/broadband internet providers.

Expansion of the network infrastructure can receive a push by adopting a legal basis on infrastructure sharing and network access. The lack of such a framework has contributed to weaker development of broadband internet in the regions. The availability of long-term financing at reasonable rates also impacts investment in regions of the country that might offer less attractive rates of return. There are also no standard regulatory requirements around internet quality and security. Tariff regulation is weak, which adversely impacts traffic prices.

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

5. Potential Economic Impact of the BRI

23. BRI transport projects in the region and around the world will have a positive impact on Kyrgyz trade, FDI and GDP. In trade, the BRI induced fall in shipment time and trade costs will raise total exports while also changing its composition towards more time-sensitive items. Higher FDI inflows into increasingly profitable opportunities and greater access to imported inputs are likely to boost productivity and GDP. However, the benefits are unlikely to be equitable shared. The Kyrgyz government could magnify the impact of BRI improvement in transport on trade, FDI and GDP and mitigate potential risks through complementary reforms in several areas. Among them are reforms that improve trade facilitation,

promote better logistics and transport services, that liberalize the country’s business climate further and that remove sector-specific constraints in high potential sectors (for example, agriculture). In addition, complementary investments in power, ICT and/or in roads that connect the hinterland to the country’s major transport hubs and/or expansion of education and health services and facilitating labor mobility around the country 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 the COVID-19 impact is likely to be profound, the case for international trade, through differences in comparative advantage, specialization and economies of scale, remains strong.

Recent Trade Flows

24. Prior to the COVID-19 pandemic, Kyrgyz’s foreign trade had been growing. Total foreign trade in goods grew from around US\$1 billion to around US\$7.7 billion between 2000 and 2013. The impact of the commodity price shock in 2014 compressed foreign trade but it has started to recover in recent years reaching US\$6.5 billion in 2018. Most of this growth was driven by growth of imports which increased from US\$0.6 billion in 2000 to reach US\$4.8 billion in 2018. Of its total exports of US\$1.7 billion in 2018, gold and other metals and minerals account for almost 60 percent, manufactures around a quarter, and agriculture around 11 percent¹⁴.

25. 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 8.4 percent of GDP (2010) in the Kyrgyz Republic. With the accession of the Kyrgyz Republic to the Eurasian Customs Union, these trade flows appear to have contracted.

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

	EU		Russia		China	
	2000	2018	2000	2018	2000	2018
Total Trade	25.1	15.8	18.5	23.0	7.6	30.7
Total Imports	14.0	5.7	23.8	25.4	6.6	40.3
Total Exports	37.1	44.2	12.7	16.4	8.6	3.6

Source: IMF, Direction of Trade

26. China’s share in its total trade has also been increasing rapidly. The share of trade with China in total trade grew by nearly 23 percentage points since 2000 to reach 30.7 percent in 2018, making China the largest trading partner for the Kyrgyz Republic. This is largely due to Chinese imports reaching 40 percent of total imports in 2018, compared to less than 10 percent in 2000. Kyrgyz producers have been less successful in penetrating the Chinese market, as a result, China was a market for only 3.6 percent of all Kyrgyz exports in 2018. At the same time, Russia, which was gaining share in Kyrgyz foreign trade in the 2000s saw its share stabilize around 23 percent of total trade. In contrast, the share of the European Union dipped by almost 10 percentage points. Turkey is the fourth largest partner with a share of 5 percent.

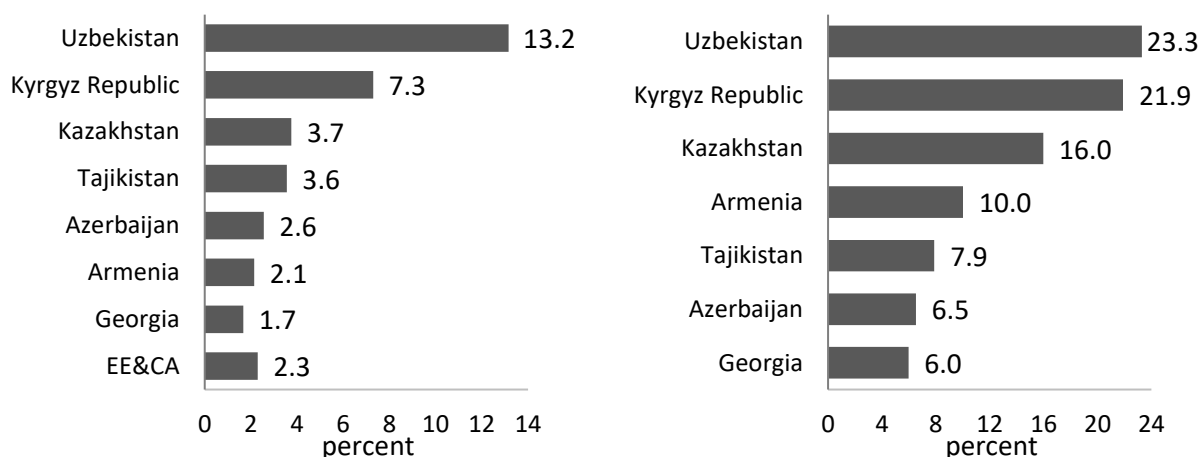
¹⁴ Niche export products like kidney beans and garments have done particularly well.

27. In terms of composition of exports to China, the Kyrgyz republic has only a few products of meaningful export size. Around a third of exports to China (or US\$21 million) in 2018 referred to metals; exports of which have been declining in both US\$ terms as well as a share of exports. Exports of agriculture products have grown rapidly, but from a very low base, to reach US\$16 million in 2018. Manufactures accounted for less than a fifth of exports to China, most of it in leather products.

Impact on Exports

28. The completion of BRI transport projects is estimated to increase Kyrgyz exports by 7.3 percent¹⁵ (Baniya et al 2019). This is a relatively large impact and reflects the sizeable reduction in the time to trade and the associated decline in trade costs. In addition, if complementary reforms that reduce border-crossing delays by half across all countries are combined with the transport infrastructure improvements, Kyrgyz exports could increase by 21.9 percent. However, under more conservative (and probably more realistic) assumption of improvements in corridor management and decreases in congestion along the BRI corridors only, exports are expected to increase by 9.4 percent.

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

29. The completion of BRI projects will also affect the composition of exports, shifting it towards more time-sensitive goods. Baniya and other (2018) 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 model ranks the 15 groups in in terms of responsiveness, in descending order as follows: 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

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.

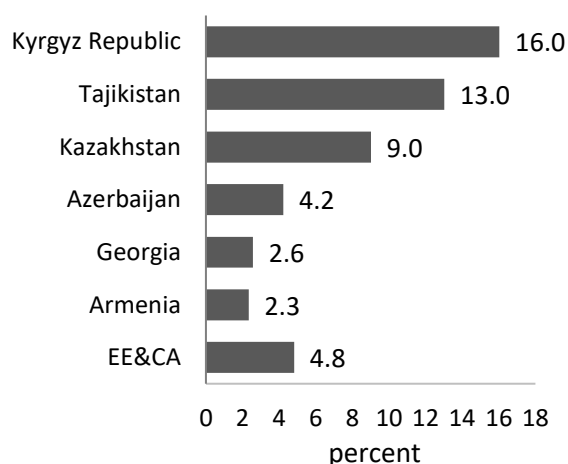
increases are the following export groups: transport equipment, leather goods, machinery, wood products, metals, wearing-apparel, agriculture, and textiles. On the other hand, coal, oil and gas have the lowest increases, with other groups being somewhere in between.

30. Notwithstanding the high responsiveness of some of the export groups to lower shipment time, not all of them will translate into strong export growth in the case of Kyrgyz Republic. That will depend on which of them line up well with Kyrgyz’s comparative advantage and how adequate is their external demand and domestic supply conditions to sustain such growth. In the case of Kyrgyz Republic, agriculture, processed food, metals, leather goods, and wearing apparel correspond to varying degrees with the country’s current comparative advantage; they also face favorable external demand. So, the potential for Kyrgyz exports of these products to grow in a sustained way, following a big boost from the BRI, exists. But, there will be a need for complementary policies to improve the overall investment climate and more importantly to remove sector-specific constraints to investment. At the same time, some of these industries (for example, leather products and wearing apparel) may find it hard to compete with exports from China and other East Asian countries, since they would become cheaper to import.

Impact on FDI

31. The BRI is expected to increase overall FDI inflows to BRI countries. First, a reduction in shipment time raises competitiveness of exports, especially of those that are more time-sensitive, and thus encourages additional foreign investment in these products. Second, under the BRI, outward FDI from Chinese private and state enterprises 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. The study estimates that fall in shipment time will raise total FDI to the Kyrgyz Republic by 16 percent; there is no equivalent estimate on BRI impact on Chinese FDI.

Figure 4: Increase in FDI
(in % from baseline)



Source: Chen and Lin (2018)

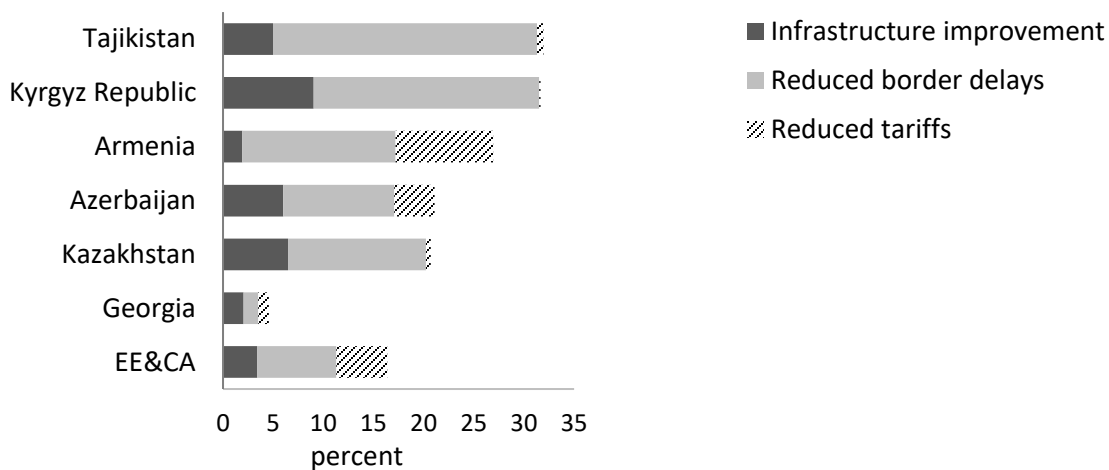
32. To-date however, there has not been a significant bump in FDI inflows to the Kyrgyz Republic following the BRI. Total FDI rose from an average of US\$510 million in 2010-13 to only US\$622 million a year in 2014-17 (IMF Country Reports). China’s state-owned enterprises and private firms are nevertheless important investors. Data on FDI stock by country of origin reported in the IMF’s CDIS FDI database show that in 2017, China accounted for nearly a quarter of the stock of FDI, followed by Russia (a fifth), European union countries for an eighth and Turkey for one-twentieth. Chinese FDI has come into

several sub-sectors led by mining and agriculture, including Chinese investment in establishing and running a Free Economic Zone near Bishkek that combines crop-cultivation and poultry-breeding with their industrial processing.

Impact on GDP

33. The estimated BRI impact on Kyrgyz GDP is among the largest across all the BRI countries. 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 reduce production costs which once passed on to downstream industries results in reallocations of specialization within and across countries and raises productivity growth. (De Soyres 2019) estimates the impact of BRI on individual countries based on a structural model and finds that Kyrgyz GDP could increase by between 9 percent and almost 32 percent with the higher impact estimate based on combining BRI improvements in infrastructure with complementary reforms to halve border-crossing delays. Another estimate based on a CGE model (Malizewski and Van der Mensbrugge 2019) finds GDP rising by between 10.4 and 37.4 percent of GDP, with the higher estimate again owed to the combined effect of reforms and transport infrastructure.

Figure 5: Increase in GDP
 (in % from baseline, SGE analysis)



Source: de Soyres, Mulabdic and Ruta (2019)

34. Taking into account the cost of building the infrastructure lowers the gains, though the Kyrgyz Republic continues to benefit. The welfare impact¹⁶ 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 the Kyrgyz Republic significantly, to around 5 percent, in a scenario of improved infrastructure, combined with reduced border delays and lowering of tariffs. Given that large transport projects frequently cost more than expected, welfare gains could be put at risk. This highlights the importance of the complementary reforms that improve the integration gains and that strengthen fiscal institutions and governance.

¹⁶ In the SGE model, welfare is defined as total consumer revenues divided by the relevant consumption price index. Total revenue take into account payments to factors of production, revenues derived from the portfolio share and from import tariffs, and the cost of the transport infrastructure.

Spatial Impact

35. 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.

36. 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 model¹⁷ 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.

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

37. Given the Kyrgyz economic structure this may mean more significant opportunities compared to peers. Given the potential for agglomeration gains (a manufacturing base and a few large urban areas providing some opportunities for specialization and clustering), the expected additional gains for the Kyrgyz Republic are considerable. The results of the spatial general equilibrium model suggest that without economic adjustment, the gains from transport cost decline are around 1.6 percent for the Kyrgyz Republic, above the aggregate gains of 1.4 percent for the sub-region. However, the growth in real income is significantly higher (4.9 percent) in a scenario of limited economic adjustment (i.e. Armington scenario).

¹⁷ 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.

Allowing for business to change location or assuming labor mobility and increasing return to scale in manufacturing moderates the gains, but only marginally.¹⁸

38. The differentiated impact also increases risks for part of the population. In fact, industries that will face greater competition (for example, manufacturing) could lose jobs. In addition, while some districts reap large benefits from the fall in transport costs (for example, Osh and Bishkek, which account for more than 40 percent of national income, are expected to get a further boost), other districts could see a fall in real incomes.

6. Complementary Policies to Accompany BRI Transport Projects

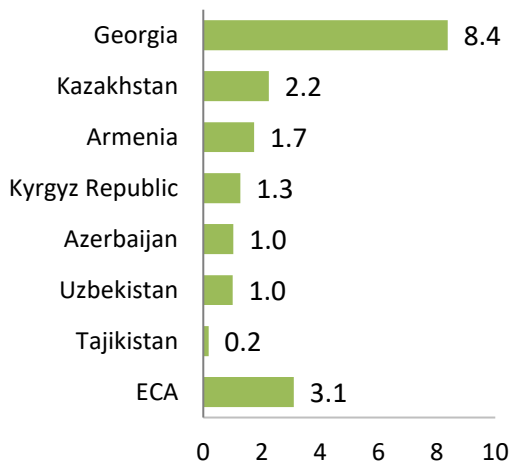
39. The estimates of the BRI impact make clear that notwithstanding the importance of better transport infrastructure for Kyrgyz trade and development, complementary policies accompanying better transport can further amplify the benefits. This is particularly relevant where border crossing is very slow 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 and thus limit the size of an investment response. This section identifies some of the measures that may be needed in these areas in the Kyrgyz republic.

- 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 is magnified by more efficient border crossing and Kyrgyz borders perform poorly in this respect. On trade facilitation, the Kyrgyz 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 inspections¹⁹. Still, there is room to create a more open and competitive trucking sector given the large share of cross-border traffic that uses roads as well as liberalizing the entry and operation of international logistics companies in the country. Harmonization and standardization with corridor countries will result in interoperability which is imperative for efficient and effective trade and transport flows along a corridor.
- b. *Liberalize the climate for investment:* Kyrgyz Republic ranks 80th in Doing Business and has considerable room to improve its investment climate. While foreign ownership is allowed in most sectors, the Kyrgyz Republic has one of the highest number of arbitrage cases per billion of FDI stock (third only to the Russian Federation and Kazakhstan) suggesting significant weaknesses in the governance and rule of law arrangements. 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 response to better transport connectivity.

¹⁸ Incomes grow by 4.9 percent if producers and consumers change behavior while number of firms remains unchanged; by 4.4 percent if firms' entry and exit is allowed and by 4.6 percent in case of increasing returns and labor mobility.

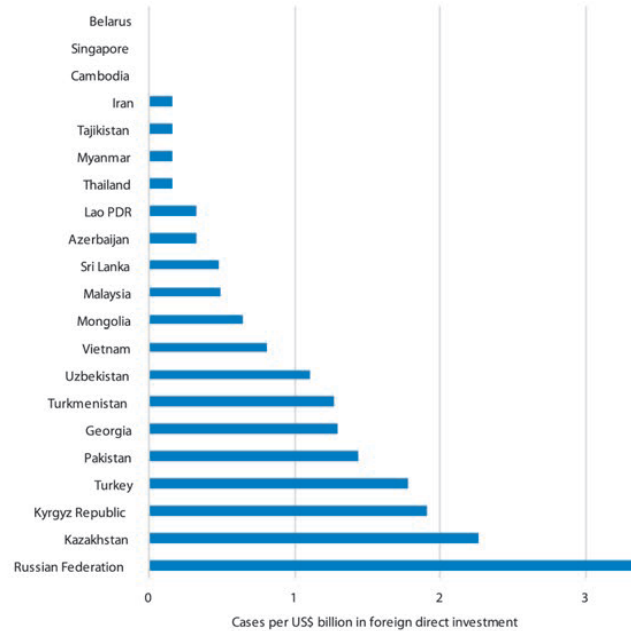
¹⁹ These parallel the development of procedures for authorized trusted operators to receive priority treatment and clearance in return for compliance and provision of accurate information to Customs and other border agencies.

Figure 6: Firm entry is low
 (firm entry per 1,000 working age population)



Source: World Bank
 Note: Data is for 2016.

Figure 7: 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. ***Remove sector-specific constraints to agricultural production and diversification:*** There are several measures that could relax key constraints on the capacity of Kyrgyz agriculture to diversify and expand. Agricultural productivity in the northern Talas and Chu valleys as well as in the southern lowlands around Osh and Jalalabad are constrained by inadequate access of Kyrgyz farmers to reliable water supply, fertilizer, quality seeds, and extension services. Improved connectivity with hinterlands is needed to better connect farmers with markets and processors. Improving efficiency and access of existing irrigation facilities and investing in modern irrigation methods could go a long way to increase yield and production. Similarly encouraging foreign investors with better technology to provide farmers superior quality seeds, fertilizer as well as extension services under some contracting arrangement could go a long way to address existing deficiencies of access. While the BRI is enhancing transport connections among Kyrgyz cities and towns as well as cross-border connections, there is also need for improving transport infrastructure linking agricultural hinterlands to those towns and cities.
- d. ***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.²⁰ 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,

²⁰ 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.

countries will need to build on the existing arrangements, but also establishing new ones. In the case of the Kyrgyz Republic, closer cooperation with countries along the BRI corridors will be critical to increase the reliability of the corridors.

- e. *Improve enrollment in secondary vocational training and enhance its quality*: Kyrgyz's Human Capital Index (HCI) indicators are lower than the average for its region but higher than the average for its income group. School test scores are relatively low relative to others in the region making a lot of the next generation inadequately equipped for emerging opportunities arising out of BRI, thereby limiting its benefits to a few.
- f. *Adopt policies to deal with the spatial impact of the BRI investments*, including mitigating the impact of job losses through re-skilling or social policy, facilitating labor migration (simplifying procedures and providing affordable housing) and preparing urban centers to accommodate the expected expansion (improving public services, city planning and so on).

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

40. The scale and bunching of BRI infrastructure investments and the size and terms of borrowing to finance such investment have raised questions about the risk to medium term debt sustainability.

The Kyrgyz Republic has been a significant investor in BRI corridors recently 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. The country's fiscal risk of BRI stems from the size of scale-up of its public investment in BRI infrastructure projects, the extent of their loan financing and the terms of those loans. While many Kyrgyz BRI projects in road and rail have been implemented or are ongoing²¹, there is only limited information on actual value of such annual public investment spending.

41. Even prior to the COVID-19 pandemic, Kyrgyz Republic's fiscal difficulties were well known. The country has a relatively sizeable government sector with revenues accounting for around a third of GDP, around the average for the ECA region. Still, the room for much-needed public spending on infrastructure and on social sectors has generally been limited. Its ability to raise revenues 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.

42. Frequent economic shocks and a push for capital spending, most of it BRI related, kept expenditures averaging around 38 percent of GDP between 2012-2017, but expenditures have moderated more recently to around 33 percent of GDP. Consequently, the fiscal deficit averaged 4.5 percent of GDP during this period peaking at 6.3 percent of GDP by 2016. A consolidation effort followed which managed to lower the deficit to 4.6 percent of GDP in 2017 and further to 1.6 percent of GDP in 2018 and further to only 0.6 percent of GDP in 2019. Government investment was increased to almost 8 percent of GDP in recent years, largely because of investments in BRI transport projects, though large part of the adjustment in 2018 came from a drop in capital spending to around 4.6 percent of GDP. The collapse in economic growth is expected to push the fiscal deficit to almost 9 percent of GDP.

43. Public debt dynamics reflected the fiscal developments. Public debt shot up from 47 percent of GDP in 2013 to more than 67 percent of GDP in 2015, before retreating to around 59 percent of GDP by

²¹ Using a list of Kyrgyz transport projects along BRI-corridor routes De Soyres et al (2019) uses a bottom-up method to estimate that the country will have spent a total of around \$5.4 billion on Kyrgyz BRI transport projects that are in the list of compiled BRI projects.

2018 and further to 55 percent of GDP in 2019 (compared to around 40 percent of GDP for the ECA region average). Chinese debt grew very rapidly during this period, more so than other external debt; by 2016 it amounted to two-fifths of Kyrgyz's total outstanding public debt. Given the fiscal vulnerabilities, the IMF/World Bank Debt Sustainability Analysis (DSA) (IMF 2020) finds that the Kyrgyz Republic is at moderate risk of debt distress. In addition, difficulties in repaying debt has resulted in China taking possession of infrastructure (Bandiera and Tsiropoulos, 2019).

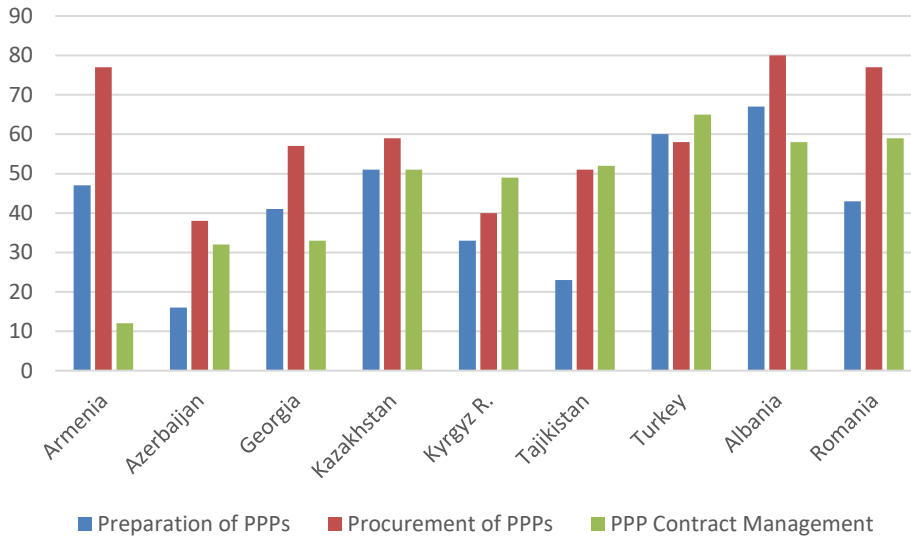
44. With current debt levels, the Kyrgyz Republic has limited space for further scaling-up BRI infrastructure investments in the coming years beyond the projection in the baseline. As the economy recovers from the COVID-19 pandemic, the fiscal deficit is expected to be reduced to around 3 percent of GDP over the medium-term which should help public debt retreat to more manageable levels. Capital spending is projected to average around 5-6 percent of GDP in 2019-22, equivalent to investment spending of around US\$600-700 million a year, a lot of it BRI related. Under a scenario of a real GDP growth shock over the medium term, the present value of public debt to GDP indicator breaches its threshold, suggesting some vulnerabilities.

45. The additional investments 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 the implementation of all BRI projects in the Kyrgyz Republic over the next five-year period will increase investments by 2-3 percent of GDP per year but generate additional GDP growth of up to 0.7 percent in a given year. They conclude that, while the debt-to-GDP ratio is expected to decline in both scenarios (with or without BRI investment), the debt-to-GDP ratio in the scenario with BRI borrowing will be higher compared to a scenario excluding BRI. In addition, materialization of any of the fiscal risks associated with investment projects is likely to further weaken the debt position of the Kyrgyz Republic. Given the above, it would be prudent to be restrained in increasing BRI investment in particular, in part because it is mostly financed by loans that are not as concessional as loans from multilateral institutions.

46. To minimize the risk of fiscal instability, the Kyrgyz Republic ought to 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 a credible medium-term budget framework 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, the government should expedite implementation of its public financial management reform, especially in improving its procurement functions, strengthening public investment management and increasing accountability.

47. The role of the private sector in infrastructure provision could be strengthened. The Kyrgyz Republic's experience with the engagement of the private sector in infrastructure has been limited. The World Bank's database on Private Participation in Infrastructure list only six cases (four in telecommunications, and one in water and sewage and energy respectively). 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 the Kyrgyz Republic is on par with regional peers, but significantly weaker when 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 8: 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

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Annex: BRI Transport Projects in the Central Asia and Caucasus 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-Tbilisi-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 New rail proj Angren-Pap new rail link to Tashkent	China, Kyrgyz Republic Uzbekistan	Proposed 2015
Samarkand-Mashad rail	Samarkand-Mary-Saraks-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 Rep, 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 & Trubetsky (2018) compiled a list of BRI projects from which projects in the CAC region are cited