Chapter 10

From Landlocked to Land-Linked? Central Asia's Place in the Eurasian Economy

Richard Pomfret

Abstract The Organization for Security and Co-operation in Europe (OSCE), while primarily a security organisation, has always included economic and human baskets or dimensions. Currently, the Office of the Co-ordinator of OSCE Economic and Environmental Activities operates in four main areas: (1) good governance and anti-corruption, (2) money laundering and financing of terrorism, (3) transport, trade and border-crossing facilitation, and (4) labour migration. This chapter addresses developments in Central Asia since the dissolution of the Soviet Union that are relevant to the third area of OSCE operations. The chapter's focus is on the potential for the landlocked Central Asian countries to become land-linked, using improved transport connections between East Asia and Europe to promote economic development through export diversification and growth. Rail services across Central Asia improved considerably during the 2010s. They have been resilient, despite strained political relations between Russia and the EU since 2014, and rail traffic between Europe and China continued to increase in 2020 despite the shock of COVID-19. Further infrastructure improvements are promised under China's Belt and Road Initiative. However, the expanded network has been little used by Central Asian producers to create new international trade, and the improved infrastructure represents a potential opportunity rather than a past benefit. If the Central Asian economies are successful in taking advantage of the opportunity, it will stimulate their trade across the Eurasian region and help economic diversification. The main determinant of success will be national policies and national economic development. The chapter concludes with a discussion of the role of multilateral institutions and, in particular, the prospects for OSCE collaboration with existing fora to promote cooperation and economic development in Central Asia.

Keywords Eurasia • transport • trade facilitation • Belt and road initiative

R. Pomfret (✉)

Professor of Economics and John Monnet Chair on the Economics of European Integration,
University of Adelaide, Adelaide, Australia
e-mail: richard.pomfret@adelaide.edu.au

Adjunct Professor in International Economics, Johns Hopkins Bologna Center, Bologna, Italy

© The Author(s) 2021

A. Mühr (ed.), *Between Peace and Conflict in the East and the West*,
https://doi.org/10.1007/978-3-030-77489-9_10

195

10.1 Introduction

Until 1991 the Central Asian republics had open economies integrated into the Soviet economic space but with no connection to the global economy.¹ Their role in the Soviet economy was as suppliers of natural resources, primarily cotton, minerals, and natural gas. Transport networks reflected this focus, with effective rail and pipeline links running north to the Russian republic but no rail links to the south or east, until the first rail line between the Kazakhstan and China opened in 1990 and the first rail line between Turkmenistan and Iran opened in 1997.

With the dissolution of the Soviet Union in 1991, demand and supply links collapsed. During the 1990s, the new independent Central Asian countries established customs posts at their borders. As exporters of raw materials, they entered global markets for cotton, minerals, and energy products, but they failed to diversify exports. The Kyrgyz economy became open and developed as an entrepôt for imported goods (Kaminski and Mitra 2012), and Kazakhstan had a fairly liberal import regime. The other countries became more autarchic and largely closed to direct imports; Uzbekistan and Turkmenistan maintained state control over key exports (cotton, gold, and gas) as well as foreign exchange controls.²

During the 1990s, the Central Asian countries signed many economic cooperation agreements, all of whose impact was minimal (Pomfret 2006, 183–95; Laruelle and Peyrouse 2012). The principal regional arrangements had secretariats outside the region: the Eurasian Economic Community (Union of Five) in Moscow, the Shanghai Cooperation Organization in Beijing, and the Economic Cooperation Organization in Tehran. Other fora for cooperation included the regional development banks (Asian Development Bank in Manila and European Bank for Reconstruction and Development in London) and the UN regional commissions in Bangkok and Geneva. The lack of regional cooperation and difficulties for trade, transport, and transit were highlighted in reports by the UNDP (2005) and ADB (2006).

10.2 Landlockedness and Trade in Central Asia

Explanation of Central Asian countries' inability to diversify their exports beyond natural resource products was often ascribed to the countries' landlockedness.³ This disadvantage was highlighted in a paper based on a PhD thesis by Raballand (2003) and in work at the World Bank (Cadot et al. 2006; Grigoriou 2007). The difficulties

¹ IMF estimates showed that, measured by trade/GDP, the Central Asian republics were roughly as open as Canadian provinces in the 1980s but whereas Canadian provinces' trade was divided about equally between trade within Canada and trade with other countries, 85–90% of the Central Asian republics' trade was within the USSR (Pomfret 1995, 37).

² Tajikistan was wracked by civil war until 1997 and the central government did not fully control the national territory until after the turn of the century.

³ Uzbekistan has the distinction of being double-landlocked, i.e. all its neighbours are landlocked. The only other double-landlocked country is Liechtenstein, which like its landlocked neighbours

facing landlocked countries were acknowledged in the establishment of the United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLS) in 2001 and adoption by the UN General Assembly of the “Almaty Programme of Action: Addressing the Special Needs of Landlocked Developing Countries within a New Global Framework for Transit Transport Cooperation for Landlocked and Transit Developing Countries in 2003. Neither the office nor the programme had much impact.”

Measures of the costs of doing international trade, such as in the World Bank's *Doing Business* reports, indicated that trade costs were higher in Central Asia than anywhere else in the world. The World Bank reported that in June 2014 for Ease of Trading across International Borders, the Kyrgyz Republic ranked 183rd, Kazakhstan 185th, Tajikistan 188th, and Uzbekistan 189th of the 189 countries surveyed (World Bank *Doing Business* 2015); Turkmenistan was not included but would have scored more poorly than the other four.⁴ Other evidence reinforces the impression that the costs of international trade in Central Asia were high, with long delays and often arbitrary fees at borders and restrictions on transit such as requirements for trucks to travel in convoy or variations in maximum axle size (Pomfret 2019, 215–23).

Especially during the 1999–2014 resource boom, high trade costs did not hamper exports of oil, gas, gold, and other minerals, but they did discourage export diversification. In those years, there was little incentive to lower trade barriers or to pursue economic cooperation to reduce trade costs. The energy exporters Kazakhstan and Turkmenistan benefited directly from high prices for their exports, Uzbekistan to a lesser extent, while the poorer countries received large remittance flows from migrant workers in Russia and Kazakhstan.⁵ While the Central Asian countries generally upgraded their domestic infrastructure, little attention was paid to international connectivity, apart from oil and gas pipelines.⁶

Austria and Switzerland does not appear to have suffered from geography, suggesting that landlockedness per se is not the problem. It depends on which countries you are locked next to and how open your country is to trade.

⁴ Behar (2010) and Sourdin and Pomfret (2012, 26–28) have criticized the *Doing Business* methodology for relying on opinions of people who do not trade and for referring to laws and regulations rather than actual conditions on the ground or at the border. Sharafeyeva and Shepherd (2020) have questioned the *Doing Business* indicators' applicability to Central Asia.

⁵ In 2013, Tajikistan had the world's highest ratio of remittances to GDP and the Kyrgyz Republic had the third highest ratio.

⁶ Kazakhstan enjoyed a perfect storm after 1999 as its Tengiz oilfield started to produce large amounts just as oil prices began their rise from under \$20 a barrel to over \$140 and discovery of the offshore Kashagan oilfield in 2000, the world's biggest new oilfield in thirty years, led to high levels of investment. Under such conditions, new pipelines to the Black Sea, from Baku to the Mediterranean and from Kazakhstan's Caspian oilfields to China profitably reduced transport costs and diversified markets. However, these infrastructure projects did not impact on the other four Central Asian countries' connectivity. The gas pipeline from Turkmenistan to China via Uzbekistan and Kazakhstan completed in 2009 was the other major pipeline.

10.3 Coming Together Again After 2006

An early indicator of the benefits of cooperation was the pipeline constructed from Turkmenistan to China via Uzbekistan and Kazakhstan between 2006 and 2009, which had win–win outcomes for all four countries. The Northern Distribution Network, by which the USA provisioned its troops in Afghanistan after 2009, also encouraged cooperation among the Central Asian countries (Yuldasheva 2013).⁷ However beyond these ad hoc cooperation initiatives, cooperation remained limited, and personal relations among the autocratic presidents were rarely warm.

The only economic cooperation initiative with any success in the first decade of the twenty-first century was the Central Asia Regional Economic Cooperation Program (CAREC). CAREC had its origins in 1997 as a joint initiative of Central Asian countries and six multilateral institutions.⁸ The secretariat was established at the Asian Development Bank in Manila in 2000, but progress was slow and cautious; the Transport and Trade Facilitation Strategy was not endorsed until 2007. Nevertheless, with a focus on meetings of senior officials, CAREC proved more useful than the regional organisations that were initiated at a higher level in the 1990s. CAREC identified major transport corridors in Central Asia and focussed on improving the hard and soft infrastructure in order to reduce travel times and money costs along those corridors.⁹ It also played an important role in gathering information about trade costs through the Corridor Performance Measurement and Monitoring program (ADB 2014).

In 2010 Belarus, Kazakhstan and Russia formed a customs union, which moved to deeper integration in 2015 as the Eurasian Economic Union (EAEU); Armenia and the Kyrgyz Republic joined the EAEU in 2015. Although a web of bilateral trade agreements continued to exist among Soviet successor states within the Commonwealth of Independent States, the EAEU was the first effective regional trading

⁷ The Manas Transit Center near Bishkek was the main air facility used by the USA for troops until 2014. Freight mainly came through Baltic Sea ports and via various combinations of Central Asian countries, especially after transiting Pakistan became less convenient in 2009. By late 2011 most non-lethal shipments to Afghanistan went by rail from Latvia through Russia, Kazakhstan and Uzbekistan or from Kazakhstan by road through the Kyrgyz Republic and Tajikistan.

⁸ The Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), International Monetary Fund (IMF), Islamic Development Bank (IsDB), United Nations Development Programme (UNDP) and World Bank. The broad division of labour saw ADB responsible for the secretariat and transport, trade and trade facilitation, IMF for macroeconomic, trade and financial policy coordination, the World Bank for energy sector, the EBRD and IFC for private sector engagement, and the UNDP for overall assessments and coordination with other UN agencies. Cooperation issues were raised in a review of CAREC by Linn and Pidufala (2008).

⁹ The original intent was to bring together the six multilateral development institutions, Central Asian countries and Xinjiang Autonomous Region of China. By 2020, they had been joined by Afghanistan, Azerbaijan, Georgia, Mongolia, Pakistan and Inner Mongolia Autonomous Region of China. The *CAREC 2030* long-term strategic framework endorsed in 2017 invited any multilateral or bilateral agency to join CAREC if it has the capacity to engage in a constructive way.

arrangement. Operation of the EAEU became associated with competition for potential future members who might also be seeking deeper integration with the European Union under the EU's Eastern Partnership (EaP) program; Armenia withdrew from EaP negotiations in 2013 in order to negotiate EAEU membership and, when Ukraine appeared to have shifted closer to the EU in 2014, Ukraine's relations with Russia deteriorated. The conflict in Ukraine led to sanctions by the EU and others on Russia, followed by Russian counter-sanctions, which cast a shadow over the EAEU's operation as sanction-busters routed trade through Belarus or Kazakhstan.

10.4 The Eurasian Landbridge and the Belt and Road Initiative

During the 2010s, political relations across Eurasia often seemed fraught. At the same time, economic connectivity improved as overland transport links that had stagnated for centuries were revived. Starting in 2011, the expansion of the Eurasian Landbridge rail services between China and Europe benefited Kazakhstan, which earned substantial transit fees, and encouraged future rail construction (e.g. between Kazakhstan and Turkmenistan and Iran) and a denser long-distance rail network with the potential to reduce transport costs for international traders in Central Asia. This development has become associated with China's Belt and Road Initiative and the promise of external infrastructure funding.

Trade between Europe and East Asia has been dominated since 1500 by maritime transport. At the start of the twenty-first century, several rail lines physically connected China and Europe, but none was considered competitive to sea freight. The most prominent, the TransSiberian Railway, was little used for international traffic after the 1960 Sino-Soviet split. A rail line between Kazakhstan and Xinjiang, completed in 1990, mainly took Kazakh coal, steel, iron ore and other minerals to China in return for Chinese manufactured goods. After a Turkmenistan-Iran railway opened in 1997, a line south of the Caspian Sea from Turkmenistan through Iran and Turkey to Europe featured on UN maps as a TransAsian main line but was unused as a China-Europe link; indeed, the line operated at far below capacity due to cumbersome change of gauge operations at the Turkmen-Iran border, excessive regulations for transiting Turkmenistan and Uzbekistan, and poor track maintenance in western Iran and eastern Turkey. As its flagship aid programme to Central Asia during the 1990s, the EU promoted the route from Central Asia across the Caspian Sea to Baku and then across the Black Sea from Georgia to Europe, but changes of mode (rail-sea-rail-sea-rail) made this route commercially unattractive.

In 2008–9, block trains were commissioned by German car companies to carry components via the TransSiberian Railway to their joint venture assembly operations in northeast China (VW/Audi in Jilin and BMW in Shenyang). Similar bespoke rail

services were provided from Lianyungang to car assembly operations in Uzbekistan.¹⁰ These trips showed that overland rail transport was feasible, but they were not useful for other potential customers because they were not run to a schedule, and overland freight was still believed to be uncompetitive with sea transport apart from these special cases. The situation changed dramatically between 2011 and 2016.

The stimulus for change was China's *Go West* policy that had been launched in 2001 but whose impact was only felt after a bonded train link between Shenzhen and Chongqing opened in 2010. This facility, providing imported components with minimum delay and cost, encouraged Foxconn, HP, Acer, and others to build large assembly facilities in Chongqing for laptops, printers, and other electronic equipment. The initial intention was to export the products via the Yangtze River and Shanghai, but the Yangtze River route soon became congested, especially with delays at the locks in the Three Gorges. An alternative was to send the goods by train to Europe. In 2011 and 2012, individual trains connected Sichuan Province and Chongqing Municipality with Europe, much like the block trains on the TransSiberian Railway. The important additional development was the establishment of regular rail service between Chongqing and Duisburg in 2013, with increased frequency to three times a week in 2016 and daily in 2018.

The rail companies of China, Kazakhstan, Russia, Belarus, Poland, and Germany combined to offer a faster transport service than sea and lower cost than airfreight. It was attractive to electronics firms in Western China supplying EU markets and to EU firms shipping components to their operations in Western China. Cars and electronics have been the two principal industries producing along international value chains that were often referred to as global value chains (GVCs) but were, in fact, regional (i.e., European or East Asian value chains); the rail Landbridge linked the Eurasian value chains.

The Chongqing-Duisburg route was so successful that other cities in China and Europe trialled rail connections. In 2012–15, routes from Yiwu, Chengdu, Zhengzhou, Wuhan, and other Chinese cities to Europe were offered. Some routes would be successful with regular services established (e.g. Yiwu-Madrid), and some termini would become hubs, for example Łódź (Poland) became an Eastern European hub and Klaipėda (Lithuania) a hub for southern Sweden, while other routes would be unprofitable. By May 2017, China Railway Express trains were connecting 37 cities in China to destinations in eleven EU countries. China Railway reported over 6,000 trips in 2018.¹¹

¹⁰ Although the Daewoo joint venture became GM-Uzbekistan after the bankruptcy of the Korean company, the factory was still using Korean components which were sent by sea to Lianyungang in Jiangsu Province of China and then by rail to Andijan.

¹¹ Global Times *China sees expanding China-Europe freight rail services* posted 15 September 2019 at <http://www.globaltimes.cn/content/1164438.shtml>. The Eurasian Rail Alliance (UTLC), founded by Belarus, Kazakhstan and Russia in 2014 to provide services for container trains running between China and Europe Traffic on the China-Kazakhstan-Belarus route, reported growth in the number of containers shipped by rail from 46,000 TEUs in 2015, to 100,500 TEUs in 2016, and 175,800 in 2017 (Table 10.1).

The creation of the Eurasian Landbridge was market-driven as rail companies responded to demand by coordinating service and agreeing on transit procedures (Pomfret 2019b). Little investment in physical capital was required. The revenues to Deutsche Bahn and China Railway Express and transit fees to Kazakhstan, Russia, Belarus, and Poland were substantial. Freight forwarders and courier services responded by offering more services, for example, arranging multimodal connections and improved tracking, consolidating part-container loads, organising clearance for goods subject to EU-Russia mutual sanctions, and including refrigerated containers in trains. It is through such service provision that hubs such as Duisburg, Łódź, and Yiwu have become popular termini. The added services appeal to GVCs, such as agribusiness, where goods may be perishable and require refrigeration, or to non-GVC traffic, while the original drivers (car and electronics GVCs) remain important as the lead firms transform what have been regional value chains in Asia or in Europe into Eurasian value chains.

In an October 2013 speech in Astana, President Xi Jinping announced the Silk Road Economic Belt, an overland connection that would be supported by funding from the Asian Infrastructure Investment Bank which was established shortly afterwards. Chinese maps showed the Belt following a route south of the Caspian Sea through Iran and Turkey, in contrast to the Landbridge routes through Russia.¹² Together with the Maritime Road announced soon afterwards, this would become the Belt and Road Initiative (BRI). In May 2017, representatives of over 130 countries attended the Belt and Road Forum in Beijing for the formal launch of the BRI.

Although the BRI is often presented as a grand overarching plan, China's actions can be opportunistic. One week after UN sanctions on Iran were lifted in January 2016; President Xi visited Tehran.¹³ On 28 January, the first train left Yiwu for Tehran with 32 containers; the train bypassed Uzbekistan by crossing Kazakhstan before following the Caspian coastal line from Kazakhstan to Turkmenistan and Iran that had been opened in 2013. Yinchuan-Tehran train service was initiated in September 2017, and by the end of 2017, two trains per month were running to a regular schedule. Reports circulated that China, Iran and Turkey were discussing an extension to a Tehran-Europe service.

A rail link between Kashi (Kashgar), the most western point on China's rail network, and Andijan via the Kyrgyz Republic is under active discussion. That would complete a continuous line from China via Uzbekistan, Turkmenistan, Iran

¹² The contrasting routes have important differences beyond linking China to western Europe: the route through Russia is important for Scandinavia and Poland, while the southern route is easily linked to the Arab world. One interpretation of Chinese aims is that the second route may reduce hold-up possibilities; with a single route crossing several countries, one of the countries may raise its transit fees in the belief that the service will not be discontinued as a result of their cost increase. Alternatively, the two routes may be mutually exclusive as China-EU mainlines, especially if the intention is to construct a high-speed rail line which would be too expensive a project to support multiple routes. Whatever China's motivation, the multiplication of routes is important for Eurasian connectivity.

¹³ China's \$1.5 billion loan for electrification of the Meshed-Tehran rail line was the first loan to Iran after the lifting of sanctions, although the contract to start work on electrifying the line was not signed until August 2019.

and Turkey to Europe, cutting out Kazakhstan and hence entirely independent of the current main Landbridge route. This southern route is actively supported by Uzbekistan, which is no longer seen as a transit-unfriendly bottleneck since the election of President Mirziyoyev in December 2016.¹⁴ Turkey's rail tunnel under the Bosphorus that opened in 2013 added an important piece to the southern route to Europe as transfer to a ferry across the Bosphorus is no longer required.¹⁵

However, the Kyrgyz Republic is wary of contracting debt, even on concessional terms from China; the proposed line passes through sparsely populated regions and would be unlikely to generate sufficient transit revenue to service a loan.¹⁶ Potential debt dependence became a major criticism of the BRI in 2018, largely based on Sri Lanka's experience with Chinese loans for uneconomic infrastructure projects and highlighted in Hurley et al. (2018). At the Second BRI Forum in April 2019, China promised to address concerns about the original concept by establishing a BRI Debt Sustainability Framework and a panel of international mediators from BRI countries to resolve disputes arising from BRI projects.

The Belt portion of the BRI builds on the already successful market-driven Eurasian Landbridge. However, the BRI still matters because it publicises the new Eurasian connectivity, and China is offering finance to improve the infrastructure on existing routes and to create alternative routes. Both the Landbridge and the BRI emphasise efficient cross-border services and exclude countries that cannot guarantee such efficiency, for example, Uzbekistan when the China-Iran link was pioneered in 2016. Current traffic along these routes transits Central Asia without stopping, but with the hard infrastructure in place and in regular use, there is an opportunity for Central Asian countries to use the rail system to increase exports.

The biggest recipient of funding under the BRI has been for projects along the China Pakistan Economic Corridor (CPEC) that runs from Kashi to the Indian Ocean port of Gwadar.¹⁷ This is a potentially important route not only for western China but also for the Kyrgyz Republic and Tajikistan, some of whose exports already travel by road over the Karakoram Highway in order to avoid transiting Afghanistan, even though the Karakoram Highway is a difficult road, especially in winter. However, the CPEC faces strong opposition from India for passing through disputed territory in Jammu and Kashmir and security threats from Balochistan Liberation Army fighters, who killed ten Chinese construction workers in May 2017, and completion of the

¹⁴ The Economic Cooperation Organization (ECO) had sponsored a daily Almaty-Tashkent-Tehran rail service in 2002, but it was abandoned within a few weeks due to difficulties transiting Uzbekistan (Peyrouse and Raballand, 2015, 415).

¹⁵ In October 2019, a 42-container train from Xian crossed the Caspian Sea to Baku and then ran via the Marmaray Tunnel to Prague. The need to transfer the train to a boat for the Caspian crossing reduces the attractiveness of the Middle Corridor, while the choice of that route reflected the poor condition of the Tehran-Turkey railway line. However, the pieces of a competitive Southern Corridor are apparent.

¹⁶ The Kyrgyz position is confused by the political uncertainty following the October 2020 parliamentary elections and resignation of President Jeenbekov.

¹⁷ Joy-Pérez and Scissors (2018, 3) reported that, up to mid-2018, Pakistan had received \$31.8 billion for BRI construction expenditure while no other country had received \$20 billion.

rail link is a distant project. Even when the rail link is completed, Gwadar is not convenient to major trade routes, for example, the Kyaukpyu-Colombo route is a more convenient Indian Ocean crossing from most of China.

The important point about the BRI projects is that, even if only a fraction are implemented, China is on the cusp of greatly improved rail connectivity to the west and south, and these routes will benefit other Eurasian countries.¹⁸ The economics literature, although subject to many methodological caveats, consistently supports the hypothesis that improved infrastructure is positively related to increased trade, diversification and growth. The strongest evidence is for a market integration link facilitating greater specialisation and gains from trading by comparative advantage; in the Central Asian context, that could mean diversification into a wider range of exports. Recent studies also identify an infrastructure-growth link via agglomeration benefits and related labour movements which have the potential to create losers as well as winners; the losers tend to be people stranded in depressed geographical regions, while the winners will be not only internal migrants to the big cities, but also international migrants whose journeys are eased.¹⁹

10.5 Will Central Asia Jump Through the Window of Opportunity?

Whether Central Asian countries take advantage of the improved transport infrastructure or not will depend upon whether governments improve the soft infrastructure of international trade and the conditions of doing business in general. Since the end of the resource boom, there have been signs of increased desire to integrate into global trade networks, reflected in the WTO accession of Tajikistan in 2012 and Kazakhstan in 2015 (and increased WTO interest of Uzbekistan and Turkmenistan) and by the participation of Kazakhstan and the Kyrgyz Republic in the Eurasian Economic Union.²⁰ The EAEU offers smoother travel between the China-Kazakhstan border and the Belarus-Poland border and into Schengenland, while the BRI could speed up travel along a rail route south of the Caspian Sea and other spurs from and links

¹⁸ It should be noted that the optimism is not universally shared. India strongly opposes the BRI as a threat to the strategic balance in the Indian Ocean. The USA switched from benevolent neutrality under President Obama to open hostility since 2017; in October 2018 Vice President Pence warned countries participating in the BRI of the “constricting belt” and “road to obscurity.”

¹⁹ A World Bank project to assess winners and losers from BRI projects at the subnational level found that Kyrgyz provinces would be the biggest winners (de Soyres et al. 2019; Bird et al. 2020). However, this estimation of benefits assumed completion of all China's official BRI projects and did not assess the likelihood of projects' completion or include the cost, which is a major obstacle to completion of the rail link through the southern part of the Kyrgyz Republic.

²⁰ Uzbekistan applied for WTO membership in 1994 but after the introduction of foreign exchange controls the application languished until it was revived after the election of President Mirziyoyev in December 2016; a WTO working party meeting in July 2020 was the first since 2005. Turkmenistan was the only former Soviet republic to have shown no interest in the WTO, until July 2020 when the country applied for observer status, the first step to membership.

between the main lines. Presidential change in the two largest economies, Uzbekistan in 2016 and Kazakhstan in 2019, may also facilitate economic reform.

Many studies have found a significant positive relationship between infrastructure and international trade, typically using fairly general indicators of infrastructure, such as perceptions of port quality or the length of railways or paved roads. In this tradition, Portugal-Perez and Wilson (2012) used a gravity model to identify the impact on trade of indicators of hard infrastructure (physical infrastructure, and information and communications technology networks) and soft infrastructure (border and transport efficiency, and the business environment) in 101 countries over the period 2004–7. Physical infrastructure and the business environment had the largest positive impact on bilateral trade flows; border efficiency and the business environment were more important at lower per capita GDP levels, and ICT and physical infrastructure increasingly important as per capita GDP increased. Portugal Perez and Wilson (2012) also found less robust evidence of complementarity between hard and soft infrastructure.

More recent literature emphasises the complementarity between hard and soft infrastructure and their impact on the intensive and extensive margins of trade (i.e., whether infrastructure improvements stimulate greater levels of existing trade or trade diversification into new products) and on the nature of growth (e.g. whether favouring the rich or inclusive of poorer people). This is relevant to Central Asia and other landlocked Asian countries. High trade costs have hampered diversification beyond primary product exports with a strong comparative advantage, such as cotton, oil and gas, or minerals, and have been prohibitive for small and medium-sized enterprises. Reducing trade costs by the improved hard and soft infrastructure can promote trade at the extensive margin and stimulate inclusive growth.

As long as the better hard infrastructure is supported by appropriate soft infrastructure, improved rail connectivity will stimulate economic growth through market integration and agglomeration effects across Eurasia. The rapid growth of rail freight between China and Europe since 2011 implies that it is economically viable. Non-transparent subsidies offered by different levels of government in China cloud assessment, but it seems probable that the Landbridge is sustainable and China's BRI commitment reinforces that conclusion.²¹ Despite the disruption to trade due to COVID-19, the volume of traffic continued to increase in 2019, and especially in 2020, when it was almost double the 2018 level (Table 10.1).²²

The pattern of costs of rail, sea and air transport across Eurasia suggests that there may be opportunities for rail transport to gain market share as speed, reliability and associated services improve. The relative attractiveness of rail vis-à-vis sea transport between China and Europe increased substantially during the 2010s as better services

²¹ The non-transparent subsidies are offered by sub-national authorities. China's Ministry of Finance has mandated that all block train subsidies must end by 2022 (CAREC 2020, 39).

²² According to the Maersk CEO for Eastern Europe, China-Europe maritime trade fell by 10% in the first half of 2020, while trade by rail increased by 25% (reported 12 November 2020 at <https://www.utlc.com/en/news/rates-are-oriented-towards-overland-routes/>).

Table 10.1 Volume of traffic on China-EU-China container trains, 2015–20

Year	Number of twenty-foot equivalent containers (TEUs)
2015	46,000
2016	100,500
2017	175,800
2018	280,500
2019	333,000
2020	552,000

Source Eurasian Rail Alliance at www.utlc.com (accessed 7 January 2020)

Fig. 10.1 Time and cost of shipping a 40-foot container from China to Europe by Air, Rail and Sea, 2006 and 2017. Source Hillman (2018), reproduced from Zhang (2017). Note: based on data in Land Transport Options between Europe and Asia: Commercial Feasibility Study, U.S. Chamber of Commerce, Washington DC, 2006, and in Zhang (2017—reported in Schramm and Zhang 2018)

were offered, journey times were reduced, and efficiency improvements pushed down rail freight rates (Fig. 10.1).²³

Meanwhile, sea freight rates fell by less and shipping times increased due to slow steaming.²⁴ Schramm and Zhang (2018) estimated the price in 2017 in US dollars of sending a full 40-foot container from Shanghai to Hamburg: by sea the cost was \$2,410 and time 32 days, by rail \$6,350 and 16 days and by air \$32,490 and

²³ The current market share of rail is still small, no more than five percent of containers between Europe and East Asia. Ultra large container ships have a capacity over 20,000 TEU and the entire load transported by rail in 2020 could be carried on 25–30 ships. However, freight travelling by rail has higher value/weight ratios, and market share by value is much larger.

²⁴ Container ships operate at less than their maximum speed to save money on fuel and to reduce emissions. Costs may increase over the coming decades as environmental regulations require use of more expensive low-sulphur fuel.

four days. From inland cities, the rail advantage would be greater with lower price and shorter time, for example Chongqing-Duisburg 12 days and \$3,700–4,500. Ship times between China and Europe are also much more variable than train times due to weather, delays at chokepoints like the Suez Canal and the possibility of piracy.

More reliable delivery time adds to the attractiveness of rail transport, especially for firms operating complex supply chains and aiming to minimise inventory costs.²⁵ If Eurasian value chains displace regional value chains in East Asia and Europe, potential GVC participants in Central Asia could find niches in new Eurasian GVCs. The COVID-19 pandemic may have been a catalyst for accelerated change. Traders reported that difficulties with maritime transport as ships became stranded and crews quarantined forced them to use more expensive rail services in the first half of 2020, to the extent that May 2020 was the busiest month to date for Landbridge traffic (Walton 2020). Once accustomed to reliable delivery times, many traders were reluctant to return to sea transport.

As with most economic changes, there are potential losers from reduced transport costs as well as gainers. Reduced trade costs subject import-competing firms to greater competition. Locations off the main rail lines may decline as economic activity flourishes in better-connected locations and workers migrate. The policy challenge for Central Asian governments is to implement economic reforms to increase the ease of doing business and to improve the soft infrastructure of international trading without being distracted and obstructed by beneficiaries from the status quo.

In sum, it is hard to forecast the economic impact of the BRI rail projects with any precision, but the international evidence suggests that improved hard and soft infrastructure could promote desired economic diversification and generate inclusive growth. At the same time, the BRI could exacerbate some less-desirable long-term economic development trends through migration, agglomeration and path-dependence effects. While soft infrastructure improvements tend to be low-cost and win-win, hard infrastructure projects can be expensive, and many projects have become symbols of poorly managed public spending. The potential for debt-dependency due to misguided spending is particularly acute for the smaller economies, and in the BRI context is especially relevant to the Kyrgyz Republic.

10.6 Conclusion

In the 2020s, the Central Asian countries could seize the opportunity to be land-linked through an expanding Eurasian rail network. The promise is that lower trade costs will encourage export diversification as agricultural and manufacturing producers exploit their comparative advantage to establish new export markets. For this to

²⁵ Relevant inventory costs vary. For the car firms sending components to their Chinese assembly plant, reliable delivery times reduce the need to keep stocks of components in the factories. For electronics companies sending finished products from China to marketing centres in Europe, the time spent in transit is the important inventory cost.

be realised, the many obstacles to doing business in Central Asia and to trading across international borders in the region will need to be reduced. Improved transport infrastructure can kickstart the process, but the hard infrastructure will have to be accompanied by improved soft infrastructure, that is, transport, trade and border-crossing facilitation.

This chapter's positive view of the Landbridge and, by extension, of the overland part of the BRI contrasts with the view of many political analysts who see the BRI as essentially a zero-sum game. Ishnazarov (2020, 79), for example, concludes that the BRI "will give significant strategic dominance to China" and even if other countries do receive some economic benefits, that will be at the cost of increased dependence on China. However, the history of the Landbridge as a forerunner of the "Belt" part of the BRI suggests that cooperation in operating infrastructure can be beneficial to all participants; the rail companies of China, Kazakhstan, Russia, Belarus and Poland have profited, as have the freight forwarders and other service companies, and the customers, including firms sourcing inputs internationally, have benefited from increased choice on price, speed and reliability. Looking forward, there is no reason why Central Asian participants should not benefit from future improved connectivity if they implement appropriate facilitating policies.

Given the regional geography, improvement of soft infrastructure should include international cooperation as currently fostered by CAREC and potentially including further multilateral institutions, such as the OSCE. As highlighted in the Introduction to this chapter, transport, trade and border-crossing facilitation is one of the four main areas of operations of the Office of the Co-ordinator of OSCE Economic and Environmental Activities. At the December 2016 OSCE Ministerial Council Meeting in Hamburg, *Decision No. 4/16 Strengthening Good Governance and Promoting Connectivity* encouraged OSCE members to cooperate in creating "a conducive environment for promoting connectivity within the OSCE area" and specifically called on states "to further promote transparency, integrity and the fight against corruption in customs, cross-border operations and infrastructure development, including by improving border-crossing procedures and processes." Such measures are at the heart of the soft infrastructure improvements emphasised in this chapter.

There is, of course, a potential gap between aspirations and achievements. The OSCE has limited funds. This impediment can be overcome through collaboration with other institutions, such as the CAREC partners. Mayer (2020) highlights potential benefits from closer collaboration on Central Asia between the OSCE and the European Union, whose 27 members are OSCE participating states; the EU has deeper pockets, but the OSCE has the advantage of being a member-driven organisation and the Central Asian countries are themselves all OSCE participating states. This advantage may be especially useful in addressing sensitive issues such as corruption at border posts and the vulnerability of foreign traders. Placing emphasis on economic as well as security matters could also help to reverse a twenty-first century pattern, identified by Mayer, of more confident Central Asian host governments exerting increasing pressure on OSCE field missions to curtail activities based on human rights, democratisation and civil society empowerment mandates. The focus would continue to be on good governance, but the emphasis on a link through trade

facilitation to economic diversification and higher living standards is likely to be perceived as less confrontational.

This chapter has focussed on economic cooperation and the link to security is more tenuous. However, the Landbridge has provided an ongoing example of positive cooperation even as political relationships between the EU and Russia and China have deteriorated. For the Central Asian countries, a denser network of international economic connections is likely to improve the often-frosty bilateral relations within the region and reinforce strategies of multivector diplomacy vis-à-vis external partners.

References

- ADB (2006) Central Asia: increasing gains from trade through regional cooperation in trade policy. Transport and Customs Transit, Asian Development Bank, Manila
- ADB (2014) Central Asia regional economic cooperation corridor performance measurement and monitoring: a forward-looking perspective. Asian Development Bank, Manila
- Behar A (2010) Do managers and experts agree? A comparison of alternative sources of trade facilitation data. In: Economics series working papers 503. Department of Economics, University of Oxford
- Bird J, Lebrand M, Venables AJ (2020) The belt and road initiative: reshaping economic geography in Central Asia? *J Dev Econ* 144
- Cadot O, Carrère C, Grigoriou C (2006) Landlockedness, infrastructure and trade in central Asia—in two-volumes. World Bank, Washington, DC
- CAREC (2020) Corridor performance measurement and monitoring annual report 2019. Central Asia Regional Economic Cooperation Secretariat, Asian Development Bank, Manila
- Soyres D, François AM, Murray S, Rocha N, Ruta M (2019) How much will the belt and road initiative reduce trade costs? *Int Econ* 159:151–164
- Grigoriou C (2007) Landlockedness, infrastructure and trade: new estimates for central Asian countries. In: World bank policy research working paper 4335. World Bank, Washington, DC
- Hillman J (2018) The rise of China-Europe railways. Center for Strategic and International Studies, Washington, DC. <https://www.csis.org/analysis/rise-china-europe-railways>
- Hurley J, Morris S, Portelance G (2018) Examining the debt implications of the belt and road initiative from a policy perspective, CGD policy paper 121. Center for Global Development, Washington, DC
- Ishnazarov D (2020) China's development objectives and its belt and road initiative in the OSCE region. In: Mihr A (ed) Transformation and Development: Studies in the Organization for Security and Development (OSCE) member states. Springer, Cham, Switzerland, pp 67–82
- Joy-Pérez C, Scissors D (2018) Be wary of spending on the belt and road. American Enterprise Institute. <https://www.aei.org/research-products/report/be-wary-of-spending-on-the-belt-and-road/>
- Kaminski B, Mitra S (2012) Borderless Bazaars and regional integration in Central Asia: emerging patterns of trade and cross-border cooperation. World Bank, Washington, DC
- Laruelle M, Peyrouse S (2012) Regional organisations in Central Asia: patterns of interaction, dilemmas of efficiency. In: University of Central Asia Institute of Public Policy and Administration Working Paper No. 10, Bishkek
- Linn J, Pidufala O (2008) The experience with regional economic cooperation organizations: lessons for Central Asia. In: Working paper 4, Wolfensohn Center for Development, The Brookings Institution, Washington, DC

- Mayer S (2020) Walking alone, Walking Together? OSCE-EU Relations in Central Asia, Policy Brief #62, OSCE Academy in Bishkek
- Peyrouse S, Raballand G (2015) Central Asia: the new silk road initiative's questionable economic rationality. *Eurasian Geogr Econ* 56(4):405–420
- Pomfret R (1995) The economies of Central Asia. Princeton University Press, Princeton, NJ
- Pomfret R (2006) The Central Asian economies since independence. Princeton University Press, Princeton, NJ
- Pomfret R (2019a) The Central Asian economies in the twenty-first century: paving a new silk road. Princeton University Press, Princeton, NJ
- Pomfret R (2019b) The Eurasian Landbridge and China's belt and road initiative: demand, supply of services, and public policy. *World Econ* 42(6):1642–1653
- Portugal-Perez A, Wilson J (2012) Export performance and trade facilitation reform: hard and soft infrastructure. *World Dev* 40(7):1295–1307
- Raballand G (2003) Determinants of the negative impact of being landlocked on trade: an empirical investigation through the Central Asian case. *Comp Econ Stud* 45(4):520–536
- Schramm H-J, Zhang S (2018) Eurasian rail freight in the one belt one road Era. In: J Stentoft (ed) 30th annual NOFOMA conference: relevant logistics and supply chain management research. Syddansk Universitet Institut for Entreprenørskab og Relationsledelse, Kolding, Denmark), pp 769–98
- Sharafeyeva A, Shepherd B (2020) What does “doing business” really measure? Evidence from trade times. *Econ Lett* 192
- Sourdin P, Pomfret R (2012) Trade facilitation defining, measuring, explaining and reducing the cost of international trade. Edward Elgar, Cheltenham, UK
- UNDP (2005) Central Asia human development report: bringing down barriers: regional cooperation for human development. UNDP Regional Bureau for Europe and the CIS, Bratislava
- Walton S (2020) New silk road work practices are a success story, Railfreight.com Newsletter, posted on 20 August at <https://www.railfreight.com/business/2020/08/20/new-silk-road-work-practices-are-a-success-story/>
- Yuldasheva G (2013) The Northern distribution network and Central Asia. In: Sprüds A, Potjomkina D (eds) Northern distribution network: redefining partnerships within NATO and beyond. Latvian Institute of International Affairs, Riga, pp 93–113
- Zhang X (2017) Eurasian rail freight in the one belt one road Era, MSc thesis, Cranfield University, Bedford, UK

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.