

Trinity College

Trinity College Digital Repository

Faculty Scholarship

10-2022

Connection Meets Disruption: The China-Europe Freight Train and the War in Ukraine

Xiangming Chen

Trinity College, xiangming.chen@trincoll.edu

Follow this and additional works at: <https://digitalrepository.trincoll.edu/facpub>

The European Financial Review

October - November 2022
europeanfinancialreview.com

The Simple Rule of
Sustainability Governance

The Hybrid Work Revolution

Monarchy may be just
the Solution Libya Needs

Bitcoin at the Crossroads
– Consolidation or
Dead Cat Bouncing?

CHINA AND THE WORLD SERIES

CONNECTION *meets* DISRUPTION:

The China-Europe Freight Train and the War in Ukraine



empowering communication globally

ISSN: 1757-5680



9 771757 568006

USA \$22 EU €17.5
CAN \$22 UK €15

10



Connection Meets Disruption: The China-Europe Freight Train and the War in Ukraine

BY XIANGMING CHEN

The China-Europe Freight Train (CEFT), which inaugurated its run from the megacity of Chongqing in southwestern China to Europe's largest river port of Duisburg in western Germany in 2011, has roared through its first decade. With 82 routes currently connecting nearly 100 Chinese cities and around 200 cities across 24 European countries and more than a dozen Central, East, and Southeast Asian countries, the CEFT has formed a vast transcontinental freight network spanning both ends of Eurasia. As the CEFT runs into

its second decade, it has already sent around 60,000 trains cumulatively between Europe, China, and parts of East Asia and Southeast Asia by October 2022. Every day now, around 40 freight trains carrying hundreds of containers and other forms of cargo shipments run east and west across Eurasia, with extended rail-sea and rail-river intermodal shipping across the Caspian, Black, and Mediterranean seas and along the Rhine and Yangtze Rivers. The scope and strength of the CEFT-induced logistical connectivity along Eurasia has hit an all-time

high since I wrote about its then state of development in “Connectivity, Connectivity, Connectivity: Has the China-Europe Freight Train Become a Winning Run?” as the cover story for the August-September 2021 issue of this magazine. Reading that and this article in tandem will provide a broad and fast-moving picture of how a transcontinental freight rail system has developed with great rapidity, extensive reach, and considerable success, against a serious geopolitical risk posed by the war in Ukraine.

On 24 August 2022, exactly six months after Russian tanks entered eastern Ukraine, a freight train left a railway station near the landlocked megacity of Chengdu in southwestern China and arrived in Saint Petersburg, Russia on the Baltic Sea 12 days later. The train carried 50 containers loaded with copper sheets, water heaters, and laser cutters worth \$1.67 million and ran 6,207 km through the land port of Alashanhou (Alatau Pass), Xinjiang and Kazakhstan. This

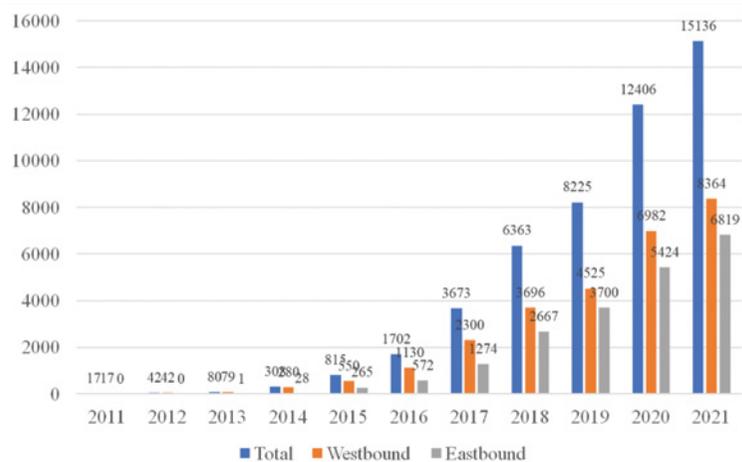
journey highlights the connective scope of the CEFT across Eurasia on one hand, and the disruptive effect of the Ukraine war on the train on the other, due to Russia's expansive location bridging China and Europe. This essay explores the collision between the strong connection of the CEFT and the disruption caused by the war, and its broader geopolitical implications for the CEFT-induced transcontinental freight network spanning Eurasia.

Russia's war against Ukraine since 24 February 2022 has become a roadblock to the CEFT and has the potential to be a longer-term disruption to parts of this transcontinental freight network. Russia looms large from its central role in intermediating the CEFT, besides being the start and end point of many freight trains as the final terminus. This is largely dictated by Russia's location and vast territory straddling both Europe and Asia and the connective power of its long-running Trans-Siberian Railway. Over 2011-21, Russia accounted for 37 per cent of the total number of CEFTs, ahead of Germany at 24.3 per cent and Poland at 23.4 per cent.¹ Western sanctions led many European companies to avoid Russia. While Ukraine did not join the CEFT until 2020 and accounted for only 0.2 per cent of CEFT flows by the end of 2021, a number of CEFTs ran west through Russia and then Kiev and Chop, a Ukrainian city near the borders of Slovakia and Hungary, to enter the EU. This route came to a halt when the war started.

Is the war in Ukraine really disruptive to the CEFT, and how? The disruption appears obvious and major, as the war is the biggest on the European continent in eight decades, with severe geopolitical consequences if we focus narrowly on the geography of Russia and, to a much lesser extent, Ukraine as a pass-through place for a large percentage of CEFTs. The disruption may also be real as the war poses expected risks to logistics companies and freight forwarders who would have to raise the insurance premiums charged to their clients. However, the CEFT's extensive geographic coverage, coupled with the combined diversity and flexibility of its many routes and linked cities, may offer ways and means to bypass or mitigate the geographically concentrated risks of the Ukraine war. To assess how the collision between the CEFT's connection and the war's disruption plays out across Eurasia, I first



FIGURE 1 The growth of the China-Europe freight train, 2011-21



Source: Reproduced from the source in Note 1.

present a broad, up-to-date picture of the CEFT's ever-growing scope of routes linking a massive network of cities and their underlying logistical and economic strengths that are capable of countering the disruption caused by the Ukraine war.

CONNECTIVE SPEED, SCOPE, AND STRENGTH

Any large-scale transport system takes a long time to develop and mature. The CEFT may be an exception in that it has expanded rapidly and extensively over a mere decade, from a few places into arguably the world's largest logistics network linking hundreds of cities across the vast continent of Eurasia, as the most prominent

FIGURE 2 A freight train loaded with personal protective equipment (PPE) leaving Xi'an for Milan in 2020 and the cumulative number of China-Europe freight trains through August 2022



59,436 China-Europe freight trains ran from 2011 through August 2022

Source: Image from China Global Television Network (21 August 2022); the statistical figure is from the Exploring New Silk Road WeChat account (14 September 2022).

MAP 1 The main China-Europe freight train routes



Source: Chen (2021: Figure 3).

flagship project of China's Belt and Road Initiative (BRI), launched in 2013. While this combination of speed and scope hints at the CEFT's potential lack of coherence and sustainability, it has secured a level of regularity and stability from its rapid growth and extensive coverage of numerous shipping rail routes and train schedules that may yield flexibility when faced with risks like the war in Ukraine.

The CEFT started when the megacity of Chongqing in southwestern China sent a maiden freight train to Duisburg, Germany, through Kazakhstan, Russia, Belarus, and Poland on 19 March 2011. A return train from Duisburg did not arrive back in Chongqing until March 2013, marking the first-ever eastbound run. One year later, in 2014, shortly after the inauguration of the BRI, China's President Xi Jinping greeted a train from Chongqing when he visited Duisburg, which accelerated the growth of the CEFT. By the end of 2021, a total of 49,000 freight trains had run between China and Europe, carrying 4.4 million containers. The fastest growth occurred in 2020, at 50 per cent and 56 per cent in numbers of trains and containers, respectively, over 2019. This growth was fuelled by the pandemic-induced disruption to maritime shipping and Europe's strong demand for China-made personal protective equipment (PPE) during the first wave of COVID-19. The runs also became more balanced as the number of eastbound trains as a proportion of westbound ones rose from 50.6 per cent in 2016 to 81.5 per cent in 2021 (figure 1). By 1 September 2022, the cumulative number of CEFTs had reached around 59,436 (figure 2), which carried over 5 million containers with cargo worth nearly \$300 billion and covering 50,000 types of goods.²

As the CEFT has grown rapidly, it has expanded broadly to cover the entire Eurasian landmass. By 1 September 2022, the CEFT ran on 82 routes along three main corridors between nearly 100 Chinese cities and around 200 cities across 24 European countries and a number of Central, East, and Southeast Asian countries neighbouring China (map 1). Every day, these cities send, receive, or transit around 40 freight trains running across Eurasia. To facilitate timely shuffling of empty containers, China Railway Co. has set up 87 container-return yards in 18 countries covering most of the CEFT hubs outside China. Many Chinese companies have established logistics distribution centres along the CEFT routes. For example, the Chongqing-Xinjiang-Europe Co. has built an overseas logistics redistribution facility in Duisburg, sustaining the two cities' decade-long freight train service. In 2021, the number of trains at Duisburg's rail port peaked at about 70 for a short time, while averaging 60 trains

a week, compared with only a dozen trains several years earlier. While Duisburg remains the busiest European hub for the CEFT, the growing number of routes has brought more cities into the CEFT's orbit as indicated by the spread of trains to more cities. Those cities sending and receiving more than 100 CEFTs as a share of all trains dropped from 89 per cent in 2017 to 81.4 per cent in 2021.³

Despite its explicit geographic reference to China-Europe, the CEFT has expanded to a growing number of direct or extended routes between China and Central Asia in the early stages, and East Asia-China-Central Asia more recently. In August 2020, China's eastern city of Wuxi (Jiangsu Province) sent its first freight train via the port of Lianyungang to Uzbekistan loaded with locally manufactured products like consumer electronics and car parts, in response to uncertain and high costs and the unpredictable weather for sea shipping. In 2022, the first sea-rail-road multimodal route carried new Japanese cars from the port of Yokohama to the major port city of Tianjin in northern China. From there, a block train of Chinese-designed JSQ freight vehicle wagons with double-decker racks, each of which can hold 8-12 cars instead of 3-4 cars for a conventional boxcar, shipped the new cars via Xi'an and Horgos to the Kazakh border rail terminus of Altynkol. From there, the new cars were trucked to their destination of Almaty. This illustrates Xi'an's established position and role as China's largest inland port for moving new and used vehicles. It features a special route to the port of Ghent, Belgium for shipping new cars, especially Volvos between China and Europe with the more economical, China-made model XC60 going to Europe, and the more luxurious and expensive XC90 from Europe back to China. By the end of 2021, the Xi'an-based CEFT (Chang'an Express) ran 739 block trains carrying 83,600 new cars, 315 westbound trains with 41,411 cars and 424 eastbound trains with 42,189 cars, including such international brands as Audi, the Chinese electric carmaker BYD (Build Your Dreams), and Peugeot S.A., besides Volvo.⁴

On a broader geographic scale, by 29 August 2022, the International Land-Sea Transport Corridor (ILSTC), anchored to and through Chongqing as its centre of operation and established in 2017, channelled more than 20,000 freight trains between Europe and Southeast Asia via China and between western China and Southeast Asia, terminating in Singapore. Within China, this corridor has incorporated 111 rail hubs associated with 59 cities and 29 ports across 16 provinces into an ever-expanding domestic/international logistics network functioning as a transcontinental transport corridor.⁵

Beyond and through China, this land-sea corridor has extended more freight connections back and forth to nearly

100 cities in 19 countries between Europe-China and Southeast Asia through China's overland neighbours of Vietnam, Laos, and Myanmar via Yunnan Province. The traffic has grown from the increasing use of the existing China-Vietnam Railway, and since the opening of the China-Laos Railway on 23 December 2021, and 1 January 2022, when the Regional Comprehensive Economic Partnership (RCEP) took effect. Since 2017, the value of traded cargo carried through the ILSTC to ASEAN has amounted to approximately \$116 billion, which accounts for 33 per cent of the total amount of trade between China's provinces and cities and ASEAN along the corridor.⁶ Even beyond the ILSTC via Chongqing, the CEFT (Chang'an Express) has begun to ship asbestos regularly from Central Asia and Russia through Kazakhstan to Vietnam overland, saving 50 per cent in transit time and 20 per cent in shipping cost over the traditional rail-sea route via one of China's main east-coast ports.

This increasingly varied and stretched set of freight routes has both extended and diversified the geographic boundary and coverage of the CEFT, pushing more cargo to flow back and forth between China and Central Asia, between East and Central Asia via China, and between Europe and Southeast Asia through western China. This has also sharpened China's location advantages in recombining its land and sea transport access and capacity to expand its economic reach and power through the CEFT as a transcontinental logistics network. As this network becomes even more Eurasian geographically and more intermodal, it is poised to carry more Europe-Asia trade, the world's largest bi-regional flow, although the bulk of that trade will continue to travel by sea.

FROM REACH TO IMPACT

The CEFT's vast geographic reach has created new mechanisms for exerting positive impact on countries and cities along the routes. First, while Russia, the former Soviet states, and China use the Agreement on International Goods Traffic by Rail (SMGS), Europe uses the Rail Transport Document (CIM) consignment, which creates some incompatibility between two separate rounds of paperwork for international rail transport across borders. The CEFT has partly unified those two protocols by allowing a number of such CEFT hubs as Chongqing and Xi'an to adopt a unified scheme to send and receive cargo shipments with a single round of paperwork between origins and destinations. This cooperation has facilitated the inclusion of postal packages in the CEFT cargo, which has extended this new international postal service from the Chongqing-Duisburg line to routes linking 36 Asian and European countries. This led to the running of 22 postal

block trains carrying 10,000 tons of mail packages after COVID-19.⁷ On 16 September 2022, the CEFT (Chang'an Express)'s first-ever block train of postal packages left Xi'an for Małaszewicze, a key CEFT hub on the Polish side of the border with Belarus, and arrived in 12 days. From there, the Polish postal authorities sent on the packages to their recipients throughout the EU within 30 days, considerably faster than the estimated 60 days from origin to destination by sea and at a fraction of the cost for air shipping.

To improve border-crossing efficiency, the CEFT has brought together several of China's interior hubs like Xi'an and border gateways such as Horgos with Ghent (Belgium), Gödöllő (Hungary), Małaszewicze, and Rotterdam in adopting the "safe and smart trade" and the "customs-rail connect" programmes. In 2021, the Chinese and Kazakh customs authorities agreed to set up the combined "customs-rail through" clearing scheme to simplify and speed up the heavy cross-border flow of CEFTs and China-Central Asian trains, which highlighted and reinforced Kazakhstan as the most critical crossroads for trains going both west and east, together with Russia.

In August 2022, the Bank of Chongqing completed the first transaction of derivative trading on a new online financial platform with Singapore, which created convenient payment and financing for trade and logistics companies shipping along the ILSTC described above. It has set up S\$20 million to be swapped with Chinese yuan in advancing or settling international cargo payments by various parties based in Chongqing and its neighbouring provinces and cities. This financial innovation also reinforces an existing financing mechanism that has raised \$373 million for small trading and logistics firms to advance and settle cargo payments since 2019. In addition, the Bank of Chongqing has leveraged this new international financial programme in targeting key local logistics companies for sustained financial backing that has amounted to \$87 million since 2019.⁸ The combination of these older and new financing improvements has provided a big boost to the Chongqing-anchored transnational corridor linking Europe with Asia.

The CEFT with its Asian freight connections would not be able to operate as a transcontinental shipping network without these cooperative mechanisms.

The CEFT with its Asian freight connections would not be able to operate as a transcontinental shipping network without these cooperative mechanisms. With smoother border-clearing and efficient processing of paperwork, the CEFT has enhanced regional integration, trade growth, industrial development, and consumption along and beyond the routes. The most important Central Asian country for connecting China with Europe, Kazakhstan, has secured new access to international trade by exporting its high-quality wheat to Southeast Asia, which would not otherwise be possible due its landlocked location. Leveraging its CEFT hub position, the megacity of Chengdu near Chongqing has raised its number of export-oriented companies from a few to nearly 50,000, including those that send both locally assembled cars and traditional agricultural products to European markets on its regularised westbound trains. This has been reflected in the rapid growth of combined trade from and to China's central and western regions, which rose 2.5 times from 2011 to 2021 and whose share of the national total increased from 12 per cent to 17 per cent. Export-oriented industrial enterprises based on Chongqing and Zhengzhou, another CEFT hub in Henan Province in central China, grew their output by 30 per cent annually.⁹

In the opposite direction, the CEFT carries a growing variety of popular European consumer goods such as Dutch dairy products, French cosmetics and red wines, Italian clothing, and German luxury cars to China, where there is a high demand for these imports. This is not surprising, as China has become a huge consuming nation, whose share of global consumption rose from 9 per cent during



2000-5 to 23 per cent during 2013-18. As the CEFT has opened up more avenues for European goods to reach China, it helped drive China's imports from the EU and east-central Europe to grow at 63.7 per cent and 127.3 per cent during 2016-21.¹⁰ China's railway trade with Europe rose from \$8 billion of goods in 2016 to about \$75 billion in 2021, which accounted for around 9 per cent of the total China-Europe trade. The CEFT's favourable trade effect has spread beyond the China-Europe dyad to the China-Central Asia and other intra-Asia segments of the expanded Eurasian trading network. In May 2022, Guangxi Province, a major sugar cane producing region in China, sent a block train fully loaded with sugar to Kazakhstan in 11 days. In the opposite direction, Uzbekistan can export fertilisers to Malaysia via rail-sea shipping through western China to the port of Qinzhou in Guangxi for onward seaborne shipping.

Greater trade along more connected and cost-effective transport routes facilitates more industrial investment and development, leading to more efficiently organised production and supply chains. Freight train costs one-fifth of air shipping and takes a quarter of the time of maritime shipping. Factoring in time cost for transporting high-value-added products, freight train cuts 8-20 per cent of the total logistics costs for combined rail-sea shipping, with less vulnerability to external environmental conditions and more operating stability. These advantages have contributed to the CEFT's appeal to large global manufacturers such as Dell, Lenovo, and TCL (a large Chinese electronics company headquartered in Huizhou, Guangdong Province), which have reorganised their supply chains around key CEFT hubs and along key shipping routes.

Finally, the CEFT, by creating more routes between pairs of regions, has contributed to the establishment of new sister-province relations between Shaanxi Province and Kaluzhskaya Oblast, Russia and Jambyl or Zhambyl Region, Kazakhstan, and between Jiangsu Province and North Brabant, the Netherlands. As a result of frequent inter-city train services, friendship-city cooperation has formed between Chengdu and Duisburg, Vienna, and Milan, between Chongqing and Dusseldorf, Hamburg, and Budapest, and between Wuhan and Lyon and Bordeaux,¹¹ from

where the CEFT carries the famed French red wine to China. Xinjiang Region has recently agreed to set up friendship-region relations with four regions in eastern Kazakhstan bordering China, signalling the particularly close trade and logistics ties between two neighbouring regions as crucial subnational connected segments of the CEFT. Playing off its status, a major CEFT hub, China's city of Xi'an, has recently used the thirtieth anniversary of its friendship-city relations with Dortmund to run a summer football programme for local youth with the German city's coaches. These new inter-regional and inter-local government relations not only strengthen the logistics ties between these CEFT hubs and their immediate hinterlands but also promote other areas of regional and local cross-border cooperation.

Looking back at its first decade of existence, the CEFT has developed rapidly and extensively into a transcontinental freight network from a convergence of top-down and bottom-up initiatives and programmes across many international boundaries. It has created a strong synergistic driving force behind a large number of freight trains to and from numerous cities and regions that add up to a substantial volume of traded goods across Eurasia, the largest region of gravity of the global economy. Fully integrated or not as a logistics system, the CEFT possesses a maturing degree of stability and flexibility in the face of the war in Ukraine as a potentially longer-term risk to its operation.

THE DISRUPTION OF THE WAR AND THE ADAPTATION OF THE CEFT

Even before the Ukrainian crisis, the CEFT's large systemic scale, wide geographic reach, and operational complexity presented obstacles including uneven demand and load distributions across all routes, pandemic-induced supply chain disruptions, some traffic congestion at a small number of crucial border crossings like Małaszewicze, Poland, and lagging development of logistical infrastructure at some hubs to support heavy train flows. Leading up to the war, some CEFT routes were already slowing down as weaker demand for rail shipping and lower freight prices had arisen from more countries resuming their own production upon exiting COVID-19 and thus needing less exports from China, as well as reduced sea freight



The CEFT's strong recovery from and response to the disruption of the war reflect its flexibility and adaptability embedded in its enlarged geographic coverage and unevenly distributed access to alternative routes.



costs as a re-energised competition with the CEFT as most COVID-induced port congestions eased.

Yet none of these is as challenging as Russia's war against Ukraine, considering that a large amount of rail-cargo has continued to pass through Kazakhstan, Russia, and Belarus, with 68 per cent of the westbound traffic and 82 per cent of the eastbound traffic in China-EU overland trade through Russia in 2021. Soon after the West imposed sanctions on Russia, especially with Russian railways on the sanction list, many China-based European and US manufacturers and traders suspended orders for shipping on the CEFT, while some sought cargo insurance packages that cover war risks, which is not usually covered by the standard freight insurance. The war, for example, led the German carmaker Audi, which has extensive supply chains to and in China, to stop using the Trans-Siberian Railway.

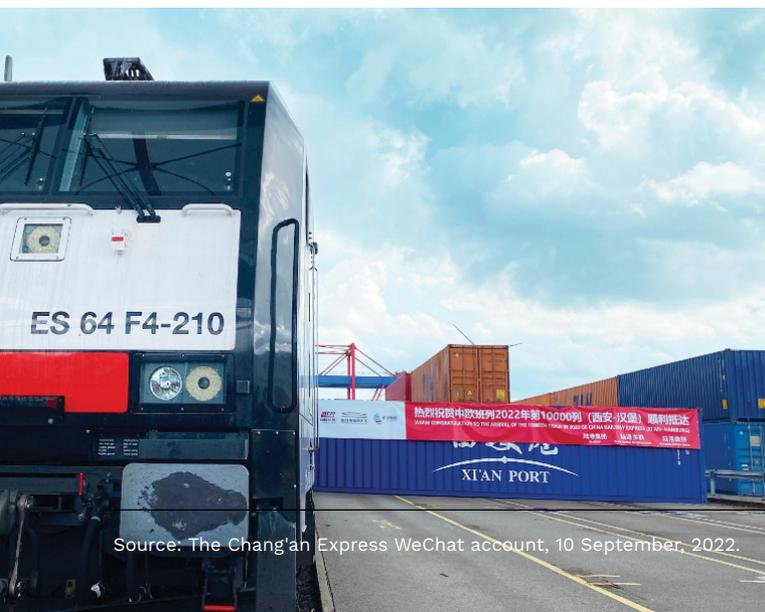
While Ukraine did not join the CEFT until 2020 and accounted for only 0.2 per cent of the CEFT flows by the end of 2021, a small number of CEFTs ran from Russia through Kiev and Chop, a Ukrainian city near Slovakia and Hungary, into the EU. This route was suspended indefinitely after the war in Ukraine started. By early April 2022, the freight volume from China to Europe was down by about 50 per cent compared with before the war.¹² More specifically, market demand for freight trains from Shanghai to such key European cities as Hamburg, also a sister-city with Shanghai, fell by 40 per cent in the first month of the war, with the frequency of trains halved.¹³ It is tempting to inflate this short-term shock into a larger and longer impact, especially since the war and its broader spillover geopolitics appear to escalate and persist.

Despite all the war-induced disruptions, it did not take long for the CEFT to stabilise its operation and regain momentum. Even in the war's immediate aftermath during

March and April 2022, the number of CEFTs averaged around 1,100, above the mean over the last three years. By May and June 2022, the number of trains rose to over 1,300, comparable to the monthly high in 2021. July and August 2022 saw new historic records of 1,517 and 1,601 trains, respectively, the latter of which was up 21 per cent in year-over-year (YOY) growth.¹⁴ On 21 August 2022, a freight train departed Xi'an and arrived in Hamburg on 9 September through Kazakhstan, Russia, Belarus, and Poland, along the earliest and most established route that was supposedly the most vulnerable to the spillover risk of Russia's war in Ukraine. It marked the 10,000th CEFT for the year (see image below) and hit this neat target 10 days ahead of the pace for 2021, carrying 972,000 containers at 5 per cent in YOY growth.¹⁵ While the total of 10,000 trains may have caught media attention, the Xi'an-Hamburg train was functionally and connectively important. Its cargo featured titanium-plate-based liquid crystal display (LCD) panels made in Xi'an for Europe. Its route linked Xi'an as the eastern end of the ancient Silk Road and a 21st-century global logistics hub, with Hamburg as Germany's largest comprehensive port. Hamburg is also Europe's leading rail port, as the Port of Hamburg has a track network of about 300 kilometres, which efficiently handles around 200 freight trains with over 5,500 wagons daily.

The CEFT's strong recovery from and response to the disruption of the war reflect its flexibility and adaptability embedded in its enlarged geographic coverage and unevenly distributed access to alternative routes. As one form of response, some rail shipping companies and freight forwarders, primarily those based in China, have turned to main alternative routes along the network of roads, railroads, and ports stretching across Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and Turkey into Europe, or what is known as the CEFT's Middle or Southern Corridor. Cargo shipments across Central Asia and the Caucasus are expected to reach 3.2 million metric tons in 2022, a sixfold increase over 2021. A small and growing number of CEFTs from such established hubs as Chongqing and Xi'an have crossed the Black Sea into Europe via intermodal shipping through the Romanian Port of Constanta into the EU (the two dotted lines, map 1 and also see map 2).

One of the first companies to use the Middle Corridor, TopRail, a Romania-based logistics freight forwarding company with regular cargoes to and across Europe from China, reported a 22-day journey from Suzhou in eastern China to the Georgian port of Poti in April 2022, a record transit time. The company ran more trains in May, using Constanta as a gateway into Europe, with train dispatches



Source: The Chang'an Express WeChat account, 10 September, 2022.

MAP 2 The China-Europe freight train crosses both the Caspian and Black Seas



Source: Silk Road Briefing, the Asia Briefing Weekly.

to France and additional stops in Germany. While this adaptability was not envisioned and built into the original CEFT system, the latter's established routes have fostered and signalled opportunities for alternative routes via land-sea shipping to bypass the pacing risks of the war in Ukraine.

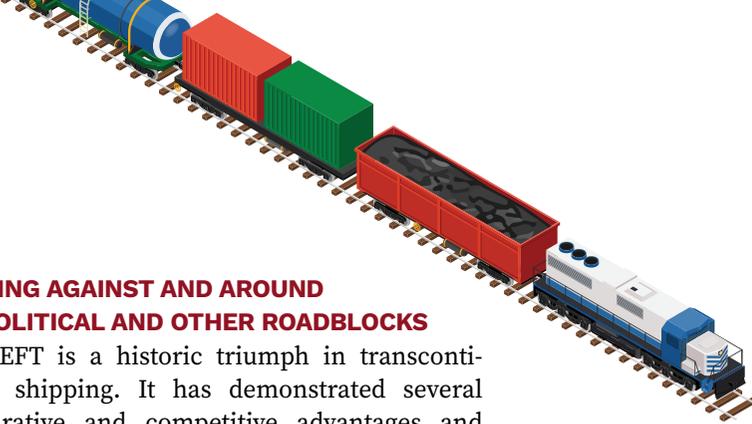
The main alternative route has also spun off and stimulated spur lines through Central Asia that otherwise might not take shape. One such line has brought the reclusive Central Asian country of Turkmenistan into the CEFT with its China-Central Asia segments. In transiting a part of Kazakhstan, a train from China to Europe can pass by Almaty and head west through Shymkent before heading south into Tashkent, with onward connections to Turkmenistan via Samarkand before reaching Turkmenistan's Caspian Sea port of Türkmenbaşy (map 1). The latter is 300 km closer to Baku than sailing from the Kazakh port of Aktau. In the first eight months of 2022, cargo from China, via Kazakhstan, through Uzbekistan and Turkmenistan, increased 400 per cent, while rail cargo volumes between Uzbekistan and Turkmenistan reached more than 1.38 million tons over that period.¹⁶

In the opposite direction from Central Asia to China, on 31 August 2022, a barge loaded with high-quality locally grown licorice, a common ingredient

for traditional Chinese medicine from the eastern Turkmen city of Türkmenabad, left Türkmenbaşy for Aktau, where the cargo was put on a block train that arrived in Xi'an in 22 days, covering 7,562 kilometres. This first-ever return train from Turkmenistan to Xi'an exemplifies the two countries' transport cooperation following the second China-Central Asia Foreign Ministers meeting in 2021. The new China-Kazakhstan communique commemorating the thirtieth anniversary of diplomatic relations, was unveiled on 14 September 2022 in Nur-Sultan (formerly Astana), capital of Kazakhstan, where Xi Jinping had announced the Silk Road Economic Belt of the BRI in 2013 and made his first-ever international visit after the pandemic. There, he unveiled the development of a new Kazakhstan-Turkmenistan-Iran rail corridor, the equalising of its through customs and transport tariffs, and the upgrading of Aktau port to help ease the rail-sea crossing over the Caspian Sea. The agreed feasibility study was also signed on 14 September 2022 on the sidelines of the most recent summit of the Shanghai Cooperation Organisation (SCO) in Uzbekistan. Construction of the China-Kyrgyzstan-Uzbekistan Railway, beginning in 2023, would eventually link up with railways through Turkmenistan, Iran, and Turkey to Europe. Having just joined the SCO as its newest member country, Iran announced that it would explore creating a direct freight rail link from Tehran all the way east to Shanghai.

These alternative or new freight routes will shorten the freight journey from China to Europe and the Middle East and cut several days off the travel time as the shortest-possible route. In the short term, it helps the CEFT weather the war in Ukraine along round-about routes. In the longer run, it will incorporate partly or fully into the CEFT's widening geographic orbit such as Caucasian, Central, and West Asian countries as Azerbaijan, Georgia, Kyrgyzstan, Uzbekistan, Turkmenistan, Iran, and Turkey, and their nodal cities like Baku, Tbilisi, Bishkek, Tashkent, Ashgabat, Tehran, and Istanbul, plus some of their smaller and secondary cities (maps 1 and 2).

Adaptive as the CEFT has shown itself to be, it can't avoid the known and latent roadblocks along the alternative routes. Whether crossing both seas or just one, "going south" from Kazakhstan instead of west through Russia is more time-consuming and



less cost-effective, due to the longer distance and more complicated land-sea intermodal shipping. For one thing, some Kazakhstan-based European companies attempt to bypass Russia, which slows down Chinese cargo destined for Europe through Kazakhstan. For another, a very limited number of barges are available to carry containers offloaded from trains from the Kazakh port of Aktau to Baku across the Caspian Sea. It often takes a full week for the offloaded containers to get on a barge at Aktau. Since there is usually only one barge carrying cargo from Poti to Constanta over the Black Sea once every 10 days, it means a wait of 10 days if a freight train misses that one ship service that partly decouples the rail-sea shipping. By helping war-torn Ukraine transship grain out, the port of Constanta lacks sufficient port and rail capacities for moving Chinese cargo. These barriers lengthen the entire CEFT trip from around 15 days along the Kazak-Russian route to approximately 40-50 days, with some CEFT shipments getting stuck in Constanta for around 20 days. They also expose the constraint of such bottlenecks as the underdeveloped facilities at crucial rail crossings and transit ports across partially incompatible logistics systems over multiple international boundaries, further complicated by contentious geopolitics. On top of all, the CEFT has a long way to go in speeding up from its current average speed of 20-30 km/hour across the Eurasian landmass.

These difficulties aside, the CEFT has created favourable conditions from its decade-long run for the incorporation of more countries and cities along the main routes, which could in turn lead to new solutions to the new, war-induced challenges. This contributes to the regional spread of trade flows and logistics ties conducive to new opportunities for economic cooperation among newly linked national and local places and spaces across Eurasia. As a recent example, Georgia, Kazakhstan, and Romania have discussed making land-sea border-crossing and tariffs more convenient and compatible, like the more harmonised overland border crossing between China and Kazakhstan and between Russia/Belarus and Poland before the war in Ukraine.

RUNNING AGAINST AND AROUND GEOPOLITICAL AND OTHER ROADBLOCKS

The CEFT is a historic triumph in transcontinental shipping. It has demonstrated several comparative and competitive advantages and strengths in the face of geopolitical risks such as the war in Ukraine and other geoeconomic and technical challenges. Its wide territorial coverage, buttressed by a large and diverse network of routes and cities, creates an extensive range of logistics connections capable of redirecting cargo flows to some alternative geographic paths where existing rail lines can be linked across new border crossings. The 200-plus cities across the CEFT offer a wide and deep grounding for subnational and local governments to play active and responsive roles in supporting inter-city cargo shipments through their jurisdictions, without being centrally exposed to the geopolitical winds blowing at the inter-state level.

The German city of Duisburg, the busiest CEFT hub in Europe, has both an Office of China Affairs and a commissioner for China affairs at the office of the mayor, who happens to be a former CEO of the port authorities of Duisburg, or Duisport, to oversee and coordinate all China-related activities led by and extended from the CEFT. This reflects a special kind and degree of local autonomy largely shielded off from the macro-geopolitical currents hitting China-EU relations. In China, a number of proactive municipal governments of such key CEFT hubs in China as Xi'an offered war insurance to shippers who were hesitant to run their cargo through Russia in the early days and months of the war. This financial assistance or subsidy has been a key factor in keeping some trains running along the Russian route while prompting the CEFT's war-triggered slowdown to pick up steam again later.

The war's negative impact has also been mitigated by other recent developments at the European end of the CEFT routes. Strikes at a number of European ports have recently created congestions, which in turn have increased the stronger appeal of the CEFT's time-saving and cost-effective

The CEFT is a historic triumph in transcontinental shipping. It has demonstrated several comparative and competitive advantages and strengths in the face of geopolitical risks such as the war in Ukraine and other geoeconomic and technical challenges.

advantages. At the same time, the small number of small crucial points for westbound CEFTs to enter western Europe, such as Małaszewicze near the border with Belarus, are irreplaceable. This Polish border town's limited physical size and logistics facilities need upgrades to ease congestion due to the steady stream of freight trains from China via Russia and Belarus through the war.

As the westbound CEFTs continue to run through the war's geopolitical risks, accompanied by some existing short- and longer-term barriers, the CEFT system has shifted some gravity of its operation further east, pulled by the sum of the much more expansive Asian side of the Eurasian landmass, the weightier Asian economic region, the greater extension of the intra-Asian rail-sea routes, and the recent geopolitical shifts that help strengthen China-Russia economic relations as the war in Ukraine continues. As mentioned earlier, the CEFT now encompasses an increasing number of China-Central Asia, China-Southeast Asia, and East Asia-China-Europe intermodal routes beyond the original smaller set of China-Europe rail-only routes via Central Asia. While maintaining generally strong ties with Russia through the Eurasian Economic Union, the Central Asian countries have turned more to China, as reflected in the growing number of freight rail routes linking them. The CEFT's originator and most powerful driver, China has pushed the logistics flows through the CEFT further east and south by enhancing its middle role in channelling intermodal shipping between Europe and Asia through its western region.

As the war in Ukraine poses continued risks for through-Russia freight traffic, the number of China-Russia freight trains and their loaded containers, primarily via the Eastern route (map 1), grew 16.4 per cent and 16.2 per cent, respectively, over the first seven months of 2022. This reflects the growth of overall China-Russia trade, which amounted to \$97.7 billion over this period, up 29 per cent from the corresponding period of 2021.¹⁷ As a good number of Western companies have left Russia in response to the imposition of severe sanctions, China has exported more cars, mobile phones, and varied consumer goods to Russia. Besides freight trains from western China to western Russia, the greater proportion of China's exports has entered Russia via a number of cross-border transport corridors linking China's northeast to Russia's Far East (map 3), with a recently opened cross-border rail and a road bridge between the Chinese border city of Heihe and its Russian counterpart of Blagoveshchensk, a new transport corridor that parallels the CEFT's Eastern route (map 1).

The current cargo shipments from eastern China remain somewhat limited, due to its zero-COVID border

MAP 3 The Russian Far East's Cross-Border Transport Corridors with China



Source: The Exploring New Silk Road WeChat account (8 September 2022).

control, the lack of logistics facilities, and the shortage of trucks on the Russian side. In the longer run, these transport corridors are likely to carry more cross-border trade as Russia shifts more economic development priority to its Far Eastern region to lessen its head-on confrontation with Western Europe, as indicated by Putin's speech at the 7th Eastern Economic Forum held on 5-8 September 2022 in the geographically fitting city of Vladivostok. In addition, the upgrading of the cross-border railway along the BRI's China-Mongolia-Russia economic corridor, agreed at the SCO Summit in Samarkand, Uzbekistan on 15-16 September 2022, will strengthen the CEFT's Middle route (map 1). These developments may pull the eastern end of the CEFT further east, which in turn could reinforce Russia's position as a wide crossroads for Eurasian trade, reducing some dependence on Kazakhstan's crucial pass-through location for China's westbound trains.

Finally, to the extent that the war in Ukraine poses both geopolitical and logistical risks to the CEFT, geopolitics looms and lurks much larger from the western end of Eurasia than at its eastern edge, where the close China-Russia partnership has translated into greater cross-border trade and freight. Between both ends of Eurasia, the CEFT has spun a wide web of freight routes extending the China-Europe rail links among their major cities to a much larger number of logistics hubs and their secondary feeders and regional hinterlands across Central, East, and Southeast Asia. While some new routes within and across this transcontinental shipping network may not stabilise with regularised freight

service until later, the system has already reached its irreplaceable level of long-term continuity regardless of any short-term disruptions. Riding on its large scope and strong connectivity, the CEFT has weathered the earlier shocks of Russia's war against Ukraine and is capable of responding to other challenges. This resilience bodes well for the CEFT to continue functioning as a dynamic transcontinental freight system as it runs into and through its second decade toward 2031. 



Xiangming Chen served as the founding Dean and Director of the Center for Urban and Global Studies at Trinity College in Connecticut from 2007 to 2019. He is currently Director of the Urban Studies Program and Paul E. Raether Distinguished Professor of Global Urban Studies and Sociology at Trinity College, a guest professor at Fudan University, Shanghai, and an adjunct professor at the Graduate School of the Shanghai Academy of Social Sciences. He has published extensively on urbanisation and globalisation with a focus on China and Asia and conducted policy research for the World Bank, the Asian Development Bank, UNCTAD and OECD. Those interested in an extended scholarly analysis of the China-Europe Freight Train can consult my research paper, *“Reconnecting Eurasia: A New Logistics State, the China-Europe Freight Train, and the Resurging Ancient City of Xi’an”*, *Eurasian Geography and Economics* (published online 17 September 2021), <https://doi.org/10.1080/15387216.2021.1980075>.

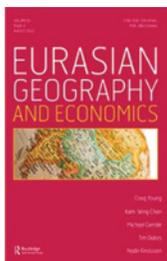
Acknowledgements

This article draws partly from my presentations and remarks at a series of events and workshops at the University of Oslo (UiO), the Center for Development and the Environment (UiO), the Norwegian Institute of International Affairs, and the ASIANET 2022 conference in Oslo and Trondheim, Norway, the Belt and Road Institute in Stockholm, Sweden, and the University of Bonn, Germany, during June 2022. I thank the organisers and audiences for their feedback. A few elements of this article have recently appeared in my published policy brief for the Norwegian Institute of International Affairs [8 / 2022], and the Chicago Council on Global Affairs' website, in highly abbreviated forms. The research underpinning this writing is supported

by the Paul E. Raether Distinguished Professorship Fund at Trinity College, Connecticut, USA.

References

1. “The operation of the China-Europe Freight Train for May 2022,” The Belt and Road Logistics Conference Bulletin, No. 11, 2022.
2. “The CEFT is a major innovation in the international freight transport system,” The China BRI Website, 19 August 2022; accessed at <https://mp.weixin.qq.com/s/PF1wWW1X2drJfCOVBZaSYg>.
3. Same as Note 1.
4. “Cars ride the Chang’an Express on professional multimodal shipping,” The CEFT (Chang’an Express) WeChat account, 19 September 2022; <https://mp.weixin.qq.com/s/jxAETsiltASxaimxu9doFg>.
5. “The new milestone for the Western Land-Sea New Corridor, with 20,000 freight trains,” The Land-Sea New Corridor WeChat account, 29 August 2022; accessed at https://mp.weixin.qq.com/s/Xwlabu3hy8RuXH0_budDHA.
6. “The Land-Sea New Corridor appears at the 19th China-ASEAN Trade Expo,” The Land-Sea New Corridor WeChat account, 16 September 2022; accessed at https://mp.weixin.qq.com/s/QcT9YzPt9Fbr8TQo3iY_Bw.
7. *The China-Europe Freight Train Report 2021*, prepared by the BRI Construction World Leadership Group and China Railway Co.
8. “The Bank of Chongqing has completed the first derivatives trading for the countries along the West Land-Sea New Corridor,” The New Land-Sea Corridor WeChat account, 6 September 2022; accessed at https://mp.weixin.qq.com/s/Gsouxckc_zNZxgqNd8kYUw.
9. “The BRI has created new ground of high-quality opening,” CCTV News, 8 September 2022; accessed at <https://baijiahao.baidu.com/s?id=1743357796864029671>.
10. Same as Note 7.
11. Same as Note 7.
12. “Russia-Ukraine war impacting China-Europe rail transportation and trade,” ThinkChina, 2 April 2022; accessed at <https://www.thinkchina.sg/russia-ukraine-war-impacting-china-europe-rail-transportation-and-trade>.
13. “Parties work to ensure smooth operation of China-Europe freight trains amid Ukraine situation,” Global Times, 17 March 2022; accessed at <https://www.globaltimes.cn/page/202203/1255109.shtml>.
14. “The CEFT reached 10,622 over the first eight months of 2022, up 6 per cent,” The New Silk Road Discovery WeChat account, 14 September 2022; accessed at <https://mp.weixin.qq.com/s/d7JAQrzQMqMc0SC07wGFpg>.
15. “The 10,000th China-Europe freight train of 2022 departs Xi’an,” The CGTN Website, 21 August 2022; accessed at <https://news.cgtn.com/news/2022-08-21/10-000th-China-Europe-freight-train-of-2022-departs-Xi-an-1cG5dVzLyM/index.html>.
16. “Uzbekistan-Turkmenistan rail cargo volumes up,” Silk Road Briefing, 31 August 2022; accessed at <https://www.silkroadbriefing.com/news/2022/08/31/uzbekistan-turkmenistan-rail-cargo-volumes-up/>.
17. “China is filling up Russia’s empty market,” The New Silk Road Discovery WeChat account, 1 September 2022; accessed at https://mp.weixin.qq.com/s/QNBCIgrOFC3MdItHERh_w.



Eurasian Geography and Economics (published online 17 September 2021)