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## Expert Comment

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# Value chains transformation and transport reconnection in Eurasia: Geo-economic and geopolitical implications

Jacopo Maria Pepe

Geographically and historically, transport and trade have united Eurasia as much as geopolitical conflicts and imperial rivalries have kept it fragmented. The supercontinent has been crisscrossed by different, intersecting transport routes, which for centuries used to connect continental Eurasia<sup>i</sup> with the external powers and economic poles of Europe, Western Russia, Iran, Turkey, India, and further east, China. Interestingly, though, even during the Golden Age of transcontinental traffic, which – with ebbs and flows – lasted until the middle of the 14<sup>th</sup> century, no trader has ever travelled the entire route from Asia to Europe. In fact, no one needed to. One reason was that, although the logistics chain was complex and fragmented and the routes dangerous, well-established practice that had evolved over centuries optimised the reloading process at intermediate stations. A rudimentary but effective freight insurance system also provided some guarantees against thieves or loss of goods. The most important reason was that Europe was not necessarily the final destination of goods; some trade volume consisted of non-finished goods often directed to immediate neighbours for final production before being re-exported. These activities constituted some of the first forms of cross-regional value chains, as in the trade of raw and processed silk between the Parthians, Kushan Empire, and Han Dynasty. Therefore, central and continental Eurasia simultaneously functioned as a transit space, final market, and production centre.

Throughout the past 500 years, a gradual geopolitical and geo-economic shift from the Eurasian 'ecumene' to the North European–North American space and from overland to seaborne trade has led to a sharp decline in the relevance of long-distance transcontinental overland trade and of these first rudimentary cross-regional value chains. During the 20<sup>th</sup> century, the Soviet Union sealed off this vast space from the rest of the continent – to the east, west, and south – and consequently limited its participation in the emerging globalisation of value and supply chains. The collapse of the Soviet Union and China's economic rise has suddenly reopened this large, largely

landlocked region. However, from the early 1990s until the outbreak of the global financial crisis in 2008, the impressive increase in cargo flows between Europe and Asia – and particularly between China and Europe (nearly €615b in 2018) (European Commission, 2018) – has largely bypassed the space of continental Eurasia and scarcely affected overland transportation. Capitalising on comparably low tariffs and large container vessels with a capacity of more than 20,000 TEU, between 70% and 90% of Asia–Europe trade flows is transshipped by sea today. Consequently, projects to fully realise the transport potential of central Eurasian countries have long remained underfinanced, both at a national and supranational level. This trend has limited the capacity of landlocked or semi-landlocked countries and regions (e.g., Central Asia, the Caucasus, Siberia, or the Russian Far East) to integrate into global supply and value chains and has made some of them prone to a monocultural, resource-based economy.

Without a doubt, oil and gas producers such as Russia, Kazakhstan, Azerbaijan, and, to a lesser extent, Uzbekistan and partially Turkmenistan, have profited the most by far from high oil prices and their active pipeline diplomacy. These factors have guaranteed a prolonged period of stability and growth. Many resource-rich post-Soviet countries have successfully integrated into the global energy markets and diversified their energy transport routes via active support for and participation in the construction of different pipelines. For its part, Russia has been able to strengthen its role as a major supplier of gas to Europe. In recent years, the country has also attempted to become a relevant supplier of oil and gas for the affluent markets of China and of the Asia Pacific via the Power of Siberia gas pipeline and the Eastern Siberia–Pacific Ocean oil pipeline.

The flipside of this development, however, has been the neglect of the non-oil sector of the economy and of non-energy-related transport and logistics infrastructure. This fact has made these countries and their national budget particularly vulnerable to external oil price shocks. Such an issue has become evident since the collapse in oil prices in 2008 and again in 2015, exposing the vulnerability of this economic model.

Meanwhile, since the early 2000s and even more so since the 2008 financial crisis and the launch of the Belt and Road Initiative (BRI) in 2013, opportunities for a major diversification and

modernisation of the economies of continental Eurasia via transport and trade integration, at both a regional and global level, have risen dramatically and have in fact never been greater.

First, changes in the economic geography of the value chains of two vast sub-regions on the edges of the Eurasian landmass (i.e., the European Union [EU] and China) have shifted production activities and value and supply chains toward more inland regions. In Europe, the EU eastern enlargement in 2004 accelerated the development of a regional production network centred on Germany; the supply and value chains of its companies, which include the Visegrad 4 (V4) countries, have gradually extended into southeastern Europe to become Europe's new 'manufacturing core'. In China the launch of the Central and Western Development Strategy in 2004 marked the beginning of a government-supported and cost-induced territorial expansion of production activities toward central and western regions, more distant from the industrial districts of southern coastal regions. As the industrial core of the two powerhouses at the edges of the continent has moved geographically closer, new technological innovations have brought producers closer to consumers. Private and state-owned companies have also started linking their value chains in China to those in Central-Eastern Europe via overland corridors.

Second, at least since the outbreak of the 2008 financial and economic crisis, the upward trend in Europe–Asia trade has continued – albeit more slowly – while Eurasian (and Middle Eastern) energy producers have largely reoriented toward the affluent markets of Developing Asia (Calder, 2011). Meanwhile, Asia and China exports have slowly redirected toward developing Eurasian countries. This trend only accelerated on the eve of the 2008 economic and financial crisis. While the crisis hit Europe and the United States particularly hard, it forced China to approve an enormous stimulus package to foster infrastructure investment to compensate for short-term losses derived from the demand collapse in advanced economies. Subsequent overcapacity was redirected toward developing Eurasian countries, thus increasing Eurasian–Asian interdependencies that partially bypassed and decoupled from Western and European markets.

The 'continentalisation' of economic activities at both ends of the continent and deepening Eurasian–Asian trade ties have suddenly reopened for the continental space a chance to profit from the potential spread of supply and value chains at the transregional level (Pepe, 2018).

Consequently, since 2008 and especially since the oil price decline in 2013–2015, the political and economic elites of several continental Eurasian countries have expressed growing interest in a new, more diversified economic model that would take advantage of these transformations. Strategies for the development of the non-oil sector have been approved along with infrastructure development plans and an attempt to foster regional trade agreements and integration in transcontinental and transregional value chains.

While results remain scarce and unevenly distributed, the most visible of these attempts has been the creation of the Eurasian Custom Union in 2010, of a single economic space in 2012, and of the Eurasian Economic Union (EAEU) in 2015 among Russia, Kazakhstan, Belarus, and later Armenia and Kirgizstan. As part of the integration process, the upgrade and synchronisation of all modes (land, sea, and air) of the transportation and logistics sector, as well as the creation of free economic zones, logistics hubs, and a coordinated industrial policy, have been rightly identified as the main instrument to accelerate economic diversification and cross-border market integration of the EAEU's member countries among themselves while establishing a transit space between Europe and Asia.

While transcontinental transit corridors have been successfully established, worsening Russian–European and nearly non-existent EU–Eurasian Economic Union relations have limited opportunities to further increase trade, financial, logistics and technological ties with the EU, which are the major sources of investment and trade for continental Eurasia to date. Conversely, China's reorientation toward Eurasia and the launch of the BRI in 2013 has turned the country into a potential alternative source of investments and technology for continental Eurasia and Eurasian transport reconnection as an instrument for integration into the Asia-Pacific region.

However, to assess whether the countries of continental Eurasia – including members and non-members of the EAEU – can durably profit from the reemerging network of east corridors connecting Asia and Europe, a more sober analysis of the reality of these re-emerging corridors at the transcontinental and transregional level (aside from 'Silk Road rhetoric') is essential.

At the transcontinental level, while broader Eurasia as a whole coheres on land and by sea (Kaplan, 2017), overland rail corridors promise to garner a considerable share of freight revenues

emanating from the Europe–Asia trade boom. However, transit revenues will not sufficiently realise the full economic potential of countries in the vast supercontinent, nor will these revenues automatically attract more foreign direct investment (FDI) to increase participation in emerging transcontinental value chains. Meanwhile, gains will not be equally distributed among the involved players; economic and geopolitical competition among different corridors and players keen to enter a lucrative niche market will only increase, particularly because different routes will be uniquely influenced by the combined effects of technological, infrastructural, and financial bottlenecks, by the changing distance between production networks and consumers, and by China’s ambiguous political–economic choices, as we shall see.

At the transregional level, a political and economic reorientation toward Asia supported by greater transportation and industrial links will not represent an alternative to Europe and the EU in the short term – nor will it guarantee balanced integration in the Asia Pacific, which would prove equally beneficial for all Eurasian countries, first and foremost Russia and Central Asia. Against this backdrop, this paper poses three main questions: What has driven the re-emergence of continental Eurasia as a potentially unified transport space? What are the main structural challenges faced by continental Eurasia when it comes to participation in international east–west transport corridors and in Asia’s regional supply and value chains? Considering presently difficult relations with the EU, what are the geopolitical and geo-economic implications that continental Eurasia, and specifically Russia, face when it comes to deepening trade and transport ties with China and the Asia Pacific?

This paper is divided into four main parts: the first part focuses on the intra-regional dimension, briefly considering the limits and potential of transport integration inside continental Eurasia along with the status of cross-regional trade and value chains inside the EAEU.

The second part focuses on the transcontinental dimension and discusses how geographic shifts in the production networks at the two edges of Eurasia, in Europe and China – which predated the launch of both the BRI and the EAEU – have triggered greater transport integration across continental Eurasia. As rail transportation plays a crucial role in the economies of many landlocked countries in continental Eurasia, the third part explores the impact of value chain transformation and of the BRI on the establishment and rise of transcontinental East–West rail transport corridors. While

stressing the positive effects of the BRI on transcontinental rail services and on greater transport harmonisation across continental Eurasia, this part will also focus on how value chain relocation, China's evolving BRI plans, and technical–infrastructure bottlenecks might lead to greater competition among routes and eventually to further fragmentation of the Eurasian transport space.

The fourth part will revolve around the transregional dimension of Eurasia's transport integration, particularly in terms of the status, potential, and risks of Eurasia's ongoing reorientation toward China and the Asia Pacific as an alternative to Europe as a source of trade and FDI. The conclusion will present the main results and discuss the geopolitical and geo-economic implications for continental Eurasia, and specifically for Russia, as the major driving force beyond the transport reintegration of continental Eurasia.

### **The link between transport and value chains in continental Eurasia: Limits and potential**

For the countries of continental Eurasia and their economies, transportation plays a pivotal role in their domestic development and their integration into global markets. Generally, the roles of railways and roads vary by distance from a seaport or inland terminal, with roads generally preferred for distances up to 900 km and rail intermodal services limited to long distances from ports (more than 900 km). In the case of continental Eurasia, long distances from open seas, geographic extension, and scarce demographic distribution with a population largely concentrated in mid-sized cities scattered across a vast space, have made rail transport essential. For instance, rail is the dominant mode of transport in Russia and the backbone of the country's economy: the rail sector generates 2.5% of the country's GDP and dominates freight transportation; its modal share, excluding pipelines, increased from 71% in 1992 to 85% in 2012 (European Bank for Reconstruction and Development, 2016). The same is true for many Central Asian landlocked countries.

However, after the dissolution of the Soviet Union, the Soviet unified rail network, which accounted for nearly 148,000 km of rails by 1991 (Westwood, 2002), was split into different national networks. The creation of independent republics in Central Asia and the Baltics created new border barriers to regional and global markets. With the end of the Soviet Union, the fragmentation of the



integrated rail network proved critical: the Trans-Siberian rail line, the backbone of the Russian and Soviet internal transport network, lost direct overland access to southern, eastern, and southeastern markets as well as access to ports to reach Western European markets. Similar problems were faced by the new independent republics of Central Asia as well as of Eastern Europe: when landlocked or only having access to 'closed seas', dependence on the Russian rail and transport network created new asymmetric dependencies and coordination problems.

In fact, immediately after the end of the Soviet Union and the opening up of the former Soviet space, none of continental Eurasia's domestic rail networks were able to become a single functioning platform for transcontinental connectivity. The Russian rail (and road) network – as originally projected before the October Revolution – was extended greatly during the Soviet era and administrated as a unique entity by the Soviet Ministry of Railways. This huge infrastructure system, which encompassed 32 railways at the end of the Soviet Union, was jointly managed by the Gosplan, the Ministry of Railways, and local railways in cooperation with industrial clients. In this case, the railways of Central Asian countries were mainly used to ship bulk goods and raw materials to industrialised western regions and the European (Baltic) ports of the Soviet Union. After the dissolution of the integrated Soviet transport space, national companies in former Soviet states in Central Asia and the Caucasus assumed responsibility for newly created 'national' networks in the form of state-owned, integrated companies (mainly joint stock companies). The length of the transportation network they inherited varied between countries, resulting in diverse levels of complexity, maintenance requirements, and interlinked interdependencies. For example, Russia retained 3/5 of the system but lost the southern and western parts to the Ukraine and the Baltic Railway Branch to the Baltic States. For Azerbaijan, the former Soviet portion became the national railway, while Georgia and Armenia had much more difficulty in dividing the rest of the Trans-Caucasian Railway among themselves. Uzbekistan inherited a large part of the Central Asian Railway minus a portion that became the Turkmen Railway. Kazakhstan inherited the longest railway network among the Central Asian and Caucasus states, including three branches: Alma-Ata, West Kazakhstan, and Virgin Land.

A common element of all these new ‘independent’ networks, directly derived from the enduring orientation toward Moscow, has been (a) the dependence on Russian territory to link with global markets and (b) a lack of alternative routes. In the first years after independence, the network retained its north–south orientation and lacked direct east–west connections both domestically (e.g., in Kazakhstan, between Astana and Aktau) and in connecting with external countries. This problem lies at the core of present constraints, and new rail construction plans and lines developed before and after the launch of China’s BRI have sought to address this issue. For example, the Kazakh rail network is mostly developed along the north–south axis in the eastern and western parts of the country and is particularly dense along the Russian–Kazakh border; until recently, however, it lacked a direct east–west line, passing through the central part of the country (Zhesgazan–Beineu). For a long time, the network also lacked border-crossing points to other countries. Often, there were no convenient routes to move from one place in a country to another, leading to several cases where rail lines linking two regions of a country must cross borders that had become international (e.g., between the Fergana Valley and other parts of Uzbekistan through Tajikistan; between the northern and southern Kyrgyz Republic through Uzbekistan, Tajikistan, and Kazakhstan; between northern and southern Tajikistan through Uzbekistan and even between two neighbouring regions of southwestern Tajikistan; and between several regions of northern Kazakhstan through Russia).

Accordingly, new dependencies emerged for Central Asian countries such as Tajikistan and Kirgizstan (until recently, tense relations with Uzbekistan had led to a transit blockade that essentially cut off Tajikistan from regional and global transport). In the case of Armenia or Kyrgyzstan, the inherited network was incomplete or even insufficient for connecting various regions within the country.

In comparison to Soviet times, the transport infrastructure network has lost its unitarity and functional interoperability while diminishing relatively quickly alongside an increase in economic activity since the early 2000s. Even when considering the transport network of the EAEU as a unified transport space (which it is not, thus far), with 1.6 million km of roads and 108,000 km of railways (Eurasian Economic Commission, 2014), the total length of the rail network is still less than in Soviet times. In general, the quality of infrastructure has been and remains a pertinent issue: while Russia’s

Trans-Siberian mainline is entirely electrified and double-tracked, the line requires modernisation in its central and eastern sections to cope with the increase in cargo traffic and turnover. In other continental Eurasian countries, rail networks are only partially electrified and even fewer are double-tracked.

**Figure 1. Central Eurasia network length and characteristics, 2014**

	Kazakhstan	Uzbekistan	Turkmenistan	Kyrgyz Republic	Tajikistan	Azerbaijan	Georgia	Armenia
Rail	14.9	4.4	2.44 (3.11)	0.45	0.67	2.7	1.2	0.84
<i>Proportion electrified</i>	4.1	0.72	0	0	0	1.2	1.2	0.81
<i>Proportion double-tracked</i>	5.5	0.15	0	0	0	0.8	0	0

Source: World Bank (2014); OSJD Bulletin (2012); CIA-Factbook (2012); author's elaboration.

The development of a unified and functioning transport and logistics system has been traditionally linked to industrial policies, urbanisation, industrial developments, and trade policy, but also increasingly to participation in cross-border production networks. For example, in Soviet times, this unified transport and rail network proved instrumental to fostering industrialisation and the creation of industrial and urban districts across the Union according to planners' internal but autarchic division of labour. However, efforts to industrialise continental regions like Siberia, the Far East, and Central Asia via greater transport connectivity failed in the long run. Central Asia and Siberia were integrated into the Soviet supply chains, mainly as producers and exporters of raw materials, to the more industrialised regions of western/southwestern Russia. A few countries, like Uzbekistan, were integrated as producers of manufactured products. Consequently, the transport and rail network of these regions better served the western Russian industrial complex than the industrial diversification of these regions.

Following the end of the Soviet Union and more than 20 years of failed attempts at post-Soviet integration, the 2014–2015 creation of the EAEU between Russia, Kazakhstan, Belarus, and later, Armenia and Kirigstan, represents a more serious attempt to institutionalise regional integration in continental Eurasia. This development also denotes an effort to take advantage of scale

economies in terms of market size and production capacity in an era of increased regionalisation and fragmentation of the world economic system.

In fact, the creation of the EAEU has paved the way to gradual, functional reintegration of the former Soviet transport network, which is nowhere near complete (Vinokurov, 2018). As opposed to in the case of the Soviet unified transport network, this new integration attempt has not sought to centralise the control of infrastructure and assets but instead to synchronise cooperation among independent states and their national transport and network operators, in the context of market liberalisation and development of modern services, as envisaged in the EAEU transport strategy (Eurasian Economic Commission, 2016). This attempt coincides with the idea of fostering a coordinated industrial policy to develop new cross-regional value chains while modernising and diversifying the economies of country members. Within this scope, Article 92 of the Treaty establishing the EAEU and Annex 27 to the Treaty define industrial policy within the Union as being formed by member states with a focus on industrial cooperation and implemented with consultative support and coordination from the Commission (Eurasian Economic Union, 2014).

To date, the EAEU-member transport network is the most extended of the post-Soviet space and the best-functioning in terms of interoperability across continental Eurasia. This status is attributable to several factors: a similar gauge width (1520 mm), a common railway law, gradual tariff harmonisation, and reforms to promote greater interoperability on the cross-border market for rail wagons and containers carried out since the establishment of the Union. If the rail networks of key non-EAEU members (e.g., Uzbekistan and Azerbaijan) will operatively be included in this emerging common transport market, then continental Eurasia's rail network can indeed become the backbone of greater economic development and cross-regional value chain integration.

However, the effects of increased transcontinental rail services on the economies of EAEU members and non-EAEU countries have fallen short of expectations thus far. Problems related to infrastructure (e.g., congested border-crossing points), rolling stock (lack of containers and rail cars, as in the case of Kazakhstan), and traction (no privately owned or foreign locomotives have thus far been allowed to cross borders) and to services (e.g., delays and corruption at border-crossing points and a lack of electrified freight briefs along some routes) have not been fully resolved. These issues

continue to constrain functional integration in intra-regional, high-value-added production networks. This pattern, along with a lack of free trade agreements with major manufacturing powerhouses, generates few incentives for foreign investors.

At first glance, mutual trade inside the Union and external trade have each increased since 2010, with the exception of the crisis years (2014–2016). Since 2016, external trade has even grown more rapidly than mutual trade, while mutual trade presents a more diversified structure (Eurasian Development Bank, 2019). In this respect, stronger coordination of transport and logistics, both in terms of infrastructure modernisation and in the elimination of non-trade barriers, appears fruitful and seems to support the economic integration process – even more so when considering that “cooperation in transport and logistics is regarded as one of the main depoliticized areas of integration that can really lead to economic goals set” (Pak, 2016, para. 6). For instance, the Eurasian Economic Commission has launched a massive institutional package to refine the Union’s transport policy with a major focus on the harmonisation of regulations and safety standards around all transport modes. At present, the highest level of harmonisation has been reached in the rail sector with the creation of a single logistics company, the United Transport and Logistics Company–Eurasian Rail Alliance, by merging the assets of three national container operators: Belarus, Russia, and Kazakhstan. The company, launched in 2014, was reorganised in 2018 and 2019 (Belarus News, 2019) to provide customers with better transport services across the single market, including harmonisation of external rail tariffs and introduction of a single consignment note.

However, a closer look at the sectoral structure of mutual and external exports, both of which are critical when assessing the impact of transport network synchronisation on participation in broader Eurasian value chains, presents a different picture. As the Eurasian Development Bank (2019) reported, mineral products topped the structure of mutual (23%) and external trade exports (55%) in 2018, reflecting the driving roles of materials and energy products in the Union’s industrial production and trade relations. Conversely, manufacturing products play a somewhat more relevant role in mutual trade than they do in external trade. Machines, equipment, vehicles, and parts thereof constituted only 3% of total Union exports compared to more than 19% in the case of mutual trade (Eurasian Development Bank, 2019). The import share of machines, equipment, and their parts from

third countries accounted for up to 45% of all imports, confirming the Union's dependence on capital-intensive, technological goods (Eurasian Development Bank, 2019).

The predominance of manufactured and manufacturing goods, including crucial intra-industrial goods, in mutual trade between EAEU members testifies that cross-border production networks among Union members are promising and emerging: already by the end of 2013, a year after the creation of the single economic space, there were more than 10,000 joint ventures in the EAEU with partners from EAEU member states (Ustyuzhanina, 2016). However, such ventures are still limited to a few sectors (i.e., the nuclear power industry, automotive industry, space activities, and machine building for the military industry) and largely dominated by Russian FDI (Ustyuzhanina, 2016). Moreover, the scarce roles of manufacturing exports and high-value-added exports in total external exports and in the total export of finished goods (according to the Eurasian Development Bank [2019], only 29% of all exported finished goods in 2018 were high-value-added) suggests several trends: first, manufactured and manufacturing goods for intra-industrial trade are largely non-competitive on the global market; second, cross-regional value chains are scarce or relevant only at the intra-Union level; and third, integration in global or continental value chains beyond Union borders is still in its infancy, albeit with certain potential. Notably, a low level of exports of high-value-added finished goods, manufactured goods, and manufacturing intermediate goods (e.g., parts and components) in highly globalised sectors such as electronics, vehicles, and machinery equipment implies a low level of 'domestic content' in exports, which is critical to evaluate emerging economies' participation in global value chains.

Given the structure of mutual and external trade and the few economic complementarities among EAEU members, decreased transportation costs via better coordination and harmonisation as well as upgraded infrastructure and logistics make particular sense if such efforts are considered functional to foster integration with the value chains of external manufacturing powerhouses in Europe and, increasingly, in Asia.

In this respect, current trends at the two edges of Eurasia offer an unprecedented opportunity for continental Eurasia: in Europe and especially in China, geographical shifts in value chains toward inland regions have paved the way for a pioneering and major transformation that could prove crucial

to the sustainable transport and industrial integration of continental Eurasia in value-added production networks.

## **The ‘continentalisation’ of value chains: An opportunity for Eurasia transport integration**

### *Europe’s value chains ‘go east’: A new manufacturing core*

In Europe, following the EU’s eastward expansion in 2004, a new manufacturing core in Central-Eastern Europe has emerged in sharp contrast to the historical, industrial Blue Banana ’ stretching from south England to the Italian northwest. This fact became even more apparent after the outbreak of the 2008 crisis, when different paths of economic growth emerged between Germany and some Central-Eastern European member states on one side and Western and Southern European member states on the other. There is a consensus on the fact that the distinct impacts of the economic crisis on different European economies – as well as the German resilience to the crisis – can be explained by, among other factors, the different levels of integration of single countries in the regional production cluster centred on German-export-oriented and globalised companies (Stehrer & Stöllinger, 2015).

According to the Vienna Institute for International Economics, there is increasing evidence for the emergence of a ‘German–Central-Eastern European Manufacturing Core’ (GCEMC), a joint geo-economic production platform with Germany (and part of Austria) at its centre, as a new production and export core of the EU. It has been argued that in the GCEMC, integration into the regional value chains of German companies and that trade openness that followed the EU’s expansion in 2004 has helped the V4 maintain high manufacturing shares of GDP while giving Germany an unprecedented strategic advantage (Stehrer & Stöllinger, 2015).

In fact, when examining bilateral aggregated data for imports and exports between Germany and the V4, as well as for the role of German FDI in the V4, one can find growing evidence for the emergence of a transregional production cluster between Germany and the V4 countries on its eastern border based on intra-industrial, intermediate assembled goods and re-exported goods (e.g., cars, vehicle parts and components, electrical machinery, general machinery, and mechanical tools).

As a result, the trade exchange between Germany and the V4 countries has reached nearly €250b, and the four Central-Eastern European members collectively represent Germany's most important trade partners (Pepe, 2017). Exports from Germany and the V4 also constituted in 2011, at the peak of the Euro crisis, 42% of the EU's external manufacturing exports (Stehrer & Stöllinger, 2015).

While this regional production network remains highly dependent on intra-European and intra-EU trade, external dependence from non-EU, global and continental markets has increased even more dramatically, mainly thanks to China: in 2015, the level of Germany's cumulative exports to Asia, non-EU Europe, and non-Eurozone EU was already higher than the level of exports to Eurozone countries (Pepe, 2017). Meanwhile, trade with China increased to €200b in 2018 to make China Germany's most important trade partner (German Federal Statistics Office, 2019), with trade largely concentrated on industrial machinery, vehicles and parts, and electronic equipment (Pepe, 2017).

China's demand for German final and capital goods (particularly cars, industrial machinery, and increasingly, consumer goods), despite growing more slowly and suffering under the effects of the current trade war and transformation of the automotive industry, has proven resilient and robust. China's automotive market is the largest and fastest-growing automotive market in the world; the country's demand for capital industrial goods from Germany remains high, with China being the second largest market for Germany's industrial machinery (Verband Deutscher Maschinen-und Anlagenbau, 2018).

China's high demand for German goods and the country's integration into Germany's supply and value chains has had two direct consequences for continental Eurasia's transport reintegration. First, it reinforced Germany's – and indirectly, Central-Eastern Europe's – dependence on the vast Chinese market. As the EU's high share in Central-Eastern European external trade is largely a result of the V4's high intra-industrial trade (backward integration) with Germany, the V4's participation in the GCEMC increases their dependence on German–Chinese trade. Meanwhile, the geographic location, which is more insulated from the traditional northwestern European ports of Antwerpen and Rotterdam, has made this space accessible overland across Eurasia as well as via



intermodal routes through more southerly corridors or the Suez Canal, as we shall see later in this study.

Second, as the GCEMC has emerged as the new productive core of the EU and has grown disproportionately dependent on trade with China, German companies and German logistics providers have sought to expand their value chains across the continent to integrate regional value chains in Eastern Europe with their production networks inside China at a time when just-in-time production and the spread of e-commerce and digitalised production are essential to decreasing transportation and warehouse costs. As Ponfret (2018) wrote, “As the [global value chain] phenomenon has flourished, value chains are becoming longer and more complex. Following from sub-regional zones such as Sijori or the Pearl River Delta in the 1980s and 1990s to ‘Factory Asia’ in the 2000s (*and Eastern Europe*) the next step is to link the regional value chains of East Asia and Europe” (para. 16).

### *China’s value chains ‘go West’: New inland production hubs*

In fact, the development on the western edge of the Eurasian supercontinent might have had only a scarce impact on continental Eurasia’s transport integration if a similarly major transformation had not taken place inside China at nearly the same time as the EU’s eastern enlargement. In 2004, long before the BRI was launched, the Chinese government announced its Central Development Strategy with the aim of giving new impetus to the development of the central and internal provinces while decreasing regional imbalances with coastal regions that profited most from the reform process initiated by Deng.

Throughout the past 15 years, a mix of market-determined changes (e.g., rises in labour [German Chamber of Commerce in China, 2018]<sup>ii</sup> and land costs [Chang, Jiang, Chang, & Alam, 2013], particularly in coastal regions) and governmental–administrative policies has led to massive production relocation and industrial agglomeration (‘clusterisation’) in central provinces.

As a result, new manufacturing production hubs centred on an array of value-added manufacturing industries, from automotive to electronics to petrochemicals, AI, and robotics, have emerged. These are largely concentrated around new urban, regional, and cross-regional industrial

clusters, far from the southeastern coastal regions but closer to continental Eurasia. Among them, the Chengdu–Chongqing Economic Zone, the city cluster of Zhongyuan in western and central China, and the special economic zones in Kashgar, Horgos, and Urumqi in Xinjiang represent new growth poles inside the country, experiencing consistently above-average growth for a decade. While this trend could revert due to external and internal pressures, as of today many central Chinese provinces appear to be brushing off the economic uncertainty invading much of the country, with some growing even faster than before (Koty, 2019).

The expansion of export-oriented inland industrial capacities and rapidly growing urban agglomeration in these provinces have led to increased demand for improved transportation and logistics chains. As a result, government spending has largely been concentrated on infrastructure, enabling massive development of the road and (high-speed) rail network necessary to connect these centres with the coasts as well as with the rest of the continent.<sup>iii</sup> As Liu and Wan (2009) explained, when the effects of the two strategies had yet to bear fruit, “the logistics chains of export-oriented trade [were] extending ever further inland and logistics channels [were] required to bridge the structural discrepancy between coastal and inland economies” (p. 7).

Meanwhile, the strong integration of the Chinese export-oriented economy into global markets has led to growing congestion of its own ports, hinterland connections to ports, and the need to upgrade and diversify the transport network and increase the intermodal capacity of the country across Eurasia, creating alternatives to southern Chinese ports. As such, the combined effect of emerging new industrial clusters and export-oriented industries in inland regions and the need to bypass inland bottlenecks and avoid long shipping times has greatly contributed to the development of alternative and faster supply chains and overland logistics solutions across Eurasia. Therefore, the industrial and urban clusters of Chongqing, Chengdu, and Zhongyuan have emerged not only as the most important industrial and economic zones in western and central China, but also as logistics and transportation hubs for transcontinental traffic to and from China across continental Eurasia to the new Central European manufacturing core.

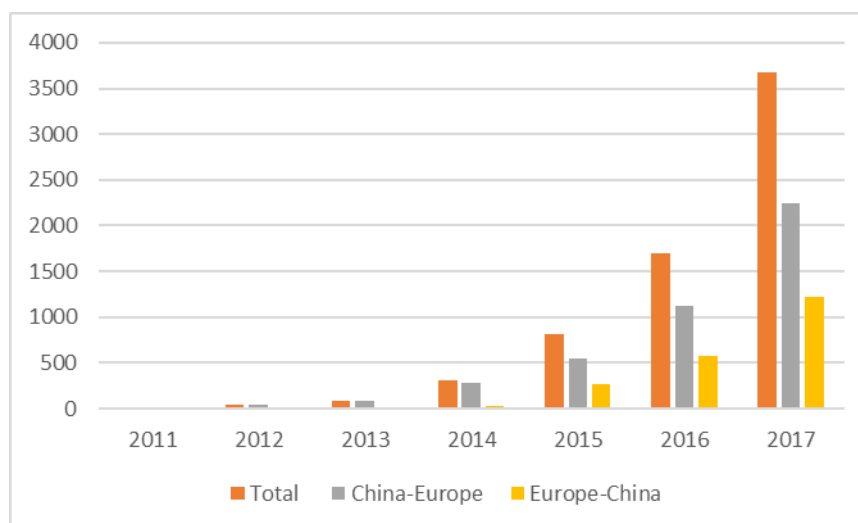
### **The impact on east–west transit corridors: Between integration and competition**

### *The catalytic role of the BRI*

Structural transformations in value chains' location – beyond simply the launch of the BRI – have surely made possible the development of an east–west rail connection. By bringing production networks with producers and consumers at the two edges of the supercontinent closer, delivery time has been reduced for certain types of value-added consumer and capital goods. Overland alternatives to the sea routes connecting southeast Chinese and northwestern European ports have also opened.

In fact, Asia–Europe rail cargo transport started with a single trial in 2008, when the first train was sent from Hamburg to Shanghai via German railway company Deutsche Bahn upon request of the American computer producer HP to find a cheaper solution for rerouting computer and electronic parts from China to Europe. However, given that a long-distance overland rail service connecting two ports as destinations makes less economic sense, this approach was a one-time experiment to test feasibility, costs, and infrastructure constraints along the route. It was only in 2011 that Asia–Europe rail cargo services started on a more regular basis, with 17 trains dispatched from China's inland city region of Chongqing to Europe's inland distribution hubs in Poland and Germany (Duisburg).

**Figure 2. Number of Asia–Europe–Asia cargo train journeys, 2011–2017**



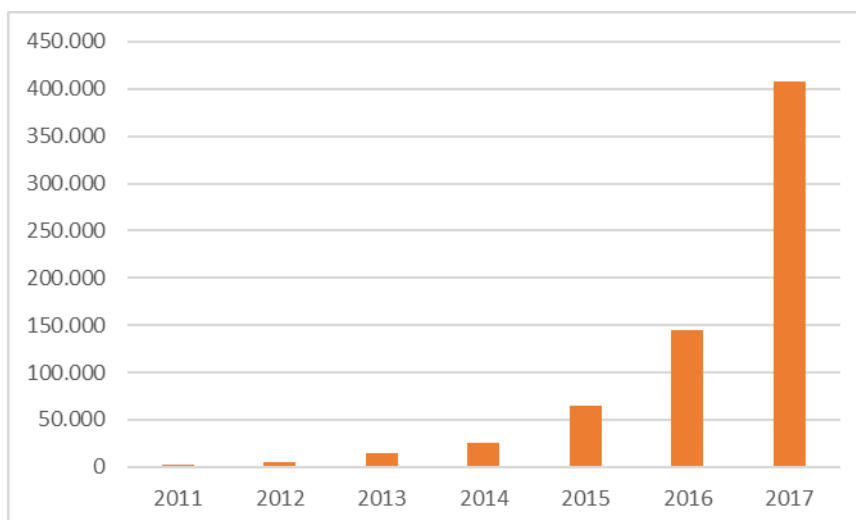
Source: China Railways; author's own graph.

At that time, before the BRI was announced, demand for these services came mainly from private companies interested in quicker just-in-time delivery solutions to connect their value chains in Asia and Europe, particularly after the relocation of production activities in central China. For example, German companies like VW, Porsche, and Bosch, which had production plants in Central-Eastern Europe and central China, opted for this solution.

This being said, the BRI, along with the establishment of the EAEU single economic and custom space, has played a crucial, catalytic role in the fulminant increase of transcontinental rail services. Facilitated by political and financial support from the BRI, private companies and 3PL/4PL providers have become increasingly interested in these services, with the number of operated trains rocketing from less than 300 in 2014 to roughly 1,800 in 2016 and to nearly 3,700 in 2017, largely due to the combined effect of China's generous subsidisation and simplified custom procedures in the EAEU. Transport volume grew from 3,000 TEU in 2011 to 145,000 TEU in 2016 and further increased to almost 420,000 TEU in 2017 (Journal of Commerce, 2018).

Today, in terms of value, roughly 7% of EU–China trade is transported by rail across Eurasia and, via Central-Eastern Europe, to the affluent markets of Western Europe. European and German companies producing in Central-Eastern Europe are increasingly using eastbound services to deliver parts and components for final goods to be assembled in China. This proportion represents a huge increase compared to less than 1% in 2012, allowing for an estimated trade value of \$45b.<sup>iv</sup>

**Figure 3. Volumes transported in the Asia–Europe–Asia direction, 2011–2017, in TEU**



Source: Berger (2017); JOC.com; author's own graph.

While these increases in services and value are indeed impressive, volumes remain quite low when compared to those of maritime transport and will likely never be able to challenge long-distance seaborne trade. Asia–Europe volumes reached roughly 15 million TEU in 2017 (China–Europe: 10 million TEU) (Journal of Commerce, 2017), worth roughly €610b (European Commission, 2018). More than 90% of this trade is still carried by ship using well-established sea trade lines via the Malacca Strait and the Suez Canal. The combined effect of low shipping rates and large vessels contributes to this.

Particularly, in terms of costs, rail services between China and Europe are well above those for maritime transport. As Figure 4 shows, shipping rates for 40 foot containers (standard for maritime transport) range between \$1,000 and \$4,000 on the Shanghai–Rotterdam or Shanghai–Hamburg route, depending on market conditions and global demand.

**Figure 4. Cost for 20-foot and 40-foot containers along different overland and maritime routes**

Route	20' Container (full load)		40' Container (full load)	Time Days
	Single Wagon	Block Train		
Duisburg/Hamburg- Lahnzu/ Chonqing			-	
1-2 (TransSib-TransKaz	6.730 USD	3.300 USD	-	18-28 (possible up to 10)
1 TransSibMongolian	6.705 USD	4.500 USD	-	20-22
2(TransKaz-TransCasp)	6.773 USD	-	-	15-20
Maritime			1.000-4.000 USD	45

Source: Pepe (2018, p. 277); based on data from DB Schenker, KTZ, Retrack.

In the first six months of 2019, the shipping rates on these routes sank to roughly \$1,500 for a 40-foot container. On the contrary, rail transport rates for 20-foot containers in single-wagon loads on the Hamburg/Duisburg–Lanzhou route are nearly twice as expensive on average. A better transport cost ratio can generally be achieved by either (a) building block train services, which require a standard regular service from terminal to terminal (typically for the same client) but are less flexible;

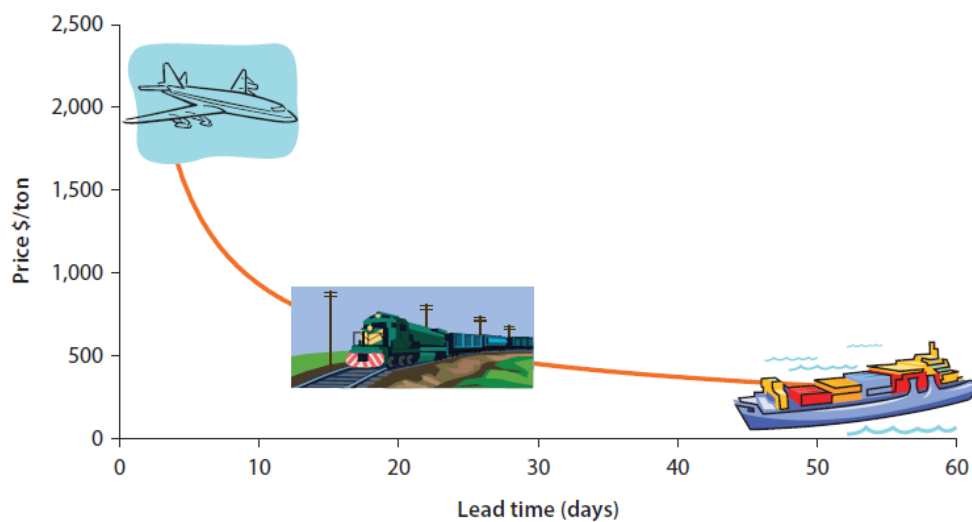
or (b) shipping higher volumes, which would allow trains to be built with containers from different clients with the goal of commercial sustainability of all services. In Asia–Europe rail cargo transport, more balanced flows between eastbound and westbound trains would greatly contribute to this scope. As Figure 3 shows, there have been substantial improvements in this issue over the past couple of years, particularly thanks to German companies' increased interest in using the overland connection for just-in-time deliveries from their production plants in Central Europe. Operators like Deutsche Bahn already offer more flexible and customised solutions for different clients, who can now book a single delivery container on a regular train. However, the westbound-to-eastbound ratio was still relatively unbalanced in 2017.

Considering the high costs, one reason for the boom in Eurasia rail cargo lies in China's decision to generously subsidise these services as part of the BRI. According to an internal, non-publicly-disclosed source, these subsidies exceed \$4,000 per TEU on the EU–China route and \$1,500 from China to Russia and Eastern Europe (Knowles, 2019). Should either the central or local government stop subsidising these services by 2021, the future of overland rail services will rely completely upon their capacity to stand up commercially (National Development and Reform Commission, 2016). In this sense, the initial effects of a step-by-step reduction in subsidies (now only granted to fully loaded westbound trains), as implemented during 2019, are already evident in a relative decline in rail service frequency. This indicates that in the future, the smaller the subsidies, the more traffic will be consolidated along fewer routes, with fewer operators and service providers presumably existing in the market; larger operators will likely concentrate on corridors that more rapidly connect industrial and consumer hubs in the continental production networks at the two ends of the continent (Van Leijen, 2019).

The evolution of China's subsidy policy will massively influence two aspects that make transcontinental rail cargo transport solutions appealing: time and timeliness. Goods along all Eurasian overland corridors can be delivered in half the time (15–20 days) required for container ships to reach North European ports via the Suez Canal (45 days). Thus, rail solutions are particularly attractive for certain types of high-value, just-in-time goods like pharmaceuticals, automotive parts, electronics, white goods, and perishable/luxury goods. Rail transport therefore occupies a niche

between cheap but slow maritime transport and fast but hugely expensive air freight, as displayed in Figure 5.

**Figure 5. Price for one transported ton and delivery times among different modes of transport**



Source: Rastogi, C., & Arvis, J. F. (2014). *The Eurasian connection: Supply-chain efficiency along the modern silk route through Central Asia*. The World Bank.

The second factor is timeliness (i.e., guaranteed delivery of goods on time, without delays and intact). Timeliness includes and is influenced by other important factors: the efficiency of customs and border management clearance; the quality of trade and transport infrastructure, particularly for developing countries; the ease of arranging competitively priced shipments; the competence and quality of logistics services; the ability to track and trace consignments; and the

frequency with which shipments reach consignees within scheduled or expected delivery times (The World Bank, 2018a).

In the next two years, China – while decreasing subsidies and consolidating traffic – plans to further increase the level of Eurasian rail cargo services to 5,000 trips yearly (National Development and Reform Commission, 2016). This intended volume also represents a further increase in terms of the value and freight revenue that countries en-route can extract from it.

Against the backdrop of falling subsidies and consequential consolidation of traffic with a simultaneous increase in volume ('more traffic, fewer routes'), the development of efficient logistics services and supply chain management in continental Eurasia becomes a critical factor for assessing the competitiveness of single countries along routes that cross different territories and regulatory systems.

However, the combined effect of increasing traffic volume consolidated along fewer corridors and the need for rapid and reliable delivery (i.e., time and timeliness) will presumably increase competition among countries and routes across continental Eurasia (The World Bank, 2018b).<sup>v</sup> When taking time and timeliness as key factors, the competition among Eurasian corridors will eventually be decided by a mix of the following: distance from origin to final consumer/client; status of physical infrastructure; efficient supply and corridor management; and price competitiveness. This will, however, decisively affect how different continental Eurasian countries, including members of the EAEU, will compete or cooperate in the process of aligning different transport routes as well as their chances to integrate into the emerging continental value chain.

In the following paragraphs, considering the above-mentioned factors as well as the relocation of economic activities, we will briefly assess the status and limits of the three existing overland east–west corridors crossing the territory of continental Eurasia along with how China's decision might affect Eurasia's transport reconnection.

### **The Northern Corridor: Routes via Russia or via Kazakhstan/Russia**



Currently, nearly all Eurasia container trains use the so-called 'Northern Route via Russia' (Route 1 on the map) and/or the so-called 'New Eurasian Land Bridge' via Kazakhstan and Russia (Route 2 on the map). The Northern Route via Russia is the oldest and runs the entire length of the Trans-Siberian Rail Line from the Polish–Belarusian border to northeastern China (via Manzhuli; 1a on the map) or to northern China via Mongolia (Trans-Mongolian Route; 1b on the map). According to confidential sources, roughly half (around 1,800 between the two branches) of all Europe–China trains (3,663) passed along the Northern Route in 2017. The remaining half are routed through the New Eurasian Land Bridge, which is currently the single most-used route. It starts from the Pacific port of Lianyungang in China, traverses the mentioned industrial and urban centres of central-western China (Chengdu and Chongqing), and enters Kazakhstan at the two border-crossing points of Khorgos and Dostyk at the Kazakh–Chinese border before entering the Trans-Siberian Rail Line at Petropavlovsk station, further west.

Even though the New Eurasian Land Bridge came into operation relatively recently (between 2011 and 2013), both routes have equally well-established operations, high reliability in terms of delivery time, and good infrastructure. These two routes are also the fastest (see Figure 4), with potential delivery times between ten and 22 days. According to the World Bank (2018c), all countries involved in the Northern Route and the Eurasian Land Bridge improved their performance by several points between 2012 and 2018, with the notable exceptions of Poland and Belarus.

***Map 1. BRI's East–West rail transport corridor***



Source: National Development and Reform Commission (2016).

These two routes are projected to remain the essential backbone of east–west cargo transport between Asia and Europe; even in the most conservative scenario, they will increase their capacity to 600,000–800,000 TEU by 2027 (Berger, 2017) compared to other more southerly alternatives, which we will discuss in the next sections.

However, both routes face two major challenges that could present opportunities for greater differentiation of services and corridors, thereby boosting other continental countries' chances to profit from trans-Eurasian transit. The first constraint is infrastructural; the second, which is more geo-economic, is related to the location of production and consumer markets and driven by China's evolving political and economic priorities.

In terms of infrastructure, given increasing volumes, bottlenecks at key transfer points can lead to significant delays, thus reducing the timeliness and attractiveness the Northern Route and forcing freight forwarders and logistics operators to seek alternatives. While unloading procedures due to different gauge systems at the Kazakh–Chinese border have improved significantly and the unloading time has fallen below 47 min for a fully loaded container train, the transfer point at the Belarusian–Polish border (Belarus–Małaszewicze) presents the greatest bottleneck. The crossing

point in Brest is included in almost all routes linking China and the EU and is hence the most intensive container train traffic node. Notably, Poland and Belarus are the only two countries along the two northern routes whose overall logistics performance index rankings have worsened since 2012. Since 2011, the travel time from Asia to Europe through the Polish–Belarusian border has improved from 25 days to 14–15 days but lags far behind the envisaged nine days. According to freight forward operators and logistics companies, this dysfunctionality is largely due to delays on the Polish side resulting from managerial, rather than infrastructural, problems (Van Leijen, 2018). A study from the Eurasian Development Bank revealed that the Polish side processes only nine or ten trains per day instead of the negotiated 14 trains (Lobyrev, Tikhomirov, Tsukarev, & Vinokurov, 2018). While managerial issues, particularly those related to dysfunctional custom clearance procedures, are a major problem, the current relatively poor state of Poland’s railway infrastructure, locomotive fleet, and rolling stock undoubtedly adds to this picture. Any significant increase in container traffic through the Brest–Małaszewicze crossing point is thus bound to be extremely problematic (Lobyrev et al., 2018).

Against this backdrop, with China, Russia, and Kazakhstan all set to increase trains and volumes along the east–west direction and with Poland instead more willing to invest in north–south connections between the Baltic Sea and the Black Sea, the Polish–Belarusian bottleneck might prove crucial to reducing the mid- to long-term competitiveness of the Northern Route.

Furthermore, the TRS represents another infrastructure constrain: the TRS is already an overloaded artery, with transit capacity for containers limited to only 250,000 to 300,000 TEU. Modernisation plans notwithstanding, a generally insufficient level of investment in the modernisation of the eastern section of the Trans-Siberian rail line, which is especially crucial along the Northern Route, continues to limit the delivery speed and reduce the chance to effectively increase traffic turnover from Northern China via Mazhuli and Erenort in the short to medium term. The Northern Route is therefore increasingly dependent on the detour via Kazakhstan, which completely bypasses the eastern section of the Trans-Siberian line.

As for geo-economic constraints, the combined effect of China’s new industrial and manufacturing hubs in central provinces and the strong concentration of production activities in

Central-Eastern Europe (Pepe, 2017), along with sinking subsidies and China's evolving rail corridor plans (National Development and Reform Commission, 2016), have created incentives to seek alternative routes to connect with Europe and the Middle East via more southerly routes.

In 2016, China's National Reform and Development Commission released a 5-year railway plan entitled ['China Railway Express 2016-2020' \(National Development and Reform Commission, 2016\)](#). It proposes the rationalisation, centralisation, and coordination of rail freight services by consolidating traffic along three main corridors (Eastern, Central, and Western, the latter of which is split into two branches through the Caspian Sea and Azerbaijan or through Iran; see Map 1) defined according to the Chinese regions served by each corridor. The cities of Chongqing and Chengdu are among a group of internal cities set to become domestic consolidation hubs; traffic from the industrialised southern and central regions is collected and dispatched there. In this way, traffic can be concentrated and channelled across Eurasia through selected transshipment hubs at border-crossing points in the north, northwest, and west. As a result of this plan, Eurasian final destinations behind the EU/Europe will increase massively, particularly in Russia (six), Central Asia (seven), and the Middle East (four). Russia will consistently increase the number of services, adding six routes to the existing three, mostly for bilateral traffic. By the end of 2020, Russia will have fewer total bilateral services than Kazakhstan. Moreover, only a few routes will be added, which exclusively use the Manzhuli or Erenhot (Inner Mongolia) border-crossing points to Western Russia and Europe. Most are in direct competition with Horgos (Dostyk) for traffic out of China and ex Europe from central-western China and Central-Southeastern Europe.

In particular, the Kazakh border-crossing point at Horgos and Dostyk will become the main transshipment hub from the industrialised regions of central, western, and southwestern China to new final destinations in Central Asia and the Middle East ([National Development and Reform Commission, 2016](#)). This shift in priorities from the Northern Route (Eastern and Central in Chinese nomenclature) to the Western route (Middle and Southern Corridor) and the rebalancing of traffic destinations from northern Europe to Central-Eastern and Southeastern Europe to access the new Central Eastern Manufacturing Core might pave the way to greater intra-Eurasian corridor

competition, both between the Russian-only and Kazakh/Russian route as well as between them and other more southerly routes.

Within this context, even Russia, whose network has been primarily used by Asian shippers to transport cargo to Germany, Poland, and Bulgaria via the Northern Route to date, now has plans to attract at least a portion of Asian cargo intended for Southern European states, including cargo from China. Russia's interest in increasing container volumes via the southern port of Novorossiysk as a detour from the Kazakh port of Aktau is clearly aimed at offsetting its geo-economic disadvantage vis-à-vis more southerly routes. In fact, both the so-called 'Southern Route' via Iran and Turkey and the Middle Corridor through Azerbaijan, Georgia, and Turkey might have fairly good chances of attracting additional volumes or diverting freight from the Northern Route and the New Eurasian Land Bridge.

### **The Middle Corridor: The Trans-Caspian route**

Capitalising on infrastructure bottlenecks along the Northern Route, the locations of new manufacturing clusters inside China and Europe, and Beijing's evolving rail corridor priorities, southerly corridors through central Eurasia – which only partially cross the territory of the EAEU – could clearly become important gateways and consolidation hubs, thus redirecting part of the traffic coming from central-western China across Central Asia and the Caspian Sea en-route to Europe via the Middle Corridor (also known as the EU-sponsored Transport Corridor Europe–Caucasus–Asia [TRACECA]).

The Middle Corridor has two distinctive geo-economic and geostrategic advantages compared with the northern and the more southerly route, the Southern Corridor (to be discussed later in this paper): the Middle Corridor is the shortest route between China's industrial districts in the country's central and western provinces and the southern-eastern border of the EU (i.e., under 10 days). It is also the most flexible, as traffic can be rerouted or consolidated along different alternative branches and ports, but is prone to greater competition. On the eastern shore of the Caspian Sea, traffic can be either collected at the Aktau port in Kazakhstan or at the Turkmenbashi

port in Turkmenistan, while there are several options on the Black Sea: the Anaklia deep-sea port in Georgia (if completed) and the Constanta Port each represent an increasingly interesting multimodal option across the Black Sea; Novorossiysk could represent a further gateway on Russian territory. For its part, the Baku–Tiflis–Kars (BTK) railway offers new overland options for an uninterrupted rail link via Turkey to Istanbul and Europe. Against this backdrop, Azerbaijan is crucially located; the new Alyat port can profit from competition between Aktau and Turkmenbashi, while the new BTK can profit from competition between the multimodal route across the Black Sea and the overland route across Turkey.

In terms of infrastructure and logistical development along the corridor, 2017 represented a turning point after years of construction delays and scarce progress: the finalisation after more than ten years of the BTK railway and the conclusion of the first stage of the Alyat port on the Caspian Sea, including the establishment of a free economic zone integrated into the port of Alyat, represent a decisive milestone toward a more integrated regional network and value-added industrial services (Ziyadov, 2012). These projects surely enhance opportunities to tap the potential of the Middle Corridor for rail cargo traffic from China to Europe via the Caspian Sea and Black Sea under the TRACECA Corridor. Furthermore, the Azerbaijan Caspian Shipping Company CJSC and Kazakhstan Railways JSC have established a joint venture for cargo transportation along the Middle Corridor. Azerbaijan, Georgia, Kazakhstan, and Ukraine recently announced the creation of a joint venture to introduce the principle of a ‘single window’ in the processing of goods carried through the Middle Corridor. In June 2017, the Trans-Caspian International Transport Route International Association signed a memorandum of cooperation with the Association of Transport and Communications of China during a meeting of corridor participants in Astana (Tsurkov, 2018). In 2018, new competitive tariffs were announced for transportation along the corridor. Thanks to these efforts, 3.5 million tons and about 15,000 containers are planned to be transported along the corridor from Turkey to Kazakhstan, Central Asia, and China by the end of 2019. According to plans, the Middle Corridor should reach seven to eight million tons of cargo in transportation by 2020 (16 by 2034) and expand the range of transported goods. There are also plans to transport 520,000 tons

of oil products, 350,000 tons of grain, 364,000 tons of non-ferrous metals, and 360,000 tons of coal from Kazakhstan along the route in 2018 (Tsurkov, 2018).

The opening of the BTK, the new Alyat port, and better logistics and tariffs can indeed alter the Middle Corridor's situation and position in the competition for additional transcontinental transit container traffic. Indeed, as a result of these efforts, the first Chinese freight train travelled from Xi'an to Europe in November 2019, crossing under Istanbul's Bosphorus Strait and marking the beginning of commercial operations along the route (Hürriyet Daily News, 2019).

However, challenges and constraints remain, specifically related to infrastructure issues and poor logistical performance along the route and limited once more by China's ambiguous corridor politics. Regarding technical–infrastructural constraints, while the finalisation of BTK represents a major step forward, containers still need to be unloaded many times at the Aktau/Alyat ports and eventually at the Georgian and Rumanian ports. Alternatively, the gauge needs to be changed twice across the overland route (Chinese/Kazakh and Turkish/Georgian border). Moreover, as we will discuss, the lack of a freight-dedicated connection between Kars, Sivas, and Ankara along with missing links in Turkey's east–west rail network represents limitations for the Southern Route and for the Middle Corridor. To this adds a lack of freight wagons, locomotives, and rolling stock as well as a poorly developed Caspian vessels fleet.

In terms of logistics services, with the exception of Turkey, Azerbaijan and Georgia each demonstrate a poor record in logistics, scoring particularly low in custom clearance procedures and infrastructure (The World Bank, 2018b). This fact is reinforced by insufficiently implemented agreements on coordinated tariffs and custom procedures. As a result, the combined effect of poor infrastructure and logistics performance among the involved countries and technical barriers (i.e., unloading and gauge changes) have continued to lead to significantly higher costs per container (\$6,000–\$7,000; see Figure 4), which are still non-competitive without Chinese subsidisation.

But here, China's role again proves ambiguous: as the main source of transcontinental traffic, China is clearly in search of alternative routes and keen to develop the West China–West Asia corridor, as evidenced by the recent initiation of commercial operations along the corridor (Hürriyet Daily News, 2019). However, Beijing has tended to avoid open support for the Middle Route in an

effort to appease Moscow. Because the corridor bypasses the Northern Route entirely, Beijing seems more inclined to step in once the involved countries have shown themselves to be capable of increasing the route's competitiveness rather than simply actively supporting its development. As a result, however, Beijing's approach of silently supporting this route and fostering competition with the Northern Corridor might come at the detriment of greater coordination among continental Eurasian countries.

### **The Southern Corridor: The Iran–Turkey route**

This is even more true if the Southern Corridor, or the 'Southern Silk Road', is included in the picture. The corridor represents the third option for transcontinental traffic out of China and a potential further competitor to the Northern and Middle Corridors. According to calculations, excluding the already well-developed but increasingly overloaded Northern Route, both the Southern Route ('Southern Silk Road') and the Middle Corridor could attract up to 8% of all Eurasian rail freight until 2027 (Berger, 2017). In terms of volume, roughly 80,000–100,000 TEU could be added and further volumes rerouted from the Northern Route to these two corridors.

Specifically, the Southern Corridor has some key advantages compared to the Northern and Middle Corridors and is being actively developed by China. According to Chinese plans, the Southern Route or 'Southern Silk Road' (Route 4 on the map) starts from central and western China (particularly Chengdu, Chongqing, Yiwu, Urumqi, and Kashgar), crosses Kazakhstan and Turkmenistan along the eastern coast of the Caspian Sea (or, alternatively, is routed via Kazakhstan, Uzbekistan, and Turkmenistan), reaches Iran, and eventually connects to Turkey and Europe.

In 2016, the first container test train from Yiwu to Teheran reached the Iranian capital in only 14 days. New connections were added in the subsequent two years, the latest being a direct and regular train service between Inner Mongolia and Teheran (Noack, 2018) and between Urumqi and Teheran (Sohrabi, 2018). Iran, the key country along the corridor, has particularly ambitious plans for its rail network: with currently 7,500 km of railroad under construction, the declared goal is to extend the national railroad network from less than 15,000 km today to approximately 25,000 km by



2025. According to officials of the Republic of Iran Railways, the expansion will produce almost 12,000 km of new railroad and considerable progress in the fields of electrification and double-tracked lines (Rogers, 2015).

For its part, China's aim is to tap the potential of the Iranian market and profit from east–west transit opportunities to link to Turkey and Europe. As for the Middle and Northern Corridors, this interest has been accompanied by visible investments in Iran's rail infrastructure. In July 2017, for example, China EximBank entered into a \$1.5b loan agreement to finance the electrification of the 926-km Tehran–Mashhad main line, a project that will help increase the route's maximum speed to up to 120 km/h for freight trains (250 km/h for passenger trains) and its yearly freight capacity to 10 million tonnes (Railway Gazette International, 2017). In the same year, Chinese companies, led by the China Railway Group Limited, announced the construction of the 375-km-long Tehran–Qom–Isfahan high-speed railroad (Financial Tribune, 2017).

The advantages of this route are technical and geo-economic: technically, trains along this route only need to change gauge twice. In fact, except from the Central Asian section of the route, all other involved countries (China, Iran, and Turkey) possess the European standard gauge (1435 mm). Geo-economically, with the Northern Route reaching its maximum capacity and the Middle Corridor plagued by technical problems and latent political conflicts, the route could be a valid alternative.

However, existing infrastructural gaps and the political–economic situation in Iran still limit the chance to fully realise the route's potential. For now, while transport along this route is competitive between China and Iran, services must be improved between Iran, Turkey, and Europe. The reason is related to bottlenecks and infrastructure gaps between Iran and Turkey and inside the two countries. At present, rail connections between Western Europe and Iran would still take 10 days (Banning & Mani, 2018), with the major bottleneck represented by the missing rail bridge across Lake Van at the Turkish–Iranian border. Ferry services have been introduced. From the west end of the lake, a rail ferry carries the train to Van at the eastern end. Newly built ferries can transport a 500-m train (four tracks, 130 m long each) in a single ride at one hour faster than the current ones. However, this bottleneck still decreases speed and timeliness.

Moreover, as reported, railway infrastructure modernisation in Iran and Turkey would be required at a much higher speed to align east–west connections in both countries. In Turkey, congestion around Istanbul and the Marmaray Tunnel, the fact that two main east–west transit routes in Turkey are mountainous and equipped with ramps (not electrified) and mostly single-tracked, and the still-missing connection between Sivas and Kars along the Ankara–Kars route all negatively affect the corridor’s functionality. In Iran, the situation is even more complicated: the rail network and rolling stock are in desperate need of modernisation, electrification, and expansion, yet the government’s plans and Chinese investments alone will not compensate for the country’s political and economic isolation after sanctions were reimposed. In 2018, Western companies, including rail industry companies like Stadler or Siemens, began cancelling their deals (Handelsblatt, 2018).

Finally, political instability in the Middle East, close to the Iran–Iraq–Turkey border, adds more security risks to the needed infrastructural development. All in all, in the short to medium term, the difficulties of Iran and Turkey to align their respective rail network developments and Iran’s isolation could offer a chance for the Middle Corridor to emerge as a bypass for east–west continental transit.

However, the corridor that is openly supported by China (as opposed to the Middle Corridor) crosses two densely populated countries with relatively diversified economies and is strategically located to serve as a rapid gateway to the Middle East, East Africa, and Southeastern Europe and as a bypass from the Indian subcontinent and Southern China. Should Iran’s political–diplomatic isolation be overcome and investments flow more rapidly into the rail network of Iran and Turkey, the Southern Corridor could indeed quickly compete with the Northern and Middle Corridors, ultimately emerging as an external competitor to most continental Eurasian countries involved in east–west connections in the long run.

### **Deepening trade ties with Asia: The future of Eurasia transport integration?**

The above-mentioned shift in the geographic location of economic activities inside Europe and China, as well as the catalytic role played by the BRI since 2013, have undoubtedly contributed to the establishment of overland transcontinental connections and to the creation of a source of income

for continental Eurasian countries. However, transcontinental transit seemingly presents two main limitations to sustainable integration of continental Eurasia in global value chains.

First, as discussed above, it potentially fosters competition among routes and countries both within continental Eurasia and with the 'external' route crossing Iran and Turkey, without necessarily supporting much-needed connectivity at the domestic and cross-regional level. In fact, China's strategic decision to consolidate traffic on a few hubs in central China and along fewer corridors while diversifying its logistical access to Europe could potentially jeopardise today's situation, wherein different routes serve different Chinese regions while only the Northern Route serves as a single gateway for Central Europe. While competition might increase efficiency along the corridors, a lack of coordination and cooperation among the three main routes could compromise the development of cross-border regional supply chains – even more so if considering that the three main east–west transport corridors cross EAEU and non-EAEU-members, with greater normative and service harmonisation the only way to avoid disruptive competition over tariffs and services.

Second, and related to the first point, transit royalties create certain new sources of income for state companies and for the elites without significant positive spillover effects on local employment or the development of local and regional value chains. As recently argued by Lall and Lebrand (2019), in Central Asia, transport investments under the BRI, which largely focus on transcontinental arteries of traffic, tend “to bring more spatial concentration, not the dispersion of economic activity within a country” (p. 2); that is, they lead to agglomeration and clusterisation. However, without domestic reforms that foster the mobility of labour, goods, and services and the expansion of a domestic transport network, spatial economic imbalances within countries in continental Eurasia will increase.

Given this backdrop, Europe has long warned against this development and, with its recent connectivity strategy (European Union External Action Service, 2018), has attempted to offer a more sustainable model of transcontinental connectivity conducive to participation in domestic and regional value chains. However, a mix of geographic proximity and financial firepower has given China a competitive advantage in continental Eurasia. As a result, China seemingly offers more

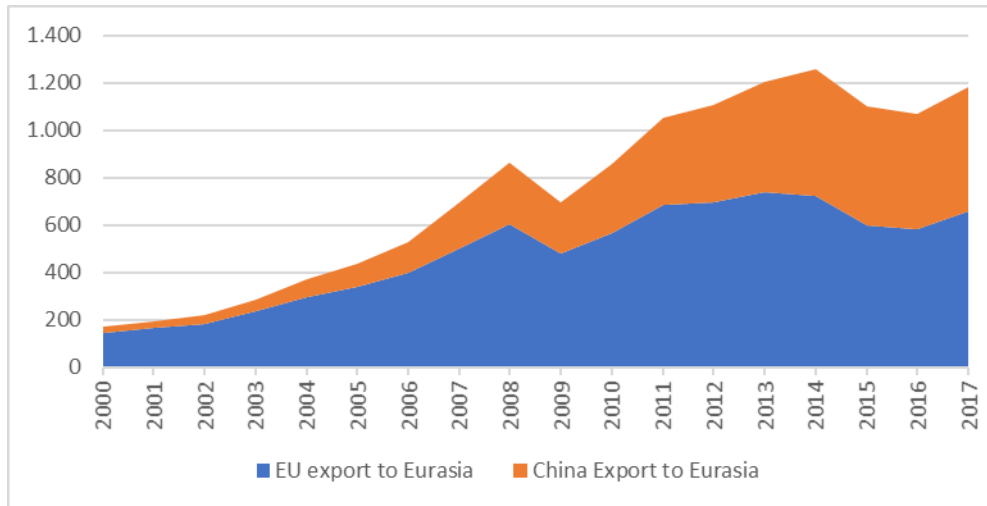
chances for continental Eurasia to participate in advanced regional value chains. This fact is clearly reinforced by underdeveloped relations between the EU and EAEU.

### **The rise of Eurasian-Asian trade**

When it comes to redrawing the economic geography and infrastructure orientation of continental Eurasia, China's emerging role as an alternative to Europe becomes evident when comparing the relevance the country has assumed for continental Eurasia in terms of trade. Without a doubt, continental Eurasia's main trade partner remains Europe; however, since the early 2000s, ties between single sub-regions of the greater Eurasian space (specifically among Developing Asia; the Middle East, including Iran and Turkey; Eastern Europe and Central Asia; and Russia on one side and China on the other) have expanded dramatically at different levels and speeds (Figure 6). As of 2017, China's exports to this vast space, which includes but is not limited to continental Eurasia and stretches from Southeast Asia to west Asia and Eastern Europe, have almost equalled exports from the EU. At the same time, exports (mainly energy or energy products) from Greater Eurasia to China have been rapidly catching up with exports to the EU (Figure 7). A Eurasian–Asian sub-regional system of trade relations has thus emerged, largely decoupling from the West and Europe.

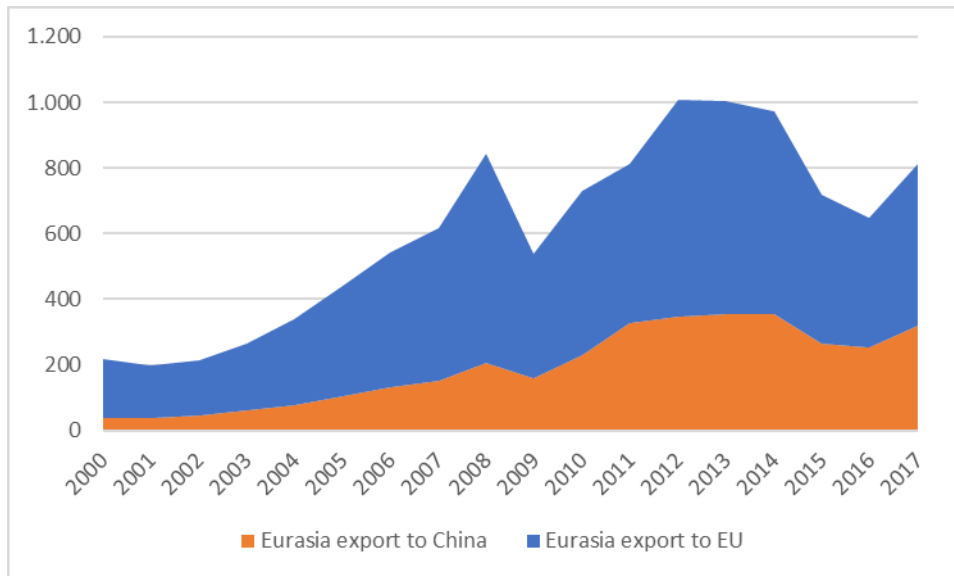
Against this backdrop, continental Eurasia finds itself in a potentially privileged position as it can profit from growing trade ties with Asia and from participation in its value chains with China's BRI initiative acting as a catalyst.

***Figure 6. EU and China exports to broader Eurasia (including CIS, Developing Asia, the Middle East, Iran, and Turkey), in Billion US Dollars, 2000–2017***



Data source: International Monetary Fund, Direction of Trade Statistics; author's own graph.

**Figure 7. Broader Eurasia (including CIS, Developing Asia, the Middle East, Iran, and Turkey) exports to EU and China, in Billion US Dollars, 2000–2017**



Source: International Monetary Fund, Direction of Trade Statistics; author's own graph.

To be sure, compared with other regions of broader Eurasia, the share of countries in continental Eurasia (including Russia) relative to China's exports and imports is still much lower than, for example, the share of Developing Asia and the Middle East. As discussed, continental Eurasia remains relatively isolated from Asia's value chains, as opposed to Southeast Asia – yet it is too distant from open oceans, sea trade lines, and ports to easily expand its trade with Asia, as in the case of the Middle East.

However, the reorientation of China's trade toward the entire, broader Eurasian continent, including its continental portion, shows that Beijing's major interest consists of diversifying its energy supplies and the final markets for its goods by expanding its production networks. This clearly happens by expanding its presence in what Beijing sees as a single, interconnected developing market and eventual production platform stretching from Asia across Eurasia to Africa. Today, China's interest in penetrating new markets has been accelerated by the trade conflict with the United States and by increasingly difficult relations with the EU. In light of these circumstances, new inland manufacturing centres and shorter overland distances across the continent allow Beijing greater flexibility, ultimately accelerating the multimodal integration of continental Eurasia in what is supposed to become a China-dominated transregional production network.

## The rise of Asia's FDI in continental Eurasia: First steps, future trend?

A major impact on the creation of cross-regional value chains in continental Eurasia comes from China's rising FDI. As reported by the latest Eurasian Development Bank (2017) report on direct investments in continental Eurasia, Asian countries are indeed expanding their presence in continental Eurasia, despite starting from a much lower level than Europe's FDI.

To be sure, the EU is a major source of investment in continental Eurasia in general and in the EAEU specifically, targeting Russia in particular. Between 2010 and 2017, European countries provided the bulk of foreign investments in Russia, accounting for 87% of GDP in the EAEU and serving as the major economy in continental Eurasia (Kofner, 2019). In 2017, EU's FDI in Russia amounted to more than €200b (European Commission, 2019).

Moreover, the economic structure of the EU and of many continental Eurasian countries, particularly members of the EAEU, is highly compatible, as the latter export raw materials and minerals and import mainly final consumer goods or capital goods. However, the combined effect of Russian–European sanctions following the Ukraine crisis and the lack of political–commercial and trade cooperation between the EU and the EAEU is seriously limiting the potential to further integrate the supply and value chains of continental Eurasia into the production network of the Central European manufacturing core, thus fully taking advantage of the eastward shift in economic activities and of improved logistics and transport services.

Conversely, rising trade ties between China on one side and continental Eurasia on the other are increasingly facilitated by an institutional–legal framework. China and the EAEU recently signed a non-preferential trade agreement, which, while still needing to define product categories and not necessarily implying an automatic reduction of tariff barriers or creation of a free trade area, represents a first legal step toward trade facilitation that is lacking in the case of relations with the EU (Shilina, 2019).

Meanwhile, as China attempts to diversify its value chains and its final markets across broader Eurasia, the structure of its exports and the quantity and quality of its FDI are changing as well. For example, capital and manufacturing goods have come to play increasingly important roles

in the structure of Chinese exports to continental Eurasia, with a particular increase since the outbreak of the economic and financial crisis in 2008 (Pepe, 2018). According to the Eurasian Development Bank (2017), China remains the primary source of investment from Asia to the EAEU and other states within the Commonwealth of Independent States (CIS), constantly expanding its presence. FDI stock accumulated by Chinese transnational corporations in the five EAEU countries, Azerbaijan, Tajikistan, and Ukraine amounted to \$33.7b (Eurasian Development Bank, 2017) compared to less than \$11b in 2008 (Vinokurov, 2018).

The Eurasian Development Bank (2017) further reported that China has traditionally targeted the oil and gas industry, with a share close to 74% of the total stock of outward investment in eight selected post-Soviet countries for the year 2016. However, this share has followed a persistent downward trend, while a significant inflow of investment capital into construction and mechanical engineering, agriculture and food products (i.e., processing of agricultural raw materials), and rail and road connectivity has slowly but persistently occurred over the last six years (Eurasian Development Bank, 2017).

By 2019, for instance, the cumulative number of China projects since the launch of the BRI in Central Asia's manufacturing and agricultural industry (66) was already higher than in the oil and gas industry (44), totalling \$15m. The number of projects in rail and road connectivity (51) exceeded those related to energy connectivity (47). In terms of value, while investments in energy connectivity and in the oil and gas industry reached nearly \$90m, the cumulative stock of investments in the rail and road sector, non-energy manufacturing, and agriculture and food processing industry reached almost \$55m compared to being nearly non-existent before the launch of the BRI.<sup>vi</sup>

China has also geographically diversified its activities beyond Central Asia, reducing its focus on Kazakhstan and directing increasing investments toward Russia, Belarus, and Ukraine (Eurasian Development Bank, 2017). In the case of Belarus, for example, overall Chinese investments in transport and mechanical engineering accounted for 34% and 27%, respectively, of all Chinese outward FDI stock in Belarus (Eurasian Development Bank, 2017), mostly directed toward the 'Great Stone' logistic-industrial park strategically located along the northern transport corridor to Europe. Here, a small but significant example of emerging Eurasian–Chinese value chains is the Chinese–



Belarus JV BelGee, which produces semi-knocked down assembly of Geely motor vehicles and has been accorded the status of a local manufacturer able to engage in duty-free exports of parts and components from Belarus to other EAEU countries, first and foremost Russia (Belarus News, 2019).

While this is a far-to-come scenario and problems with the development of the Russian Far East and Central Asia transport infrastructure to the east are paramount (see below), an increase and diversification of China's FDI into continental Eurasia's manufacturing and non-energy sectors is already visible, with potential effects on the establishment of cross-regional value chains.

All in all, geographic proximity, increasing Chinese activities in continental Eurasia, a geographic reorientation of trade and investment flows matched by the absence of a legal framework for investments and technology transfer between the EU and the EAEU, and the first trade agreements signed by the EAEU and China all represent steps toward a general reorientation of the economic geography of continental Eurasia toward the Asia Pacific.

### **Current limits and risks of Eurasia's transport integration in Asia's value and supply chains**

Even with these promising developments and plans, a mismatch between potential and reality persist in the short to medium term, particularly when it comes to cross-border transport integration. First, while FDI from China in continental Eurasia's manufacturing sector is on the rise and has the potential to eventually become a 'game changer', for the time being, the level still remains too low to represent a serious instrument to durably and homogeneously integrate continental Eurasia into value-added production networks – even more so when considering that FDI from other Asian countries like Singapore, Japan, and South Korea remains either negligible or primarily directed toward the oil and gas sector, as in the case of Japan. In general, investments from Asia in the EAEU and other CIS countries are only a portion of Europe's FDI.

Second, the agglomeration and clusterisation effects that have followed the shift in value chains, production, and transport networks inside China have clearly been favoured by large and cheap labour present in the central regions and by a high degree of demographic-urban concentration in central China. These factors have created macro-regional areas of industrial and

urban development. The same effect might be difficult to replicate in Western China and continental Eurasia, whose population is scattered across vast, largely rural areas and enormous distances. As in the case of transcontinental corridors, without proper reforms to favour the movement of labour and goods and services, improved cross-border transportation links between China and continental Eurasia might well prove instrumental to 'clusterisation' and industrial activity concentration, which could end up attracting further Asian and Chinese investments. This is in fact the main idea behind the establishment of special economic zones, as in the case of advanced special economic zones in the Russian Far East or in countries like Belarus, Uzbekistan, Kazakhstan, and Azerbaijan.

However, without domestic structural reform and improvements to intra-national transportation links between cities and rural areas, this development might merely exacerbate regional inequalities by concentrating economic activity and labour in bigger cities near border-crossing points or along transregional corridors.<sup>vii</sup> While industrialisation will foster urbanisation, it might also lead to the abandonment of rural areas, posing economic, social, and security risks to many central Eurasian countries.

Third, low land prices and high public investments in transport infrastructure have guaranteed a high level of growth in new central Chinese provinces for the past 15–20 years and proved pivotal to the establishment of transcontinental rail services across continental Eurasia. However, increasing in land prices and labour costs in these new manufacturing hubs could lead to further relocation of activities in the long term, either further west, toward continental Eurasia (with positive effects on this space), or, more probably, further south toward Southeast Asia, where demographic and industrial activities are already concentrated and producers are closer to future final consumers. In this case, continental Eurasia would be only marginally integrated into Asia's production networks.

Fourth, and directly related to the question of transport integration, while "the BRI transport corridors can 'sew' the Eurasian macro-region together" (Vinokurov, 2018, p. 134), they can also increase competition among Eurasian countries, both over the role as transit gateways and over additional FDI from Asia. This is particularly apparent in the case of Kazakhstan and Russia: considering the flow of goods between Russia and China, only 2% transits through Central Asia, whereas 86% of goods traded between Kazakhstan and China are supplied by land transport

crossing the border between the two countries; the remaining 14% comes via Russian ports (Vinokurov, 2018). With China relocating production activities and consolidation hubs toward central China, a modernisation and improvement of services along the New Eurasian Land Bridge will lead to a traffic diversion, potentially increasing the share of Russian–Chinese trade crossing Central Asia but bypassing the Russian Far East ports and Eastern and Central Siberia (Vinokurov, 2018).

Specifically, the newly established corridor through Kazakhstan and China can attract new traffic from the manufacturing centre of central and southwestern China and, potentially, traffic from eastern China and East Asia via the corridor extension to the Chinese port of Lianyungang (i.e., New Eurasian Land Bridge). Conversely, the Trans-Siberian line is far too north to be able to attract new traffic other than from northeastern and northern China. While the Trans-Siberian–Trans-Mongolian route will not lose traffic from northeastern China, it will not be able to attract additional traffic from other Chinese regions. This would prove particularly detrimental for Russia's Far East development plans: Russia's 'Pivot to Asia' is inherently linked with the Far East Development Program, both of which depend heavily on successful implementation of the upgrade and expansion of the central Siberian and Far East transport infrastructure to attract additional FDI in these regions (Pepe, 2019).<sup>viii</sup>

Formal cooperation notwithstanding, neither the EAEU nor the BRI has thus far proven able to enhance regional development in the Far East of Russia and in the Northeast of China. While China and Russia have agreed on the establishment of a joint fund for the development of China's northeastern provinces and the Russian Far East in 2017 (Xinhua, 2017), the BRI corridors, as discussed, completely bypass the Far Eastern ports and the eastern section of the TRS, indicating the marginal relevance China attaches to continental northeast Asia within the BRI framework.

All in all, as previously shown in this study, while the Trans-Siberian can hardly be entirely bypassed, its role as an exclusive Eurasian 'land bridge' is indeed eroding along with the chance to divert new generated westbound traffic through the Russian Far East. As a result, Moscow depends on functional transport integration with the rail and logistics network of Central Asian countries, specifically with Kazakhstan.

However, the Kazak transport system retains its formal independence; the country's strategy for the diversification of its transport routes ('New Silk Way') and industrial basis (Nurly Zhol) is only partially aligned to Moscow's strategic interests, as evidenced by the opening of the New Eurasian Land Bridge from the Chinese port of Lianyungang as well as the Middle Corridor. For its part, Kazakhstan might be negatively affected by the Southern Corridor, which could end up crossing southern Central Asia and Uzbekistan, thus bypassing the Kazakh territory. Under these circumstances, competition over routes between continental Eurasian countries, and specifically between two key members of the EAEU, could exacerbate competition over market access and FDI from China and Asia.

### **Conclusion: Geopolitical and geo-economic implications**

This study has shown that today, much like in the Golden Age of the early Eurasian 'globalised world system', the key to successful and sustainable integration of the transport space of continental Eurasia is less the ongoing expansion of transcontinental transit and more the participation in intra-regional and transregional cross-border value chains. This is particularly true for the common economic and transport space of the EAEU, which represents the most advanced attempt to create a normative and regulatory unified framework for cross-border trade and transport across continental Eurasia since the collapse of the Soviet Union.

Without a doubt, the EAEU is only in its infancy and in the beginning of a long-term process, but it has already emerged as a reliable instrument to absorb external demand shocks by creating a regional market, particularly for Russian products. To date, however, this integration model has shown its limits, which might not be easy to overcome along with improved transport linkages. The creation of an integrated but autarchic transport and industrial space, potentially centred on Russia as the integration driver, has indeed proven problematic.

In fact, Moscow's low level of technological sophistication, industrial complexity, and financial firepower hampers further expansion of competitive value chains and direct investments, making the

EAEU's attempt at greater transport integration only reasonable as an instrument for greater integration beyond the borders of the EAEU and of post-Soviet Eurasia.

On the contrary, the economic complementarities between continental Eurasia on one side and the two manufacturing blocks at the edges of the supercontinent, Europe and Asia, clearly represent the greatest asset for larger participation in global value chains via greater transport integration and logistic interoperability. This is even more true as the transformation in the geographic locations of economic activities and production networks, which has occurred within Europe (EU Enlargement) and China (Central and Western Development Strategy) throughout the past 15 years, has shortened the distance between Asian and European/German production networks and brought producers and consumers closer together across the continent.

This unprecedented transformation has given continental Eurasia, for the first time since the collapse of the Soviet Union, the chance to integrate into advanced value chains: since 2008, and particularly since the launch of the BRI in 2013, there has been increasing demand for transcontinental east–west (Asia–Europe) rail services across three main routes, two of which cross the entire territory of the EAEU. This has, for its part, certainly offered a grand incentive for establishing the Eurasian custom union – and later the EAEU – and for harmonising tariffs across the Eurasian transport space.

These efforts have led to the creation of a more coordinated and functioning cross-border transport system, first and foremost among members of the EAEU (i.e., tariff harmonisation, container-market liberalisation, traction interoperability, joint rolling stock use, and coordination of integrated logistics services via the Unified Logistics Company). However, the development of transit corridors across this space presents limits, both in terms of few positive spillover effects on the development of intra-regional domestic value and supply chains and in a lack of further integration into Europe's value chains – to date the biggest source of FDI and largest trade partner of continental Eurasia.

The latter is undoubtedly determined by the lack of a legal framework for deepening political–commercial cooperation between the EU and the EAEU as well as by a difficult political situation, chiefly the bilateral sanctions imposed by the EU and Russia as a consequence of the Ukraine crisis.

This development has also accelerated continental Eurasia's opportunity to participate in the value and supply chains of the Asia Pacific, particularly with China. As mentioned, a blend of more institutionalised cooperation, a general and rapid reorientation of trade flows from Europe to Asia, and an increase in Chinese FDI in the non-oil and gas sectors – all catalysed by China's BRI – are opening up concrete chances for greater Eurasian–Asian industrial and transport integration. However, this study has argued that under these circumstances, such reorientation might prove a long-term task with uncertain outcomes in the short to medium term.

In fact, a discussion of the potential and limitations of current east–west transport corridors, including relative to the integration of continental Eurasia within Asia's value chain, has shown that transcontinental transit and regional industrial integration might both exacerbate competition among continental Eurasian countries, including members of the EAEU. Competition may also not remain limited to the economic sphere; its implications could very well spill over into the geo-economic and geopolitical realm, with major consequences for continental Eurasia as a whole.

Today, greater (transport) connectivity, understood as the reterritorialisation of the political economy of countries and regions via the reconfiguration of supply and value chains, production clusters, and demographic-urban concentration, is happening in the context of three major shifts. The first is a shift from globalisation to fragmentation and the regionalisation of supply and value chains, which are fuelled by technological changes like the Internet of Things and are influencing industrial production, energy generation, logistics, transport, and trade. The second is a shift from liberalisation to the geo-politicisation and weaponisation of the economy: rising technological, geopolitical, and normative competition are leading to greater stability risks, as power asymmetries and potential conflicts among emerging economic blocks can deflagrate in major disruptions of global value chains, supply routes, trade, and to more open forms of conflict, as shown by the US–Chinese trade war. The third is a shift from a transatlantic-centred liberal global order to a trans-Eurasian/trans-Pacific system where different understandings of order overlap but 'shared rules' remain lacking. This shift from a transatlantic-centred to a Eurasian-Pacific-centred world is a long-term trend that can directly affect the nature of relations between major powers and blocks, specifically the United States, China, Europe, and Russia.

As a result, continental Eurasia, which borders all major power poles from Europe to the Indo-Pacific and Asia-Pacific regions, is most influenced by these three transformations. This is particularly true when considering the impact of these developments on Russia, the driver of continental Eurasia's transport and economic integration and the major geopolitical player in this space, and the effects on its complex relation with China's BRI.

Geopolitically, since Putin was re-elected President in 2012, Russia's political elites have essentially recognised the geopolitical potential and limits of Russia's pivot to Asia. With relations with Europe strained and the new axis with China full of unknown variables, Russia's turn to Asia has been matched by the launch of the EAEU and by its corollary concept of 'Greater Eurasia'. By establishing itself as the driving engine of continental Eurasian reintegration, Russia has sought to transform itself from an isolated periphery of Europe into a pivotal Euro-Eurasian power and to escape a dangerous unilateral dependence on Beijing. Geo-economically, however, strained relations with the West and Europe, together with Moscow's own economic weakness and need for know-how and technology transfer, exposes the limits of Russia's longitudinal geography and of its pivot to Asia/China.

Surely, the country's unique geographic extension makes Russia indispensable for a project like China's BRI initiative. However, Moscow seems to understand that, for Russia to play a leading role in Asia, it will require more than a reorientation of oil and gas exports to the Pacific. Instead, the country needs an active policy of domestic economic and technological development that especially tackles the underdevelopment and isolation of its central and Far Eastern regions. For instance, even in case of a successfully accelerated modernisation of the Far East but without proper coordination of a similar development strategy for Central Siberia, the former could eventually integrate into the Asia-Pacific space, leaving the latter isolated. In this case, Central Siberia, with a higher economic, industrial, and demographic base than the Far East but while being geographically isolated and disconnected from the Asia Pacific, would remain a landlocked periphery of Western Russia, serving as its primary industry manufacturing base. The Far East would then turn into a raw material supplier for the advanced economies of the Asia Pacific once integrated with this macro-region.

However, the reconnection of Eurasia today is a phenomenon larger than a narrow ‘post-Soviet’ reintegration, only partially able to resolve Russian domestic imbalances along the east–west axis. As trade flows are shifting east and south along with new value and supply chains in Asia and Europe, the chance to create alternative overland and intermodal routes – and new value chains along different, more southerly routes – is increasing. In this context, China sees Russia as an important but not exclusive part of its project, with Beijing silently exploiting latent competition among transit countries to increase its political–economic leverage and gain the greatest possible flexibility. Therefore, if not carefully managed, China’s drive for greater continental connectivity might foster greater division more than greater integration among continental Eurasian countries, essentially undermining Russia’s attempt to exploit the BRI as an external instrument to accelerate cross-regional integration under Moscow’s leadership.

The Russian case shows that, particularly the EAEU – thanks to the creation of a truly unified transport space – could indeed become the first step toward greater transport and industrial–political coordination across continental Eurasia at large, thus profiting from the BRI and the increase in China’s FDI. However, without serious domestic economic, industrial, and labour reforms; without the political willingness to accelerate cross-regional and intra-regional transport and logistics integration inside the EAEU as well as coordination with other non-EAEU members; without diversifying trade and financial ties across Asia; and, finally, without normalisation of relations with the EU as a first step toward a more political–commercial dialogue, the geographical shift in Asia’s and Europe’s value chains and China’s ambiguous and flexible transport politics might turn an unprecedented chance into risk. This fact could negatively affect transport integration across continental Eurasia by augmenting competition among and within countries over traffic volume, FDI, value chain participation, and ultimately geopolitical and geo-economic dividends.

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<sup>i</sup> In this study, we generally refer to ‘continental Eurasia’ according to OECD’s classification, which includes the following countries: Afghanistan, Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Russia, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan. However, considering the geographic extension and diversity of this classification, we mainly refer to member countries of the Eurasian Economic Union, as this Union represents the most advanced attempt at institutionalised transport–economic integration on the continent. When discussing transcontinental transport corridors, we also refer to non-EAEU members, as well as to ‘maritime’ Eurasian countries such as Iran and Turkey, not included in the OECD definition. When discussing trade flows, we refer to a broader definition of Eurasia, which includes Developing Asia and the Middle East. This choice is justified by the increasingly complex transregional transport, value chains, and trade linkages developing across the supercontinent, where the functional distinction in sub-regions has increasingly vanished.

<sup>ii</sup> According to a study by *The Beijing Axis* (2014), which refers to National Bureau of Statistics data, average annual wages for urban workers in China rose by 17.4% between 2002 and 2012. This trend continued throughout 2012–2018, albeit at a slower pace, with average wage growth of about 10–12%, with coastal provinces experiencing the second-highest wage increase while exhibiting the highest salary level in the country.

<sup>iii</sup> For a detailed analysis of different manufacturing sectors and industrial hubs in central and western China, see pp. 282–328 in Pepe, J. M. (2018). *Beyond energy-trade and transport in a reconnecting Eurasia*. Berlin: Springer Verlag.

<sup>iv</sup> In the absence of official statistics, this is an estimated value based on press reports for the year 2016 as reported by Jakobowski, Poplawski, and Kaczmarek (\$22b) and on the author’s own calculations based on the further increase in rail traffic for the year 2017. See pp. 27–28 in Jakobowski, J., Poplawski, K., &

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<sup>v</sup> According to the aggregated ranking of the Logistic Performance Index for the years 2012–2018, Kazakhstan, the better-performing country among continental Eurasian countries, ranked only 77<sup>th</sup> worldwide before Russia (85), Azerbaijan (123), Georgia (124), and Uzbekistan (112).

<sup>vi</sup> For the dataset and a detailed account of BRI-related projects in Central Asia, see pp. 3–4 in Vakulchuk, R., Øverland, I., Aminjonov, F., Abylkasymova, A., Eshchanov, B., & Moldokanov, D. (2019). BRI in Central Asia: Overview of Chinese projects. *Central Asia Data-Gathering and Analysis Team (CADGAT)*. Retrieved from <https://www.researchgate.net/publication/333673045>

<sup>vii</sup> On the spatial differentiated effects of BRI transport corridors in Eurasia, see Lall, S. V., & Lebrand, M. (2019, April 8). Who wins, who loses? Understanding the spatially differentiated effects of the Belt and Road Initiative. *The World Bank*. Retrieved from <http://documents.worldbank.org/curated/en/292161554727963020/pdf/Who-Wins-Who-Loses-Understanding-the-Spatially-Differentiated-Effects-of-the-Belt-and-Road-Initiative.pdf>

<sup>viii</sup> By doing so, Russia's government hopes to achieve three main goals: increase transit along the northern corridor from the Far East Ports to Europe, crossing the far east and central Siberian territories; and leverage the upgraded performance of the Trans-Siberian line to accelerate integration of Siberia and the Far East into Asia-Pacific value chains by attracting Asian investments while, in the meantime, increasing raw materials exports to Asia. On the domestic limits and external challenges for Russia's transport expansion plans in the Far East, see Pepe, J. M. (2019). The "Eastern polygon" of the Trans-Siberian rail line: A critical factor for assessing Russia's strategy toward Eurasia and the Asia-Pacific. *Asia Europe Journal*, 1–20. <https://doi.org/10.1007/s10308-019-00543-5>