

China's New Silk Road: a stocktaking update and economic review (2017–2019)¹

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This study is an update of an initial overview by Barisitz and Radzyner (2017a) in the present journal. The Belt and Road Initiative (BRI) corresponds to an enormous international infrastructure investment program focusing on Asia, Africa and Europe. BRI projects are predominantly credit-based and financed by Chinese sources. So far, about USD 450 billion have been spent or earmarked. While not without setbacks and substantial risks, many BRI projects appear to have progressed since 2017. The present project-oriented update attempts to fill a void and shed some light on a number of key undertakings in the above three global regions. Against the backdrop of the evolving U.S.-China trade conflict, the BRI may ultimately provide China with an alternative geo-economic perspective.

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In the past two years, China boldly moved forward with its Belt and Road Initiative (BRI, officially proclaimed in 2013 and incorporated into the constitution of the People's Republic of China in 2017 – here regarded as synonymous with the other frequently used term New Silk Road). Hence the motivation to update the initial snapshot provided by Barisitz and Radzyner (2017a) for the 2017–2019 period. To recap, the BRI is a *quasi-global development program* of infrastructure investments, modernizing and/or expanding a Eurasian overland trading network (“Silk Road Economic Belt” – SREB) and a complementary seaborne network, which is already handling the bulk of east-west trade traffic (the “21st Century Maritime Silk Road” – MSR).³

On top of ongoing efforts, China embraced numerous digital projects in the past two years. In June 2018, China announced an initiative to establish a *Digital Silk Road (DSR)*, with the aim of assisting participating countries in developing digital infrastructure (including quantum computing, nano technology, artificial intelligence, big data, enhanced cloud storage). Another official goal is to enhance internet security. With the domestic payments market becoming progressively saturated, Chinese e-commerce firms also aim at disseminating their expertise internationally. Outbound fintech investments as of end-September 2018 were mostly aligned with Asian regional IT hubs in Hong Kong, Singapore, Thailand, Indonesia, Malaysia and Pakistan. In mid-November 2018, the Monetary Authority of Singapore signed a cooperation agreement with the People's Bank of China (PBOC), which calls for fintech cooperation between Singapore and China. Beyond Asia, the initial DSR projects target a number of African countries, including Ethiopia, Kenya, Tanzania, Zambia, and Nigeria.

¹ This study was completed in late January 2020 when the coronavirus was spreading, also raising concerns about the potential impact of the virus on the Belt and Road initiative. At the time of writing it was, however, too early to add a conclusive analysis of such effects.

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³ Precursors to these networks were the traditional (overland) Silk Road and the (maritime) Spice Route that both existed for many centuries (Barisitz, 2017).

Moreover, China is building or improving around 100 undersea communications cables (out of some 300 such cables worldwide). Undersea cables carry about nine-tenths of all international data. One outstanding project is the Pakistan East Africa Cable Express, or PEACE, which will become the shortest fiber-optic high-speed internet connection between Asia and Africa (Hillman, 2019a). The cable begins in Gwadar, a Chinese-operated port on Pakistan's Arabian Sea coast (see subsection 6.2) and runs to ports in Egypt, Djibouti, Somalia, Kenya, South Africa, the Seychelles and France.⁴

Other major events in the past two years include the establishment, in July 2018, of two *Chinese international arbitration courts* authorized to handle BRI-related disputes. One court – based in Xian, the traditional “capital” and point of departure of the old Silk Road – will deal with cases involving the overland “Belt.” The other court – domiciled in the southern coastal city of Shenzhen (adjacent to Hong Kong) – will address the maritime “Road” cases. Moreover, in January 2019, the Chinese Council for the Promotion of International Trade signed an agreement with the Singapore International Mediation Center to establish a panel of international mediators for BRI disputes. The panel, to be based in the city state, will comprise dispute resolution professionals from the two countries as well as other BRI host countries.

In what follows, section 1 will bring readers up to date on the pattern and volume of BRI funding, including an overview of the major institutions supporting the BRI. This is followed by a discussion of some (changing) motivations and driving factors (section 2), and challenges and risks (section 3). Section 4 addresses possibly competing programs and plans of other powers. Section 5 explains how overland trans-Eurasian connectivity has been gaining some modest ground in competition with maritime networks in recent years. This leads us to the core section of the article (section 6), a survey of major (new and existing) BRI projects, including an assessment of whether there has been further progress (toward project completion), or possibly lack thereof, over the last two years. Section 7 looks at additional BRI-related data, discusses the issue of host country debt distress and refers to some BRI impact studies. Section 8 wraps up the article.

1 Current pattern and volume of Belt and Road funding

BRI projects are typically financed with *loans from Chinese financial institutions*. These loans are usually tied credits covering 85% of project finance for 20 years at up to 5% p.a. interest, with payment deferred for the first five years.⁵ The most competitive rates, between 2% and 3% p.a., are provided by China's policy banks (see below; OECD, 2018, pp. 18–19, 21; Raiffeisen Research, 2019, p. 4) for loans with maturities of more than 25 years, including ultra-long maturities. BRI loans are typically given to the host country without (explicit) political conditions. As a rule, however, there is the (de facto) economic condition to commission Chinese enterprises, often the state-owned giants of construction, railroad and maritime transportation which have emerged in the past two decades. Local enterprises may be chosen as subcontractors. In some cases, BRI loans may be repaid with raw material deliveries to China. These practices are often viewed as “checkbook

⁴ The owner of the PEACE cable, Huawei Marine Networks, is a joint venture between Huawei and Global Marine Systems, a British company. The project is expected to be completed in 2021.

⁵ The remaining 15% of project finance is typically expected to be raised by the local partner.

diplomacy” or “construction site diplomacy.” Only a small share of BRI projects are financed through Chinese equity participations.

At end-July 2019, Beijing had reportedly signed 195 cooperation agreements under the Belt and Road Initiative with 136 countries and 30 international organizations. This includes a Memorandum of Understanding (MoU) signed with Italy in late March, so far the only G7 country to have done so (China Daily, 2019, p. 2). Apart from Italy, 12 other EU countries have joined the BRI by signing MoUs, namely Bulgaria, Croatia, Czechia, Greece, Hungary, Latvia, Luxembourg, Malta, Poland, Portugal, Romania and Slovakia. As is evident from table 1, salient bodies backing the BRI boast generous financial “fire power.”

Table 1

Major institutions and funds supporting the Belt and Road Initiative

International development banks (in which China plays a leading role):

Asian Infrastructure Investment Bank (AIIB; operational since January 2016; members include Austria and Italy)¹

USD 100 billion (authorized capital); USD 7.4 billion disbursed by mid-2019

New Development Bank (NDB; supporting above all BRIC countries; fully operational since February 2016)

USD 25–50 billion (may be earmarked for BRI projects); USD 10.2 billion disbursed by end-October 2019

Silk Road Fund and Chinese policy banks:

Silk Road Fund (SRF; operational since spring 2015)

USD 55 billion (funded i.a. by China Eximbank and CDB)

Export-Import Bank of China (China Eximbank)

USD 150 billion (reportedly already disbursed for BRI, more earmarked)

China Development Bank (CDB)

USD 190 billion (reportedly already disbursed for BRI, more earmarked)²

China's and the world's largest commercial bank:

Industrial and Commercial Bank of China (ICBC, state-owned)

USD 80 billion (so far disbursed for BRI)³

Special regional initiatives:

“17+1 forum” of intensified cooperation with 12 CESEE EU and 5 non-EU members (European Commission and Austria are observers, Greece joined in April 2019):⁴

China-CEEC Investment Cooperation Fund (project finance for energy, infrastructure, high-tech manufacturing, consumer goods sectors)

up to EUR 10 billion (financed mostly by China Eximbank and ICBC)

China-CEEC Interbank Association (established in November 2017 between CDB and 14 CESEE development finance institutions to boost financial support for projects in lagging CESEE regions)

up to EUR 2 billion (credit frame provided by CDB)

China-Russia Renminbi Investment Fund

USD 10 billion

China-Russia Research and Technology Innovation Fund (focused on artificial intelligence, new materials, space technologies)

USD 1 billion (from Russia Direct Investment Fund and China Investment Corporation)

Strategic partnership between China and the Eurasian Economic Union (EAEU) (joint statement of Russia and China, May 2015; nonpreferential agreement on trade and economic cooperation between China and the EAEU, May 2018)

USD 10 billion (CDB credit line to Vneshekonombank (Russia) for common infrastructure and other projects provided)

BRI financial support for Africa (announced at Africa-China summit in Beijing, September 2018)

USD 60 billion (of which $\frac{3}{4}$ loans, $\frac{1}{4}$ grants and interest-free loans)

China-ASEAN Investment Cooperation Fund

up to USD 10 billion

Source: Author's compilation.

¹ The AIIB is the first multilateral bank in which emerging markets possess the majority of capital shares.

² China Eximbank and the CDB are the most powerful institutions of development finance globally. Their aggregated international credit volume exceeds that of the five Western-led multilateral development banks combined (World Bank, Asian Development Bank, European Bank for Reconstruction and Development, European Investment Bank, Inter-American Development Bank).

³ In September 2018, the ICBC established a branch in Vienna with a view to promoting economic cooperation in CESEE with the provision of cross-border financial services.

⁴ The 17+1 forum comprises: Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czechia, Estonia, Greece, Hungary, Latvia, Lithuania, Montenegro, North Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, and China.

Not all of the funds enumerated in table 1 are currently effectively available; some have already been disbursed (as mentioned above), some still have to be raised – and there are additional funds (notably from China's policy banks) that may be appropriated for BRI projects. The China Banking and Insurance Regulatory Commission considers Chinese credit institutions to have invested around USD 200 billion in 2,600 BRI projects until the end of 2017. Estimates from the China Global Investment Tracker (Heritage Foundation, Washington DC) suggest that spending on about 3,100 projects between 2014 and 2017 totals USD 340 billion (Wilson, 2019, p. 77). If we add 2012 and 2013, we may arrive at some USD 400 billion. Raiffeisen Research concludes that BRI projects account for about 52% of all of China's contracted investment and construction projects (outside the country) since 2014. This share appears to have increased significantly most recently (Raiffeisen Research, 2019, p. 3).

In April 2019, China's foreign minister Wang Yi stated that BRI projects had created about 300,000 jobs in the countries concerned; and according to central bank president Yi Gang, China had provided about USD 440 billion of loans (credit lines, including amounts not yet called up) for BRI projects; Chinese direct investment in BRI countries reportedly exceeded USD 90 billion (Prantner, 2019). If we add up these two figures and allow for a generous margin of prudence, given that not all Chinese investment in BRI-participating countries is BRI investment, we may arrive at a sum total of Chinese BRI spending (including earmarked funds) of around USD 450 billion. According to Chinese experts, up to USD 750 billion of the country's international reserves (at end-June 2019: USD 3.12 trillion) would, if necessary, be available to finance BRI projects, given the rather low returns that these reserves, mostly invested in U.S. government bonds, currently yield (Wang, 2016). Until 2030, China apparently plans to put around USD 1,200 billion into BRI infrastructure projects (Huchet, 2019, pp. 56, 58).

2 Update on motivations and driving factors

Apart from *upgrading international transportation links* and thereby *cutting trade costs*, one of the major goals of the BRI is to redirect Chinese surplus savings and re-utilize otherwise possibly idle domestic productive capacities and technical know-how (e.g. advanced high-speed rail expertise, container port construction know-how, e-commerce payment systems), given that China's markets in these domains have already become or are becoming saturated.⁶ This effectively allows China to extend its hitherto *export-led growth strategy* (Boisseau du Rocher and Dubois de Prisque, 2019, p. 65).

The *development of peripheral provinces*, e.g. Xinjiang (northwestern China) and Yunnan (southwestern China), from where initial parts of the BRI extend to Central Asia, Russia or Southeast Asia, can also reduce domestic regional inequalities and unemployment, and thus rein in migratory pressure toward coastal regions (and potential social instability connected to these tensions) (Frankopan, 2018, pp. 80–81).⁷ A related goal is to establish *regional value chains* in China's neighborhood: namely

⁶ For instance, with a length of 25,000 km, the Chinese high-speed rail network accounts for about two-thirds of the length of all high-speed rail tracks worldwide. Also, China is home to seven of the ten largest construction companies of the globe (Hillman, 2019b, p. 2).

⁷ However, unless this goes along with programs enabling the ethnic minorities of these provinces to better participate in this development, there is the danger that the BRI might not alleviate some disparities and related ethnic tensions.

in Southeast and South Asia (Vietnam, Malaysia, Singapore, Indonesia, Bangladesh), West and Central Asia (Pakistan, Kazakhstan, Mongolia), and Russia (regions in south Siberia and along the Volga), which may require extensive infrastructure investments as a precondition (Urban, 2018, p. 21; Naisbitt et al., 2019, p. 185; Kynge, 2019).

Simply put, the efforts to “set up the New Silk Road” appear to be sequenced in three steps: First, energy and transportation infrastructures are built up to create a material basis for local economic expansion (technical foundations). Second, joint industrial parks or special economic zones (SEZs) are established as areas for storing/processing/upgrading raw materials, inputs, components, or other products (preferably following the “Shenzhen model,”⁸ of export-oriented industrial modernization). Third, these productive clusters are linked up along economic corridors into China-centered industrial supply chains (value chain creation with China preferably controlling key applied technologies).

The BRI can contribute to *internationalizing the Chinese renminbi-yuan*. Here China meets parallel Russian interests in reducing reliance on the U.S. dollar in international transactions: The aim is to base trade relations and joint investment projects increasingly on local currencies. Thus, in 2017 Russia reportedly paid 15% of its imports from China in renminbi-yuan (up from 9% in 2014).⁹ According to another source, the two countries managed to reduce the share of the U.S. dollar in their bilateral trade payments to about 40% until mid-2019, with the share of the euro rising to almost 40% (Die Presse, 2019). China and Russia also aim to put in place until 2020 a payment clearing system between the Industrial and Commercial Bank of China and the Russian VTB Bank to decrease dependence on the S.W.I.F.T. international payment system, which is under the sway of the U.S. government.¹⁰ Reports suggest that India and others may also be exploring a jointly run alternative to S.W.I.F.T. (The Economist 2020, p. 70).

By mid-2019, 35 countries participating in the Belt and Road Initiative had signed currency swap agreements (which enable direct exchange of one currency for the other, avoiding use of the U.S. dollar as an intermediary currency) with China. Eight BRI partner countries opened renminbi-yuan clearing centers or clearing networks to facilitate currency swaps (Hungary, Kazakhstan, Qatar, Saudi Arabia, Sri Lanka, Malaysia, Thailand, Singapore) (Naisbitt et al., 2019, p. 188; The Economist 2020, p. 69). In the course of 2018, Russia tripled the renminbi share of its international currency reserves to almost 15% – ten times the average for global central banks (Feng et al., 2019, pp. 6–7). The use of the U.S. dollar in trade transactions among EAEU member states (Russia, Armenia, Belarus, Kazakhstan, Kyrgyzia) is estimated to have declined to about 30% in 2018.

An initiative going in a similar direction is the creation at end-March 2018 of the *Shanghai International Energy Exchange (INE)*, focusing i.a. on oil futures trading in renminbi-yuan. The total market share of oil contracts concluded in renminbi-yuan

⁸ Shenzhen (a town neighboring Hong Kong) became Communist China's first special economic zone, where from 1980, under the leadership of chairman Deng Xiaoping, experiments were made with capitalism. Under strict government control, these experiments were extended step by step and proved very successful in turning a small coastal settlement into a modern competitive industrial metropolis of over 10 million inhabitants.

⁹ In turn, China in 2017 paid 9% of its imports from Russia in rubles (up from 2% in 2014).

¹⁰ When imposing extraterritorial sanctions on Iran, the U.S. administration in late 2018 compelled S.W.I.F.T., the global cross-border financial messaging network headquartered in Brussels, to exclude Iranian banks, thus making it very difficult for these banks to carry out international transactions.

grew from 8% to 13% since the U.S.A. abandoned the Iranian Nuclear Treaty. By late 2018, the Shanghai Exchange's futures benchmark was among the three top benchmarks, following West Texas Intermediate and Brent. However, at least for the time being, any resounding success of renminbi-yuan oil futures is still hampered by as yet limited international participation and by continuing Chinese capital controls.

Against the backdrop of the trade conflict between China and the U.S.A., the Belt and Road Initiative may ultimately provide an *alternative geo-economic perspective* for China. More generally, various institutions connected to the BRI, like the AIIB or the SRF (Silk Road Fund), but also organizations in the wider circle (like the Shanghai Cooperation Organization and the BRIC group of countries, which includes India) appear to be conducive to a policy aimed at building a counterweight to Western-dominated global institutions (IMF, World Bank, Asian Development Bank, etc.).

Apart from the key objective of addressing *strategic resource supply and security issues* (tackling the “Malacca dilemma,” see Barisitz and Radzyner, 2017a, p. 13), BRI efforts typically also contribute to enhancing Chinese *soft power* in various parts of Eurasia, and to creating something like a “circle of friends” (Adarov, 2018, p. 10). Given the long-term and strategic nature of many BRI ventures (after all, a large number are public infrastructure projects, thus going beyond the logic of pure private market considerations), one should emphasize that not all BRI investments are necessarily oriented toward short- or medium-term profitability.

A specific advantage of the BRI system is that not all economic corridors are predetermined by topography (see Barisitz and Radzyner, 2017a, pp. 14–15 and section 6 below), spurring *some regional competition* among countries and locations for BRI infrastructural projects, which is likely to dampen project costs for Chinese investors and (modestly) enhance their geopolitical clout.¹¹

3 Update on challenges and risks

Countries participating in cross-border infrastructural projects (e.g. in the field of transportation) may feature *differing regulatory regimes*. If these regimes are not harmonized or otherwise aligned with each other, connectivity will continue to be hampered, and modernized infrastructure possibly used inefficiently (example: Brest/Malaszewicze transshipment center at the Belarusian/Polish border, see section 6.2).

Frequent Chinese dominance in projects (from overall finance, via contractors¹² to Chinese workers, equipment and even materials supplied) and possibly limited regard for local conditions may give rise to concern. Instances of popular resistance to Chinese investors have been recorded in some Central Asian countries, like Kazakhstan (where plans to let Chinese – and other foreign corporations – rent agricultural land for up to 25 years met with popular unrest in 2016, eventually prompting president Nazarbaev to withdraw the bill), Kyrgyzia or Uzbekistan (irritations due to alleged preferential placing of orders, or favored treatment of

¹¹ Analogous conditions may also apply to Chinese jurisdictions competing for points of departure of Trans-Eurasian railroads (see below).

¹² According to the Center for Strategic and International Studies (CSIS), of 2,200 BRI projects up to end-2017 examined, 89% went to Chinese firms, 8% to local, and only 3% to foreign non-Chinese firms. At the same time, of all contract partners participating in Eurasian projects financed by the World Bank, the Asian Development Bank and other Western-led multilateral development banks, “only” 29% were Chinese, 41% were local, and 30% foreign non-Chinese enterprises (CSIS, 2018, p. 2).

Chinese employees) (Hoering, 2018, p. 56). The apparent disadvantaging of local workers also gave rise to complaints in Kenya, Pakistan and Thailand. In Myanmar, the planned construction of a big dam and attendant relocation of indigenous peasant populations triggered instability. While the ruling establishments or elites in partner countries often tend to welcome the inflow of Chinese investment money, they sometimes find themselves obliged to impose some restrictions under public pressure (Sommer, 2019, p. 350).

Chinese credit offers may often lack transparency and *not provide for competitive tenders* (given the typical preference for Chinese enterprises). This is why in some cases such offers have run into difficulties with the European Commission in CESEE EU member countries (Adarov et al., 2018, pp. 54–55; see also section 7). At the same time, Chinese banks may require sovereign guarantees for projects they finance, thus partly shifting risks to recipient states. Given the economic size of some infrastructural projects, Chinese BRI loans may risk pushing smaller countries into a “*debt trap*” or saddling them with unsustainable liabilities. This in turn may trigger the reproach that Beijing conducts a “*debt trap diplomacy*.” This issue will be discussed in greater detail in sections 6 and 7.

Given the political importance of the BRI, China obviously pursues a long-term Silk Road strategy and thus obviously stands ready to take higher risks than multilateral development banks. Whether that “pays off” (not just in a narrow commercial sense) may only be judged *in the long run*. That said, most recently Chinese decision makers appear to have become somewhat more concerned about debt sustainability issues.

4 Possibly competing or complementary programs of other powers

Apart from the U.S. “*New Silk Road Initiative*” (NSRI, since 2011, including the TAPI gas pipeline and CASA hydropower schemes; see Barisitz and Radzyner, 2017a, pp. 17–19, and map 2), Washington has strived to remain engaged in relations with Central Asian countries. In October 2018, Congress passed a law streamlining existing agencies¹³ to create the *U.S. International Development Finance Corporation (DFC)*, a federal body authorized to invest up to USD 60 billion in private development projects in Asia and Africa. Specifically, loans, loan guarantees and insurance are to be provided to U.S. companies that invest or operate in developing nations. The official goal is to create an alternative to “state-directed investments by authoritarian governments,” which appears as a clear reference to China’s BRI. The DFC became operational in January 2020. In terms of spending power, the DFC can hardly be seen as a counterweight to the capital Beijing can mobilize; to some degree it might actually be a complement, because it focuses on private sector-dominated capital formation, while BRI projects typically constitute public infrastructure undertakings.

In 2015, Japan launched an initiative called “*Partnership for Quality Infrastructure – Investment for Asia’s Future*,” raising approximately USD 110 billion for Asia over a five-year period (2015–2020) by tapping into Official Development Assistance (ODA) and collaborating with the Asian Development Bank. In 2016, the available funding volume was increased to USD 200 billion. Dedicated projects include the

¹³ Including the Overseas Private Investment Corporation (OPIC) and the U.S. Agency for International Development (USAID).

Mombasa port development project in Kenya, the Matarbari port and power station in Bangladesh, and the digital grid project in Tansania (Maçaes, 2018, p. 138).

The *Intercontinental North-South Transport Corridor (INSTC)*, initiated by India, Iran and Russia in 2002, was re-activated after the lifting of the international Iran sanctions in 2015, although the unilateral re-instatement and tightening of extra-territorial U.S. sanctions in 2018/2019 creates new challenges. Under INSTC, multi-modal transportation (by ship, rail and/or road) is planned from India (Mumbai) via the Arabian Sea, the Gulf of Oman, Iran (Tehran), Azerbaijan or Central Asia, to Russia (Moscow, St. Petersburg), and possibly on to Europe (see map 2). Thus, trade connections from India to Russia and Europe could be shortened by 3,000–4,000 km, although multimodality would of course somewhat reduce cost savings. In 2016, India concluded an agreement with Iran to modernize Chabahar port (including a container terminal and an industrial zone), which is Iran's only oceanic harbor (Arabian Sea). Chabahar port was opened in October 2017 and Indian firms and banks have also participated in constructing the port's linkup with the Iranian railroad network (Granger, 2018, p. 59).

In September 2018, the European Commission issued a document entitled “Connecting Europe and Asia: Building Blocs for an EU Strategy,” which provides for a blueprint for interacting with economies in Asia in the spirit of seeking a level playing field and creating rules-based and sustainable connectivity, drawing inspiration from the EU internal markets. In January 2019, the European Commission announced its intention to facilitate infrastructure projects in countries of the EU Eastern Partnership (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) together with the World Bank. Their indicative Action Plan earmarked EUR 13 billion up to 2030 for almost 100 projects under the umbrella of the Trans-European Transport Networks (TEN-T). These projects should involve about 4,800 km of roads and railroads (including neighborhood countries), six ports and eleven logistics centers. Yet it remains unclear how these undertakings are to be linked up with ongoing BRI connectivity projects in CESEE.¹⁴

In September 2019, the EU and Japan signed a “Partnership on sustainable connectivity and quality infrastructure” agreement aimed at coordinating transportation, energy and digital projects in developing countries amid concerns of China's dominance in infrastructure funding in Eurasia and Africa. The agreement calls for transparent procurement practices, a level playing field, nondiscriminatory investment, debt sustainability, and high standards of rules-based economic, fiscal, financial, social and environmental sustainability – an allusion to some of the criticisms facing the BRI (RWR Belt and Road Monitor, 2019b). That said, it is not yet clear how much additional financial support the partnership agreement is proposing.

5 Overland trans-Eurasian connectivity continues to gain some modest ground

Given that long-haul maritime container transportation is substantially cheaper than transcontinental rail or road conveyance, the bulk of long-distance BRI trade (between around 60% in value terms and 90% in weight terms) is likely to remain seaborne. However, according to expert estimates (Schramm and Zhang, 2018, pp. 779–780; Hillman, 2018), rail transportation has been gaining some ground

¹⁴ For more details on and an evaluation of the EU Connectivity Strategy, see Pepe (2019), pp. 10–11.

in recent years: From 2006 to 2017, the transit time for container ship deliveries from China to Europe reportedly increased from 28 to 33 days (due to efforts to cut fuel costs and stipulations to use cleaner fuels), while in the same period, transit time on trains was more than halved from 37 to 16 days, and transit time on airplanes remained unchanged at about 5 days (in all cases including customs and administrative procedures). From 2006 to 2017, ship transit costs between China and Europe declined from USD 2,500 to USD 2,000 per 20 foot-container, train transit costs shrank from USD 7,000 to USD 6,000, whereas flight transit costs increased from USD 24,500 to USD 32,500 (possibly also linked to fuel costs). Still, in overall terms, rail transportation gains are relatively modest: In value terms, the share of rail in China-Europe trade grew from 0.5% in 2006 to 2.1% in 2016,¹⁵ while the respective shares of maritime and air conveyance remained at around two-thirds and one-fifth.

Eurasian rail connectivity has been improving because of political stabilization and economic reforms in transit countries in recent decades, which have contributed to some structural catching-up. Some integration measures linking Eurasian landlocked economies in recent years, including the establishment of the Eurasian Economic Union (EAEU) and the harmonization of border/customs procedures among key countries between China and Europe (namely Russia, Kazakhstan, Belarus) also helped.¹⁶ Railway companies from China, Mongolia, Russia, Belarus, Poland and Germany have recently signed an agreement on deeper cooperation in China-Europe rail service. Given that extensive parts of Eurasian east-west rail connections are electrified, they appear to have been under less pressure from fuel price rises in recent years than other modes of transportation. Electrified rail transportation is arguably also more environmentally friendly, producing a smaller CO₂ footprint than, e.g., shipping.

Another factor that has supported the upswing of trans-Eurasian rail transport are Chinese subsidies of around USD 2,000 to USD 3,000 per transported container (covering about 30% to 50% of freight costs). These freight subsidies are mostly paid by rivaling provincial authorities, and in some cases also municipalities, with the goal of drawing BRI traffic and investment into their respective jurisdictions.¹⁷ The freight subsidies may or may not be phased out over the next two to five years. In 2012–2017, they are estimated to have totaled around USD 1 billion.¹⁸

¹⁵ In these five years, the freight turnover of trans-Eurasian rail connectivity is estimated to have grown (from low levels) at least 50% per year (on average).

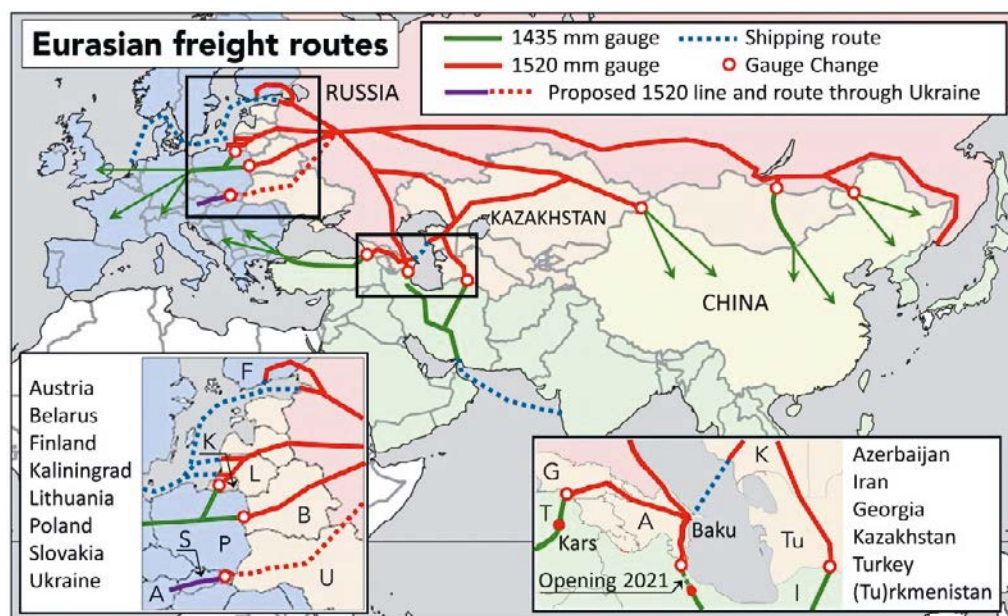
¹⁶ Thus, the Eurasian Economic Union allows cargo to pass just two customs posts on the shortest and physically easiest route from Xinjiang to the EU's doorstep in Poland, Finland or the Baltic states (Feng et al., 2019, p. 8). The use of electronic customs declarations and of joint consignment notes also facilitates transit (Troche, 2019). China-EU cargo turnover carried through the EAEU reportedly increased from 6,000 TEUs (twenty-foot equivalent units) in 2011 to 50,000 TEUs in 2016 for cargo flowing from the EU to China, and from 7,000 TEUs (2011) to 97,000 TEUs (2016) for containers flowing in the opposite direction (Rovenskaya, 2018). The sum total of cargo turnover in both directions through the EAEU expanded another 80% in 2017 (over 2016) to 262,000 TEUs (Vinokurov, 2019, p. 4).

¹⁷ According to Andreas Breinbauer, Director of the Logistics and Transportation Department of the University of Applied Sciences Vienna (BFI), another underlying rationale for the freight subsidies may be that faster cargo rail connections render Alibaba's and Tencent's disadvantage of trailing Amazon in terms of sophisticated distribution logistics in Europe insignificant, as the faster connections bring European consumers more swiftly in touch with the Chinese e-commerce system (Kastner, 2019).

¹⁸ While not constituting a major BRI investment project, the re-equipping and re-opening in May 2018 of a major rail link between China and Iran (via Kazakhstan and Turkmenistan) advanced trans-Eurasian connectivity further: Compared to the maritime route, the rail link (while more expensive) cuts transportation time between the centers of both countries by more than half to 15 days.

Map 1

Eurasian freight routes



Source: Rail Engineer.

A final point related to structural change in China: After moving production further inland to regions with lower wage levels than the developed coastal areas, e.g. to the province of Sichuan (Chongqing, Chengdu), Chinese and foreign corporations (e.g. Foxconn/Apple, Hewlett Packard, Acer) started to ship their goods directly by rail to Europe, instead of shipping them first over 1,500 km back east to China's coastal ports before reloading them onto ships and transporting them thousands of kilometers south (Strait of Malacca), then west. In the opposite direction, German car companies have sent components overland to their joint-venture assembly factories in northeast China (VW/Audi in Changchun and BMW in Shenyang). Thus, a profitable niche or middle option for long-haul Trans-Eurasian rail conveyance of high value-added products (computers, smartphones, smart home appliances, printers, logistics automation devices, other high-tech equipment, car parts, high-end fashion garments, pharmaceuticals etc.) and/or time-sensitive goods (like certain flowers, wine, whiskey, top cheese or chocolate) seems to have emerged.¹⁹ These product and component flows may also contribute to emerging *Eurasian value chains*, e.g. in automobiles and electronics (Pomfret, 2019, pp. 2–3). One of the rail connections filling this niche is the Trans-Eurasia Express, whose freight turnover has multiplied since 2012, if from low levels (see next section).²⁰

¹⁹ The Kazakh and Chinese authorities aim to raise the share of east-west rail transportation to about 5% to 10% of the market in the medium to long term (Sommer, 2019, p. 238; Marchand, 2019, p. 19). Yet, the possible removal of Chinese subsidies may dampen the hitherto brisk growth of rail conveyance.

²⁰ It is currently uncertain to what degree U.S. and foreign corporations may be persuaded to move some production lines out of China to circumvent the high tariffs levied by the U.S. from 2018/2019 on many imports from China. The implied costs of moving (including possible disadvantages on the Chinese market) could be substantial.

6 Some major BRI projects by geographic area: further progress or lack thereof

This section provides an update on a number of key Belt and Road projects discussed in Barisitz and Radzyner (2017a) and some new ones that have emerged since mid-2017.²¹

6.1 Eastern Europe and Central Asia

Russia: High-speed rail link Moscow-Kazan: Total project costs are estimated at USD 21 billion (including investment commitments of Siemens and Deutsche Bahn, the so-called “German Initiative”). About one-third of this amount is pledged by the China Development Bank (CDB) and other Chinese financial institutions. In January 2019, the first section of the rail link from Moscow to Nizhny Novgorod (covering about half the total distance) was approved for construction by the Russian government; hence, about USD 3 billion will reportedly be drawn from the budget for the project.

The rail connection Moscow-Kazan is part of trans-Eurasian rail trajectories, including the Trans-Siberian (to Vladivostok or via Ulan-Bator/Mongolia to Beijing) and the *Trans-Eurasia Express* (TEE, from Duisport (the Duisburg Port)²²/Germany via Moscow, Astana/Kazakhstan, Urumqi to Chongqing). Both the Trans-Siberian and the Trans-Eurasia Express have been overhauled in recent years. Modernization investments have been undertaken by the competent state railroad corporations (e.g. Russia’s RZD, Kazakhstan’s KTZ) and co-financed from the budgets of participating countries. The Trans-Eurasia Express directly extends into the North Sea-Baltic Corridor (of the EU Trans-European Transport Network/TEN-T). The TEE also benefits from the United Transport and Logistics Company – Eurasian Rail Alliance (UTLC ERA), established in 2014, a joint venture of the Russian, Belarusian and Kazakh railways to create an efficient rail transit service between China and Europe.

The TEE has been running since 2012, and until 2017 the number of shipped containers is estimated to have risen on average by 75% p.a. From 2012 to 2018, the number of trains from China to the EU is estimated to have more than doubled annually and to have exceeded 6,300 in 2018. In April 2018, the first direct freight train arrived in Vienna from China (Chengdu); the goal is 1–2 arriving per day (Sommer, 2019, p. 237). While the TEE’s freight turnover has thus developed dynamically, lingering problems relate to border clearance, regulatory issues, and Russian countersanctions to the EU. The border clearance problems are particularly acute at the Belarusian-Polish border at Brest/Malaszewicze (about 95% of trains running from China to Europe pass through this change-of-gauge station at the EU/EAEU border, a key chokepoint, where there is substantial potential for efficiency increases).²³ Regulatory requirements differ e.g. with regard to customs procedures, length of container trains, electrification, axle load, standardization of shipping documents

²¹ Like in Barisitz and Radzyner (2017a), the projects included here require investment of at least USD 100 million, are at least 10% financed from Chinese sources, and typically relate to the transportation, communication (including digital) or energy sectors. Other sectors have been included if the respective projects are specifically labeled as Belt and Road projects.

²² Duisport is the world’s largest inland (river) port.

²³ Trains may reportedly be held up for a day or two at Malaszewicze. Notably, transshipment facilities are regarded as insufficient (World Bank (ed.), 2019, p. 32). Under current conditions, capacity utilization at the Brest/Malaszewicze border crossing appears to have exceeded its limits. Bottlenecks and waits have been somewhat attenuated by the opening-up of alternate routes, e.g. via Kaliningrad since 2017 (van Leijen, 2018, p. 2; see also Beifert et al., 2018, pp. 2, 25–26).

Table 2

Major Belt and Road projects, construction funding and potential risks

| Region/project | Host country of investment | Sector/type of investment | Construction period (planned) | Total project costs (USD billion) | China's share of investment or financial support (USD billion) | Particular risks/occurrences |
|--|----------------------------|---------------------------|-------------------------------|--|--|----------------------------------|
| Eastern Europe and Central Asia | | | | | | |
| Moscow-Kazan high-speed rail link ¹ | Russia | high-speed rail | 2018–2022 | 21.0 | 6.5 (CDB a.o.) | project delays |
| Yamal LNG project | Russia | energy supply (gas) | 2015–2021 | 27.0 | 12.0 (Eximbank, CDB) | – |
| Arctic LNG II | Russia | energy supply (gas) | 2017–2023 | 25.0 | 20% (CNPC, CNOOC), CDB | – |
| Power of Siberia (Sila Sibiri) gas pipeline | Russia | energy supply (gas) | 2015–2019 | 17.5 | 2.0 (CDB) | – |
| Great Stone (China-Belarus) industrial park | Belarus | SEZ (manufacturing) | 2012–2018 | 1.1 | 0.28 (Eximbank and CDB) | – |
| Khorgos Gateway (special economic zone) | China, Kazakhstan | railroad, SEZ | 2014–2018 | 6.5 | 3.2 (COSCO, Lianyungang) | – |
| Kazakh border checkpoints modernization | Kazakhstan | border infrastructure | from 2019 | 0.3 (Eximbank) | – | – |
| West Europe-West China expressway | China, Kazakhstan, Russia | motorway | 2009–2020 | 7.0 | 3.0 (Kazakhstan: SRF) | – |
| Angren-Pap railroad link | Uzbekistan | railroad | 2013–2016 | 1.9 | 0.46 (China Railway Tunnels Group) | – |
| South and Southeast Asia | | | | | | |
| Gwadar deep-sea harbor and airport | Pakistan | seaport, airport | 2015–2017 | 1.9 (total, incl. China Overseas Ports Holding et al.) | – | social tensions |
| Karachi-Peshawar rail link modernization | Pakistan | railroad | 2017–2022 | 6.2 (total, incl. CREC) | – | indebtedness, project downsizing |
| Karakorum highway reconstruction | Pakistan, China | motorway | 2012–2020 | 2.5 (total, incl. Eximbank, CDB) | – | – |
| Colombo Port City and Hambantota Port | Sri Lanka | seaport, motorway, SEZ | from 2014 | 3.0 (total, CCCC et al.) | at least 1 billion Eximbank | indebtedness, debt-lease swap |
| Kyaukpau deep-sea port | Myanmar | seaport | from 2017 | 1.3 (total, incl. CITIC) | – | indebtedness, project downsizing |
| Kunming-Vientiane High-Speed Rail Link | China, Laos | high-speed rail | 2016–2021 | 4.0 (CRIG) | – | indebtedness |
| East Coast Rail Link (ECRL) | Malaysia | railroad | 2017–2021 | 13.5 (total, incl. CCCC) | – | indebtedness, project downsizing |
| Jakarta-Bandung bullet train | Indonesia | high-speed rail | 2016–2021 | 5.5 | 4.1 (CDB, CREC) | project delays |
| New Clark City industrial park | Philippines | SEZ (manufacturing) | from 2019 | 2.0 (total, incl. China Gezhouba Group) | – | – |

Source: Various international press articles, Silk Road Fund, Asian Infrastructure Investment Bank.

¹ Part of planned high-speed rail link Berlin-Moscow-Beijing (see memo items below).

Abbreviations and legend: CCCC = China Communications Construction Corporation; CCECC = China Civil Engineering Construction Corporation; CDB = China Development Bank; CITIC = China International Trust and Investment Corporation; CMEC = China Machinery Engineering Corporation; CMPG = China Merchants Port Group Holdings Company; CNOOC = China National Offshore Oil Corporation; CNPC = China National Petroleum Corporation; COSCO = China Ocean Shipping Company; CRBC = China Road and Bridge Corporation; CREC = China Railway Engineering Corporation; CRIG = China Railways International Group; CSEEC = China State Construction and Engineering Corporation; DIFTZ = Djibouti International Free Trade Zone; Eximbank = The China Export-Import Bank; SEZ = special economic zone; SRF = Silk Road Fund.

and technical regulations. Russia's countersanctions against the EU (food import and transit bans) have rendered overland deliveries of coveted European luxury food to China more difficult or expensive (because these deliveries need to circumvent Russian territory), contributing to the fact that about one-quarter of containers return empty to China on the rail route.

Table 2 continued

Major Belt and Road projects, construction funding and potential risks

| Region/project | Host country of investment | Sector/type of investment | Construction period (planned) | Total project costs (USD billion) | China's share of investment or financial support (USD billion) | Particular risks/occurrences |
|--|------------------------------------|---------------------------|-------------------------------|---|--|--|
| Middle East and East Africa | | | | | | |
| Khalifa Port | U.A.E. | seaport | 2018–2019 | 0.83 (total, incl. COSCO et al.) | | – |
| Mombasa-Nairobi express railway | Kenya | railroad | 2013–2017 | 3.2 | 2.9 (Eximbank) | – |
| Doraleh container terminal, DIFTZ | Djibouti | seaport, SEZ | from 2018 | 3.0 (CMPG, CSCEC et al.) | | indebtedness, international litigation |
| Addis-Ababa-Djibouti railway | Ethiopia, Djibouti | railroad | 2012–2018 | 4.0 (CRIG, CCECC) | 3.2 (Eximbank, CDB, ICBC) | indebtedness |
| Central and Southeastern Europe | | | | | | |
| Port of Piraeus (acquisition and modernization) | Greece | seaport | from 2016 | 0.81 (COSCO) | | – |
| Tuzla coal-fired power station expansion | Bosnia-Herzegovina | energy supply (coal) | 2019–2023 | 0.9 | 0.68 (Eximbank) | environmental problems |
| Varna Port modernization | Bulgaria | seaport | from 2019 | 0.14 (incl. CMEC) | | – |
| Belgrade-Budapest high-speed rail link | Serbia, Hungary | high-speed rail | 2015–2024 | 5.1 (CREC, CCCC, Eximbank) | | partial project suspension |
| Bar-Boljare-Belgrade motorway | Serbia, Montenegro | motorway | from 2015 | 1.1 (Montenegro, CRBC, CCCC) | 0.94 (Eximbank) | project size, indebtedness |
| Memorandum items: | | | | | | |
| Breitspur Trans-Siberian railroad link to Austria (broad-gauge track extension Košice-Vienna/Bratislava) | Slovakia, Austria | railroad | 2023–2033 | 6.5 (total, financial commitments to be determined) | | project delays |
| High-speed rail link Berlin-Moscow-Beijing (Evrasia) | Belarus, Russia, Kazakhstan, China | high-speed rail | 2018–2030 | 130 (total, financial commitments to be determined) | | project delays |

Source: Various international press articles; Silk Road Fund; Asian Infrastructure Investment Bank.

¹ Part of planned high-speed rail link Berlin-Moscow-Beijing (see memo items below).

Abbreviations and legend: CCCC = China Communications Construction Corporation; CCECC = China Civil Engineering Construction Corporation; CDB = China Development Bank; CITIC = China International Trust and Investment Corporation; CMEC = China Machinery Engineering Corporation; CMPG = China Merchants Port Group Holdings Company; CNOOC = China National Offshore Oil Corporation; CNPC = China National Petroleum Corporation; COSCO = China Ocean Shipping Company; CRBC = China Road and Bridge Corporation; CREC = China Railway Engineering Corporation; CRIG = China Railways International Group; CSCEC = China State Construction and Engineering Corporation; DIFTZ = Djibouti International Free Trade Zone; Eximbank = The China Export-Import Bank; SEZ = special economic zone; SRF = Silk Road Fund.

Launched in late 2013, the *Yamal LNG (Liquified Natural Gas) Project* (situated on Yamal peninsula in the West Siberian Arctic) is the financially most important BRI project in Russia and the largest BRI project in the energy sector globally (Hoering, 2018, p. 57). It constitutes an integrated undertaking, including the construction of an LNG plant (comprising natural gas extraction, production and liquefaction) as well as extensive transportation facilities including a deep-water port and an airport. The country's number-two gas producer, Novatek, owns 50.1% of the venture, the French company Total accounts for 20%, the China National Petroleum Corporation (CNPC) possesses 20%, and the SRF 9.9%. Out of USD 27 billion of planned total investment, USD 12 billion are financed by Chinese institutions; the lion's share of the Chinese loans comes from China Eximbank, a smaller share from the CDB. Yamal LNG took up export operations in 2017, shipping liquified natural gas from the newly constructed deep-sea port of Sabetta via the Northeast Passage to European as well as Asian markets. In August 2018, five Chinese LNG ships, led by Russian ice breakers, made the Polar Silk Road journey

(see also below) from Yamal to China in less than 50% of the time it would have taken via Gibraltar and the Suez Canal.²⁴

In 2017, Russia launched a second large LNG project in the Arctic, *Arctic LNG II*, on Gydan peninsula (a few dozen kilometers east of the Yamal location). Project costs for Arctic LNG II are estimated at USD 25 billion. Novatek is again the majority owner; in late 2017, the country's largest private natural gas producer signed a memorandum of understanding with CDB for project implementation. In May 2018, Total purchased a 10% stake in Arctic LNG II from Novatek. In June 2019, the petroleum groups CNPC and China National Offshore Oil Corporation/CNOOC signed purchase deals, also acquiring 10% stakes (for USD 2.5 billion each). In August, the Japan Arctic LNG Consortium (Mitsui & Co. and Japan Oil, Gas and Metals Corp./JOGMEC) agreed to buy another 10% stake. Construction work started in spring 2019, and the final contract was reportedly sealed in early September 2019. Arctic LNG II gas deliveries are expected to start in 2023.²⁵

Northeast Passage and "Polar Silk Road": Climate change and melting polar ice caps are likely to gradually increase the commercial viability of Arctic shipping between Europe and China. In July 2017, during a visit of the Chinese president to Russia, the two countries agreed to cooperate in developing the Northeast Passage (in Russia called Northern Sea Route, running along Eurasia's north coast from the North Cape via the Bering Strait to East Asia), and China "incorporated" this maritime route into the BRI: with a length of about 15,100 km, the Northeast Passage is 20% to 30% shorter than the conventional east-west sea route via the Strait of Malacca and the Suez Canal (19,700 km), and is pirate-free, while probably not ice-free all year round until 2040 (Russland Aktuell, 2019; Struye de Swielande and Orinx (eds.) 2019, pp. 230–231). Traffic made up 20 million tons in 2018, is expected to reach 26 million tons in 2019 and to quadruple by 2024 (Henry and Pomeroy, 2019, p. 32).

Already in 2015, China and Russia had decided to strengthen their partnership in satellite navigation, particularly between the GLONASS and BEIDOU systems, through improving compatibility and interoperability, enhancing system functions, and exchanging data for monitoring and evaluation. A China-Mongolia-Russia cross-border terrestrial cable system has been completed. COSCO (the China Ocean Shipping Corporation, the world's third-largest container shipping company) has become the first operator to regularly cross the Northeast Passage (albeit at long intervals so far). Planned polar BRI investments include the development of an Arctic deep-water port in Arkhangelsk and a new railroad (called Belkomur) to transport natural resources from the Urals to Arkhangelsk. China Eximbank has committed to providing loans to support these projects.

Sila Sibiri (Power of Siberia) Gas Pipeline, running from East Siberia and the Far East to Heilongjiang/Manchuria, built by Gazprom and the CNPC for a total cost of USD 17.5 billion and benefiting from a CDB credit of USD 2 billion, is slated to supply gas worth about USD 350 billion over 30 years to China.²⁶ Power of Siberia became operational in December 2019. Once in full gear (planned for 2024), the

²⁴ By mid-2018, Yamal LNG already accounted for 3.5% of global LNG output. With the U.S.-China trade conflict escalating and China raising its 10% punitive tariff on imports of U.S. LNG to 25% in June 2019, market prospects for Russian LNG in China have brightened. Major construction work relating to the Yamal project reportedly also lifted Russia's GDP growth rate in 2018 above the 2% threshold (to 2.3%).

²⁵ By 2025, the combined production capacity of the two giant Arctic ventures may reach 11% to 12% of global LNG output.

²⁶ The Sila Sibiri agreement may thus constitute the largest gas contract in history.

pipeline is expected to have an export capacity of 38 billion m³ of gas to China, which corresponds to about one-quarter of Gazprom's total sales to Western Europe (Vercueil, 2019, pp. 68, 70).

Alibaba-Mail.ru joint venture, Huawei Pay service, 5G wireless networks in Russia: In September 2018, the Chinese e-commerce giant Alibaba set up a joint venture with the Russian Direct Investment Fund (RDIF, the state private equity fund), the mobile operator Megafon, and the internet corporation Mail.ru. About USD 100 million is being contributed to this project by Alibaba, around USD 280 million by the Russian side. Thus, by partnering with Russia's leading consumer internet platform (with about 100 million users), AliExpress aims to move into, help digitize and transform the retail value chain in Russia, while Russian firms, including SMEs, apparently have a chance to access more than 600 million consumers using Alibaba's platforms, in China, Southeast Asia, India, Turkey, and Europe. In December 2018, Huawei (the world's largest producer of mobile phone equipment) launched its mobile payment and digital wallet service in Russia, Huawei Pay, in partnership with Union Pay (China). Russia is the first country outside China to be able to use Huawei Pay. In June 2019, Russia's mobile network MTS signed an agreement with Huawei to develop 5G technologies and pilot-launch networks in Moscow. Another large Russian mobile provider, Beeline, has also launched a cooperation with Huawei.

Belarus: Great Stone (China-Belarus) Industrial Park, a special economic zone (SEZ, 91 km²), was formally established in 2012 in Smolevichy, near Minsk International Airport and the Moscow-Berlin section of the Trans-Eurasia Express. Great Stone is 60% owned by Chinese enterprises (Sinomach, China Merchants Group, et al.), 40% owned by Belarusian public institutions, except for a 1% share of Duisport. About USD 110 million from CDB and USD 170 million from China Eximbank were made available for construction work on the project, which was launched in 2015. Duisport is building a rail link to the industrial park and a logistics terminal. The park features light-touch business regulations and reduced tax rates (a preferential tax regime until 2062). As of August 2018, about 36 resident companies covering i.a. telecoms, mechanical engineering, motor manufacturing, metallurgy, cellulose, and coming from China (including Huawei, ZTE, China Merchants Group), Belarus, Russia, the U.S.A., Germany, Israel and other countries had invested ca. USD 350 million. In December 2018, Sinotrans, the largest Chinese logistics supplier, set up its Eurasian headquarters in the industrial park. Sinotrans is expected to play a role in a BRI logistics platform that China is developing with the Belarusian, Russian, Kazakh and Lithuanian Railways. By end-February 2019, the number of companies had increased to 43, and total investment (amount of contractual agreements) is estimated to have expanded to around USD 1.1 billion (Henry and Pomeroy, 2019, p. 13).

Kazakhstan: Khorgos Gateway is a dry port or transshipment center for trains and, partly, trucks at the Kazakh-Chinese border near Almaty. Reloading is necessary because of the switch from the Chinese standard gauge to the Russian broad-gauge railroad at the former Soviet-Chinese frontier. Khorgos Gateway is also part of a cross-border special economic zone (SEZ) and industrial park (featuring tax and other incentives). A total of USD 6.5 billion has been invested in the dry port and SEZ (covering about 4.5 km²). In March 2018, Dubai Ports acquired 51% of Khorgos Gateway, and the Chinese shipping company COSCO together with the port of Lianyungang (Yellow Sea) purchased the remaining 49%. In 2017, four to five

trains were reloaded (and cleared by customs) per day in Khorgos. The operating authorities aim to triple the number of reloaded trains and more than triple the number of transshipped containers²⁷ per day until 2020.

Modernization of Kazakh non-EAEU border checkpoints: In 2019, China Eximbank granted a credit of USD 295 million (preferential interest rate: 2%, maturity: 20 years, grace period: 5 years) to Kazakhstan to modernize ten border terminals in order to improve efficiency of cross-border flows along BRI corridors. The terminals are situated on the country's non-EAEU borders with China and Uzbekistan and include a checkpoint for rail conveyance (Dostyk) and nine checkpoints for road transportation. The credit agreement, ratified by the government in May 2019, i.a. provides for the installation of Chinese security equipment as well as software to streamline border clearance times for trucks from an average of 60 minutes to 25 minutes and to multiply the terminals' transmitting capabilities (Ostwirtschaftsreport, 2019a).

SRF stake in Astana International Exchange: In June 2018, SRF acquired a stake of undisclosed size in the Astana International Exchange, a core element of the Astana International Financial Center (AIFC) founded in 2015 by former President Nazarbaev. The AIFC is to serve as a financial hub subject to a special legal status based on the standards of English law. A mercantile exchange is planned in addition to stock and bond trading. The financial center i.a. aims to facilitate financing of investment projects in Central Asia, including infrastructural ventures. The AIFC was set up with the help of the Shanghai Stock Exchange, SRF, Nasdaq, and Goldman Sachs. The stock exchange will offer the opportunity to trade in different currencies, such as Kazakh tenge, U.S. dollars, Russian rubles, and Chinese renminbi-yuan. It took up operations in July 2018 and seeks to become the regional financial Belt and Road hub for Central Asia and the EAEU. As of 2019, 235 enterprises and banks from 26 countries were reportedly working with the AIFC. These included the CDB, the China Construction Bank (CCB), the China International Capital Corporation (Hong Kong) and others.

Uzbekistan: Angren-Pap railroad link: This constitutes a strategic rail connection between the densely populated Ferghana basin (Eastern Uzbekistan) and the rest of the country. In order to achieve this direct rail link between the Ferghana and Tashkent (Uzbek capital) regions, a tunnel had to be driven through the rugged Qurama (Kuraminsky) mountain range. The 123 km long electric line creates a swifter alternative to the Soviet-era line that cuts across Tajikistan's Sughd region, saving Uzbekistan a reported USD 25 million in transit fees it pays to the neighboring country every year. The total cost of the project was USD 1.9 billion; the lion's share was funded by the Uzbekistani government. In 2013, the China Railway Tunnel Group signed a construction contract worth USD 455 million; in 2014 China Eximbank provided a loan of USD 350 million, and in 2015 the World Bank contributed a loan of USD 195 million. The line includes the Qamchiq tunnel (19.2 km), the longest tunnel in Central Asia. Completed in February 2016, the line (including the tunnel) was built in less than three years (100 days ahead of schedule). Previously, direct travel between the two regions by mountain roads could reportedly take three to four days (and was sometimes unfeasible in winter), now the journey takes two to three hours. The Angren-Pap line opened in June 2016 and was inaugurated on-site

²⁷ In 2017 about 100,000 TEUs (twenty-foot equivalent unit) containers were transshipped through Khorgos.

by the two heads-of-state, Karimov and Xi. Cargo and passenger traffic have since been higher than expected.

6.2 South and Southeast Asia

*Pakistan: Deep water port of Gwadar and China-Pakistan Economic Corridor (CPEC)*²⁸: Modernized by Chinese enterprises (for about USD 1.6 billion) and leased in 2016 to the China Overseas Ports Holding Company for 43 years, Gwadar constitutes a component of a key alternate energy supply route to China (along the above corridor, aimed at reducing Beijing's dependence on energy deliveries through the strategic chokepoint of the Malacca Strait). A special economic zone (SEZ, of 925 ha), formed after the Chinese model of SEZs (e.g. Shenzhen), was attached to the port. In March 2019, the China Civil Aviation Airport Construction Group broke ground to build a new international airport at Gwadar (a USD 230 million project), to be financed with a Chinese grant. Gwadar, a former fishing village, in recent years mushroomed into a de facto city of about 100,000 – mostly temporary – inhabitants, though not without social tensions and strife (see Barisitz and Radzyner, 2017a, p. 22).

Karachi-Peshawar rail link modernization: The project, started in 2017 and slated to be finished in 2022 or 2023, is intended to rehabilitate and upgrade the main railroad line connecting Karachi, Lahore and Peshawar, a line dating back to British colonial times. Planned improvements are to double the existing rail track and to almost double the speed of transportation to 120–140 km/h. Total cost was initially assessed at USD 8.2 billion, making the rail link the single largest CPEC project. The main contractors are the China Railway Engineering Corporation (CREC), Pakistan Railways and the Pakistan Ministry of Communications.

Meanwhile, rising macroeconomic disequilibria, an overvalued currency and relatively modest and shrinking foreign exchange reserves prompted the authorities in Islamabad to request financial assistance from the IMF in late 2018, in order to stave off a balance-of-payments crisis. While expanding Chinese debt related to imports and loans for BRI projects certainly contributed to the difficulties, the poor competitiveness of Pakistan's export sector and a dismally functioning tax system probably take the greatest blame. In any case, in the five years to end-2017, Pakistan's external debt doubled to about 70% of GDP. In October 2018, the newly elected government in Islamabad decided to cut the financial size of the Karachi-Peshawar rail project by USD 2 billion to USD 6.2 billion.²⁹ In early 2019, China and Pakistan's allies in the Middle East (Saudi Arabia and the United Arab Emirates)³⁰ offered financial assistance of USD 9 billion to help stabilize the Pakistani currency and economy. The IMF followed suit in May 2019 with a loan of USD 6 billion to support macroeconomic and structural reforms. Meanwhile, CPEC project management was tightened by the appointment in December 2019 of a senior Pakistani military official with a view to streamlining decision-making on large CPEC investments.

Sri Lanka: Colombo Port City and Hambantota Port (total estimated costs of BRI projects of up to USD 5 billion): Multiple investments in a new advanced container

²⁸ CPEC constitutes a "flagship program" of the entire BRI, and over USD 15 billion are reportedly already tied up in relevant projects (Mardell and Eder, 2018, p. 4).

²⁹ The Pakistani authorities have also expressed their wish to further adjust the cost to USD 4.2 billion.

³⁰ Both countries participate in the Belt and Road Initiative.

terminal and other infrastructure have been undertaken in Colombo, Sri Lanka's capital, where land has been reclaimed from the Indian Ocean. In May 2018, China Eximbank approved a USD 1 billion loan earmarked for the first phase of a USD 2 billion highway linking Colombo to the centrally located city of Kandy. In Hambantota Port (in the south of the island) a deep-water harbor, and adjacent to it, a special economic zone (industrial park) as well as an airport were built (for a total of around USD 1.5 billion).³¹

The deep-water port, however, is so far underused, and the airport is (almost) unused. Due to high and rising external indebtedness (reaching about USD 32 billion or 75% of GDP), Sri Lanka was prompted in December 2017 to grant China a 99-year lease (commercial and administrative management by China Merchants Port Holdings corporation/CMPH) of Port Hambantota – in exchange for a reduction of bilateral obligations by about USD 1.1 billion (debt-lease swap). While this is the most frequently cited example of a “debt trap” linked to the BRI, one should add that Chinese claims make up only about 15% of Sri Lanka's total external debt (and about 60% of the loans from China feature lower than market interest rates). Most of the debt is owed to multilateral institutions or consists of sovereign bonds at commercial interest rates (Moramudali, 2019). In January 2019, Sri Lanka accepted a USD 300 million Chinese loan, which may be increased to USD 1 billion over the next three years, in order to refinance some existing debt obligations.³²

Myanmar: The deep-water port Kyaukpyu (in the Bay of Bengal) was leased in 2015 to a Chinese consortium for 50 years; this port plus oil and gas pipelines to Kunming make up a second alternate route (apart from CPEC) circumventing the Malacca Strait and therefore geopolitically useful for China. However, while the pipelines are already functioning, the Burmese government in spring 2018 suspended the planned Chinese-financed large-scale expansion of the deep-water harbor and of the surrounding special economic zone (which together – effectively including a newly built town – would have cost up to USD 7 billion). The authorities considered the Kyaukpyu project to be oversized in relation to Myanmar's national needs and were also concerned about the possible debt burden and increased dependence on China. After a pause and negotiations that yielded some concessions from the Chinese side, in November 2018, Myanmar's Ministry of Planning and Finance and China's International Trust and Investment Corporation signed a re-negotiated framework agreement to develop the first phase of the deep sea port extension with an estimated investment value of USD 1.3 billion – substantially less than originally planned, e.g. including two berths instead of ten (World Bank (ed.), 2019, p. 140).

Laos: High-speed train link Kunming (Yunnan)-Vientiane (Laos): This connection (about 700 km long) between southern China and its small, relatively poor, landlocked neighbor Laos (the only landlocked country of the region), which also borders on Thailand, is being built by the China Railways International Group (CREC). The actual BRI project focuses on the section on Laotian territory (420 km) linking Boten (near China's border), Luang Prabang and Vientiane (the capital of Laos, at the Thai border). The cost of the project is estimated at USD 6.7 billion, or around 40% of

³¹ The construction of Hambantota port appears to be part of a long-standing official development plan of Sri Lanka. An economic review of the project by a Danish company in 2006 arrived at positive conclusions (Bøge, 2019).

³² According to finance minister Wickramaratne, the country had little choice since “It's extremely difficult to tap international markets due to tight conditions and ratings downgrades.” (Belt & Road News, 2019).

the country's GDP; 60% of the project cost is reportedly financed by a Chinese credit at a 3% interest rate, 40% from the Laotian state budget (of which about two-thirds are refinanced by another Chinese loan, reducing the initial share of costs to be borne by Laos to about 12%). However, the project contributed to lifting Laos' public debt to 65% of GDP, which, according to the ADB, could leave the country overburdened with debt (Asian Development Bank, 2019, p. 279).

Construction started in late 2016, reached 45% completion in early 2019 and is expected to shorten the trip between Kunming and Vientiane – currently taking a couple of days by road – to a couple of hours by 2021, thus greatly cutting cargo and tourist transportation time, while reducing costs by about two-thirds. Ultimately, the goal is to prolong the high-speed rail link via Bangkok and Kuala Lumpur (Malaysia) to Singapore, yet the corresponding agreements are still outstanding. The modernization of the Kunming-Singapore rail link is principally also supported by the southeast Asian nations, which have dubbed it ASEAN Rail Corridor.

Malaysia: The East Coast Rail Link (ECRL, planned length: 690 km) project is to start at Port Klang near Malaysia's capital Kuala Lumpur, and cross the Malacca peninsula to Kuantan on the east coast, from where it would move north parallel to the coast up to the Thai border (South China Sea). While the groundbreaking ceremony with the main contractor, China Communications Construction Corporation (CCCC), took place in August 2017, the project was quite controversial from the outset due to its alleged high costs (above USD 20 billion, including some related energy projects), corruption allegations, and fears of sliding into a "debt trap." The newly elected Malaysian prime minister suspended the project in June 2018 and, on a visit to Beijing two months later, even reportedly accused his hosts of "neocolonialism." However, the two sides eventually reached an agreement to resume construction in May 2019, with the prime minister declaring "full support" for BRI (Lo, 2019). The breakthrough was facilitated by the Chinese partner's willingness to cut the cost of the project by about one-third, to USD 13.5 billion.

Indonesia: Jakarta-Bandung bullet train: In October 2015, a project to build the first high-speed railroad connection in Indonesia was awarded to a joint venture of the China Railway International Group (CREC) and a consortium of Indonesian and Chinese state-owned companies. The project cost for the trajectory (150 km) linking Jakarta (the capital) with the metropolis of Bandung on the island of Java was gauged at USD 5.5 billion. The CDB committed to fund 75% thereof with a concessionary loan equipped with a 10-year grace period, with the remaining 25% to be provided by an Indonesian-Chinese equity consortium. Construction was originally planned to be finished in 2019, but has run into issues over land acquisition, project licensing and other paperwork, triggering substantial delays. By end-2018, the CDB had reportedly disbursed USD 1.1 billion. By end-March 2019, 15% of construction and 95% of land acquisition had reportedly been completed. The project is now scheduled to be completed by mid-2021.

Philippines: New Clark City Industrial Park: During his visit to the Philippines in mid-November 2018, President Xi Jinping signed a USD 2 billion framework agreement for China Gezhouba Group (a construction and engineering company) to redevelop 500 ha of the former Clark Air base (of the U.S. Air Force), north of Manila, into a mixed-use industrial park catering to technology and manufacturing companies from China. The industrial park is to be part of the Clark Special Economic Zone, established in 2016. President Duterte has described the undertaking

as part of the authorities' USD 180 billion “Build, Build, Build” national infrastructure rejuvenation plan. Construction of the industrial park was expected to start in late 2019.

6.3 Middle East and East Africa

Abu Dhabi (United Arab Emirates): Khalifa Port: In early 2018, Abu Dhabi Ports and COSCO (the China Ocean Shipping Corporation) broke ground for the construction of a new container terminal at Khalifa Port (cost: about USD 500 million) that should double the port's capacity. A new agreement between the two partners was also signed for the development of a container freight station (cost: USD 130 million), which is expected to be the largest of the region. In 2016, Abu Dhabi Ports had already signed a 35-year concession agreement with COSCO to operate the new terminal, which was inaugurated in December 2018. But further COSCO investments of USD 200 million to enlarge the terminal have been announced for the next three to five years, as more Chinese companies set up in the emirate. COSCO has reportedly established Abu Dhabi as a regional hub for the shipping company's global network of 36 ports in the framework of China's BRI.

Kenya: Mombasa-Nairobi Express Railway: The modernization of this rail trajectory, linking East Africa's largest seaport to the Kenyan capital, was finished slightly ahead of schedule in mid-2017 and below budget (USD 3.2 billion rather than USD 3.6 billion). The principal contractor was the China Road and Bridge Corporation (CRBC), and construction costs were 90% financed by China Eximbank, with 10% coming from the Kenyan state budget.³³ In contrast to some other BRI projects, a relatively large number of domestic workers (about 25,000 Kenyans) were employed. Trains have been running on the express railroad (475 km) since June 2017 (freight traffic since January 2018). Operations are managed by the China Communications Construction Company (CCCC) for the first five years. Transportation costs from Mombasa to Nairobi have reportedly fallen by about one-third, the passenger uptake has exceeded expectations. In September 2018, a contract on building a Chinese credit-financed (USD 400 million) oil terminal in Mombasa harbor was signed.

In December 2018, a report of the Auditor general of Kenya attracted attention. It suggested that a default scenario for the railroad might allow China Eximbank to take control of Mombasa Port as collateral, which would give rise to concern since it recalls a possible “debt trap scenario” (see the case of Hambantota port, Sri Lanka). This report was subsequently dismissed by the Kenyan and Chinese authorities. In April 2019, the Kenya National Highways authority signed a USD 495 million agreement with the CRBC to build an expressway in the capital under a public-private partnership.³⁴

Djibouti/Ethiopia: Doraleh container terminal, Djibouti infrastructure: China has invested and continues to invest in infrastructure (including roads, ports, hospitals, schools, pipelines) in Djibouti, a very small country (23,000 km², ca. 0.9 million

³³ Yet the order was apparently placed without tender, and suspicions of corruption were an issue.

³⁴ In late April 2019, in a potential Kenyan move to diversify away from what may be a growing dependency on Chinese infrastructure investment and financing, the authorities signed a USD 3 billion deal for the American engineering firm Bechtel to build a motorway linking Nairobi with Mombasa. The U.S. Export-Import Bank and the Overseas Private Investment Corporation (OPIC) agreed to provide financial support for the project (RWR Belt and Road Monitor, 2019, pp. 2–3).

Some major New Silk Road projects: a spatial overview



Source: Map created by Stephan Barisitz, technical design by Florian Partl.

inhabitants) strategically situated on the maritime trade artery (15% to 20% of world trade) between the Indian Ocean and the Suez Canal/Europe. The Djibouti International Free Trade Zone (DIFTZ), launched in July 2018, is a 60%/40% venture between the Djibouti authorities and three Chinese companies (mainly China Merchants Port Holdings/CMPH). The DIFTZ is largely being financed by China (USD 3.0 billion) and spans 48 km²; the zone enables users to operate without

paying property, income, dividend or value-added taxes. The core of DIFTZ is the Doraleh container terminal, one of whose fifteen berths is reserved for the Chinese Navy, which has a base on the western edge of the port (China's only foreign military base).³⁵ The terminal also has direct access to the Chinese-managed Addis Ababa-Djibouti Railway, which provides landlocked Ethiopia with railroad access to the sea. Most recently, under the auspices of CMPH, two Chinese engineering enterprises established multi-cargo facilities linked to the terminal to handle cars, livestock, steel and other goods. Industrial clusters are to focus on trade and logistics, export processing, business and financial support services, as well as duty-free manufacturing.

Meanwhile, however, Djibouti has become embroiled in a lawsuit at the London Court of International Arbitration with the predecessor of the Chinese investors in Doraleh, DP World (the Dubai-based state-owned port operator), whose 30-year concession was prematurely terminated by the Djibouti authorities due to the latter's apparent dissatisfaction with the "inefficient" way the port had been previously run. In any case, Djibouti's external public debt-to-GDP ratio grew substantially from 2014 (49%) to 2018 (71%). The lion's share of this debt is owed to China.

After the *Addis Ababa-Djibouti Railway's* inauguration in late 2016, testing continued throughout 2017, and commercial operations were finally taken up in January 2018.³⁶ Of the total construction cost of over USD 4 billion, credits of USD 3 billion had been secured from China Eximbank, with USD 2.4 billion going to the Ethiopian section, and the balance spent in Djibouti. The CDB and ICBC provided additional funding. However, as of the inauguration, accompanying infrastructure had apparently been all but neglected, so that access roads, spur lines, branch lines and storage facilities had to be built or completed from 2017. Altogether about 20,000 Ethiopians and 5,000 Djiboutians were hired for construction work. Saddled with a public debt-to-GDP ratio of 62% at end-2018, Ethiopia may be at risk of debt distress, against the backdrop of recurrent political instability. In September 2018, the payback period for the China Eximbank loan was prolonged from 10 to 30 years.

6.4 Central and Southeastern Europe

Since the 16+1 forum (today: 17+1 forum, see above) was established in 2012, Beijing has (until end-March 2019) announced more than USD 15.4 billion worth of investments in the countries of the region, with more than 70% reportedly going to the five non-EU members (Western Balkan countries) of the forum (Hopkins and Hope, 2019).

Greece: Port of Piraeus: This port was purchased (majority stake of 67% for EUR 370 million plus investment commitments of another EUR 355 million) in 2016, enlarged and modernized by COSCO. Piraeus certainly offers the shortest connection from the Suez Canal to the EU mainland. The Chinese investor doubled the terminal's capacity, refurbished its deep-water facilities, and i.a. set up an oil refueling pier. COSCO has also invested in and controls the ferry terminal, berths for cruise ships, wharfs and real estate adjacent to the port (Hoering, 2018, p. 116). Total connected investments are estimated to have reached up to EUR 4 billion

³⁵ Given its key location, it is not surprising that Djibouti also harbors a French, a U.S., an Italian, and a Japanese military base.

³⁶ The Addis Ababa-Djibouti line is the first fully electrified cross-border railroad in Africa. Total journey time between the two capitals was cut from three days to about 12 hours.

(Fardella and Prodi, 2018, p. 9). Before the Chinese corporation became involved, container flow through Piraeus Port was only 1.5 million TEUs³⁷ per year. By 2017 container flow had increased to 4.2 million TEUs, largely through growth of transshipment. The same year, Piraeus Port became the second-largest port in the Mediterranean Sea (after Valencia), and, after registering a flow of 5.0 million TEUs in 2018, became number one in 2019, given substantial growth differentials.³⁸

According to a joint statement by the foreign ministers of Greece and China, Piraeus Port's global ranking in terms of capacity also swiftly climbed from rank 93 in 2010 to rank 36 in 2017. Another jump in the ranking was expected for 2019 with the completion of Pier III, which should once again (almost) double the port's capacity. In Belt and Road rhetoric, Piraeus is being called the new "bridge between Asia and Europe" (Boisseau du Rocher and Dubois de Prisque, 2019, p. 72). That said, with currently 16 to 18 freight trains per week reportedly leaving Piraeus in the direction of Southeastern and Central Europe, there is major potential for catching up with these lofty aspirations.

Bosnia-Herzegovina: Expansion of coal-fired power station Tuzla (north of Sarajewo): The project provides for the construction of a new power block, with which the state energy utility Elektroprivreda (EPBiH) intends to replace three old units. This largest energy project in Bosnia-Herzegovina since independence (1992) is estimated to cost EUR 820 million, of which EUR 615 million (three quarters) is to be financed by a China Eximbank loan (agreed upon in 2017). The rest is slated to be covered by Elektroprivreda. The legislature of the Bosniak-Croatian Federation (one of the two entities of the state of Bosnia-Herzegovina, the other is the Republika Srpska), on whose territory the power plant is situated, has provided a state guarantee for the credit. The Chinese state-owned corporations China Gezhouba and Guangdong Electric Power are slated to carry out the lion's share of the construction work. While Bosnia is not an EU member, it has joined the European Energy Community and applies its rules. The European Commission has expressed concern about the Tuzla investment and its possible negative environmental impact. Moreover, according to the Community's secretariat, the parliamentary guarantee constitutes unauthorized state aid, thus violating Community rules. Treaty violation proceedings have been launched.

Bulgaria: Varna port modernization: In April 2019, China Machinery Engineering Corporation (CMEC) signed a EUR 120 million contract with Logistic Center Varna to jointly upgrade infrastructure in the port of Varna, which is the larger of Bulgaria's two main Black Sea ports. As the prime contractor, CMEC will take charge of project design, equipment procurement, civil engineering, construction, commissioning and training, once the port upgrade is completed. The project apparently marks the first involvement of a Chinese contractor in port construction work on the Black Sea (apart from dredging operations in Crimea) and is expected to significantly enhance the cargo handling capacity of Bulgarian ports.

Hungary/Serbia: High-speed rail link Belgrade-Budapest: This connection (length: 350 km, total estimated cost: EUR 4.5 billion) is part of the planned high-speed rail trajectory linking Athens and Budapest. This trajectory also corresponds to the Orient-East Med Corridor of the EU TEN-T. The Hungarian part of the

³⁷ Modern container ships have a capacity of up to 20,000 TEUs.

³⁸ In 2019, Piraeus was the EU's fifth-largest transshipment port and the Union's largest passenger port.

Belgrade-Budapest link, a CESEE Belt and Road flagship project, was originally due to be modernized by a Chinese-Hungarian joint venture (majority Chinese-owned) and is to be majority-financed (85%) with China Eximbank loans (term: 20 years, annual interest rate: 2.5%), with the rest coming from the Hungarian authorities. However, failure to comply with EU competition and procurement rules prompted the European Commission to intervene and call for a competitive tender in September 2017. The tender was subsequently carried out in 2018 but had to be relaunched because even the cheapest offer was well above the maximum project cost fixed by the Hungarian government.

The successful bidder of the relaunched tender, a Hungarian-Chinese consortium,³⁹ signed the contract in May 2019. As of December 2019, the European Commission was reportedly still checking the compatibility of the tender with EU regulations. The upgrade is set to cost around EUR 2.3 billion. Once the Commission has given its green light and the government has signed a financing agreement with China Eximbank (ca. EUR 2 billion), actual construction work can (finally) start, which is expected for 2020; completion of the project is expected in 2024. In order to accelerate logistical preparatory work, COSCO acquired a 15% stake in a cargo terminal near Budapest in late November 2019. According to recent information, Siemens may also become a partner in the rail project (Neuberger and Prager, 2019).

Preparations and work on the Serbian section have been proceeding more swiftly – without a competitive tender that would correspond to EU requirements. Most of the construction is being carried out by China Railways International (CREC) and China Communications Construction Corporation (CCCC). Total costs of the Serbian part are estimated at EUR 2.2 billion, again majority-financed by China Eximbank.⁴⁰ A smaller part of the section is built by the Russian State Railways (RZD) and financed by a Russian loan of EUR 700 million. In 2018, Chinese firms also agreed to set up a video surveillance system (Huawei) for the Serbian transportation sector and to build a beltway around Belgrade as well as an industrial park (China Road and Bridge Corporation) near the Serbian capital.

Montenegro/Serbia: Motorway Bar-Belgrade: This project seeks to connect the Montenegrin Adriatic port of Bar via the border town of Boljare to the Serbian capital, it is proposed as an important southwestern linkup to the LSER (Piraeus-Budapest). The Bar-Belgrade branch also constitutes a side arm of the Trans-European Corridor Orient-East Med. Other advantages would be that less developed mountainous northeastern regions of Montenegro could become more accessible and road safety could be increased. The cost for the first part of the Montenegrin section (the costliest owing to difficult terrain), connecting the capital of Podgorica with the less developed northern municipality of Kolashin,⁴¹ comes to around EUR 1 billion. Thereof, EUR 850 million are financed by a China Eximbank loan (interest rate: 2%, repayment period: 20 years, six-year grace period), the rest is being covered by the Montenegrin authorities. Construction, led by the China Road and Bridge Corporation (CRBC), started in 2015. Domestic contractors have been allocated 30% of the work. Completion is expected until September 2020.

³⁹ This consortium consists of the firms China Tiejiju Engineering and Construction Group and China Railway Electrification Engineering Group (together 50%) and R/M International Group (Hungary, 50%).

⁴⁰ Approximately half of the Serbian section (namely from Belgrade to Novi Sad) is expected to be completed in the fall of 2021.

⁴¹ Montenegro is a country of very modest size (even smaller than Djibouti): 13,800 km², 0.6 million inhabitants.

The remaining parts of the Montenegrin section may together cost slightly more than the first one. According to IMF assessments, the Eximbank loan has contributed to raising public debt (including loan guarantees) in the five years to 2018 by about 12 percentage points of GDP to 79% of GDP, which endangers the country's debt sustainability (IMF, 2019, p. 5). 39% of Montenegro's total external liabilities is estimated to be owed to China. In some fiscal belt-tightening, the Montenegrin government recently increased taxes and electricity prices, and capped public sector wages to counter some cost overruns due to construction delays.

Map 2 (close-up)

Some major New Silk Road projects: focus on Europe



Source: Map created by Stephan Barisitz, technical design by Florian Partl.

At the 17+1 Forum in April 2019 in Dubrovnik, Serbia signed an MoU with CRBC for the construction of about a third of the Serbian section of the highway (the Boljare-Požega section). Total investment for this purpose is estimated at EUR 2 billion. To ensure ready access to steel necessary for building the highway as well as for projects in Belgrade (see above), the Chinese company He Steel (Asia's largest steel producer) acquired and modernized the renowned Serbian foundry Železara Smederevo. According to the ministry of transportation, construction work on the highway commenced in the summer of 2019 (Ostwirtschaftsreport, 2019b).

7 Comparative look at Chinese investment contracts along the New Silk Road, the issue of debt distress, possible overall economic impact

We now look at another updated data source, namely Chinese investment and construction contracts in the transportation and energy sectors along the Belt and Road (2012 to mid-2019), based on the China Global Investment Tracker, published by the Heritage Foundation (Washington DC). As already mentioned in Barisitz and Radzyner (2017a, pp. 26–27), such data can be approximated to what corresponds to BRI loans/investments. Table 2 shows that, in absolute terms, the six BRI countries in which China invests most are relatively big neighbors of China: Pakistan, Australia, Russia, Bangladesh, Malaysia and Indonesia. When China's investments are expressed as a ratio of host country GDP, it is the strategically located relatively smaller countries that stand out: Laos, Djibouti, Kyrgyzia, Uganda, Cambodia, Brunei and Montenegro.

Yet some of these latter countries (given their relatively small size, their comparatively modest income levels, and the scale of respective projects) may also carry a particular risk of debt distress, as pointed out by Hurley et al. (2018, pp. 16–19).⁴² But risk of debt distress does not necessarily imply danger of a “debt trap” in the sense of China taking control of key assets in the case of default, as actually happened when Hambantota Port (Sri Lanka) was leased to a Chinese state firm for 99 years in exchange for debt reduction. In most cases of debt distress of BRI countries examined by Kratz et al. (2019, pp. 1–2), China did not end up assuming control of collateral or seizing assets, which moreover (so far) has been a very infrequent occurrence. The two sides would rather enter into debt renegotiations, often resulting in various types of debt relief, and in some cases also in the financial downsizing of projects. Chinese creditors have typically tended to adopt a pragmatic stance vis-à-vis their debtors. Moreover, small countries lacking substantial liquidity often struggle to tap international capital markets, Western banks or multilaterals for cash. This sometimes leaves these nations with no choice or almost no choice but to turn to Beijing for assistance.

In a few cases, after changes of government, some host countries *suspended particular projects* (e.g. big and rather costly undertakings) given concerns about the size or price of the projects and possibly linked corruption allegations, and the perceived danger of possibly falling into a “debt trap” or simply being exposed to massive Chinese influence. As mentioned in section 6, three relatively large countries – Malaysia, Myanmar and Pakistan – deferred or downsized some Belt and Road projects in 2018 (see also Frankopan, 2018, pp. 166–167).

⁴² More precisely, the eight countries assessed by Hurley et al. (2018) to be at notable risk of debt distress are: the Maldives, Mongolia, Tajikistan, Laos, Djibouti, Kyrgyzia, Montenegro and Pakistan. While seven of these countries are small (less than 10 million inhabitants), Pakistan is the only (much) larger country, which however features especially close links to China, reflected in the China-Pakistan Economic Corridor (CPEC) of the Belt and Road system (see above).

Table 3

Chinese investment and construction contracts in transportation, energy and utilities sectors from 2012 to mid-2019¹

| Country | Total amount | Chinese investment of host country GDP ² |
|--|--------------|---|
| | USD million | % |
| Central Asia | | |
| Kazakhstan | 15,120 | 1.11 |
| Kyrgyz Republic | 4,190 | 8.04 |
| Mongolia | 3,320 | 3.77 |
| Turkmenistan | 3,520 | 1.22 |
| Russia and Eastern Europe | | |
| Montenegro | 1,120 | 3.50 |
| Russia | 26,100 | 0.22 |
| Serbia | 7,620 | 2.55 |
| West Asia | | |
| Iran | 11,490 | 0.37 |
| Iraq | 9,130 | 0.65 |
| Jordan | 4,630 | 1.65 |
| Saudi Arabia | 13,720 | 0.26 |
| Turkey | 8,130 | 0.12 |
| United Arab Emirates | 17,130 | 0.62 |
| South Asia | | |
| Bangladesh | 21,530 | 1.20 |
| India | 5,530 | 0.04 |
| Nepal | 3810 | 2.44 |
| Pakistan | 46,310 | 2.32 |
| Southeast Asia | | |
| Brunei | 3,970 | 3.84 |
| Cambodia | 7,560 | 5.51 |
| Indonesia | 25,190 | 0.38 |
| Laos | 17,260 | 15.81 |
| Malaysia | 21,060 | 0.91 |
| Philippines | 7,370 | 0.33 |
| Vietnam | 9,400 | 0.65 |
| East Africa and Middle East | | |
| Djibouti | 1,720 | 13.62 |
| Egypt | 13,570 | 0.56 |
| Ethiopia | 9200 | 1.91 |
| Kenya | 11900 | 2.43 |
| Tanzania | 3,970 | 1.13 |
| Uganda | 7,830 | 3.85 |
| Memo item (comparative Chinese investments) | | |
| Australia | 32,080 | 0.32 |
| Canada | 29780 | 0.24 |
| Germany | 20360 | 0.07 |
| Italy | 14,880 | 0.11 |
| United States | 32,600 | 0.02 |

Source: China Global Investment Tracker (American Enterprise Institute, Heritage Foundation).

¹ This list includes only host countries in which China's (cumulative) investment exceeds USD 5 billion and/or 1% of average annual GDP.

² These figures were calculated by using the average annual GDP figures for 2014, 2015 and 2016 as the denominator. The contract sum totals for the period from 2012 to mid-2019 is divided by the corresponding number of years (7.5) and related to the average annual GDP figures for the 2014–2016 period.

Given the partly expensive experience made so far, the new China-IMF Capacity Development Center (CICDC) inaugurated in 2018 may play a role. This institution is aimed at training officials from China and other countries including those associated with the BRI to tackle, among other things, BRI financing issues and issues of fiscal sustainability. The objective is to share international best practices and expertise.

Overall, according to expert estimates (Herrero and Xu, 2016, pp. 8, 10), the Belt and Road Initiative could increase the global trade of the EU by up to 6%, and of Austria by up to 9%. A recent World Bank study (de Soyres et al., 2019, pp. 21–22) assesses the positive impact of infrastructure improvement on BRI-participating countries in Europe and Central Asia at around 2% of GDP. This is particularly the case if trans-Eurasian rail corridors are further modernized and regulatory requirements harmonized (overland container transportation).

8 Summary and conclusions

China's quasi-global infrastructure drive, the Belt and Road Initiative (BRI; or New Silk Road), has considerably evolved since 2017. Altogether, 125 countries had signed BRI-related cooperation agreements by late March 2019. This includes Italy (the only G7 country so far), which signed an MoU in March 2019, and Greece, which joined a CESEE network cooperating with China in April 2019. So far, China has spent or earmarked about USD 450 billion, including credit lines and equity investment, on BRI projects, most of which can be found in Asia, Europe and Africa. These projects are predominantly credit-based and financed from Chinese domestic sources or by multilateral institutions in which China plays a leading role. The largest providers of BRI funds,

and of development finance globally, are the policy banks China Eximbank and China Development Bank. In July 2018, two Chinese international arbitration courts were established (one in Xian, for overland trade; the other, in Shenzhen, for seaborne trade). Furthermore, based on a Chinese agreement with Singapore signed in January 2019, an international Belt and Road panel of mediators was set up in the city state.

According to data from the China Global Investment Tracker (Heritage Foundation), BRI investment (measured by Chinese investment and construction contracts in transportation and energy sectors, which may be taken as a statistical approximation of BRI project expenditures) is strongest in a) relatively large neighbors of China (like Pakistan, Russia, Kazakhstan, Bangladesh, Australia, Malaysia and Indonesia) and in b) strategically situated smaller countries (including Laos, Cambodia, Kyrgyzia, Djibouti, Kenya, Brunei and Montenegro).

The BRI has been deepening international economic integration through “nuts and bolts” connectivity, aiming to cut transportation and (digital) communication costs. Other goals are to build regional (Eurasian) value chains from China along economic corridors to neighboring countries and to help reduce economies’ overwhelming dependence on the U.S. dollar in trade and finance. Against the backdrop of the evolving U.S.-China trade conflict, the Belt and Road network may, moreover, provide China with an alternative geo-economic perspective. Possibly as a response to the Chinese initiative, some rival international infrastructure development programs have been set up by Japan (2015), the United States (2018), the European Union (2019) and others, but the funds allocated to the respective programs are far too small to seriously compete with BRI finance.

Over time, east-west rail connectivity linking China and Europe has been gaining ground on competing maritime links for a number of reasons. These reasons include political stabilization and economic reforms in recent decades in countries linking China to Europe, some public rail network upgrades, the harmonization of border/customs procedures in EAEU (Eurasian Economic Union) members as key transit countries, ecological advantages, and Chinese BRI transportation subsidies. Trans-Eurasian rail conveyance turnover has thus multiplied in recent years, yet seaborne transportation still clearly dominates. There are plans, made official in 2017, to expand the maritime network with a new route, the “Polar Silk Road” along Eurasia’s (largely Russia’s) Arctic coast, “benefiting” from climate change (melting Polar ice caps).

With some energy megaprojects in Siberia advancing or already functioning, Russia has become one of China’s most prominent BRI partners. With Huawei 5G networks, the Digital Silk Road may also be about to spread to Russia. Rising concerns about debt sustainability notwithstanding, Pakistan remains a major focus of investment and a geo-economic cornerstone of the Belt and Road Initiative. The most important European BRI partner countries (gauged by the ratio of respective Chinese investments to GDP) are situated in Central and Southeastern Europe (e.g. Serbia, Montenegro, Hungary).

Some aspects of BRI continue to trigger controversy: Chinese partners often dominate BRI projects not only in financial but also in logistical terms (supply of workers, equipment, materials used). In some cases, popular resistance has emerged to BRI projects, particularly outside Europe (e.g. in Central Asia). EU rules (if applicable) and possibly even national regulations (including labor, social and

environmental standards) are not necessarily respected in Belt and Road projects. One flagship undertaking, the Belgrade-Budapest high-speed rail link, was partially suspended (in late 2017) due to nonobservance of EU competition rules. There is also the danger that local corruption could be fueled by loosely controlled financial injections, and overindebted countries could slide into a “debt trap.” Recently, three relatively large countries – Malaysia, Myanmar and Pakistan – deferred or downsized some rather expensive BRI projects. Smaller countries may have less leeway or negotiating power to persuade their Chinese partners to substantially revise agreed-upon projects, should these countries perceive the necessity to do so. That said, China tends to react pragmatically to incidents of debt distress and demands for re-negotiation on the part of host governments. Chinese asset seizures, as in the case of the Hambantota port (Sri Lanka) “debt-lease swap,” (so far) tend to be a quite infrequent occurrence. In any case, given the dimensions and age of BRI, Chinese investors and their partners are certainly learning a great deal through trial, error and experience.

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