TRADE FLOWS AND TRANSPORT ROUTES IN THE CAREC REGION AMID EXTERNAL SHOCKS

MAY 2024

FOR DISCUSSION
Senior Officials' Meeting
Central Asia Regional Economic Cooperation Program
30-31 May 2024, Astana

Trade Flows and Transport Routes in the CAREC Region Amid External Shocks

May 2024

CONTENTS

I. Introduction 1
II. General Trends in CAREC Merchandise Trade 2
III. Energy Trade 3
IV. Intra-regional Trade in Goods and Changes in Direction of Trade 4
V. Trade in Services 8
VI. Diversifying Transport and Transit Routes 9
VI.1. CAREC Corridor 2 (the Middle Corridor) 9
VI.2. The PRC–Europe Transit 12
VI.3. The Trans-Caspian Energy Transit 14
VI.4. Trade and Transport Flows between the CCA Economies and their Partners in Europe, Americas, and North Africa 16
VI.5. Key Takeaways and Ways Forward 19
VII. Conclusions and Policy Implications 21
References 24

LIST OF BOXES

Box 1. ADB Activities for the CAREC Corridor 2 Development 21

LIST OF FIGURES

Figure 1. Exports of Goods by CAREC Economies in 2022 and 2023 2
Figure 2. Imports of Goods of CAREC Economies in 2022 and 2023 3
Figure 3. Trade in Energy Products 4
Figure 4. Trade Between Seven CCA Countries, 2017–2022 6
Figure 5. Trade Flow Structures of Six CCA Countries, 2022 6
Figure 6. Non-energy Trade Turnover of CCA7 Economies with Key Partners, 2021–2022 7
Figure 7. Trade in Services 8
Figure 8. Map of the Middle Corridor 10
Figure 9. Container Traffic via the Northern Corridor (2017–3 months 2024) 13
Figure 10. Kazakhstan's Oil Exports via Trans-Caspian Route vs. Other Channels 15
Figure 11. Freight Turnover of Central Asian Ports on Caspian Sea 16
Figure 12. Selected CCA Economies' Non-Energy Trade with their Partners on the west, 2022 18

ACRONYMS

ADB	—	Asian Development Bank
BCP	—	Border crossing point
CAREC	—	Central Asia Regional Economic Cooperation Program
CATS	—	CAREC Advanced Transit System
CCA	—	Caucasus and Central Asia
CPMM	—	Corridor Performance Measurement and Monitoring
CRE	—	China Rail Express
EBRD	—	European Bank for Reconstruction and Development
ERA	—	Eurasian Rail Alliance
EU	—	European Union
FEU	—	Forty-foot container equivalent unit
ICE	—	Information Common Exchange
IMAR	—	Inner Mongolia Autonomous Region, People's Republic of China
PRC	—	People's Republic of China
SMEs	—	Small and medium enterprises
TEU	—	Twenty-foot container equivalent unit
TITR	—	Trans-Caspian International Transport Route
UN	—	United Nations
WCI	—	World Container Index
WTO	—	World Trade Organization
XUAR	—	Xinjiang Uygur Autonomous Region, People's Republic of China

I. Introduction

1. The last several years were turbulent for the global economy, including the member states of the Central Asia Regional Economic Cooperation (CAREC) Program. The shocks of the COVID-19 pandemic and the post-pandemic recovery, the developments in Afghanistan in 2021, and the devastating climate change-induced droughts and floods in Central Asia and Pakistan in 2021–2023 have been aggravated by the Russian-Ukrainian war which started in February 2022. These shocks provided strong, diverse, and multidirectional impacts on CAREC economies.

2. CAREC economies' trade in goods and services is one of the economic activities most affected by these shocks. The channels through which these shocks affected the CAREC economies include:

- the hike in international energy and food prices in 2022;
- the elevated risks of supply chain disruption on the main traditional routes connecting the CAREC region with the rest of the world, coupled with the opportunity for the region to gain a larger share of the Eurasian transit trade;
- the sanctions imposed on the Russian Federation in response to the war in Ukraine, and the voluntary departure of many international companies from the Russian domestic market;
- the dramatic fall in the cross-border movement of people during the pandemic followed by a dynamic post-pandemic spike in international travel;
- the changes in the Russian Federation's labor market and, as a result, in the labor and other forms of bi-directional migration between most Caucasus and Central Asia (CCA)[1] CAREC members and the Russian Federation; and
- the evolving international relocation of businesses and rechanneling of foreign direct investments associated with the global response to the conflicts in the region and its vicinity.

3. The CCA economies, which have strong economic, cultural and historic linkages with the Russian Federation and each other, were among the most affected by these shocks. Despite earlier catastrophic expectations, their overall economic results over 2022–2023 were generally rather positive (ADB 2023a). However, the risks to these economies remain elevated, with their trade in goods and services vulnerable to a variety of adverse external impacts. Their governments therefore are watching the external events carefully and considering a variety of development planning scenarios to safeguard and strengthen their trade and transport lifelines.

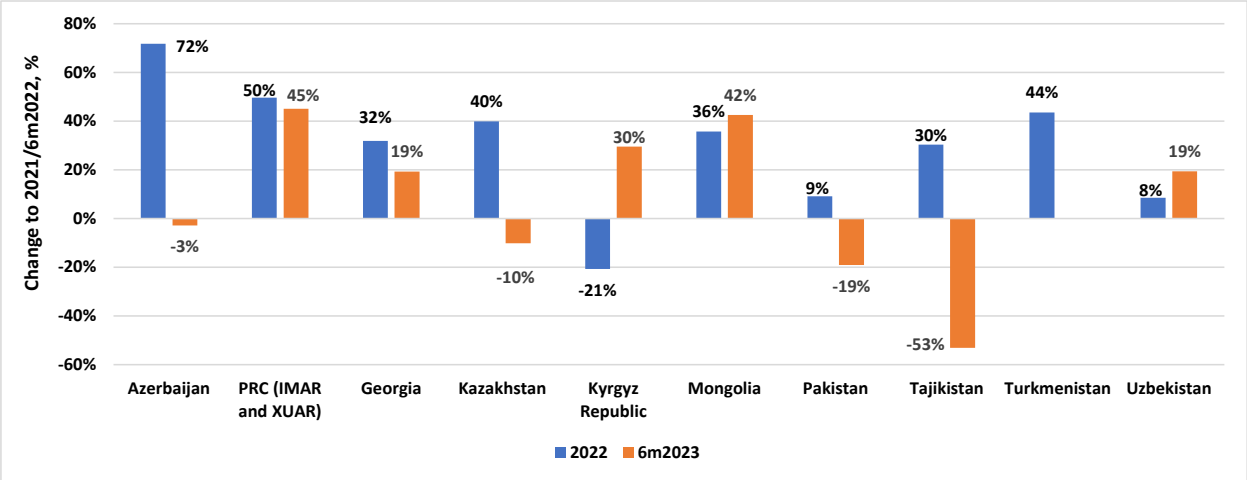
4. This paper seeks to uncover patterns and potential avenues of diversification and reorientation in the CAREC region's trade as revealed by the recent series of external shocks. It does so by first examining the CAREC-wise trends in merchandise and service trade volumes, partners, and routes during 2022–2023, wherever such data is available. The paper then focuses on the trade potential of the Middle Corridor which is increasingly discussed as an additional transport and transit option for the CAREC region. The results can help inform the discussion of the options available to CAREC countries for diversification of their transport and transit routes.

[1] In this paper, CCA economies include Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. This group is also referred as CCA7.

II. General Trends in CAREC Merchandise Trade

5. Goods exports of all economies grew by 30% or more in all but one CAREC economy in 2022 (Figure 1).[2, 3] In the first half of 2023, exports continued to grow in most economies but declined to various degrees in the oil exporters, Azerbaijan and Kazakhstan, and in Pakistan and Tajikistan.[4]

Figure 1. Exports of Goods by CAREC Economies in 2022 and 2023



Sources: UN Comtrade, CAREC economies' national statistical and customs agencies and central banks, ADB calculations.

6. Growth in goods imports was also widespread through in 2022 and in the first half of 2023 (Figure 2). The exception was Pakistan which introduced import controls due to a shortage of foreign currency. The growth was extremely high in some economies in 2022. The value of merchandise imports was equivalent to 88% of gross domestic product (GDP) in the Kyrgyz Republic, 55% in Georgia, 52% in Mongolia, and 49% in Tajikistan (source: World Development Indicators). It would be difficult for any economy to absorb this scale of imports. This suggests that some were intended not for domestic absorption but for re-exports.

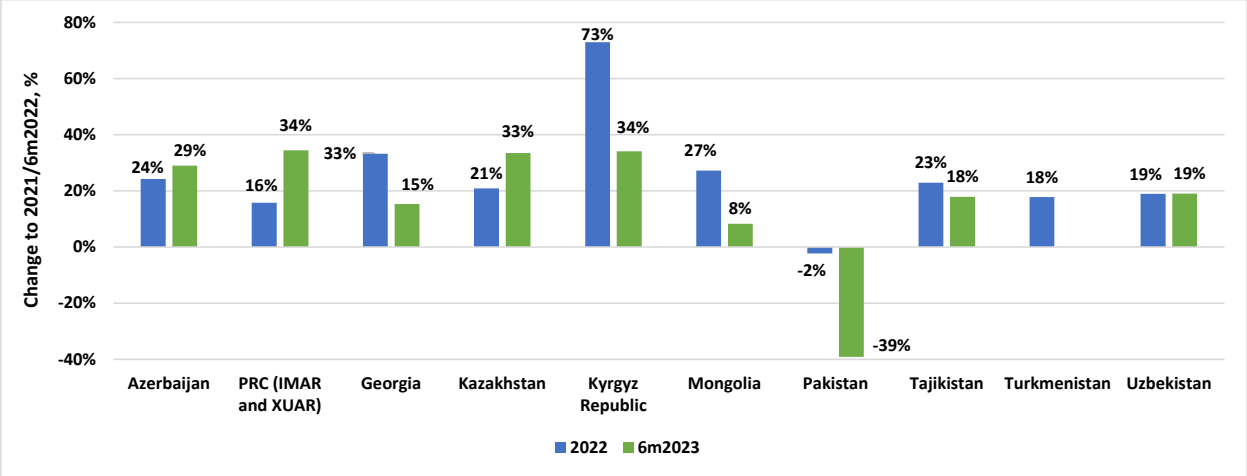
7. Overall trade turnover grew in all the CAREC economies in 2022, and in all but Pakistan in the first half of 2023. This amounted to the overall CAREC growth rates of 24.9% in 2022 and 2.5% in the first 6 months of 2023. The slowing growth in trade turnover in 2023 reflected negative or near-zero rates in Pakistan and Kazakhstan, the two largest CAREC economies after the People's Republic of China (PRC).

[2] The Kyrgyz Republic is the only economy where exports of goods fell in 2022. This is because its government decided to temporarily stop exports of gold, the country's main export product. The 2022 non-gold exports increased by 62% compared to 2021 (source: National Statistical Committee of the Kyrgyz Republic).

[3] In Sections 2 and 3 of this paper and in Figures 1–3, data for the People's Republic of China (PRC) are for the Inner Mongolia Autonomous Region (IMAR) and Xinjiang Uygur Autonomous Region (XUAR) only.

[4] Similar to the Kyrgyz Republic in 2022, the dramatic fall of Tajikistan's exports in the first half of 2023 is due to the cessation of gold exports. No data is available for Turkmenistan for 2023.

Figure 2. Imports of Goods of CAREC Economies in 2022 and 2023



Sources: UN Comtrade, CAREC economies' national statistical and customs agencies and central banks, ADB calculations.

III. Energy Trade

8. Energy products[5] constitute a significant slice of the overall CAREC economies' trade. Crude oil, natural gas, coal and other energy supplies accounted for 93% of total exports of goods in Azerbaijan, 61% in Kazakhstan, 54% in Mongolia, and 88% in Turkmenistan. Other CAREC members export little energy, although import values and growth rates are high in most CAREC countries. Energy products accounted for more than 10% of overall trade turnover in 2022 in all CAREC countries but Uzbekistan.

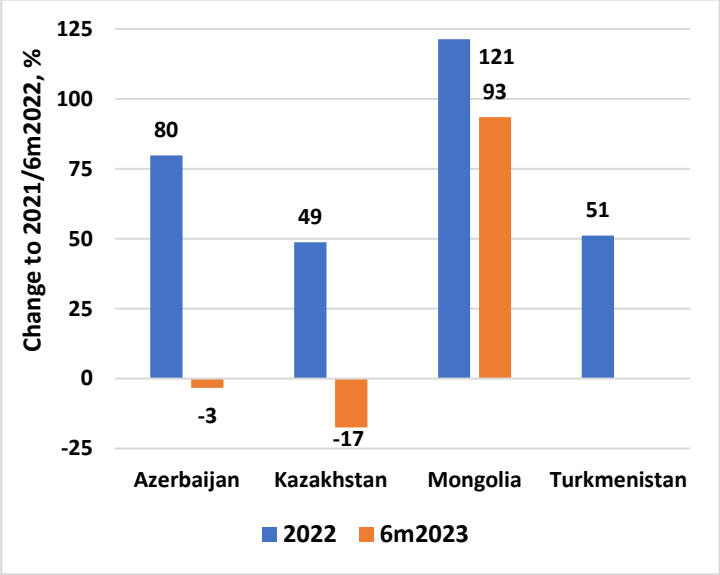
9. Price volatility created by serial external shocks have produced major changes in CAREC energy trade and in the member country export and import numbers overall. Supplies have been disrupted, international sanctions have altered the global patterns of energy flows, geopolitical instability has increased, and prices were whipsawed as the post-pandemic recovery fueled global energy demand. The energy price index rose 64% in 2022 over 2021 before dropping by 36% in the first half of 2023 from its level over the same period of 2022 (source: International Monetary Fund). In 2022, this meant near historical high energy export values for the four CAREC countries that are net exporters (Figure 3a), and higher energy import values in all the CAREC economies, albeit sometimes from a low base as in Azerbaijan (Figure 3b).

10. In 2023, the trends in energy exports reversed. The energy imports continued to grow in all economies but Georgia and the Kyrgyz Republic.[6] These changes in energy trade were often price-driven and did not reflect movements in physical volumes. For example, in 2022 in Kazakhstan, the energy trade's index of physical volume fell by 2% for exports and 7% for imports, while energy prices increased by 52% for exports and 18% for imports.

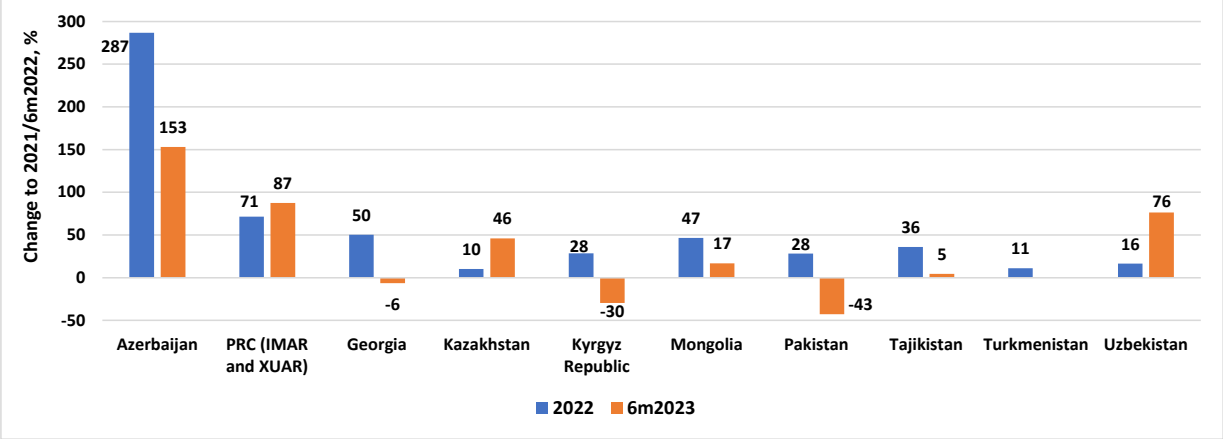
[5] Code 27 of the Harmonized Commodity Description and Coding System. This includes crude oil, oil products, gaseous and liquified natural gas, coal, electricity, and some other products.
[6] No 2023 data for Turkmenistan.

Figure 3. Trade in Energy Products

a) Exports of Net Exporters



b) Imports of Energy Products



Sources: UN Comtrade, CAREC economies' national statistical and customs agencies and central banks, ADB calculations.

IV. Intra-regional Trade in Goods and Changes in Direction of Trade

11. For analytical purposes, trade within the CAREC region could be divided into three segments: (i) the trade between the PRC and other CAREC members; (ii) trade between Mongolia and Pakistan (two of the countries on the periphery of the CAREC region) and the CCA7 economies; and (iii) trade between CCA7 countries themselves. All three trade segments have been affected by the external shocks, although to different extents and in very different ways.

12. The PRC is a principal trade partner for all the other CAREC economies discussed in this paper, or the CAREC9.[7] Trade between the PRC and the CAREC9 generated 88%–91% of the region's internal trade during 2017–2022.[8] The trade turnover has been highly asymmetrical. In 2022, the PRC exported almost twice what it had imported—$70.7 billion vs. $37.6 billion. By category and value, its 2022 exports broke down into machinery and equipment (33%), textiles and footwear (31%), chemicals and plastics (12%), and metals and articles thereof (9%). Its imports from the CAREC9 were mainly energy products (55%); ores, metals, and articles thereof (33%); and other goods (12%). Rather than slowing the PRC–CAREC9 trade growth, which increased by two thirds over the 2017–2022 period, the external shocks have accelerated it. This was due to the elevated energy prices and increased imports by the CAREC9 of machinery, equipment, and consumer goods from the PRC, partially for re-export to the Russian Federation.

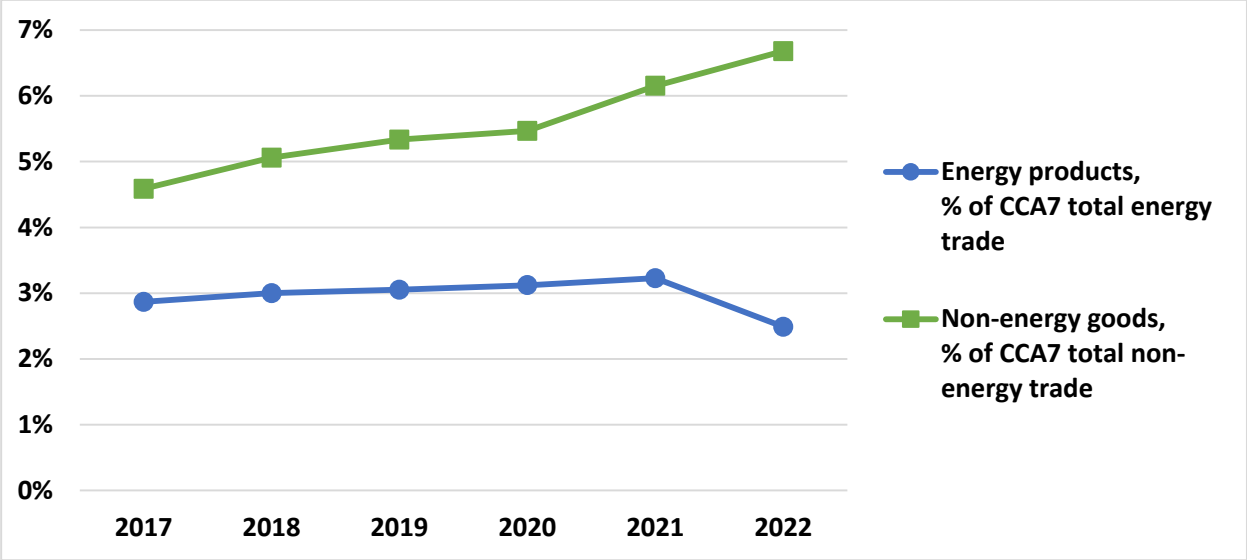
13. Trade between Mongolia and Pakistan on one hand, and the CCA7 economies on the other, currently accounts for only 0.1% of total CAREC9 turnover. It has grown rapidly, however, increasing by 162% over the 2017–2022 period. The exchange of agricultural products, chemicals, metals, and equipment between Kazakhstan, Uzbekistan, and Pakistan dominates this small segment of the overall CAREC trade.

14. The share of trade between the CCA7 economies themselves in their overall trade turnover fluctuates each year in the 4–5% range. Although the intra-regional energy trade (e.g., oil products, natural gas, electricity) has remained relatively stable at around 3% of the total energy trade turnover, trade in non-energy goods—e.g., agricultural products, machinery and equipment, consumer goods, metals and ores—grew at an average annual rate of 21% during 2017–2022 (Figure 4). While still relatively small proportionately, the non-energy trade between the CCA 7 countries was the most dynamic component of trade in the CAREC region over that period.

15. The trade between the CCA countries is structured differently from their overall trade flows (Figure 5).[9] Crude oil, natural gas, ores, wheat, and other primary goods intended for industrial use accounted for 65% of the total exports of the CCA6 countries in 2022. This share fell to 26% of their exports to one another. The difference was due mainly to a greater share in their intra-regional exports of processed products for industrial use (intermediate goods)—36% vs. 25% for all exports overall. While products for final use accounted for just 9% of total exports, this jumped to 37% in intra-regional trade. Processed products for final use dominated the overall imports of the CCA6 countries (54%), while more than two-thirds of their imports from each other's economies were the primary and processed products for industrial use (69%).

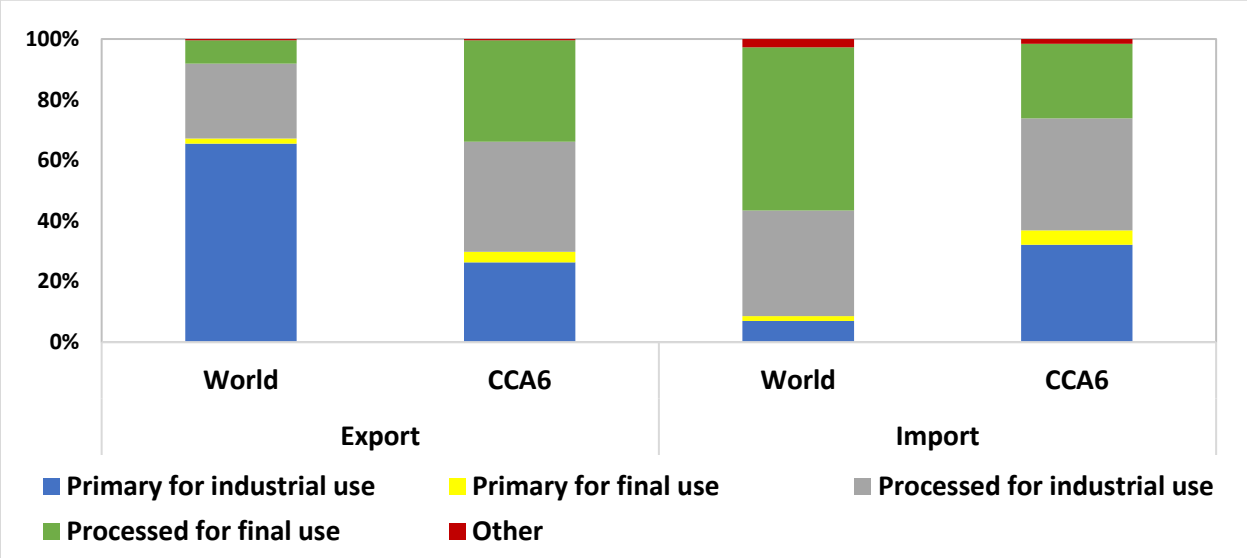
[7] The CAREC9 include all CAREC economies except the PRC and Afghanistan (not discussed in this paper).
[8] In this paper, total trade turnover of a region is defined as a sum of (i) intra-regional trade turnover and (ii) turnover of trade with the economies outside the region. The intra-regional trade turnover is calculated as a sum of the seven countries' exports to one another.
[9] As data for Turkmenistan with necessary degree of disaggregation are not available, Figure 5 provides info for other six CCA economies (CCA6).

Figure 4. Trade Between Seven CCA Countries, 2017–2022



Sources: UN Comtrade, CAREC economies' national statistical and customs agencies and central banks, ADB calculations.

Figure 5. Trade Flow Structures of Six CCA Countries, 2022



Sources: UN Comtrade, CAREC economies' national statistical and customs agencies and central banks, ADB calculations.

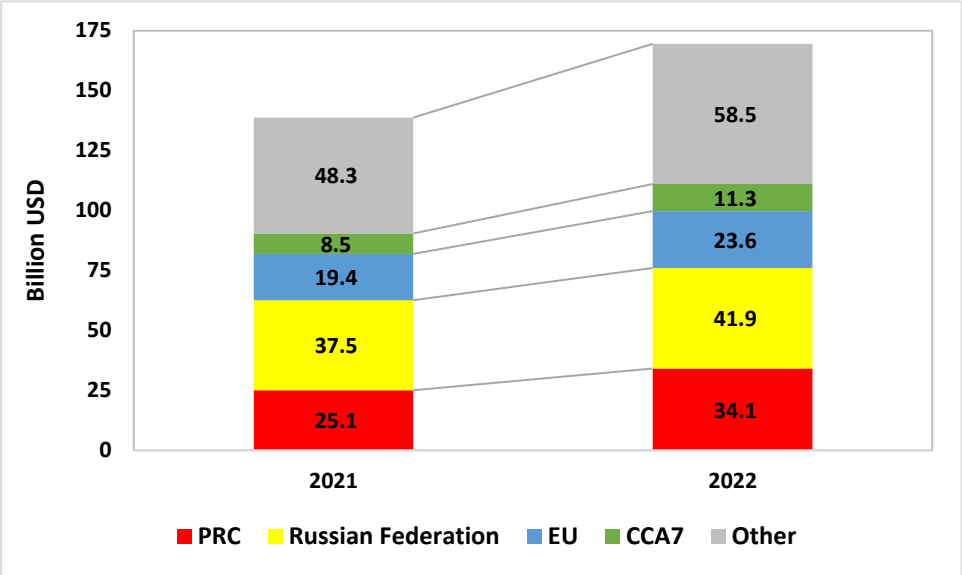
16. These differences show that the CAREC6 economies play a more advanced role in intra-regional value chains than they do in the global ones. Globally, they are mainly the suppliers of raw materials and selected intermediate products, and the consumers of final products produced elsewhere. Among themselves, however, they often serve in the opposite roles of the final product suppliers and the buyers of primary and intermediate goods. These intra-regional

roles are therefore better aligned with the trade diversification goals of all the governments in their region. These roles continued to strengthen modestly in 2022, when the share of processed products for final use in the total trade between the CCA6 rose by 3.5 percentage points from 2021.

17. The earlier discussed shocks affected the CCA7 countries' merchandise trade flows with key global partners very little in terms of energy, but somewhat more significantly in the non-energy category. The structure of their overall energy trade has barely changed, with shares of the European Union (EU) and the rest of the world rising by a mere 0.7 percentage points. In 2022, the EU accounted for 52% of the total, and the PRC's share remained unchanged at 16%. The CCA7 energy trade with the Russian Federation fell by 0.7 percentage points in US dollar terms from 5.9% to 5.2%, but this value may have been affected by the shift to the strongly appreciating Russian ruble for these transactions in 2022.

18. Some changes in the CCA 7 countries' non-energy trade with the world were more significant. Figure 6 shows the key partner flows in 2021 and 2022 in US dollar terms. The PRC's share increased by 2.0 percentage points while that of the Russian Federation fell by 2.2 percentage points. Both changes indicate an increase in imports of machinery, equipment, and other manufactured goods from the PRC in 2022, and a decline in the importation of these goods from the Russian Federation. The shares of EU and the rest of the world did not change much over the 2021–2022 period.

Figure 6. Non-energy Trade Turnover of CCA7 Economies with Key Partners, 2021–2022



Sources: UN Comtrade, CAREC economies' national statistical and customs agencies and central banks, ADB calculations.

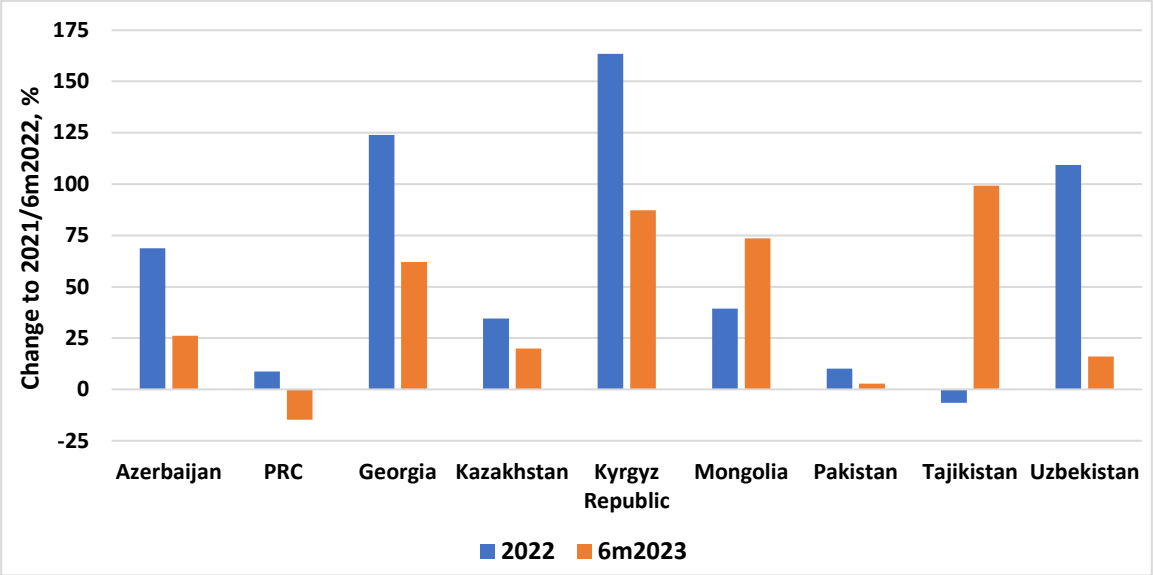
V. Trade in Services

19. The trade in services of the CAREC9 economies grew sharply in 2022 – the first half of 2023, matching the expansion in their trading of goods (Figures 7a and 7b). The Kyrgyz Republic services exports have tripled in the first six month of 2023 (compared to the same period of 2022) after more than doubling in 2022 (compared with 2021). The service imports rose at similar rates. The growth rates of both the export and import of services approached, or exceeded, 100% in Georgia and Uzbekistan. Services trade was also greatly up in the six CCA economies where data was available, as well as in Mongolia.

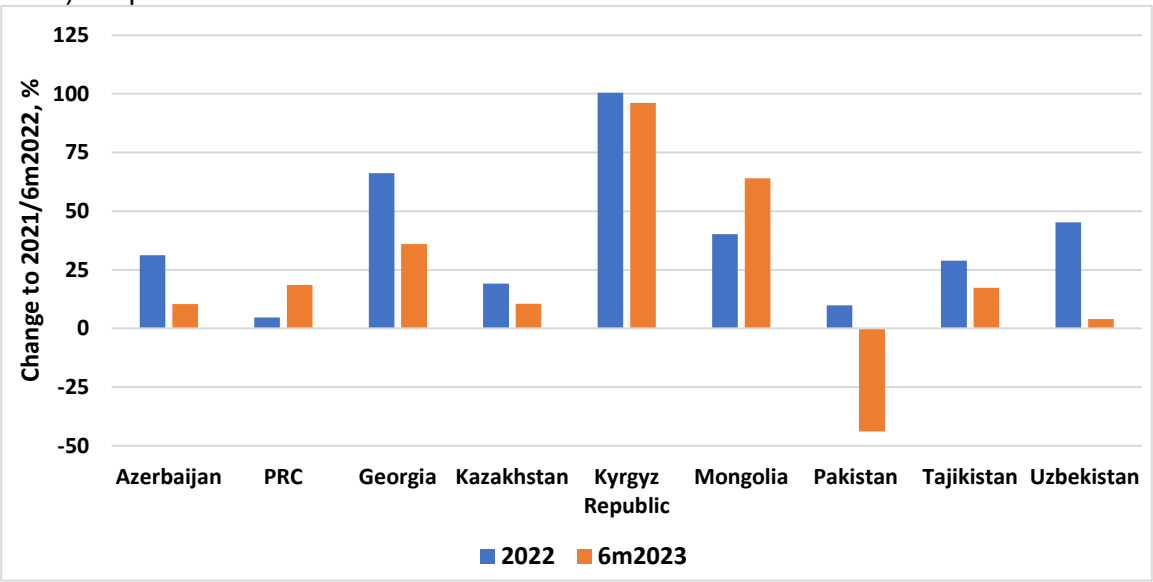
20. This was in good part associated with the growing trade in goods: when more goods are traded, more transport services are exported and imported to move them. Trade in travel services also grew rapidly in 2022. First, the post-pandemic resumption of tourism and labor migration (outside of the PRC) boosted personal travel. In addition, the ongoing conflict led to an influx of hundreds of thousands of Russian Federation's citizens to the CCA7 countries, often in transit to destinations beyond the region. These drivers of the spike in tourism services are not expected to have a lasting influence, and other changes in the 2021–2023 period appear likely to balance each other out. Some decline in labor migration from the CCA7 to the Russian Federation perceived in 2022–2023 may be offset by the rise in the number of tourists now coming in the opposite direction because they have fewer options for international recreation destinations than before. The trade in travel services may therefore eventually return to the pre-pandemic levels.

Figure 7. Trade in Services

a) Exports



b) Imports



Sources: CAREC economies' central banks, ADB calculations.

VI. Diversifying Transport and Transit Routes

21. Diversification of transport and trade routes were the key elements of the CAREC Program since its inception in 2001. For this purpose, the concept of six CAREC corridors has been developed.[10] The purpose of these corridors is to provide connectivity within and outside the CAREC region in various directions and to expand the CAREC economies' access to new markets.

22. The CAREC countries' demand for such diversification has been greatly amplified by the recent external shocks which affected the traditional CAREC transport and transit routes crossing the territory of the Russian Federation. The CAREC Corridor 2, aka the Middle Corridor, provides the only feasible alternative to these traditional routes. For this reason, this Corridor attracted a lot of the CAREC governments' and development partners' attention recently.

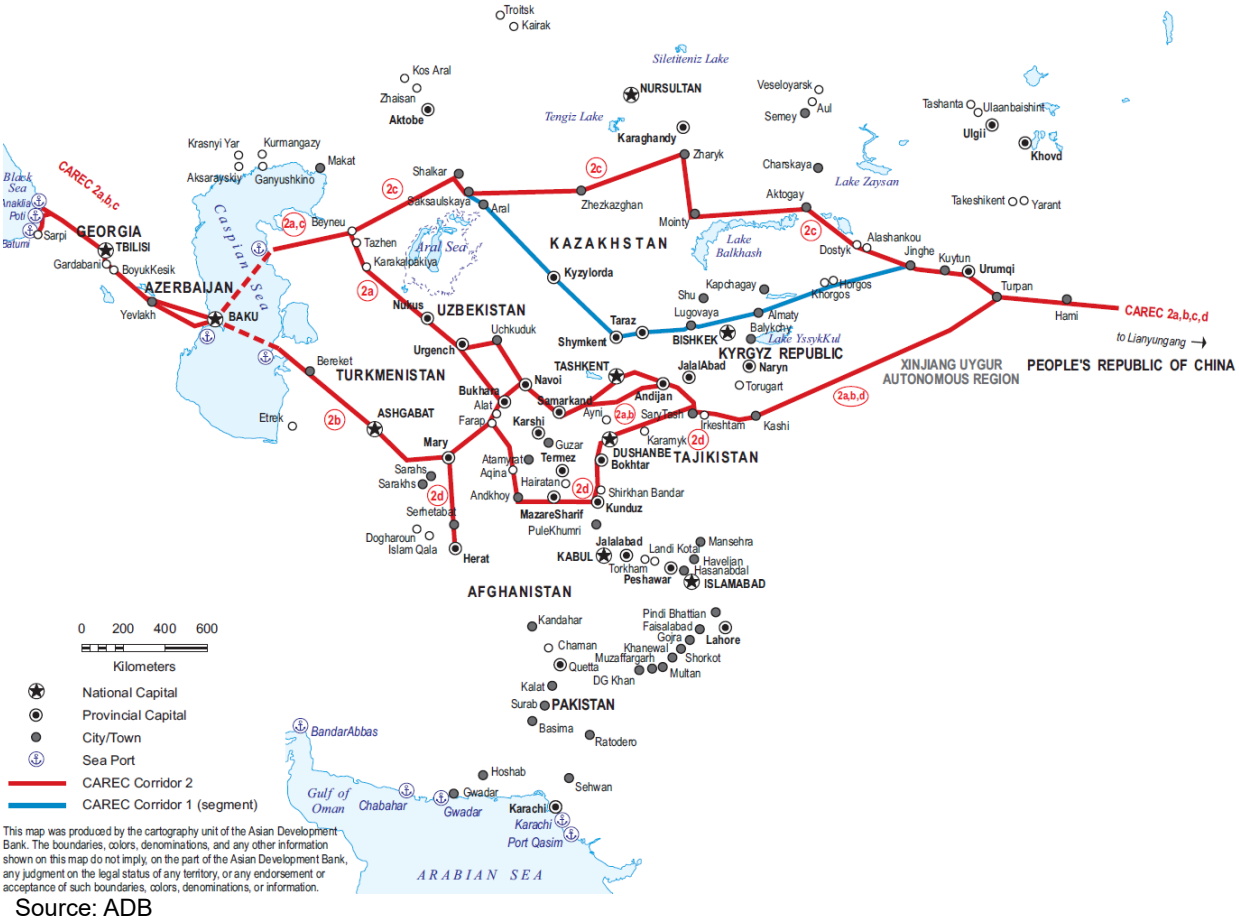
VI.1. CAREC Corridor 2 (the Middle Corridor)

23. Most CAREC economies except the PRC, Georgia, and Pakistan, are landlocked, and one CAREC country, Uzbekistan, being a double-landlocked country: this means that for a significant part of their trade, these economies need to cross the territories of other countries. There are several transit options available for them, including the routes via: (i) the Russian Federation westwards, (ii) the Russian Federation eastwards, (iii) the PRC eastwards, (iv) Afghanistan, Iran, or Pakistan southwards, and (v) the Caspian Sea and South Caucasus westwards, e.g., so called the Trans-Caspian International Transport Route (TITR), also known as the Middle Corridor. As mentioned earlier, CAREC has its own set of six corridors (footnote 10); the CAREC Corridor 2 "Europe–Mediterranean–East Asia" (along with a segment of Corridor 1) serves the role of providing transport connectivity for CAREC economies in the west-

[10] CAREC Corridors | CAREC Program

east direction (Figure 8). In this paper, the Middle Corridor is understood as equivalent to the CAREC Corridor 2 (supplemented by a segment of CAREC Corridor 1, blue in Figure 8), and these two names for this corridor are used interchangeably.[11]

Figure 8. Map of the Middle Corridor



Source: ADB

24. The external shocks discussed above have also affected the transit flows in the region. Border closures during the COVID-19 pandemic adversely affected trade flows in the region in 2020–2021. These border crossing issues have eased or disappeared in 2022–2023. In 2022, there were several occasions of crude oil shipment interruptions at the Russian port of Novorossiysk and the limitations for rail services on the borders between the EU, the Russian Federation, and Belarus. The ongoing military activities on the Black Sea create a highly uncertain and risky environment for maritime transportation in the region.

25. There are two key transit trade streams crossing the CCA territories in the west-east direction: one involving the transit trade between the PRC and Europe (the PRC-Europe

[11] In the literature on the subject, the Middle Corridor and TITR (as well as the Northern corridor mentioned below) could also refer to somewhat different routes. For example, TITR is often understood as a sub-corridor going from the western border of the PRC via Kazakhstan, Caspian Sea, Azerbaijan, and Georgia to Black Sea ports or Türkiye.

stream), and the other originating from, or directed to, the Central Asian economies (the Central Asian stream). The PRC-Europe stream involves the rail service called the China Rail Express (CRE), whose block trains travel from the PRC via Kazakhstan, Russia, Belarus, Poland through to other European destinations (this route is called the Northern Corridor in this paper) and back since 2011, or from the PRC via Kazakhstan, Caspian Sea, Azerbaijan, Georgia and then Türkiye or Black Sea to Europe (the Middle Corridor) since 2017. The segments between the PRC-Kazakhstan border and Belarus-Poland or Georgia-Türkiye borders use the rail gauge (1,520 mm) that is different from that used in the PRC and Europe (1,435 mm). The 1,520 mm part of the Northern Corridor is served by the United Transport and Logistic Company – Eurasian Rail Alliance (ERA), a joint venture of the Belarus, Kazakhstan and Russia railway companies. The Central Asian stream typically goes via the Russian Federation to the Baltic or Black Sea ports or to Belarus and then the EU. This stream is also served by the CAREC Corridor 2 connecting points of origin/destination in Central Asia via the ports of Aktau or Kuryk (Kazakhstan) or Turkmenbashi (Turkmenistan) to port of Baku (Azerbaijan) and then through Azerbaijan and Georgia to Türkiye, Europe and elsewhere (e.g., Africa or Americas). The Central Asian stream has energy and non-energy components.

26. The first transit stream has many alternative routes, including the relatively inexpensive but time-consuming maritime transportation from the PRC ports to the ports in Europe. Any potential interruption associated with the current CRE route could be addressed by sending goods via the sea instead and, vice versa, any issues with the sea route could be addressed by switching to the CRE/ERA rail service (subject to this rail service's capacity—which is much smaller than the capacity of the ocean route). However, for the flows between the Central Asia and its trade partners in the west, the Middle Corridor seems to be the only alternative route leading in the same direction as the current one. The CRE trains also eventually go via the Middle Corridor but much less frequently than via the Northern Corridor (see the next section).

27. The Middle Corridor stands as a potentially viable alternative route to Europe and other western and many southern markets for the economies of Central Asia. For that reason, it currently attracts much attention. There are, however, many pros and cons for this route associated with infrastructure, the throughput capacity, and the organization of logistics on this multimodal route covering several countries, including the weather- and climate-change-vulnerabilities of the Caspian Sea segment. The development of this Corridor requires a careful assessment of all factors influencing its performance.

28. Responding to the reinvigorated interest in the Middle Corridor development agenda, several studies have been published recently discussing its different aspects.[12] The key take-aways of these studies might be summarized as follows:

- This corridor needs to compete with the Northen Corridor and the ocean route; this means it should be competitive on its performance despite its multimodality and the need to cross more customs borders.
- Its past performance makes it less attractive for the present than these competing alternatives. When demand rose in 2022, transport costs were high due to the elevated

[12] These studies include (listed in chronological order) those by ADBI (2021), International Transport Forum (2022), EBRD (2023), ERA Index (2023), World Bank (2023), and OECD (2023).

tariffs, comparatively long lead times and delays, and poor predictability of transit and border crossing times.

- The corridor has been afflicted by sea, rail, and road infrastructure bottlenecks, but in the short- and medium-term the main challenges are the cumbersome transit and trade procedures and suboptimal organization of logistics. For example, complications (including the end-to-end cost calculations) arise from the fact that multiple logistics operators are involved along the route, compared with the single company that operates all the rail traffic on the Northern Corridor between the PRC and Poland's border. There are issues of transport mode interoperability as well. Digitalization is lacking. Without soft infrastructure fixes, costly investments in hard infrastructure might be ineffective.
- To address these issues, the CCA governments need to implement a comprehensive and coordinated set of policy measures; these policies should aim to improve trade facilitation and foster the development of logistics business and infrastructure. The goals should be strict environmental, social, economic, and fiscal sustainability and political viability.
- Regional policy dialogue and cooperation should play an integral part in the Middle Corridor's development.
- The Middle Corridor must contribute to the socioeconomic development of the CCA countries through which it crosses, and not merely serve the long-haul transit needs of economies beyond their territories. This means that it must be conceived and developed as an economic corridor.
- Even if trans-Eurasian transit traffic increases, the Central Asian stream may continue to dominate Middle Corridor transport flows. The PRC–Europe stream accounted for only one third of the 2022 container throughput at the port of Aktau, which is the main Middle Corridor conduit for trans-Caspian crossings on the Kazakhstan coast—and this container traffic comprised only a small fraction of the total goods Aktau handled during the year. One of the World Bank scenarios raises the possibility of a tripling of the 2021 trade flow through Aktau by 2030 but perceives the PRC–Europe steam accounting for only 25% of the expanded total.
- The European Bank for Reconstruction and Development (EBRD, 2023) has projected a 7-fold increase in the PRC–Europe transit traffic through the Middle Corridor between 2022 and 2040 under a business-as-usual scenario and an almost 50-fold increase under its optimistic assumptions. According to (EBRD, 2023), the containerized flows at the Central Asian stream are going to increase considerably, too.

29. The analysis in these papers focuses mostly on Azerbaijan, Georgia and Kazakhstan, i.e., the countries serving the rail transit between the PRC and Europe. This approach somewhat sidelines other trade flows in the region, especially the intra-regional ones, and the role of the road transport which in reality serves a significant part of this trade.

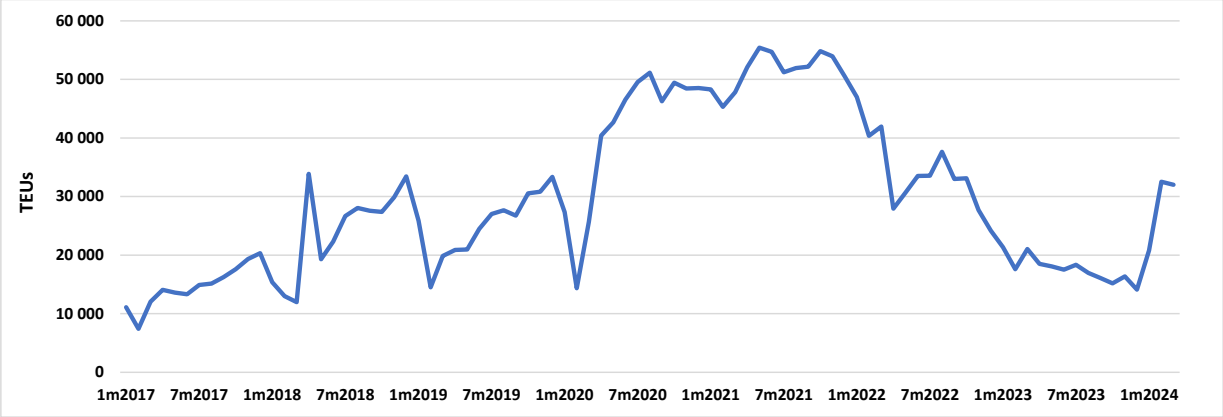
VI.2. The PRC–Europe Transit

30. It is well-known that most trade between the PRC and Europe is operated via sea transport connecting the PRC and the European ports. Air transport is used for the trade in products with a high value-to-weight ratio. Recently, the Eurasian land bridge service emerged, and has expanded, which uses railways to transport relatively high-value and time-sensitive products.

31. The CRE operations service two main sets of trading partners—(i) the PRC and European countries, i.e., the PRC–Europe stream; and (ii) the PRC and its Russian Federation and Belarus trading partners. The CRE reports that the overall container traffic it moved along these separate trading flows rose in total by 10% in 2022 to 1,614,000 twenty-foot container equivalent units (TEUs) despite the external shocks during the year, and rose 15% in 2023 (source: China Railway Express). However, the traffic on the PRC–Europe stream, which is served by the ERA, fell by 34% in 2022 from its 2021 peak of 618,000 TEUs and dropped by another 49% in 2023 (Figure 9). Given the higher overall CRE figures, this means that the precipitous decline in the overland PRC–Europe stream was more than made up by the greater container traffic between the PRC, the Russian Federation, and Belarus.

32. The decline in 2022–2023 in the PRC–Europe container traffic via the Northern Corridor was mostly due to the dramatic fall from their highs in 2021 of ocean shipment tariffs globally and particularly on this major route. For example, the cost of container shipping between Shanghai and Rotterdam fell from a peak of $14,800 per forty-foot container equivalent unit (FEU) in October 2021 to a low of $1,000 per FEU in October 2023. The international sanctions imposed on trade with the Russian Federation and the general uncertainty related to the transit operations via the Northern Corridor could be another possible explanation for this decline in container traffic via the Northern Corridor.

Figure 9. Container Traffic via the Northern Corridor (2017–3 months 2024)



Source: Eurasian Rail Alliance Index.

33. The recent declines aside, container rail traffic via the Northern Corridor continues to offer viable transit for PRC–Europe trade whenever the current tariff levels on the ocean route justify choosing a speedier delivery. In 2024, the World Container Index spiked to $5,000 per FEU after armed attacks on shipping in the Red Sea in January before easing to $3,200/FEU by the end of March.[13] The result was more than a doubling of traffic on the Northern Corridor from the level recorded in the previous December (Figure 9). This demonstrates the corridor's capacity to serve as an alternate route on the PRC–Europe Stream when ocean shipping prices are driven up.

[13] Here and below the estimates are for Shanghai–Rotterdam route, source: Drewry's World Container Index (WCI).

34. By contrast, the CAREC Corridor Performance Measurement and Monitoring (CPMM) data for March 2024 indicated that the Middle Corridor had not attracted more traffic or thus played a similar role. The Northern Corridor's cost attractions may change if the PRC's provincial governments gradually phase out their subsidization of the CRE's tariffs, a plan initially scheduled for 2020 and still in place to begin at some so far unannounced future date. In the meantime, the Middle Corridor's lack of competitiveness, especially at its current level of development, is starkly evident from the traffic figures. In 2022, it handled only 10,800 TEUs of trans-Eurasian container traffic, a mere 2.6% of the volume on the northern route (source: KTZ Express).[14] This flow subsequently fell 77% in the first 7 months of 2023 from the level in the similar period the year before.

35. Notwithstanding its current drawbacks and limitations, the Middle Corridor—with further investments and reforms—can provide an additional, strategically important alternative to the sea route and the Northern Corridor for both the PRC–Europe and Central Asian streams trade. During the official visit of the President of the Republic of Kazakhstan to the PRC in October 2023, an agreement was signed on the Middle Corridor's development. The PRC will support investments in Kazakhstan in port and other infrastructure upgrades, transit containers, and combined transport. Azerbaijan, Georgia, and Kazakhstan signed an agreement in the same month to establish a joint venture between railway operators similar to the ERA. The possibility of developing another trans-Caspian route branch through Uzbekistan and Turkmenistan via Turkmenbashi port to Azerbaijan and further west is also under consideration.

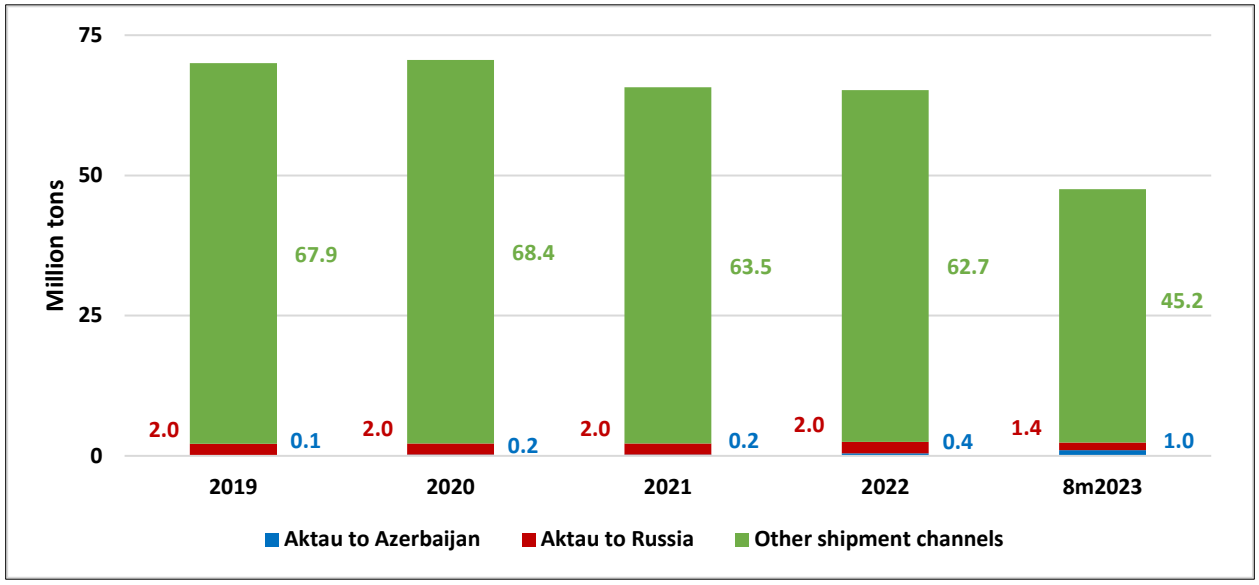
VI.3. The Trans-Caspian Energy Transit

36. Energy is the main item of trade between the CCA and Europe. It consists mostly of crude oil and natural gas exports from Azerbaijan and Kazakhstan, very little of which are moved through the trans-Caspian Middle Corridor route. Kazakhstan's crude oil is delivered to Europe mainly through a Caspian Pipeline Consortium that circumvents the Caspian Sea on its way to the Russian Federation's Black Sea port of Novorossiysk. Azerbaijan, lying west of the Caspian, does not require trans-Caspian transit for its energy exports to Europe using oil and gas pipelines accessing Europe and Mediterranean ports via Georgia and Türkiye. Figure 10 illustrates the extent to which various channels are used to export crude oil. Trans-Caspian oil shipments on the Middle Corridor from Kazakhstan's Aktau port to Azerbaijan and further west rose sharply due to the various external shocks during 2020–2023, but even then they represented a mere 2.1% of Kazakhstan's total exports in the first 8 months of 2023 (up from 0.2% during 2019).

37. The diversion of what was only a fraction of Kazakhstan's overall oil exports shipments to Caspian ferry crossings largely explained the freight turnover growth at the country's Caspian seaport at Aktau in 2022 and 2023 (Figure 11a). Turkmenistan, another CCA country and participant in the Middle Corridor's development, exports crude oil and oil products across the Caspian Sea from its port at Turkmenbashi, mostly to the Middle Corridor port of Baku in Azerbaijan and onward to Europe. Crude oil and oil products constitute a significant part of non-containerized goods shipped through Turkmenbashi (Figure 11b). The port reportedly handled 1.3 million tons of oil product exports in 2023.

[14] Multimodal transport and logistics company, a subsidiary of the "Kazakhstan Railways."

Figure 10. Kazakhstan's Oil Exports via Trans-Caspian Route vs. Other Channels

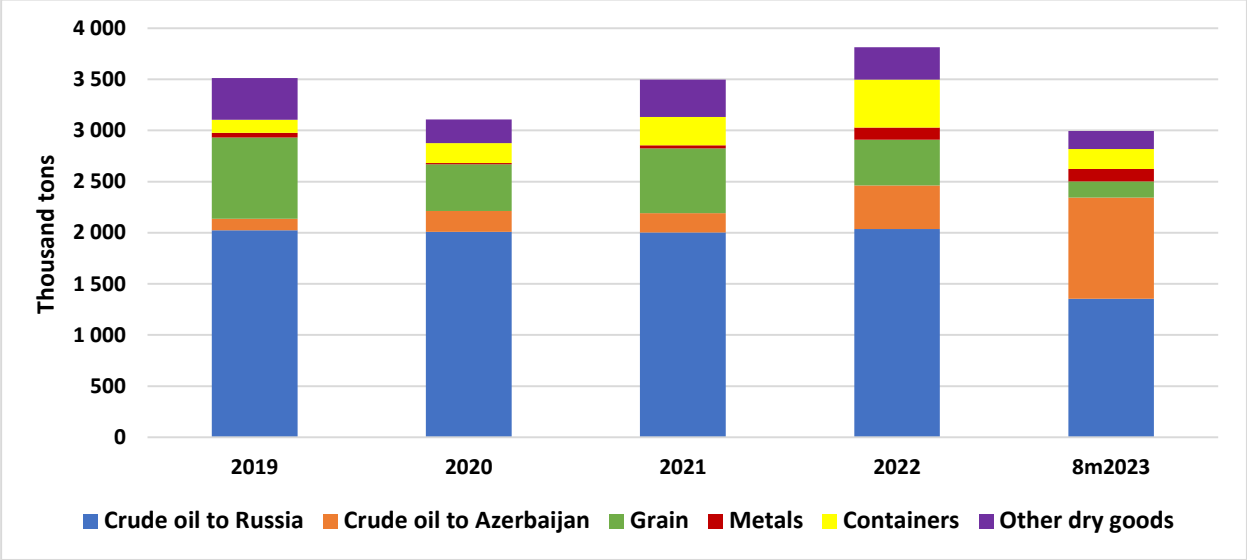


Sources: UN Comtrade, Kazakhstan's National Statistics Bureau, and State Revenue Committee, Aktau Port.

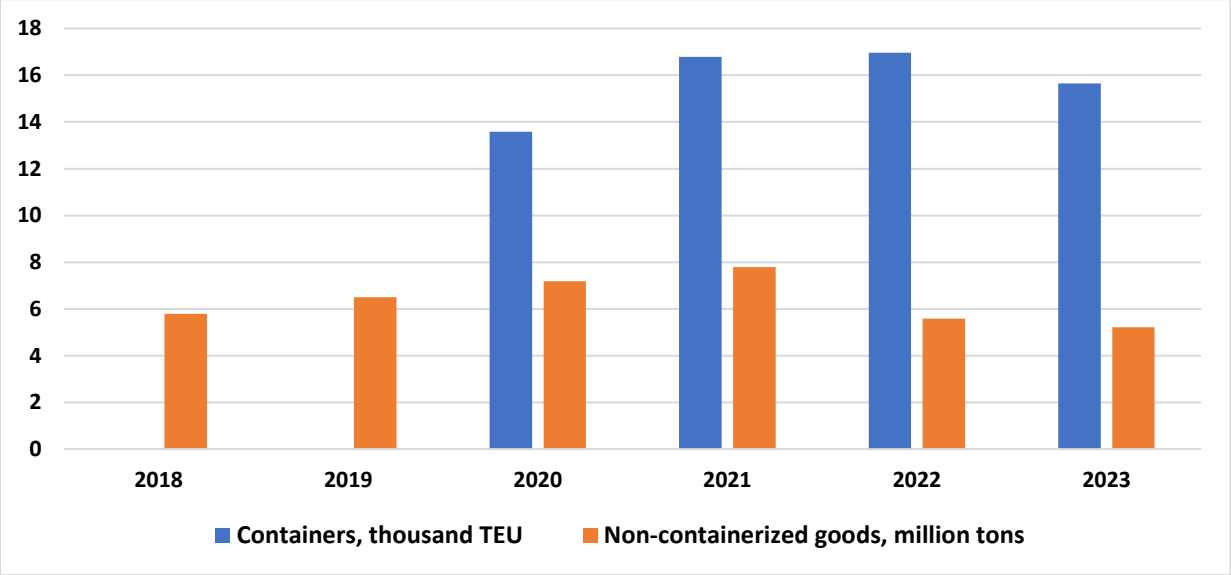
38. Increasing the oil throughput capacity of Aktau and Kuryk ports in Kazakhstan might require significant infrastructure investments. The same might be required on the Azerbaijan side of the Caspian. More oil tanker capacity is another likely need. Costs would be particularly high due to the multimodal nature of current and potential Middle Corridor energy transport—e.g., the need to move crude by rail or pipeline from Kazakhstan oil fields and then by vessels across the Caspian Sea, and then by rail or pipeline again through Azerbaijan and Georgia toward EU and other destinations. These factors, and the small fractional share of the overall oil export transport business the Middle Corridor has been able to capture so far, leave it unclear whether it could be made a significant alternative to the existing pipelines, even after heavy investments.

Figure 11. Freight Turnover of Central Asian Ports on Caspian Sea

a) Aktau Port (2019–8 months 2023)



b) Turkmenbashi port (2018–2023)



Sources: Ports of Aktau and Turkmenbashi.

VI.4. Trade and Transport Flows between the CCA Economies and their Partners in Europe, Americas, and North Africa

39. Apart from the containers that move through it on the PRC–Europe Stream and some energy shipments, the Middle Corridor also services part of the trade between the CCA economies and the EU, Türkiye, and other partners west of CCA. Containerized machinery, equipment, consumer goods flow along this route into the CCA countries, while exports of such dry bulk goods as metals, fertilizers, chemicals, and agricultural products move in the other

direction. The non-energy exports to the EU by six CCA economies (Turkmenistan data unavailable) stood at $6 billion in 2022, with imports reported to be $19 billion.

40. While most Middle Corridor discussions center on rail and sea transport, trucking plays an important role in the CCA's overall international trade, especially in the delivery of several CCA countries' imports (Figure 12a). About 83% (by weight) of total trade of the mountainous, landlocked Kyrgyz Republic potentially served by the Middle Corridor now moves instead entirely by road. In Azerbaijan and Georgia, road transport covers more than 50% of such trade. Even in vast Kazakhstan with its comparatively more developed rail network, 20% of this trade is still transported by trucks.

41. Considering the road transport factor in the Middle Corridor analysis requires an understanding of the scale and features of the trucking firms involved. While the rail and sea transport companies in the region are large, those in the road sector come in multiple sizes and include many small and medium-sized enterprises (SMEs). SMEs are a separate breed in terms of corridor development. They operate in a more competitive environment than large rail and sea transport firms. They are more flexible than rail and sea carriers in choosing their transit routes but have less room than bigger companies do to pass on increases in their transport and transit costs to clients.

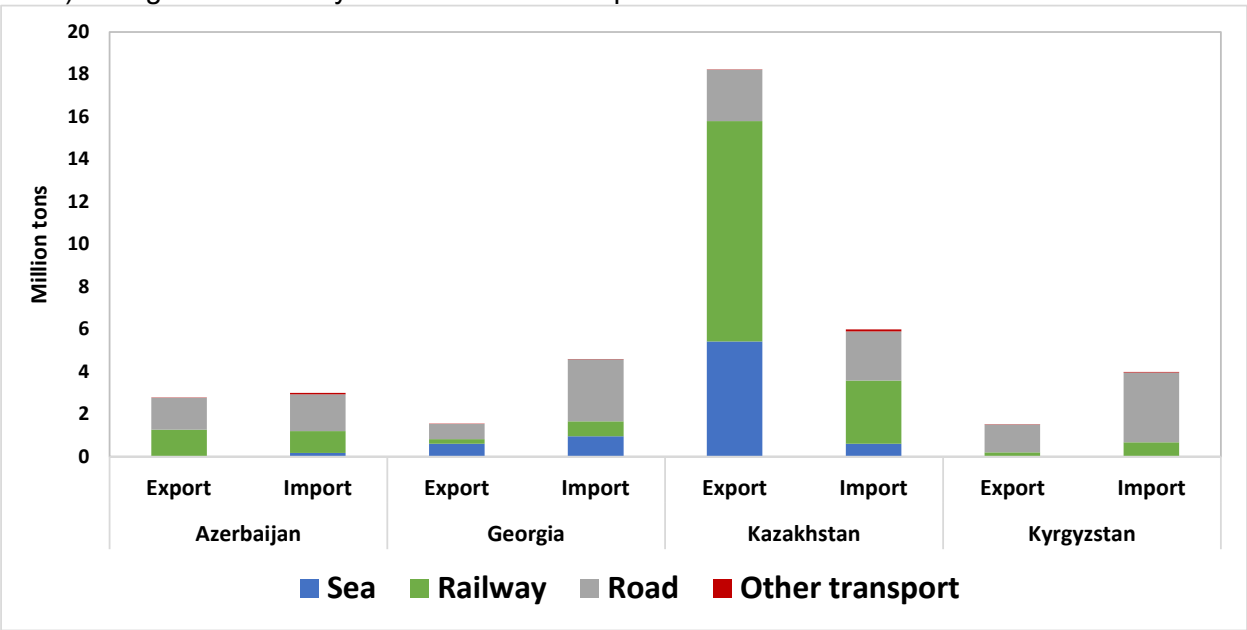
42. The asymmetry in transport flows by mode and direction can also bear on a corridor's efficiency. For one thing, trade flow asymmetry drives up transport costs. For example, in terms of rail transport, Kazakhstan exports more than 3.5 times the goods it imports (by weight). Similar asymmetries exist for other transport modes and economies. One result is that a significant part of a corridor's traffic is devoted to returning empty containers and other equipment to the point of origin. Some containers are never returned and can be seen in various CCA countries serving as storage units or trade outlets.

43. The relatively modest unit values of the CCA countries' transit trade flows highlight the comparatively heavy impact that high prevailing Middle Corridor costs have on their choice of transport routes. Figure 12b illustrates the difference in unit values of these non-energy exports and imports. As may be expected by the composition of the flows in either direction, the CCA imports have higher values in many (but not all) cases. Perhaps more importantly for any Middle Corridor analysis, however, is a comparison between the average overall unit value of the CCA economies' internationally traded goods with those that transit Central Asia and the Caucuses to and from Europe—i.e., in the range of $0.40–$3.10 per kilogram (kg) vs. (for comparison), $7.40/kg by sea and $10.70 by rail for mostly manufactured goods and high-tech products moving between the PRC and Germany. This means two things. Transport, border-crossing, and logistics costs constitute a much higher share of the traded goods value on the Central Asian stream than they do on the PRC–Europe routes, and that the CCA trade is thus more sensitive and vulnerable to the various inefficiencies in Middle Corridor performance.

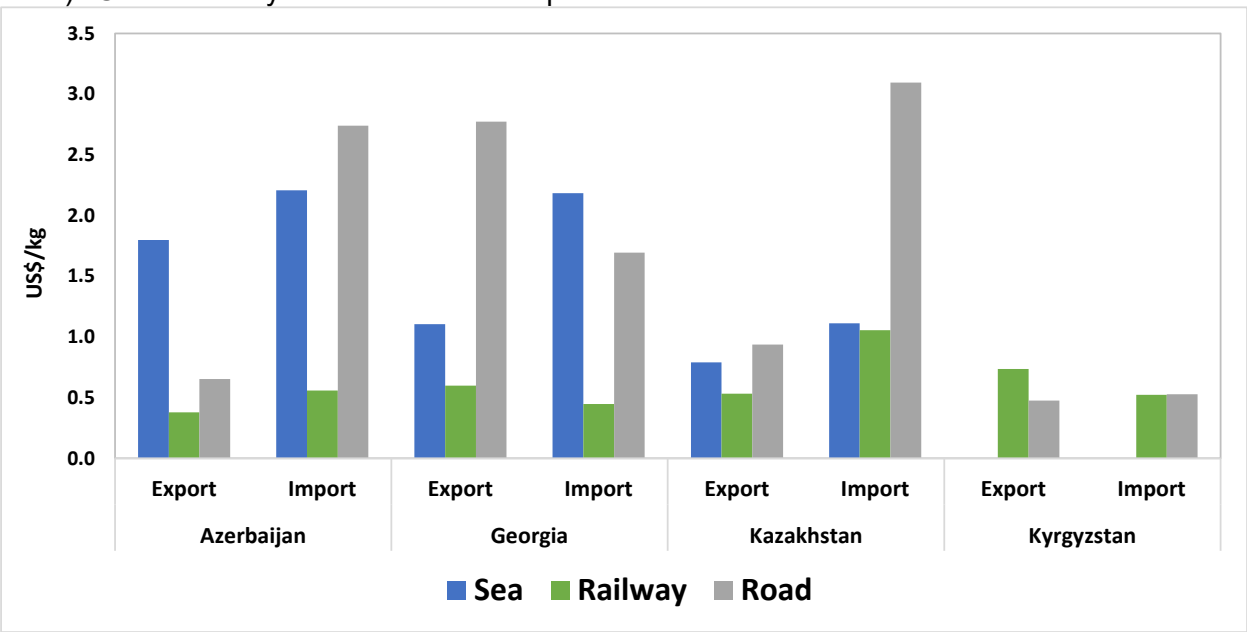
44. This is likely one reason that only a small portion of the overall Central Asian stream has been moving through the Middle Corridor. Due to the cost and infrastructure advantages and historical reasons, most of this trade gets to its destinations via the Russian Federation.

Figure 12. Selected CCA Economies' Non-Energy Trade with their Partners on the west, 2022

a) Weight structure by trade flow and transport mode



b) Unit values by trade flow and transport mode



Sources: UN Comtrade, ADB calculations.

45. To fulfil its potential as the only practical alternative route for these flows, should the transit between the CCA countries and Europe through Russia be disrupted, the Middle Corridor would need to overcome its fundamental performance issues. Its current inability to compete in costs and delivery times with the alternative sea, rail, and truck routes is due to numerous challenges—e.g., the port backups and lack of sufficient shipping services that make the

Caspian crossing slow, and the ferry rates that make it costly; plus the need farther west (just beyond CAREC Corridor 2) for upgrades and further development on the rail system through Türkiye. These in turn are often rooted in key hard and soft infrastructure inadequacies, including the following:

- The hard infrastructure barriers include limited handling capacity at the Caspian seaports of Aktau and Kuryk in Kazakhstan, Alyat in Azerbaijan, and Turkmenbashi in Turkmenistan. Shipping capacity across both the Caspian and Black seas is also a constraint. The Black Sea ports of Poti, Batumi, Constanta, and Varna would require improvements for the Middle Corridor to compete better on speed and costs. Rail networks need upgrades, and rolling stock needs expansion.
- The soft infrastructure challenges include cumbersome border-crossing and customs clearance procedures that boost transit time and costs. Logistics organization along the corridor is poor, partly due to insufficient use of digital technology, which also makes end-to-end rate quotation and shipment tracking a challenge. Caspian ferry service is irregular and unpredictable. This creates traffic jams in ports even when handling is adequate. Shipping tariffs are not transparent.[15]

VI.5. Key Takeaways and Ways Forward

46. This survey of the current status, challenges, and potential of the Middle Corridor to meet CCA needs leads to the key takeaways summarized below.

- The Middle Corridor appears to provide the CCA countries with their best and probably only viable option to achieve the strategically important objective of diversifying from the traditional transport routes for their trade with external partners.
- Priority in any Middle Corridor development should be servicing the CCA's own non-energy trade with Europe, before accommodating the long-haul PRC–Europe stream transit traffic. Any planning should also fully recognize that only part of the CCA trade moves in containers, with dry bulk goods constituting a large portion. Moreover, the asymmetrical nature of Central Asian stream trade, with European imports to the region outstripping exports can leave containers stranded or drive up the overall transport cost through the expense of deadheading them empty back. Developing the hard infrastructure capacity and logistics for containerization in the CCA countries would help address these issues. It would also upgrade the Middle Corridor as a container conduit between the PRC and parts of Europe and the Middle East.
- Small CCA countries do not generally benefit from economies of scale. Central Asian stream trade flows along the Middle Corridor will not grow to very large numbers in the foreseeable future. This means that trade costs—broadly understood to include the opportunity costs of long transport time, lack of shipment predictability, and other factors—will be key in determining the CCA demand for the Middle Corridor services. The Middle Corridor development should therefore focus on reducing costs. This can be done by simplifying and standardizing customs and sanitary and phytosanitary measures and other border-crossing requirements, procedures, and practices. It is also important that a competitive environment be ensured along the entire route, and that the market power of natural monopolists operating on some parts of the Middle Corridor be curtailed.
- A lot of CCA country trade moves by truck, and the Middle Corridor development needs to accommodate the interests and requirements of road transport operators. Planning

[15] The recently signed agreement on establishing a joint venture between railway operators in Azerbaijan, Georgia, and Kazakhstan could improve transparency, predictability, and traceability of rail shipments along the Middle Corridor.

and implementation must also respond to the fact that many of these are SMEs, whose special challenges and capabilities frequently differ from those of the large rail and sea transport corporations and state-owned enterprises along the corridor.

47. The multimodal nature of the Middle Corridor transport could be viewed as a drawback from the decarbonization perspective. It is therefore imperative to ensure that all investments in sea, rail, and road infrastructure and transport vehicles are aligned with the decarbonization agenda. The same applies to all business processes. The cleanest and greenest technical solutions should be chosen for all upgrades and improvements. Many of the large companies operating along the Corridor have already declared their adherence to the green agenda and are implementing measures to reduce carbon emissions.

48. Major coordination efforts by the CCA governments and other stakeholders both inside and outside the region will be critical to any successful development of the Middle Corridor. Cooperative planning and action offer the only pathway through the challenges posed by the heterogeneity in the trade flows, the issues raised by multimodal transport, the multiple border crossings and institutional complexities along the route, as well as the difficulties of accommodating and organizing the many different types and sizes of transport operators. This cooperation should be driven by a comprehensive CAREC Corridor 2 (Middle Corridor) development strategy agreed to between the key stakeholders.

Box 1. ADB Activities for CAREC Corridor 2 Development

The Asian Development Bank (ADB) is contributing to the development of CAREC Corridor 2 in several ways. It supports the implementation of the CAREC Integrated Trade Agenda 2030, CAREC Transport Strategy 2030, and the Railway Strategy for CAREC (2017–2030), in the belief that trade facilitation and transport network development along the Middle Corridor will simultaneously advance the flows of domestic, intra-CAREC, and long-haul transit trade.

Examples of the related infrastructure projects recently completed or currently being implemented, planned, or discussed include the development of the four-lane highway between Khevi and Ubisa in Georgia, that country's deep Black Sea port of Anaklia, the Kyzylorda–Zhezkazgan road in Kazakhstan, a modern railway between Ashgabat and Dushi in Turkmenistan, and an improved railway in Uzbekistan.

ADB is also helping Caucasus and Central Asian (CCA) countries undertake the structural reforms necessary to make the Middle Corridor a more efficient and cost-effective trade route. It is helping to pursue this goal through policy-based loans, e.g., for reforms to the railway sector in Georgia. ADB technical assistance is supporting prefeasibility studies for logistical centers in Georgia, Kazakhstan, Tajikistan, and Uzbekistan. ADB assessed the regional traffic flows and border crossing point (BCP) transit capacity between Azerbaijan and Georgia and is now assisting the two countries in establishing a greenfield joint BCP Silk Road with connecting roads.

ADB involvement in Middle Corridor-related soft infrastructure improvements includes support for the development of the CAREC Advanced Transit System/Information Common Exchange (CATS/ICE) prototype. CATS/ICE is designed to be a harmonized regional system that will enable electronic control of the movement of goods in transit through the CAREC member states. A pilot project will install and operate CATS/ICE in Azerbaijan, Georgia, Turkmenistan, and Uzbekistan. CATS/ICE will support the seamless cross-border passage of goods and reduce trade transaction costs by (i) streamlining and harmonizing existing transit documentation; (ii) creating a single digital messaging system; and (iii) providing a modern, risk-based, affordable guarantee mechanism that rewards compliant traders. Implementing these initiatives will reduce the trade costs along the Middle Corridor.

Careful monitoring and analysis of the Middle Corridor's performance and the effectiveness and efficiency of investments in improvements will be crucial to its successful development. The ADB-supported CAREC Performance Measurement and Monitoring (CPMM) is already systematically tracking, reporting, and assessing the time and costs of using the six CAREC corridors, including many of the Middle Corridor's segments. Expansion of the CPMM to make this coverage complete are in plans.

ADB is pioneering the conceptualization (ADB, 2023b) and practical implementation of the economic corridor development in the CCA countries, including further development of the Almaty–Bishkek and Shymkent–Tashkent–Khujand corridors. It is also considering providing support to Middle Corridor stakeholders in drafting and implementing a comprehensive CAREC Corridor 2 development strategy.

Source: ADB.

VII. Conclusions and Policy Implications

49. Like economies everywhere, those in the CAREC region have been affected by a series of global crises and waves of turbulence—although sometimes, recently, in unexpected ways. The 2022–2023 shocks have actually benefitted most CAREC member economies and those

of the CCA countries in particular. Despite a few supply chain disruptions, trade in goods and services grew dramatically across most of the CAREC region during 2022–2023. Expanding trade fueled growth in the region's transport services, and its travel services were bolstered by the post-pandemic revival of labor and other migration and the temporary relocation of many people from the Russian Federation in 2022. A smaller development, but one important to the CCA, has been the growth of intra-CCA trade in non-energy goods. This diversification is associated with a shift in the roles of the CCA economies in the global and regional value chains away from that of primary product suppliers and final product consumers toward manufacturing.

50. The more recent shocks have also underlined the need for the CCA economies to diversify their trade, transport and transit routes. Given the nature of these shocks, much attention in the search for alternatives has turned to the Middle Corridor. As the evidence discussed here shows, the Middle Corridor is very important to the CCA countries' trade within their region and with their partners in the west. Despite its shortcomings, the Middle Corridor already plays an important role for the CCA. It also offers at least the promise of becoming an effective alternative route for PRC–Europe transit trade.

51. The Middle Corridor's current limitations and its potential for making CAREC economies and global trade flows more resilient to periodic upheavals were both made evident in 2022–2023. The spike in container traffic along the Middle Corridor in 2022, some apparently diverted from the northern route through the Russian Federation, clearly overtaxed its existing hard and soft infrastructure, logistics, and current state of overall management and organization. Yet the same recent shocks have also underlined the strategic importance of seeking solutions to these problems. Without them, the CAREC economies may be left at a greater risk of being intermittently deprived, by external events over which they have no control, of important fundamentals of growth and development.

52. To help diversify their trade and overcome the Middle Corridor's current limitations and better fulfill its potential, the CAREC and CCA countries need to swiftly take coordinated policy action to:

- diversify their transport and transit routes by finding and developing new transport and economic corridors;
- ensure the CAREC governments' commitment and full ownership of these diversification initiatives;
- prepare a well-thought-out, cooperative Middle Corridor development strategy through which multiple stakeholders can work in coordination to strengthen the Corridor's role as a critical resilience mechanism for CAREC economies and to address the hard and soft infrastructure and logistics bottlenecks affecting all three transport modes involved (rail, road, sea) in all the region's economies;
- develop new export destinations, which among other things involves participating more actively in the multilateral trade system, as well as acceding to the World Trade Organization for those countries that have not yet done so;
- diversify current import sources, particularly by establishing new sources for technology- and knowledge-intensive products;
- compensate for the added costs of multimodal transport and other current border crossing complications on the Corridor by lowering non-tariff barriers and developing the Corridor's infrastructure;
- institute reforms that support entrepreneurship, reduce production costs, and improve the ability of CAREC country enterprises to react quickly when international market

opportunities emerge; and

- strengthen regional cooperation on the development of cross-border infrastructure, logistics, human resources, production quality assurance systems, and other elements needed to boost trade and the overall efficiency of the Middle Corridor as a transit route for trade on the Central Asian and the PRC–Europe streams.

References

ADB. 2023a. Asian Development Outlook September 2023. Manila.

ADB. 2023b. Economic Corridor Development. From Conceptual Framework to Practical Implementation—Guidance Note.

Asian Development Bank Institute. 2021. Unlocking Transport Connectivity in the Trans-Caspian Corridor.

Bureau of National Statistics Under the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. https://stat.gov.kz/en/.

Central Asia Regional Economic Cooperation Program. https://www.carecprogram.org/.

Central Bank of the Republic of Azerbaijan. https://www.cbar.az/home?language=en.

China Railway Express. https://www.crexpress.cn/en/#/home.

Customs Service under the Government of the Republic of Tajikistan. https://tamognia.tj/.

Drewry's World Container Index. https://www.drewry.co.uk/supply-chain-advisors/supply-chain-expertise/world-container-index-assessed-by-drewry.

Databank. World Development Indicators. https://databank.worldbank.org/source/world-development-indicators.

Eurasian Rail Alliance Index. 2023. Analysis and prospects for the Trans-Caspian international transport route.

Eurasian Rail Alliance Index. https://index1520.com/en/.

European Bank for Reconstruction and Development (EBRD). 2023. Sustainable transport connections between Europe and Central Asia.

General Administration of Customs of the People's Republic of China. Customs statistics. http://stats.customs.gov.cn/indexEn.

International Monetary Fund. www.imf.org.

International Transport Forum. 2022. Transport Connectivity in Central Asia: Strengthening Alternative Trade Corridors between Europe and Asia.

KTZ Express. https://ktze.kz/en.

National Bank of Georgia. https://nbg.gov.ge/en.

National Bank of Kazakhstan. https://www.nationalbank.kz/en.

National Bank of the Kyrgyz Republic. www.nbkr.kg.

National Bank of Tajikistan. https://nbt.tj/en/.

National Statistics Office of Mongolia. Mongolian Statistical Information Service. www.1212.mn/en.

National Statistical Committee of the Kyrgyz Republic. https://www.stat.kg/en/.

Organization for Economic Cooperation and Development. 2023. Realising the Potential of the Middle Corridor.

Pakistan Bureau of Statistics. https://www.pbs.gov.pk/.

State Administration of Foreign Exchange of the People's Republic of China. https://www.safe.gov.cn/en/index.html.

State Revenue Committee of the Ministry of Finance of the Republic of Kazakhstan. https://kgd.gov.kz/en/exp_trade_files.

Statistics Agency under the President of the Republic of Uzbekistan. https://www.stat.uz/en/.

UN Comtrade Database. https://comtradeplus.un.org/.

World Bank. 2023. Middle Trade and Transport Corridor: Policies and Investments to Triple Freight Volumes and Halve Travel Time by 2030.