Realising the Potential of the Middle Corridor

OECD

Realising the Potential of the Middle Corridor

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Member countries of the OECD.

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Note by the Republic of Türkiye
The information in this document with reference to "Cyprus" relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Türkiye recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Türkiye shall preserve its position concerning the "Cyprus issue".

Note by all the European Union Member States of the OECD and the European Union
The Republic of Cyprus is recognised by all members of the United Nations with the exception of Türkiye. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

Please cite this publication as:
OECD (2023), *Realising the Potential of the Middle Corridor*, OECD Publishing, Paris, https://doi.org/10.1787/635ad854-en.

ISBN 978-92-64-86179-4 (print)
ISBN 978-92-64-43697-8 (pdf)
ISBN 978-92-64-32753-5 (HTML)
ISBN 978-92-64-39767-5 (epub)

Photo credits: Cover © Happy_stocker/Shutterstock.com.

Corrigenda to OECD publications may be found on line at: www.oecd.org/about/publishing/corrigenda.htm.

© OECD 2023

The use of this work, whether digital or print, is governed by the Terms and Conditions to be found at https://www.oecd.org/termsandconditions.

Foreword

The OECD has worked on trade and transport connectivity across the Eurasian landmass since 2017, in close co-operation with the countries of the region, the International Transport Forum and other partners. Since February 2022, the connectivity landscape has changed drastically as a result of Russia's full-scale invasion of Ukraine. This report looks at one of the important international developments arising in response to that change: increasing attention to the Trans-Caspian International Transport Route, the so-called "Middle Corridor", which connects China to Europe via multimodal transport routes through Central Asia, the Caspian Sea and the South Caucasus.

Until 2022, the vast bulk of overland freight transport from China to Europe passed through Russia (the Northern Corridor) using the railways from Russia's Far East, with branches through Kazakhstan and Mongolia. However, the Russian invasion of Ukraine and the ensuing sanctions disrupted the Northern Corridor. This has spurred renewed discussion of potential alternative land routes between China and the European Union, particularly the "Middle Corridor".

The additional traffic on the Middle Corridor represents an opportunity for economic development in countries along the route. Yet congestion has worsened since 2022 at existing bottlenecks, and the route's competitiveness is hampered by its challenging geography and its multimodal nature. The Middle Corridor crosses more land and maritime borders than the Northern Corridor, with diverging regulations, laws and requirements. Such a corridor requires intense collaboration, though no single co-ordination body currently exists for the route.

The OECD has prepared this analytical study to understand the challenges and opportunities in developing the Middle Corridor from the perspective of Türkiye, Azerbaijan, Georgia, and Kazakhstan. The goal of this report is to establish the conditions under which the Middle Corridor could represent a competitive and viable route for regional and trans-continental trade on the long run. In this respect, it maps and sequences the main reform priorities in relation to regional integration, infrastructure, trade facilitation, and supra-national co-ordination.

This report complements recent work on the development potential of the Middle Corridor from the perspective of the private sector and key public actors. To do so, the OECD conducted a policy consultation with more than 170 respondents to identify bottlenecks and needs in the four study countries. Qualitative interviews complemented a survey to provide a comprehensive understanding of the challenges faced by governments and users of the Middle Corridor. These inputs guided the work presented here.

Acknowledgments

This note complements and extends the work carried out by the OECD Eurasia Competitiveness Programme (ECP) on assessing the impact of global shocks on the economies of Central Asia and the Eastern Partner (EaP) Countries. The work was realised by the OECD Eurasia Division and the OECD Istanbul Centre, in co-operation with the International Transport Forum (ITF).

This report was prepared under the guidance of Mr Andreas Schaal, Director of the OECD Directorate for Global Relations and Co-operation, Mr William Tompson, Head of the OECD Eurasia Division and Mr Achraf Bouali, Head of the OECD Istanbul Centre. The project was led and closely supervised by Mr Grégory Lecomte, Head of the Central Asia Unit, and coordinated by Ms Amélie Schurich Rey, Economist and Policy Analyst, OECD Eurasia Division.

The authors of this report are Ms Amélie Schurich Rey, Economist and Policy Analyst, OECD Eurasia Division, and Mr Hugo Brisebard, Junior Policy Analyst, in the OECD Eurasia Division, with significant contributions of Ms Seda Sevgi, Deputy Head, and Ms Damla Hacibrahimoglu, Policy Analyst at the OECD Istanbul Centre, Mr Dylan Van de Ven and Mr Blaise Estienne, Junior Policy Analysts in the OECD Eurasia Division. Valuable analytical support was provided by Mr Cengiz Arikan, Statistician in the OECD Istanbul Centre, and Mr Francesco Alfonso, Deputy Head of the Eastern Partnership Unit in the OECD Eurasia Division. Ms Anna Chahtahtinsky, Ms Elisa Larrakoetxea, Programme Administrators in the OECD Eurasia Division, and Mr Daniel Poloyko, Junior Policy Analyst in the OECD Eurasia Division, provided unfailing administrative and logistical support.

The project would not have been possible without the financial support of the Ministry of Foreign Affairs of Lithuania, and the continuous dialogue with representatives of ministries and state agencies, the private sector, business associations, international organisations, non-governmental organisations and other stakeholders across the countries covered in this work. The OECD would like to express its gratitude to the Ministry of Economy and the Ministry of Digital Development and Transport of Azerbaijan, the Ministry of Economy and Sustainable Development and the Ministry of Regional Development and Infrastructure of Georgia, the Ministry of Trade and Integration and the Transport Committee under the Ministry of Industry and Infrastructural Development of Kazakhstan, the Ministry of Transport and Infrastructure and the Ministry of Trade of Türkiye, CAREC, the Trans-Caspian International Transport Route Association (TITRA), the International Road Transport Union (IRU), the World Bank, European Bank for Reconstruction and Development (EBRD), TRACECA, Black Sea Economic Cooperation (BSEC) and Union of Road Transport Associations in the Black Sea Economic Cooperation Region (BSEC-URTA), the Asian Infrastructure Investment Bank (AIIB), the International Trade Centre (ITC), the United Nations Economic Commission for Europe (UNECE), and the numerous business associations in all countries covered by this project for their support and participation.

Preliminary findings were discussed on 6 November 2023 during a roundtable meeting at the OECD Istanbul Centre with key stakeholders. The report was reviewed by Marzena Kisielewska, Head of the South East Europe division of the OECD Directorate for Global Relations and Co-operation and her team, Jibran Punthakey, Policy Analyst at the OECD Trade and Agriculture Directorate, Peline Atamer, Head of Programme at the OECD Eurasia Division, and Yaroslav Kholodov and Nick Caros, Policy Analysts and Modellers at the ITF.

Table of contents

Foreword 3

Acknowledgments 4

Abbreviations and acronyms 8

Executive summary 12

1 The Context: Growing interest in the Middle Corridor 15

Central Asia, the South Caucasus and Türkiye can play a central role in intensifying regional co-operation and opening new trade routes 17

The Middle Corridor constitutes a promising alternative to the Northern route, but much remains to be done to realise its potential 20

Unlocking the Potential of the Middle Corridor: Challenges, Opportunities, and Pathways Forward 25

References 28

2 Further regional economic and trade integration is key to the route's long-term viability 31

Limited integration into global trade constrains private-sector demand for the Middle Corridor 32

Regional logistics services remain underdeveloped along the Middle Corridor reducing transit efficiency and reliability 41

Recommendations 45

References 48

Notes 51

3 Facilitating trade: harmonisation and digitalisation for traffic development 53

Trade facilitation has progressed for each country along the route, but regional efforts so far remain limited 54

Cargo traffic remains subject to multiple and unharmonised regulatory, license, and permit requirements along the Middle Corridor 60

Insufficient border customs capacity and lacking co-operation among customs agencies along the route lead to congestion when traffic increases 69

Recommendation: develop a regional approach to border and transit documents, and build the capacity of border crossing points 73

References 82

4 Improving the Middle Corridor's attractiveness requires investing in port and rail infrastructure, with a focus on multimodality 89
Governments across the region have invested in road, rail, and maritime infrastructure in recent years 90
However, infrastructure bottlenecks lead to congestion, especially at border points and ports, and reduce the route's attractiveness 97
Recommendations 103
References 109
Notes 112

5 Effective implementation: strategic planning, private sector involvement and regional co-operation 113
Regional dialogue on the Middle Corridor has intensified, but greater co-ordination will be needed to develop it 114
At the national level, the lack of an integrated strategy and limited co-ordination between levels of government constrain reform 119
Public-private co-operation also remains at the margins and limits private sector involvement in the planning and financing of the route's development 120
Defining a co-ordination framework and building capacity for efficient and transparent planning to enhance regional co-operation 125
References 130

Annex A. Country chapters 133
References 139

FIGURES

Figure 1.1. Northern and Middle Corridor schematic routes 16
Figure 1.2. Türkiye's merchandise trade profile (2020-2022) 18
Figure 1.3. Trade dynamics between China and Central Asia and the South Caucasus (2018-2022) 19
Figure 1.4. The Middle Corridor runs through and connects growing regions 21
Figure 1.5. Composition of intra-regional trade in Central Asia and the South Caucasus (2017-2021) 22
Figure 1.6. Share of regional trade in countries of Central Asia and the South Caucasus 25
Figure 2.1. Evolution of export diversification in Central Asia, the South Caucasus and Türkiye, 2010-2021 33
Figure 2.2. Trade openness (total exports and imports as a percentage of GDP) in Central Asia, the South Caucasus and Türkiye, 3 years average for 2009-2011 and 2022-2022 34
Figure 2.3. Participation of Central Asia and South Caucasus countries in GVCs 36
Figure 2.4. Kazakhstan and Türkiye's performance in the OECD Services Trade Restrictiveness Index (2022) 41
Figure 2.5. Logistics and services trade performance of Central Asia, South Caucasus, and Türkiye 42
Figure 2.6. Composition of Türkiye's exports to the EU27 (1995-2022) 48
Figure 3.1. Evolution of Azerbaijan, Georgia, Kazakhstan, and Türkiye's performance in the OECD Trade Facilitation Indicators, 2017-2022 55
Figure 3.2. Performance of Central Asia, the South Caucasus, and Türkiye in the OECD Trade Facilitation Indicators, 2022 57
Figure 3.3. Number of issued TIR Carnets, 2012-2022 65
Figure 3.4. Performance of customs administrations in Central Asia, the South Caucasus, and Türkiye 69
Figure 3.5. Border crossing costs and times along main border points of the Middle Corridor 72
Figure 4.1. Decomposition of transport and shipping modes in Azerbaijan, Kazakhstan, and Türkiye 95
Figure 4.2. Road, rail, and port infrastructure quality in Central Asia, the South Caucasus, and Türkiye 96
Figure 4.3. Total inland transport infrastructure investment (2015-2019 annual average, in EUR) 97
Figure 4.4. Assessment of multimodality-related bottlenecks in the survey 100
Figure 5.1. Middle Corridor country trade facilitation indicator performance, 2022 119
Figure 5.2. Private sector participation in transport and infrastructure projects financing in Central Asia, the South Caucasus and Türkiye 124

Figure A A.1. Azerbaijan's trade composition 134
Figure A A.2. Georgia's trade composition 135
Figure A A.3. Kazakhstan's trade composition 137
Figure A A.4. Türkiye's trade composition 138

TABLES

Table 1.1. Cost and time estimates for main EU-China corridors in 2020 16
Table 1.2. Overview of identified reform priorities 27
Table 2.1. Intra-Industry Trade/Regional Trade Potential in Central Asia and the South Caucasus 37
Table 2.2. Intra-Industry Trade among Middle Corridor countries 37
Table 3.1. Weight dimensions for goods transport vary significantly across the Middle Corridor 61
Table 3.2. Average border-crossing time and costs in Azerbaijan, Georgia, and Kazakhstan 72
Table 4.1. Comparison of capacity of main Caspian, Black Sea, and European ports (2021) 90
Table 4.2. Road and rail networks in the countries of the Middle Corridor (2021) 92
Table 5.1. Performance of PPP and TPI systems in Central Asia, the South Caucasus, and Türkiye 122

Follow OECD Publications on:

https://twitter.com/OECD

https://www.facebook.com/theOECD

https://www.linkedin.com/company/organisation-eco-cooperation-development-organisation-cooperation-developpement-eco/

https://www.youtube.com/user/OECDiLibrary

https://www.oecd.org/newsletters/

Abbreviations and acronyms

3PL	Third-Party Logistics
ADB	Asian Development Bank
ADY	Azerbaijan Railways
APEC	Asia-Pacific Economic Co-operation
ASCO	Azerbaijan Caspian Shipping Company
ASEAN	Association of Southeast Asian Nations
ASYCUDA	Automated System for Customs Data
ATA Carnet	Carnet Admission Temporaire/Temporary Admission
BAU	Business as Usual
BBIN	Bangladesh, Bhutan, India, and Nepal
BCPs	Border Crossing Points
bn	billion
BOP	Build, Operate, Transfer
BRI	Belt and Road Initiative
BSEC	Black Sea Economic Co-operation
BSEC-URTA	Union of Road Transport Associations in the Black Sea Economic Co-operation Region
BTK	Baku-Tbilisi-Kars
CAREC	Central Asia Regional Co-operation Programme
CATS	CAREC Advance Transit System
CBAM	Carbon Border Adjustment Mechanism
CBC	Cross-Border Co-operation
CC	Co-ordination Committee
CCC	Customs Co-operation Committee [of the Central Asia Regional Economic Co-operation Programme]
CCZs	Customs Clearance Zones
CEF	Connecting Europe Facility
CFS	Container Freight Stations
CICA	Confidence Building Measures in Asia
CIM	Convention Internationale pour le Transport des Marchandises
CIM/SGMS	Agreement on International Goods Transport by Rail
CIT	International Rail Transport Committee
CMAs	Corridor Management Authorities
CMR	International Carriage of Goods
CPTA	Cross-Border Paperless Trade in Asia and the Pacific
CU	Customs Union
DR Congo	Democratic Republic of Congo
EAEU	Eurasian Economic Union
EaP	Eastern Partnership Countries
EBRD	European Bank of Reconstruction and Development

e-CMR protocol	Electronic International Carriage of Goods Protocol
ECMT	European Conference of Ministers of Transport
ECO	Economic Co-operation Organisation
ECOWAS	Economic Community of West African States
EFTA	European Free Trade Association
EIB	European Investment Bank
EPD	Electronic Pre-Declaration
ESIA	Environmental and Social Impact Assessments
ESPO	European Sea Ports Organisation
e-TIR system	Electronic International Road Transport System
EU	European Union
FDI	Foreign Direct Investment
FIATA	International Federation of Freight Forwarders Associations
FTA	Free Trade Agreement
G20	Group of Twenty
GDP	Gross Domestic Product
GIS	Geopolitical Intelligence Services
GL Index	Grubel-Lloyd Index
GR	Georgian Railways
GTrD	Global Transit Document
GVC	Global Value Chain
HHI	Herfindahl-Hirschman index
HoA	Horn of Africa
HS	Harmonised Commodity Description and Coding System
IATITR	International Association Trans-Caspian International Transport Route
ICBC	International Centre for Cross-Border Co-operation
IFC	International Finance Corporation
IFIs	International Financial Institutions
IIT	Intra-Industry Trade
IMF	International Monetary Fund
IO	International Organisation
IPA	Instrument for Pre-accession Assistance
IRU	International Road Union
ITC	International Trade Centre
ITF	International Transport Forum
JBIC	Japanese Bank of International Co-operation
JSC	Joint-Stock Company
JV	Joint Venture
km	kilometre
KMTF	KazMorTransFlot (Kazakhstan Maritime Transport Fleet)
KNOMAD	Knowledge Partnership on Migration and Development
KTZ	Kazakhstan Temir Zholy
LoLo	Lift-on/Lift-off
LPI	Logistics Performance Index [of the World Bank]
m	metre
MC	Middle Corridor
MCLI	Maputo Corridor Logistics Initiative
MIID	Ministry for Industry and Infrastructure Development [of Kazakhstan]
MMT	Multi-Modal Marine Terminal

MNE	Multinational Enterprise
mt	megaton
MVA	Motor Vehicles Agreement
NAFTA	North American Free Trade Agreement
NASCO	North American Supercorridor Coalition
NCTS	New Computerised Transit System
NGO	Non-Governmental Organisation
NTFCs	National Trade Facilitation Committee
ODA	Official Development Assistance
OEC	Observatory of Economic Complexity
OECD	Organisation of Economic Co-operation and development
OIC	Organisation of Islamic Co-operation
OSCE	Organisation for Security and Co-operation in Europe
OSJD	Organisation of for Co-operation of Railways
OSS	One-Stop Shop
OTIF	Organisation for International Carriage by Rail
OTS	Organisation of Turkic States
PMCG	Policy and Management Consulting Group
PPD	Public-Private Dialogue
PPI	Private Participation in Infrastructure
PPP	Public-Private Partnership
R&D	Research and Development
R4TCA	Ready4Trade Central Asia
RoRo	Roll-on/Roll-off
RTFCs	Regional Trade Facilitation Committees
SESRIC	Statistical, Economic, and Social Research and Training Center for Islamic Countries
SEZ	Special Economic Zone
SME	Small and Medium-sized Enterprise
SPS	Sanitary and Phytosanitary certificates
STRI	Services Trade Restrictiveness Index
t	tonne
TCDD	Turkish State Railway Authority
TEN-T	Trans-European Transport Network
TEU	Twenty-foot equivalent unit
TFIs	Trade Facilitation Indicators
TIR	Transports Internationaux Routiers (International Road Transport)
TITR	Trans-Caspian International Transport Route
TOBB	Union of Chambers and Commodity Exchanges of Türkiye
TOR	Transfer of Operating Rights
TRACECA	Transport Corridor Europe-Caucasus-Asia
U.S.	United States of America
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNECE	United Nations Economic Commission for Europe
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
URL	Unified Railway Law
USAID	United States Agency for International Development
USD	United States dollar
USMCA	United States-Mexico-Canada Agreement

VfM	Value for Money
WIPO	World Intellectual Property Organisation
WPSP	World Port Sustainability Programme
WTO	World Trade Organisation

Executive summary

Realising the Middle Corridor's potential requires to transform it into a major trade route

Regional integration: creating traffic and demand on the route will largely stem from increased regional economic and trade integration

From a private sector's perspective, the Middle Corridor is currently less attractive than other alternative routes. Limited traffic on the route largely reflects the absence of demand for goods from Central Asia and the Caucasus, as well as the relatively low level of intermediate import demand from these countries. As a result, the corridor is mainly used as an East-West transit route, while regional trade links and West-East traffic are largely insignificant.

Increased regional economic and trade integration could pave the way for better GVC integration and the development of the Middle Corridor into a major trade route connecting Asia to Europe. The disruptions to global trade caused by the COVID-19 pandemic, and subsequently by Russia's war on Ukraine, are an opportunity for both Central Asia and the Caucasus to play a larger role in global supply and value chains. Cost and efficiency gains and increased market size for regional production following from deepened regional economic integration would create regional demand and incentivise private sector participation in Middle Corridor development.

While increasing regional economic integration is a long-term goal, governments can support the creation of regional demand in the short and medium-term. In particular, policy makers, in collaboration with the private sector, should (i) further improve the overall business climate across the region to support private sector development and increase regional economic potential; (ii) develop regional logistics services to better integrate regional markets; and (iii) improve regulatory frameworks to support the development of transport connectivity contributing to the greening of the region's economies.

Trade facilitation: reforms should focus on advancing digitalisation and harmonisation of border procedures and permit requirements

Cumbersome transit and trade procedures add to border point congestion and result in inconsistent and unpredictable transit and crossing times, further reducing the route's attractiveness. Despite trade facilitation reforms in Azerbaijan, Georgia, Kazakhstan, and Türkiye, a regional approach to the route's development is missing. In particular, the Middle Corridor's attractiveness for the private sector suffers from an overlay of multiple and unharmonised license and permit requirements, increasing transit time and cost. Deficient border customs capacity and a lack of co-operation among customs agencies along the route also lead to repetitive inspections and delays, creating congestion when traffic increases.

Further advancing trade facilitation reforms at the regional level can increase the Middle Corridor's capacity in the short and medium term. Governments along the route can rapidly reduce transit times

and costs as well as increase predictability of transit times by (i) further harmonising and fully digitalising transit and border documents for all transport modes; and (ii) improving customs capacity through enhanced data exchange, modernised border procedures, and training of border officials.

Infrastructure: additional investments are needed to improve multimodality across the route and port and vessel capacity in the Caspian Sea

Targeted adjustments to the infrastructure network along the Middle Corridor can translate into increased traffic in the short and medium term. In recent years, Azerbaijan, Georgia, Kazakhstan, and Türkiye have been modernising and developing their road, rail, and maritime infrastructure. However, congestion at border points and seaports remains high, and reduces the route's attractiveness. In particular, container and vessel fleet capacity are not in line with railway freight volumes, leading to delays in seaports reinforced by the low level of port infrastructure automation around the Caspian Sea and lacking multimodal infrastructure to avoid multiple loading and unloading for ferry journeys. At border points the issue is similar.

Increasing regional trade flows and supporting the Middle Corridor's attractiveness will require targeted infrastructure investments. Given the uncertainty about long-term traffic volumes along the route, governments should focus in priority, and in parallel to trade facilitation reforms, on addressing immediate gaps reducing the route's attractiveness. In particular by (i) developing multimodal (rail-road) capacity at border crossing points and seaports; (ii) increasing fleet capacity and regularity in the Caspian Sea; and (iii) developing rail capacity.

Transnational co-operation: a common regional approach is required to implement these reforms, and deepen regional economic and trade integration

Despite intensified regional cooperation to support the development of the route in recent years, regional competition and limited co-ordination have prevented a joint approach so far. Reform and investment efforts to address main bottlenecks have remained largely national so far, and implementation suffers from limited co-ordination both between levels of government at the national level and across countries. In addition, while the private sector has been very active in working towards common standards and addressing recurrent issues along the route, it has been mainly left out from strategic discussions about the route's development, both at the national and regional levels.

Developing the Middle-Corridor's attractiveness will require improved co-ordination across national government levels and increased regional co-ordination. Achieving sustainable improvements in trade flows will require a combination of national initiatives and regional co-operation, a common approach to infrastructure and trade facilitation reform implementation and sequencing, and a strong political commitment to build and integrate regional markets in Central Asia and the Caucasus. In particular, governments of Azerbaijan, Georgia, Kazakhstan, and Türkiye should (i) develop common institutions to support the development of the route; (ii) advance trade facilitation reforms at the regional level and in line with European standards; and (iii) align national and regional infrastructure plans.

1 The Context: Growing interest in the Middle Corridor

Beyond its human toll, Russia's war of aggression in Ukraine has also profoundly affected regional and global trade patterns, disrupted global supply-chains, and transformed trade routes. The Northern Route, bringing goods from China to Europe through Russia, has seen a significant reduction in traffic following international sanctions. Traffic shifted to the Middle Corridor route, also referred to as the Trans-Caspian International Transport Route (TITR). If the route received renewed political attention to develop it into an alternative transit corridor, its multimodal nature puts it at a structural disadvantage compared to other routes. Building the Middle Corridor's potential and overcoming its lack of competitiveness lies in its ability to become a trade route fostering economic and regional integration within Central Asia and the South Caucasus, as well as between these regions, Asia, and Europe.

This chapter sets the stage for the rest of the report. The introduction section defines the Middle Corridor and the Northern Corridor and explains in which context the latter has been affected by disruptions that bring attention to the former. Then, the first section details the trade opportunities that could support demand along the Middle Corridor. The second section explains the challenges that the countries of the corridor must face in order to enhance the route's competitiveness and create a viable alternative to the Norther Corridor. The last section recalls the key issues identified in terms of trade for Central Asia and the South Caucasus and delivers an overview of the report's recommendations.

Until February 2022, the Eurasian Land Bridge Economic Corridor, also known as the "Northern Route", was the most-used overland freight route between China and Europe. Transiting through Kazakhstan, Mongolia, Russia and Belarus, the corridor had been gradually streamlining cross-border trade, modernising rail infrastructure and easing trade procedures along 12,000km of railroad (Box 1.1 and Figure 1.1). Since 2011, the Northern Route has gradually become the fastest non-air freight connection between China and Europe among the different routes available (Table 1.1).

Table 1.1. Cost and time estimates for main EU-China corridors in 2020

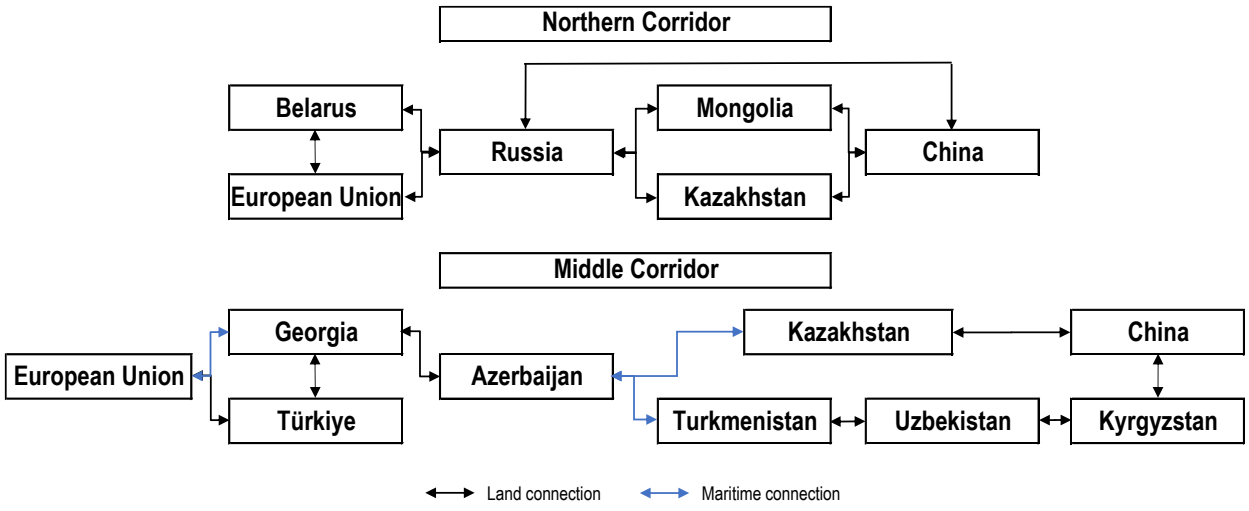
Per 40-foot container, from Chengdu, China

	Cost range (USD)	Average time (days)	Northern Europe time (days)	Central Europe time (days)	Balkans time (days)
Northern Route	2,800 – 3,200	14 – 18	16	15 – 16	20
Middle Corridor	3,500 – 4,500	16 – 20	18	17	14
Maritime Route	1,500 – 2,000	28 – 40	28 – 40	28 – 40	28 – 40

Source: (World Bank, 2020[1])

Since Russia launched its full-scale invasion of Ukraine in February 2022, international sanctions have increased the cost of shipping cargo along the Northern Route. Ensuing logistics disruptions have affected almost all trade flows between Russia and Europe, causing significant delays and global freight price increases. As a result, container shipping between the European Union (EU) and China through Russia is estimated to have decreased by at least 35% (Index, 2023[2]).

Figure 1.1. Northern and Middle Corridor schematic routes



Source: OECD analysis (2023)

Box 1.1. The Eurasian Land Bridge Economic Corridor (or Northern Route)

The Eurasian Land Bridge is a rail transport corridor comprising two main overland rail routes: the Trans-Siberian Railway and the New Eurasian Land Bridge. It represents the main overland route connecting China and the EU and carries approximately 3% of total China-Europe container trade.

The Trans-Siberian Railway

Completed in 1916, the Trans-Siberian Railway is a 9,200km-long line from Vladivostok to the EU, with access to Russian Pacific ports and the North-East region of China. This line can handle up to 200,000 TEU of containerised international transit freight per year.

The New Eurasian Land Bridge

As the southern part of the route, the New Eurasian Land Bridge runs through China and Kazakhstan, before crossing into Russia and reaching the EU. This section is more recent; the first segments were completed during the second half of the 20th century. From Kazakhstan, two North-South railways connect with the Trans-Siberian while another segment goes directly to Western Russia.

Operational connectivity issues remain

While the Eurasian Land Bridge is a network of uninterrupted railways connecting a whole continent, operational challenges hamper the efficiency of the route. Since the different segments of the route were established in different countries at different times, technical barriers exist regarding the length of fleets and trains, and railway electricity infrastructure. Moreover, due to the complexity of documentation requirements, there are risks and costs related to administrative rules and customs clearance procedures, which increase transit time.

Source: (World Bank, 2022[3]; UNESCAP, 2022[4]).

Central Asia, the South Caucasus and Türkiye can play a central role in intensifying regional co-operation and opening new trade routes

Türkiye represents a central East-West and North-South trade hub

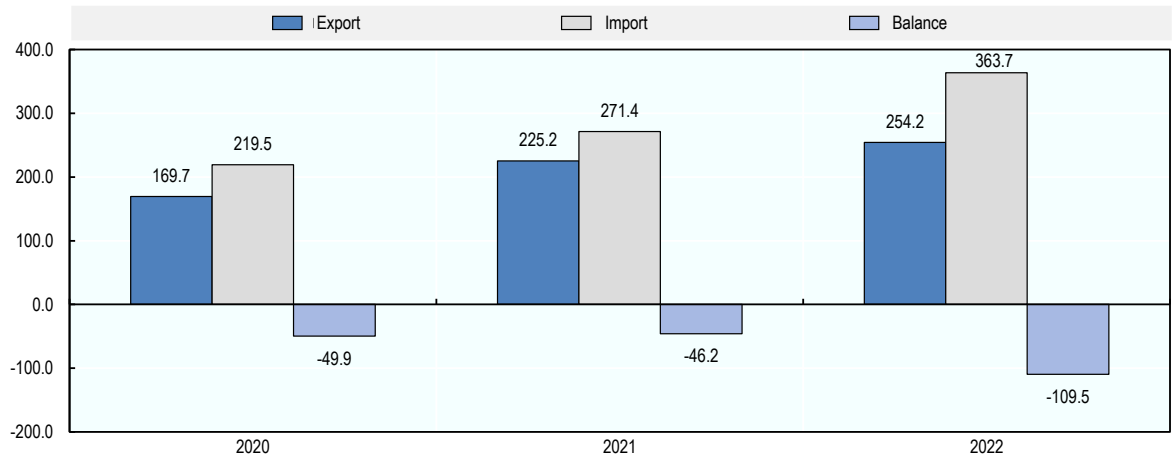
Türkiye is located at the crossroads of Europe and Asia, granting access to the Middle East, North Africa, the South Caucasus, the Balkans, and Central Asia. The Turkish Straits, two crucial international waterways that connect the Mediterranean and the Black Sea, make Türkiye an important player in maritime trade, most recently showcased by the *Black Sea Grain Corridor Initiative* that facilitated the transport of Ukrainian grain to international markets. Türkiye is situated on transport corridors between Europe and Asia, including the Middle Corridor, the Trans-European Transport Network (TEN-T), and TRACECA, as well as energy corridors from the Middle East and Caspian to Europe, which render it significant for local and regional trade activities. This strategic location combined with progress in road, port, airport, and railway infrastructure investments has helped improve inland and cross-border connectivity. Advances in trade facilitation via simplification and digitalisation of customs procedures and multiple bilateral and multilateral trade agreements have bolstered Türkiye's position as a regional trade and logistics hub.

As an upper-middle income OECD and G20 country, Türkiye is a significant player in regional merchandise and services trade. In 2022, it ranked as the 19th largest economy globally, with a GDP of USD 906 billion.

That year it ranked 30th in exports and 19th in imports globally, with a trade volume of USD 618 billion. The EU is Türkiye's largest trading partner, amounting to 40.5% of total exports and 25.6% of total imports, with a coverage ratio of 110.5%. Türkiye is the 5th largest exporter and 7th largest importer in Extra-EU trade. The Customs Union (CU) established in 1995 has been a significant driver of transformation in Türkiye's policy environment, including trade policy, helping the country advance in global value chains and diversify its portfolio from traditional exports of agrifood and textiles towards electrical equipment, machinery, chemicals, and motor vehicles.

In addition to the EU, Türkiye also maintains strong trade ties with other neighbouring regions It is among the top five trade partners for the South Caucasus and Central Asian countries except for Armenia, being the largest source of imports for Georgia and Turkmenistan, and the second largest for Azerbaijan in 2022. Whereas Türkiye predominantly imports fuels and minerals from the region, it exports machinery, electronic equipment, textiles and plastic. Türkiye is also active in the neighbouring regions through services trade, most notably through overseas contracting services, which is a highly competitive sector with 42 Turkish companies ranking among top 250 firms globally, second only to China. In 2022, Turkish companies contracted USD 19.1 billion worth of projects in Commonwealth of Independent States (USD 7.1 billion, 37.2%), Europe (USD 4.9 billion, 26.0%), Middle East (USD 3.4 billion, 18.0%), and Africa (USD 3.3 billion, 17.1%) predominantly in housing (USD 4.36 billion, 22.8%) and road-tunnel-bridge infrastructure (USD 4.30 billion, 22.5%) (Ministry of Trade of the Republic of Türkiye, 2023b[5]).

Figure 1.2. Türkiye's merchandise trade profile (2020-2022)



Source: (Turkish Statistical Institute, 2023[6])

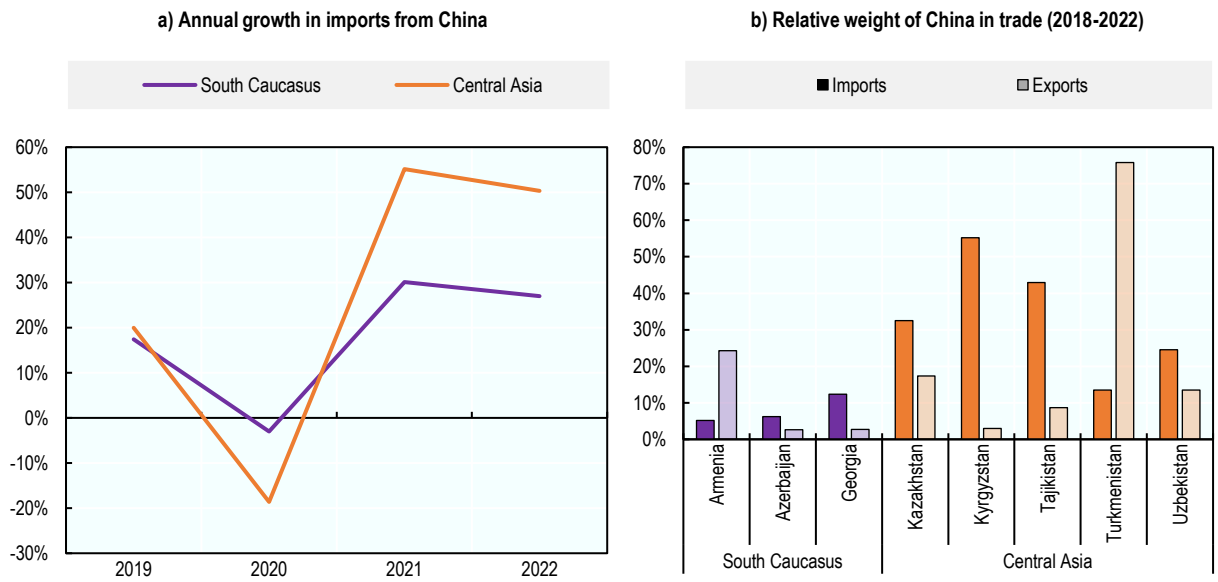
Central Asia and the South Caucasus could benefit from a possible shift in China's regional trade and transit strategy

In recent years, China has become a major trading partner and an important financing source for Central Asia and the South Caucasus. China has become a major source of imports for all Central Asian countries except Turkmenistan, as well as for Azerbaijan and Georgia, albeit to a lesser extent than for Central Asia (Figure 1.3) (OECD, 2023[7]; OECD, 2022[8]). Room for expanded export opportunities exists, in particular for non-energy related commodities, as energy and mineral resources constitute the bulk of both regions' exports to China. For instance, Kazakhstan's exports to China are dominated by crude oil

and petroleum gas, while metals represent the largest share for Georgia, Kyrgyzstan and Tajikistan (UNCTAD STAT, 2022[9]).

Central Asia and the South Caucasus have grown in importance in China's trade and transit strategy to Europe. Over the past decade China has deepened its political and financial presence in Central Asia, especially with the Belt and Road Initiative (BRI). Throughout 2022 and early 2023, high-level political co-operation between China and Central Asia has deepened, aiming to increase trade turnover and investments in particular. The joint China-Central Asia summit in January 2022 called for a doubling of bilateral trade turnover by the end of the decade and for increased Chinese investment in the region, while the May 2023 presidential Xi'an Summit showcased China's development plans for the region. Recent investments have notably expanded beyond energy supply and transport infrastructure, as discussions are on-going to open the Chinese consumer market to Central Asia's food exports. For instance, Chinese President Xi Jinping announced in January 2022 that China would further open its market to Central Asian imports with the goal of increasing total China-Central Asia trade turnover to USD 70 billion by 2030 (OECD, 2022[8]; The State Council of the People's Republic of China, 2022[10]). China also has a strong trade transit perspective in South Caucasus economies, focusing efforts on the infrastructure and transportation sectors to develop a continuous transit corridor to Europe (World Bank, 2020[11]).

Figure 1.3. Trade dynamics between China and Central Asia and the South Caucasus (2018-2022)



Source: (UN Comtrade, 2023[12])

The current disruptions to Chinese freight on the Northern Route could accelerate the shift in China's regional trade and transit strategy in favour of Central Asia and the South Caucasus. The slowdown of Chinese cargo traffic on the Northern Route has already resulted in China's increased interest in the development of the Trans-Caspian International Transport Route (TITR), also called the Middle Corridor. China committed to the further development of the corridor and the construction of transport and logistics hubs for China-Europe freight train services at the May 2023 China-Central-Asia summit in Xian. However, the growth of Chinese manufacturing and exports has slowed in recent years as a result of weaker global demand. If this slowdown were to persist, prospects for increased exports from Central Asia would look less promising in the medium-term (IMF, 2023[13]).

The Middle Corridor constitutes a promising alternative to the Northern route, but much remains to be done to realise its potential

The Middle Corridor is a viable, albeit complex, route connecting Asia to Europe through Central Asia and the South Caucasus

Since Russia launched its full-scale invasion of Ukraine, the Trans-Caspian International Transport Route, also called the Middle Corridor, has gained renewed attention from governments and firms as an alternative to the Northern Route. The route is a multi-modal transport network (road, containerised rail freight and ferry routes) connecting Asia to Europe via Kazakhstan, the Caspian Sea, Azerbaijan and Georgia before going on to Europe through the Black Sea and/or Türkiye. It is an alternative to the Northern Route and the various maritime routes between Europe and Asia, and also offers new opportunities for the enhancement of regional trade and the economic development of the countries along the route. The current Middle Corridor is a relatively recent trade route: the two major initiatives to strengthen it (Trans-Kazakhstan railroad, Baku-Tbilisi-Kars railway) were completed in 2014 and 2017, following the establishment of the Co-ordination Committee for the Development of the TITR. Hitherto, the Middle Corridor has carried far less traffic than the "Northern Route" through Russia and Belarus, but trade-disruptions following Russia's war of aggression against Ukraine triggered sharp growth along the route and much discussion of what could be done to develop it further (OECD, 2022[8]).

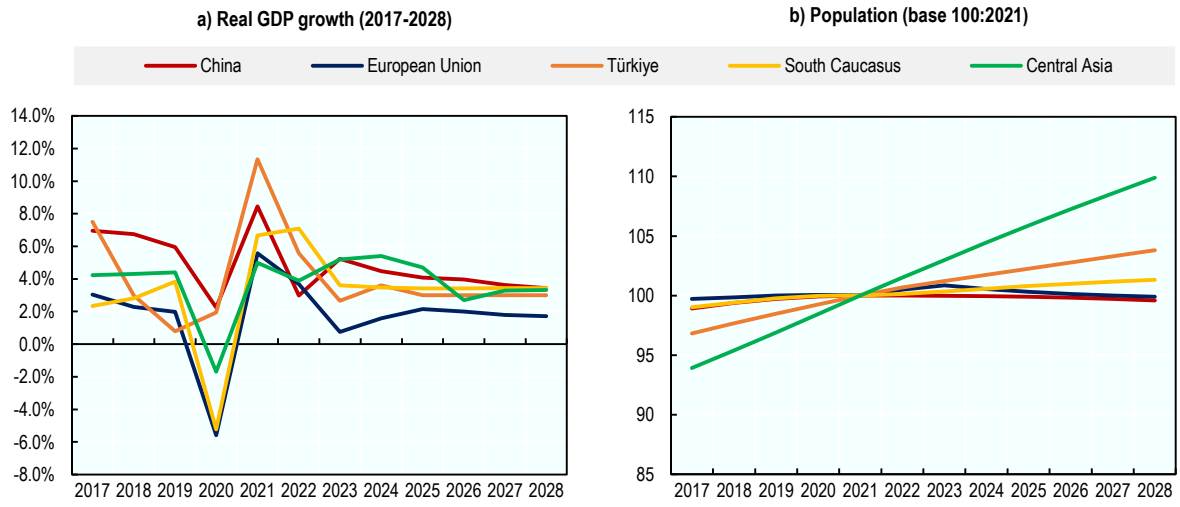
The route could offer the shortest alternative to the Northern Route for freight transport between Asia and Europe. Recent studies indicate that transporting goods from Chengdu through the Middle corridor would only take one additional day to Central Europe compared to the Northern Corridor, and two additional days to Northern Europe. The Middle Corridor even offers a competitive advantage for transit of goods between China and the Balkans, with a 6 days cut in transit time compared to the Northern Corridor. It is also the shortest route for trade from China or Central Asia to North Africa when considering the access to the Mediterranean Sea from Georgian and Turkish ports. Enhancing the TITR would potentially reduce transport costs and boost trade among the countries it traverses. Realising this potential would require not only significant infrastructure investment but also trade facilitation reforms (see below). The Corridor's current capacity represents only a fraction (at most 5%) of that of the Northern Route (Rail Freight, 2022[14]; ITF, 2022[15]).

In 2022, cargo traffic on the Middle Corridor increased sharply, due to a shift away from the Northern route. The volume of cargo transportation along the route has increased by 2.5 times (albeit from a low baseline) to 1.5 million tons in 2022. The route also witnessed an estimated doubling of container shipments to 50,000 TEU containers (ITF, 2022[15]; Middle Corridor Association, 2022[16]). Cargo volumes crossing the Caspian followed the same dynamic. This evolution also creates new trade opportunities for the countries along the route. For instance, Kazakhstan's share of cargo increased 6.5-fold compared to 2021, to about 900,000 tons. Container shipments across the Caspian Sea increased by 33%, reaching 33,600 twenty-foot equivalent units (TEUs) containers, of which 18,000 are estimated to have transited along the whole Middle-Corridor (Port Aktau, 2023[17]; Adilet, 2022[18]). For the five first months of 2023, cargo traffic growth is estimated to be 64% compared to the same period in 2022, with 1 million tons transported (Prime Minister of the Republic of Kazakhstan, 2023[19]).

The route also offers a perspective for future trade and transit growth connecting Asia to Europe through quickly growing economies. Kazakhstan, Azerbaijan, Georgia, and Türkiye, as well as the other countries of Central Asia and the South Caucasus, are growing in terms of GDP and population (Figure 1.4). Kazakhstan offers a trade gateway to a market of about 100 million consumers around the Caspian Sea, including 76 million in Central Asia, as well as routes to Western China, Türkiye and the European Union (International Trade Administration, 2022[20]; Presidency of the Republic of Türkiye, 2023[21]). A recent EBRD study finds that transit container volume could increase from the current 18,000 TEUs to 130,000 TEUs by 2040 only attributable to population and GDP growth (EBRD, 2023[22]).

Figure 1.4. The Middle Corridor runs through and connects growing regions

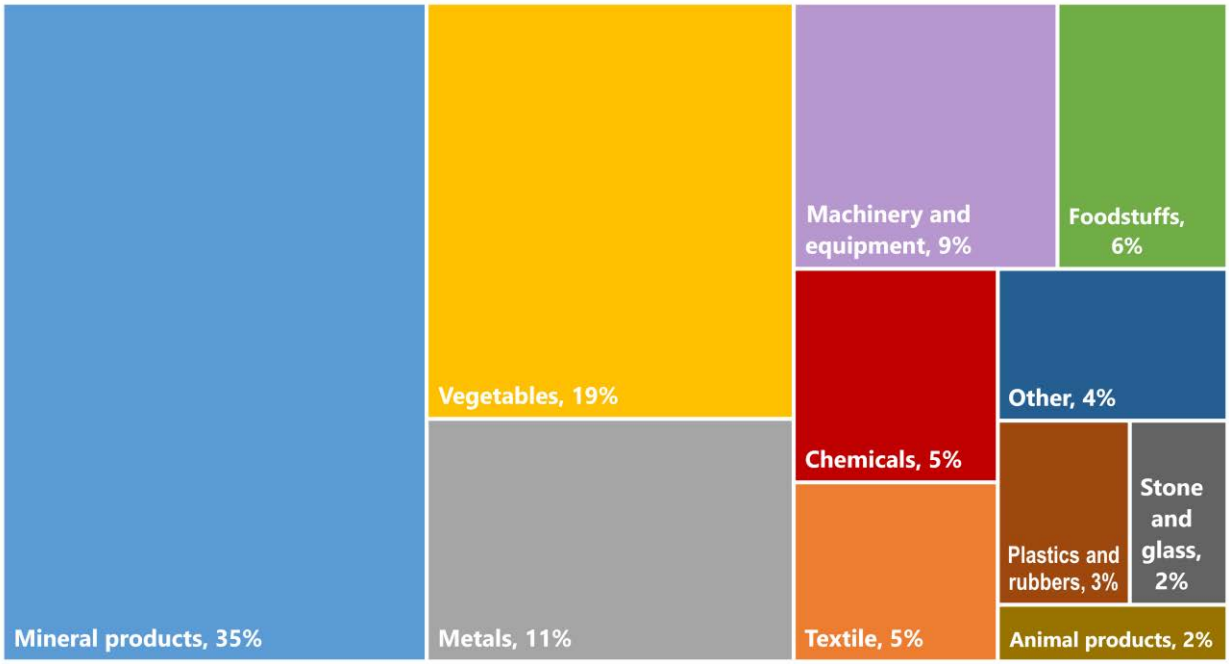
GDP and population projections for China, Central Asia, the South Caucasus, and Europe



Source: (IMF, 2023[23]) (United Nations, 2022[24])

Opportunities for trade growth will also expand to the extent that China evolves into a more consumption- (rather than export-) oriented economy and that the economies of Central Asia and the South Caucasus manage to move up along value chains. A shift towards more consumption-led growth in China would generate additional West-East Middle Corridor traffic and intensified trade ties with Central Asia and the South Caucasus. The development of manufacturing industries in Central Asia and the Southern Caucasus would lead to increased exports, while the production of higher value-added technological goods would boost imports of intermediate parts and components.

Figure 1.5. Composition of intra-regional trade in Central Asia and the South Caucasus (2017-2021)



Note: Categories of products respect the Harmonised Commodity Description and Coding System (HS). Regional trade accounted for 39.5 billion USD over the period. The figure includes exports from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Armenia, Azerbaijan and Georgia to these same countries.
Source: (Observatory for Economic Complexity, 2023[25])

This report assesses challenges and identifies reform priorities in relation to infrastructure, trade facilitation and stakeholder co-ordination along the Middle-Corridor

The purpose of this report is to offer targeted advice to the governments of Azerbaijan, Kazakhstan, Georgia, and Türkiye on how to harness the potential of the Middle Corridor. In particular, the report complements recent work on the Corridor's development potential by drawing on the perspectives of private sector actors to help map and sequence main reform and implementation priorities.

Drawing upon original data collected in each of the Middle Corridor countries (Box 1.2)**, the report includes an analysis of the main factors that hinder or contribute to the route's development.** In each project country, the OECD has consulted with representatives of the government, the private sector, and other development partners through a detailed online survey, complemented by qualitative in-depth interviews. Based on this analysis, the study assesses reform priorities in relation to infrastructure, trade facilitation and stakeholder co-ordination along the Middle-Corridor and suggests issue-specific recommendations to increase the countries' trade and connectivity potential and at the regional level, to create the conditions for increased demand and traffic along the Middle Corridor.

Box 1.2. Realising the Trade Potential of the Middle-Corridor: methodology (2023)

The current report assesses bottlenecks and maps reform and implementation priorities in relation to (i) transport infrastructure, (ii) trade facilitation, and (iii) national and supra-national stakeholder co-ordination to develop the potential of the Middle Corridor as a central trade route connecting Asia to Europe. In particular, the report aims at highlighting the perspective of the private sector and key public-sector actors in Kazakhstan, Georgia, Azerbaijan and Türkiye to help map and sequence main reform and implementation priorities. The analysis also considers the effect of the COVID-19 pandemic and the disruption caused by Russia's war in Ukraine on regional trade and integration to ground the analysis of the route's development potential.

The study relied on two main dimensions:

(i) A series of qualitative online surveys building on the recent ITF Policy Brief (ITF, 2022[15]) focusing on trade facilitation, infrastructure development and national and supra-national stakeholder co-ordination in the four project countries.

(ii) A series of qualitative interviews with selected public and private stakeholders, as well as with IOs (EBRD, World Bank, etc.) active in the four project countries to broaden the perspective on the challenges and opportunities for realising the route.

The analytical work relied on a continuous dialogue between the OECD, the governments of Kazakhstan, Georgia, Azerbaijan and Türkiye, the private sector, and international partners, including through several bilateral consultations in the first half of 2023. In particular, the OECD has used a series of tools, including questionnaires, data requests and collection, analysis of surveys and interviews, to collect data and information.

The report focuses on the private sector's perspective on the route to help policymakers map and sequence reform priorities. Accordingly, whilst many of the most important aspects of the route's development are addressed in this report, some, such as the investment and fiscal challenges, are not. These are covered by other recent studies and remain important aspect to realising the Middle Corridor's potential.

Note: The detail of the methodology is available in Annex A.
Source: OECD (2023).

Infrastructure bottlenecks and inadequate trade facilitation increase costs and transit times along the Middle Corridor

The Middle Corridor's multimodal nature challenges its attractiveness from the private sector perspective. Private sector stakeholders consulted for this study (see below) emphasise the importance of cost, time, and safety factors in a route's competitiveness. Currently, the Middle Corridor appears less competitive than alternatives, chiefly due to the unpredictability of transit times and higher costs arising from the large number of modal switches and international frontiers along the route (Eurasianet, 2022[26]; ADB, 2021[27]). These structural issues are further exacerbated by limited transport and logistical capacity, deficient infrastructure, gaps in the operational and trade facilitation environment, and inadequate regional, national, and supra-national stakeholder co-ordination (OECD, 2023[28]; OECD, 2023[29]; ADB, 2021[30]; USAID, 2022[31]; ITF, 2022[15]). As a result, despite intensifying trade and transit, and a positive outlook, the Middle Corridor does not yet provide a real alternative to the Northern Route (Rail Freight, 2022[14]).

Transit capacity constraints have been highlighted by the shift of traffic from the Northern Route throughout 2022. Russia's invasion of Ukraine has led to an uptick in Middle Corridor traffic, resulting in

reduced transit capacities and a rise in cargo shipping and logistics prices. Capacity limitations have visibly manifested themselves through container shortages and a decrease in available Caspian Sea vessels that have been mobilised to service traffic stemming from Russian ports rather than servicing their usual itineraries. This can be explained by Russia seeking to adjust its import inflows through increased trade with the Southern Caucasus and exploring alternative North-South routes through Iran. Logistics service prices increased in 2022 following a rise in service costs along the Northern Route reverberating on other trade routes, as well as heightened risk-premia for goods originating from Russia's neighbours. Prices have tended to fall back to their pre-war levels since then.

Turning the Middle Corridor into a robust transit and trade route will require addressing infrastructure, trade facilitation, and regional co-ordination bottlenecks in Central Asia, the South Caucasus, and Türkiye. Being both a land and sea route, the Middle Corridor requires a complex set of road, rail, and maritime infrastructures. Despite recent developments in Kazakhstan, Azerbaijan, Georgia, and Türkiye, two palpable regional integration barriers are insufficient infrastructure, especially multimodal schemes in ports, and disparities in the legal and regulatory frameworks governing trade and transit requirements across the route. As a result, bottlenecks at the main seaports and border points increase transit times by as much as 10-15 days due to congestion, reaching 20-30 days in some cases. For example, the Kazakh border rail gauge change can last from one to 10 days, followed by two to three days to discharge at the Baku Alat port, and finally two to 10 days' waiting in Georgia's Poti port (EBRD, 2022[32]). Addressing these issues will require a common approach to infrastructure and trade facilitation reforms at both the national and regional levels.

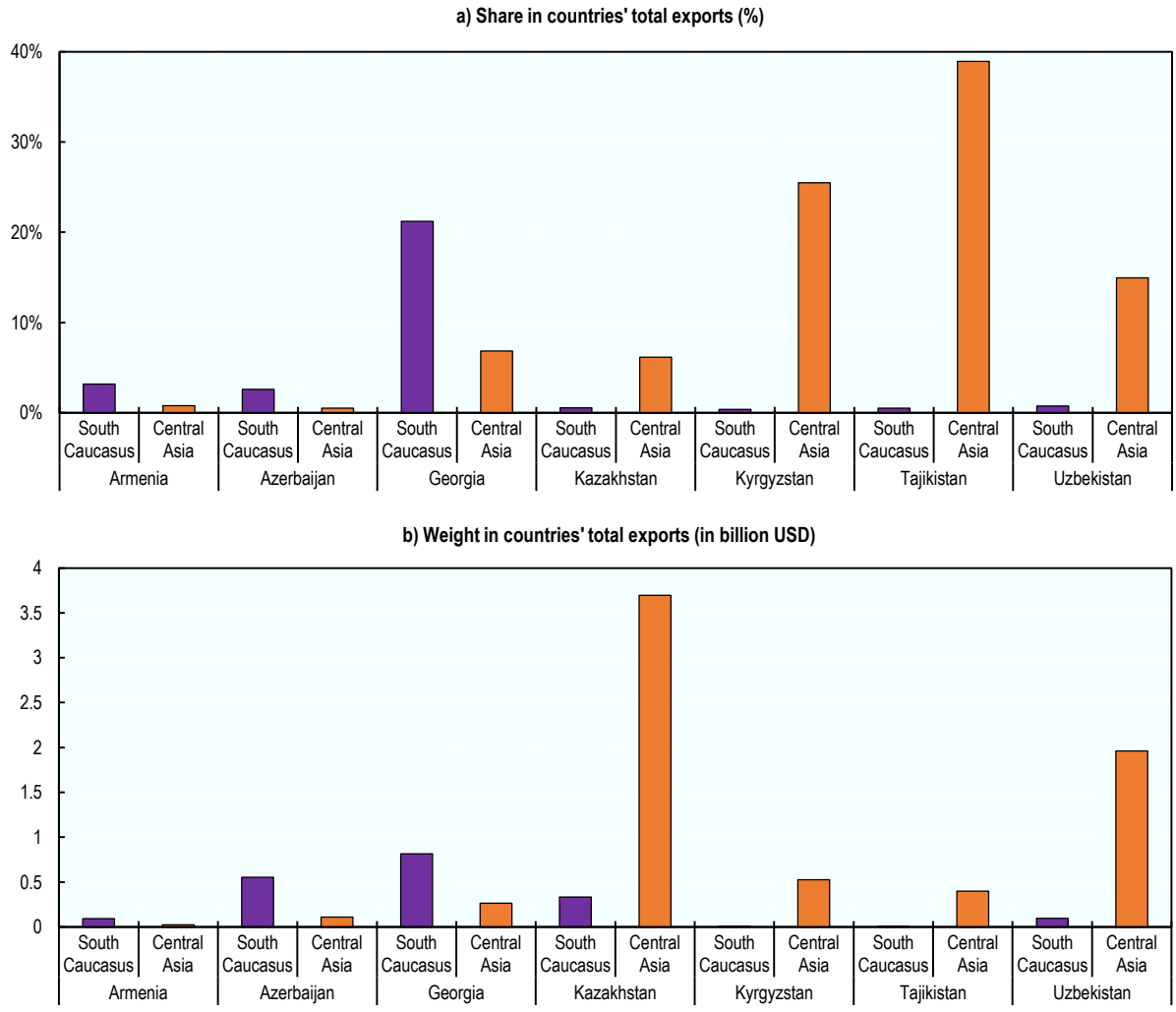
Limited regional trade and economic integration in Central Asia and the South Caucasus further reduce the route's trade competitiveness

Regional trade represents only a small fraction of trade in Central Asia and the South Caucasus. Except for some of the smaller economies such as Georgia, Kyrgyzstan, or Tajikistan, regional exports represent a limited share of total exports. Exports to the region accounted for 15% of the total, on average, for Uzbekistan between 2017 and 2022; the corresponding figures for Kazakhstan (8%) and Armenia (2%) were even lower (Figure 1.6). This pattern largely reflects the commodity composition exports, which is strongly skewed towards mineral commodities, except in Georgia, which relies more on agricultural goods and some manufactures (OECD, 2020[33]). As a result, export destinations are highly concentrated, mainly in Europe, Russia, and China. Uzbekistan's comparatively greater share of regional exports could be linked to its larger industrial base and the weight of agricultural goods in its export basket, leading to a more diversified trade partner portfolio (OECD, 2022[34]).

Trade between Central Asia and the South Caucasus is also limited. Trade with the neighbouring region accounts for an even smaller share of countries' total exports (Figure 1.6), which can be indicative of the countries' low integration in regional and global value chains. Indeed, manufacturing output in the South Caucasus countries and even more strikingly in Central Asia displays low levels of added value, reducing exports and requiring only small levels of foreign components as intermediate inputs (OECD, 2022[8]; OECD, 2023[7]). As a result, the Middle Corridor suffers from an attractiveness gap compared to other corridors transiting more economically integrated regions, providing for trade opportunities along the way.

Figure 1.6. Share of regional trade in countries of Central Asia and the South Caucasus

Average share and weigh of exports to Central Asia and the South Caucasus, by country, 2017-2022



Note: "South Caucasus" refers to Armenia, Azerbaijan, and Georgia; "Central Asia" covers Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. 2022 export data is missing for Tajikistan.
Source: (UN Comtrade, 2023[12]).

Unlocking the Potential of the Middle Corridor: Challenges, Opportunities, and Pathways Forward

Before the war, the Eurasian Land Bridge Economic Corridor (also known as the Northern corridor) was the most competitive route for rail shipment between China and Europe. Following Russia's unprovoked invasion of Ukraine, sanctions have brought logistic disruptions that hampered the corridor's viability. Therefore, the Middle Corridor appears as a relevant alternative for the transit of goods across Eurasia, though its multimodal nature and multiple border crossings make it more challenging to develop.

The economies of the South Caucasus and Central Asia remain closely integrated with Russia, leaving them vulnerable to supply risks and secondary sanctions

Russia remains a predominant trade partner for Central Asia and the South Caucasus countries, both for imports, and exports and as a transit destination. These important ties are strengthened for some countries. by membership of the Eurasian Economic Union (EAEU). Though the EAEU seeks to create a unified market, issues remain in terms of the harmonisation of tariffs. Due to the prevailing role of Russia in the EAEU, the organisation tends to favour Russia's interests, and its operations can complicate trade relations with non-member countries (GIS, 2021[35]).

Trade in Central Asia and the South Caucasus was less affected than expected following the sanctions imposed on Russia in 2022. Russia is one of the main markets for the countries of the region, and its economic downturn could have affected exports. Instead, products from Central Asia and the South Caucasus appeared as substitutes for European products, and rising metals and hydrocarbon prices benefited countries like Azerbaijan and Kazakhstan.

However, the disruptions in trade with Russia are still likely to affect supply chains, and the conflict led to an increase in transport and logistics costs. Moreover, intermediate trade between Russia and third countries through Central Asia and the South Caucasus adds to the pressure on transport fees and exposes the region to secondary sanctions.

Countries along the corridor can foster regional co-operation and generate trade opportunities

At the western end of the route, Türkiye has a strong experience in developing as a logistics hub at the crossroads of continents and promoting integration to global markets. At the eastern end, China's interest in the region is growing and could fuel new trade opportunities. The Chinese authorities have expressed their interest in developing imports of non-energy commodities and have invested heavily in infrastructure in the region as an alternative to the Northern Route.

Countries in Central Asia and the South Caucasus are also contributing to the emergence of trade routes. The intensity of high-level dialogue within the region and with global partners shows that trade facilitation is a priority topic for policymakers. Governments have been carrying out trade reforms and have invested heavily in East-West transport infrastructure.

The Middle Corridor has the potential to become a viable route if capacity constraints and regional co-operation issues are addressed

The Middle Corridor has the potential to become a viable and strategic route between Asia and Europe through Central Asia and the South Caucasus. Traffic has been strongly growing on the Middle Corridor following the restrictions on the Northern Route. The route benefits from solid fundamentals, with important economic and demographic growth, and the possible development of China as a consumption economy, ensuring the growth of the markets served by the corridor.

This report aims at identifying the priority reforms and enhancements to be made in terms of trade facilitation, stakeholder co-ordination and infrastructure to improve the competitivity of the route. The conclusions are based on both a comprehensive survey and qualitative interviews conducted with public and private stakeholders.

These consultations highlighted the capacity limitations at several bottlenecks along the corridor. The increase in traffic following the shift away from the Northern Route in 2022 increased waiting times at ports and border crossings, hampering the competitiveness of the route. Issues preventing the development of the corridor are not only related to infrastructure, but also to the lack of economic integration in Central

Asia and the South Caucasus. Enhancing the route's attractiveness will require facilitating trade to ease pressure at border crossing and increase demand for transport in a regional perspective.

Table 1.2. Overview of identified reform priorities

Priority areas	Increasing regional economic and trade integration	Improving transport infrastructure capacity	Advancing trade facilitation	Enhancing national and transnational co-ordination
Suggested priority reforms	Improve framework conditions for private sector development to stimulate demand along the Middle Corridor	Develop multimodal infrastructure at ports and border points	Harmonise transit and transport regulation, harmonise and digitalise border and transit documents for all transport modes	Develop the institutional tools to support a common approach to the development of the route
	Improve logistics services to increase the efficiency and reliability of the route	Increase fleet capacity and regularity in the Caspian Sea	Build customs capacity at the national and regional level to reduce border procedure times	Align national, transnational and regional infrastructure plans
	Improve regulatory frameworks and planning capacities for environmental standards	Develop rail capacity		Advance trade facilitation reforms at the regional level and in line with European standards

Source: OECD analysis (2023).

References

ADB (2021), *Middle Corridor - Policy Development and Trade Potential of the Trans-Caspian International Transport Route*, https://www.adb.org/publications/middle-corridor-policy-development-trade-potential. [27]

ADB (2021), *Middle Corridor - Policy Development and Trade Potential of the Trans-Caspian International Transport Route*, https://www.adb.org/publications/middle-corridor-policy-development-trade-potential. [30]

Adilet (2022), *On approval of the Concept of Development of Transport and Logistics Potential of the Republic of Kazakhstan until 2030 (Об утверждении Концепции развития транспортно-логистического потенциала Республики Казахстан до 2030 года)*, https://adilet.zan.kz/rus/docs/P2200001116#z165 (accessed on 21 April 2023). [18]

EBRD (2023), *Sustainable transport connections between Europe and Central Asia*, https://www.ebrd.com/news/publications/special-reports/sustainable-transport-connections-between-europe-and-central-asia.html. [22]

EBRD (2022), *Middle Corridor—Policy Development and Trade Potential of the Trans-Caspian International Transport Route*. [32]

Eurasianet (2022), "Turkey and Central Asia: Ukraine war will strengthen ties", *Eurasianet*, pp. https://eurasianet.org/perspectives-turkey-and-central-asia-ukraine-war-will-strengthen-ties. [26]

GIS (2021), *A closer look at the Eurasian Economic Union*, https://www.gisreportsonline.com/r/eurasian-economic-union/. [35]

IMF (2023), *World Economic Outlook Database*, https://www.imf.org/en/Publications/WEO/weo-database/2023/April/download-entire-database. [23]

IMF (2023), *World Economic Outlook: A Rocky Recovery - April 2023*, https://www.imf.org/en/Publications/WEO/Issues/2023/04/11/world-economic-outlook-april-2023. [13]

Index, E. (2023), *ERAI Statistics*, https://index1520.com/en/statistics/?direction=all&view=map&section=route&previousPeriodType=year&period=202202-202302&orderField=currentPeriodTeu&orderDirection=desc. [2]

International Trade Administration (2022), *Market Overview*, https://www.trade.gov/country-commercial-guides/kazakhstan-market-overview#:~:text=Kazakhstan%20has%20an%20export%2Doriented,58%20percent%20of%20total%20exports). (accessed on 15 May 2022). [20]

ITF (2022), *Transport Policy Responses to the War in Ukraine*. [15]

Middle Corridor Association (2022), *The stable growth of transit and container traffic along the TITR was noted in the final report. Thus, over the past year, 25.2 thousand twenty-foot equivalent containers (TEU) were transported along the TITR route, which is 20% more than in 2020.*, https://middlecorridor.com/en/press-center/news/the-growing-importance-of-the-trans-caspian-international-transport-route-was-discussed-in-turkey. [16]

Ministry of Trade of the Republic of Türkiye (2023b), *Yurt Dışı Müteahhitlik ve Teknik Müşavirlik*, https://ticaret.gov.tr/hizmet-ticareti/yurtdisi-muteahhitlik-teknik-musavirlik. [5]

Observatory for Economic Complexity (2023), *Data visualizer (database)*, Observatory for Economic Complexity, Cambridge MA, https://oec.world/en/visualize/tree_map/hs92/export/arm.aze.geo.kaz.kgz.tjk.tkm.uzb/arm.geo.kaz.kgz.tjk.tkm.uzb/show/2017.2018.2019.2020.2021/. [25]

OECD (2023), *Assessing the Impact of Russia's War against Ukraine on Eastern Partner Countries*, https://doi.org/10.1787/946a936c-en. [7]

OECD (2023), *Improving Framework Conditions for the Digital Transformation of Businesses : Peer-Review of Kazakhstan*. [28]

OECD (2023), *OECD Middle Corridor report - upcoming*. [29]

OECD (2022), *Assessing the impact of the war in Ukraine and the international sanctions against Russia on Central Asia*. [8]

OECD (2022), *Boosting the Internationalisation of Firms through better Export Promotion Policies in Uzbekistan*, https://www.oecd.org/eurasia/Monitoring_Review_Uzbekistan_ENG.pdf. [34]

OECD (2020), *SME Policy Index: Eastern Partner Countries 2020: Assessing the Implementation of the Small Business Act for Europe*, OECD Publishing, https://doi.org/10.1787/8b45614b-en. [33]

Port Aktau (2023), *The volume of cargo transportation along the Trans-Caspian route increased by 2.5 times (Объем перевозок грузов по Транскаспийскому маршруту вырос в 2,5 раза)*, https://www.portaktau.kz/ru/obem-perevozok-gruzov-po-transkaspijskomu-marshrutu-vyros-v-25-raza/ (accessed on 3 April 2023). [17]

Presidency of the Republic of Türkiye (2023), *Large domestic and regional markets*, https://www.invest.gov.tr/en/whyturkey/top-reasons-to-invest-in-turkey/pages/large-domestic-and-regional-markets.aspx. [21]

Prime Minister of the Republic of Kazakhstan (2023), , https://primeminister.kz/en/news/air-flights-increase-and-trans-caspian-international-transport-route-development-10-documents-signed-during-visit-of-alikhan-smailov-to-azerbaijan-24512. [19]

Rail Freight (2022), *Middle Corridor unable to absorb northern volumes, opportunities still there | RailFreight.com*, https://www.railfreight.com/specials/2022/03/18/middle-corridor-unable-to-absorb-northern-volumes-opportunities-still-there/ (accessed on 24 June 2022). [14]

The State Council of the People's Republic of China (2022), *Full Text: Remarks by Chinese President Xi Jinping at the Virtual Summit to Commemorate the 30th Anniversary of Diplomatic Relations Between China and Central Asian Countries*, http://english.www.gov.cn/news/202305/19/content_WS6467059dc6d03ffcca6ed305.html. [10]

Turkish Statistical Institute (2023), *Foreign Trade*, https://data.tuik.gov.tr/Kategori/GetKategori?p=dis-ticaret-104&dil=1. [6]

UN Comtrade (2023), *UN Comtrade Database*, https://comtradeplus.un.org/. [12]

UNCTAD STAT (2022), *Merchandise trade matrix in thousands United States dollars, annual, 2016-2020 (database)*, https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=217476&IF_Language=eng (accessed on 23 June 2022). [9]

UNESCAP (2022), *Connectivity along the Eurasian Northern Corridor*, https://www.unescap.org/sites/default/d8files/Ch%201%20Connectivity%20along%20the%20Eurasian%20Northern%20Corridor.pdf. [4]

United Nations (2022), *Department of Economic and Social Affairs, Population Division*, https://population.un.org/wpp/Download/Standard/Population/. [24]

USAID (2022), *Trans-Caspian Corridor Development*, https://www.carecprogram.org/uploads/19th-TSCC_A05_USAID-TCAA.pdf. [31]

World Bank (2022), *Equitable Growth, Finance and Institutions Insight*, World Bank Group, Washington DC, https://documents1.worldbank.org/curated/en/099750104252216595/pdf/IDU0008eed66007300452c0beb208e8903183c39.pdf. [3]

World Bank (2020), *Improving Freight Transit and Logistics Performance of the Trans-Caucasus Transit Corridor*, https://documents1.worldbank.org/curated/en/701831585898113781/pdf/Improving-Freight-Transit-and-Logistics-Performance-of-the-Trans-Caucasus-Transit-Corridor-Strategy-and-Action-Plan.pdf. [1]

World Bank (2020), *South Caucasus and Central Asia - The Belt and Road Initiative*, https://doi.org/10.1596/34122. [11]

2 Further regional economic and trade integration is key to the route's long-term viability

Increased regional economic and trade integration, especially in the South Caucasus and Central Asia, will be critical to generating increased traffic and demand along the Middle Corridor. While this is a long-term goal, governments advance it now by (i) creating more favourable conditions for private sector development in Central Asia and the South Caucasus; (ii) developing regional logistics services to support the development of both trade and transit in the short to medium term; and (iii) fostering common standards for a more sustainable approach to the development of the route.

This chapter explains how increasing regional economic integration can contribute to the Middle Corridor's competitiveness by stimulating demand for freight transport along the route on the long run, and rather than seeing it solely as a substitute for the Northern Corridor. First, it sheds light on the low integration of Central Asia and Southern Caucasus countries in global trade beyond the export of commodities. Then it looks at the gaps in the logistics sector preventing the development of the route's potential. Finally, the chapter formulates recommendations on how to develop private sector demand for the route and increase the quality of logistics services.

This chapter, as well as in the rest of the report, relies in great part on a policy consultation that the OECD conducted to identify bottlenecks and reform needs in four countries along the corridor – Kazakhstan, Azerbaijan, Georgia and Türkiye. The consultation focused on trade facilitation, infrastructure and stakeholder co-ordination. The OECD collected over 143 responses, mainly from individual companies, but also from business associations and government entities. The survey questions were adapted to the respondents' profiles. They centred on the competitiveness of the Middle Corridor, the constraints and bottlenecks encountered while operating on the Middle Corridor and possible improvements in terms of infrastructure and trade facilitation. Qualitative interviews complemented the survey and allowed for a better overview of the challenges for governments and private sector user of the Middle Corridor.

Limited integration into global trade constrains private-sector demand for the Middle Corridor

The corridor countries' trade integration could improve

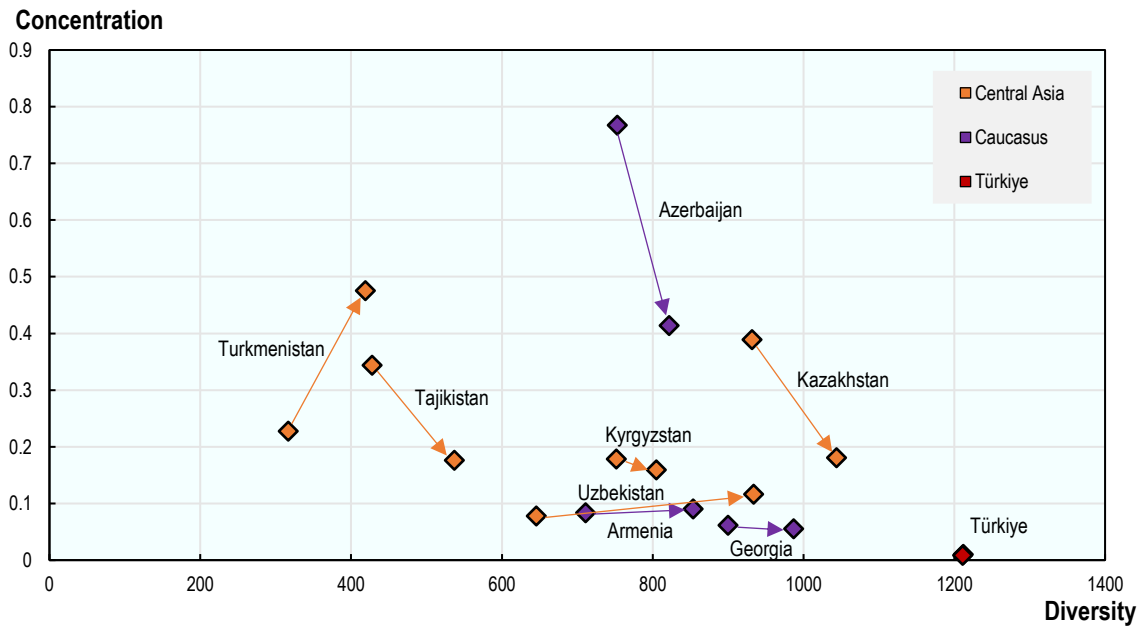
The participation of the South Caucasus and Central Asia in global trade is limited

Only 45% of companies responding to the OECD survey indicated that they used the Middle Corridor as a main route for their operations; the chief determinant for their decisions was access to a regional market. While companies are discouraged by practical issues, such as non-competitive transport costs, limited digitalisation of services, and lack of infrastructure, the absence of a sufficient demand for a wide range of goods remains a major factor reducing the private sector's interest in trading on the Middle Corridor compared to other trade routes. Indeed, a majority of respondents using the Middle Corridor as a main route respond to European demand and, therefore, use the corridor for transit only. Government agencies responding to the survey consider weak regional demand the foremost reason preventing the use of the Middle Corridor.

The economies of Central Asia and the South Caucasus have both relatively undiversified export baskets and a limited range of trading partners. Despite significant differences in terms of population, resource endowments and economic structures, the economies of the two regions are characterised by export concentration in terms of both products and destinations, chiefly China and Russia in terms of export markets (see Chapter 1). Even if the region's economies were to start diversifying, the impact on the composition of output would be limited for some time (Figure 2.1). For instance, between 2000 and 2021, all countries of the region significantly increased the *range* of exported products. Kazakhstan and Georgia have by far become the most diversified exporters, respectively, in Central Asia and the South Caucasus, in terms of the *number of different export products* (diversification of the export basket), and they are moving closer to OECD countries such as Türkiye. However, the *concentration* of either country's exports in value terms did not change in the same proportions. It increased for Turkmenistan, Uzbekistan and Armenia, meaning that the overall concentration of their export baskets in terms of volume and value has increased. Moreover, Kazakhstan is an interesting case: while it followed the same pattern as these three countries between 2010 and 2019, with an increased concentration of hydrocarbon products in its export basket, the relative de-concentration of exports between 2010 and 2021 masks a shift in Kazakhstan's commodity exports between 2019 and 2021, as the share of metals rose by 20 percentage points in the

export basket, lowering the share of mineral fuels from 67% to 47% of total exports (OECD, 2023[1]; The Observatory of Economic Complexity, 2023[2]). A similar trend of relative de-concentration of exports (rather than of diversification) can also be observed in Azerbaijan, with the share of mineral fuels in exports decreasing only slightly from 94% in 2010 to 88% in 2021. This continuing reliance on hydrocarbons reflects low levels of competitiveness in non-oil sectors and the and persisting connectivity barriers that firms continue to face in international trade (OECD, 2021[3]; OECD, 2020[4]; OECD, 2023[1]).

Figure 2.1. Evolution of export diversification in Central Asia, the South Caucasus and Türkiye, 2010-2021



Note: The concentration of exports is measured with a normalised Herfindahl-Hirschman index (HHI) on exported products classified according to the HS 4-digit system. Diversity is measured as the number of exported products according to the HS 4-digit system. The HHI is an index, traditionally used to assess the concentration of markets for competition regulators, with a value of 0.15 corresponding to low concentration, 0.15-0.25 a moderate concentration, and above 0.25 a high concentration. When measuring export diversification, a concentration of 0.10 still indicates a high concentration. The HHI being a non-linear indicator, a 0.1 change does not represent the same gap at different levels of concentration.
Source: OECD calculations (2023) based on OEC data (The Observatory of Economic Complexity, 2023[2]).

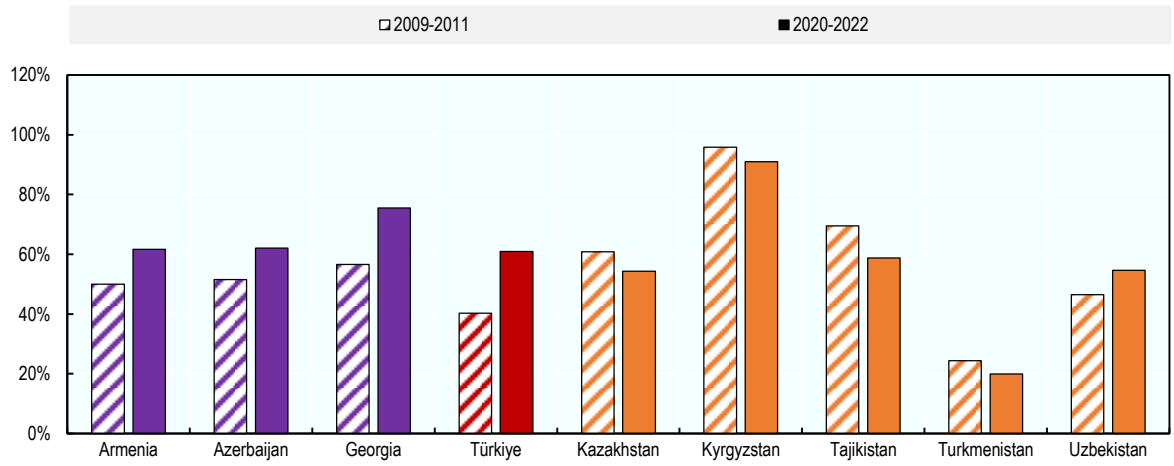
Exports remain an important growth driver in Central Asia and the South Caucasus. In Armenia, Georgia, and Azerbaijan, the share of exports in GDP has been increasing between 2010 and 2022; a similar, though more moderate, trend is observed for Turkmenistan and Uzbekistan.

Yet Central Asia remains in some respects at the margins of international trade. Overall, Central Asian countries other than Kazakhstan remain less integrated into international trade than their regional neighbours or many other countries at similar levels of income. Though trade openness ratios can be relatively high, particularly for Kyrgyzstan, they don't reflect an important integration in global trade. Indeed, Central Asian countries mostly export commodities and import finished investment and consumption goods, without for the most part being well integrated into Global Value Chains.

This low integration should seen in a larger context, though, as classical trade integration indexes do not reflect integration in the global economy through labour migration. The Heckscher Olin model of international trade posits that a country will export goods that are relatively intensive in the factors that it has in abundance. In this respect, countries of Central Asia and the Southern Caucasus might be

expected to export labour-intensive goods. Yet, because of the low development of manufacturing sectors, institutional weaknesses and transport challenges, they "export" labour instead, sending large numbers of migrant workers abroad, chiefly (but not only) to Russia. As a result, Central Asia and Southern Caucasus countries, except for Azerbaijan and Kazakhstan, rely greatly on remittances from migrant workers. In 2022, these remittances were estimated to equal 32.1% of GDP in Tajikistan, 31.3% in Kyrgyzstan, 18.9% in Armenia, 17.1% in Uzbekistan and 16.3% in Georgia (World Bank, KNOMAD, 2022[5]).

Figure 2.2. Trade openness (total exports and imports as a percentage of GDP) in Central Asia, the South Caucasus and Türkiye, 3 years average for 2009-2011 and 2022-2022



Source: (IMF, 2023[6]; UN, 2023[7]; OIC-SESRIC, 2023[8])

This diverging trend between the two regions can be explained in part by differences in the evolution of their economic structures and by the South Caucasus countries' improving GVC participation. Over the last decades, several Eastern Partnership countries have been investing in the development of their manufacturing sectors and increasing their participation in GVCs (Box 2.1). As a result, backward participation has increased for Georgia, even if its absolute participation remains below the levels observed for more advanced OECD economies such as Türkiye or Germany (Figure 2.3). This trend is indicative of a persisting gap in the sophistication of their manufacturing output, reducing both export opportunities and the need for intermediate input imports of foreign components. However, forward participation has been rising substantially for Armenia and Azerbaijan, while backward participation has been deteriorating due to the prevalence of primary commodities (hydrocarbons, metals and agricultural products) in their export baskets. This evolution indicates that increased energy and mineral exports have reduced the relative contribution of foreign added value, while they represented the countries' main inputs in partner countries' production (OECD, 2023[9]).

Box 2.1. Defining countries' participation in global value chains

Global value chains (GVC) have emerged as a defining feature of the world economy

In a globalised and interconnected world, production processes are frequently fragmented and dispersed across different countries. Therefore, the flows of goods and services with these global production chains are not always reflected in conventional measures of international trade: a single country is rarely responsible for the export of a given good, and the analysis of international trade from the export/import approach becomes insufficient to infer the role of a given country.

Analysing participation in GVCs

While traditional measures of gross exports can be subject to double accounting, new approaches in terms of value added can distinguish between the domestic and foreign share of value added in each country's exports: a given country's exports are composed of domestically produced value added, but also of foreign value added previously imported. Therefore, two questions arise: to what extent is a country dependent on imported foreign production to export? To what extent does a country contribute to the exports of other economies through its domestic production?

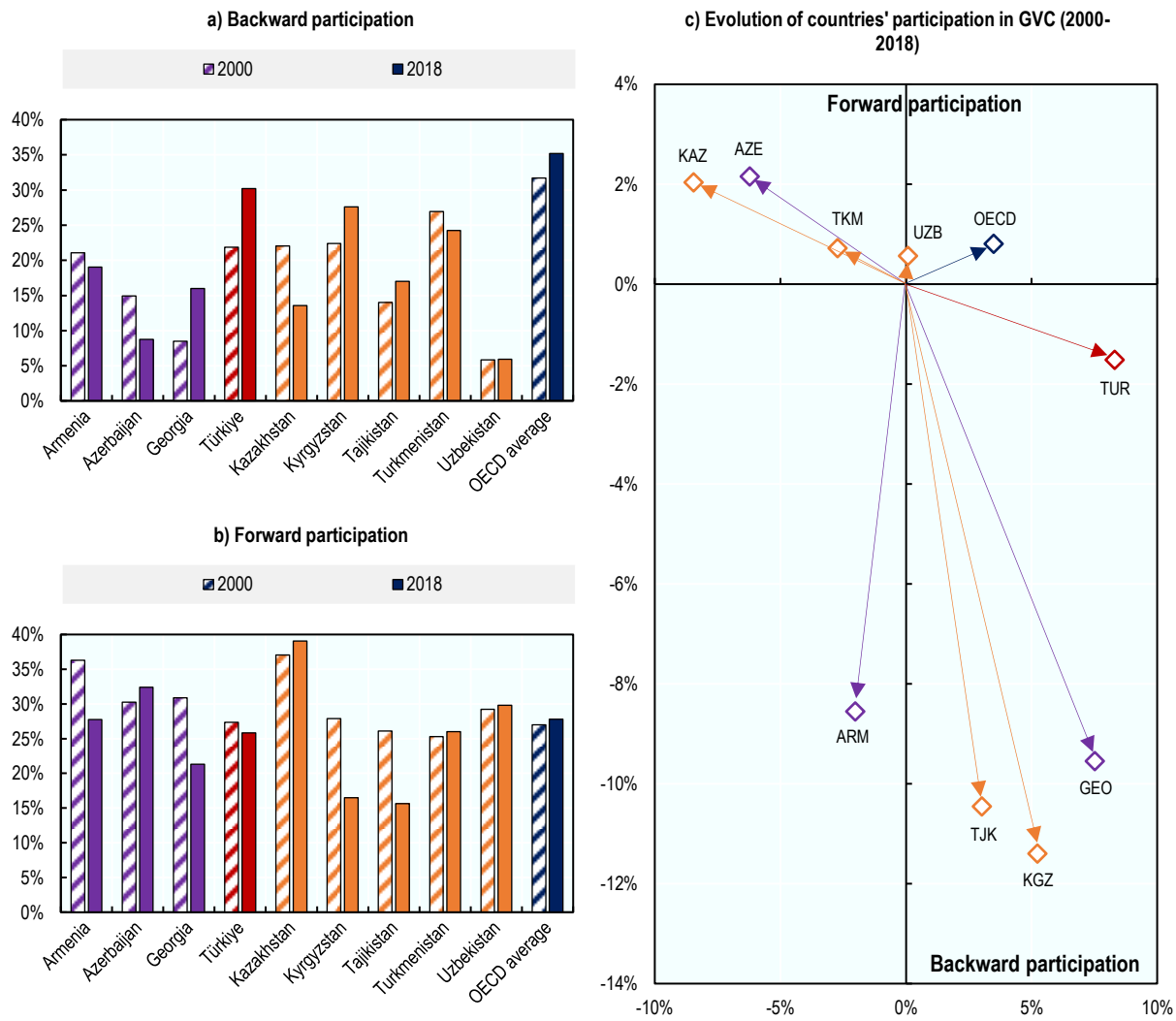
Two indicators are therefore considered when analysing GVCs:

- **Backward participation**: corresponds to the value added of inputs that were imported to produce intermediate or final goods/services to be exported. It is computed as the share of foreign value added of exports in total gross exports.
- **Forward participation:** represents the domestic value added contained in intermediate goods/services exported to a partner economy that re-exports them to a third economy embodied in other products. It is computed as the share of domestic value added sent to third economies in total gross exports.

Source: (WTO, 2018[10]; UNCTAD-Eora, 2019[11]).

Kazakhstan's participation in GVCs has been declining over the last decade, reflecting both a heavy reliance on commodity exports and higher relative trade costs. Like Armenia and Azerbaijan, Kazakhstan is substantially forward integrated into other countries' exports as a supplier of primary and intermediate inputs, especially raw materials (hydrocarbons and metals), though the country's backward integration into GVCs is weak. Since the early 2000s, the share of foreign value added in Kazakhstan's exports has halved to 9.7% in 2018, the latest available year, well below the levels of some comparable resource-rich countries such as Indonesia (14.4%), and far below the levels found in highly integrated countries such as Mexico (35.9%) (OECD, 2021[12])[1]. Most strikingly, the decrease in use of foreign inputs is found across all industries in Kazakhstan and seems to reflect higher relative trade costs linked, *inter alia*, to transport, logistics, tariff structure, and non-tariff measures (World Bank, 2020[13]).

Figure 2.3. Participation of Central Asia and South Caucasus countries in GVCs



Note: Backward participation in the global value chain refers to the ratio of the foreign value-added content of exports to the economy's total gross exports. Forward participation in the global value chain corresponds to the ratio of the domestic value added sent to third economies to the economy's total gross exports. The third graph (c) simultaneously shows the evolution in percentage points of countries' backward and forward participation in GVC, between 2000 and 2018. The North-East quadrant indicates an increase in both backward and forward participation, while the South-West quadrant indicates a decrease in both backward and forward participation.
Source: (UNCTAD-Eora, 2019[14])

Central Asia suffers from a significant connectivity gap to international markets, which acts as a constraint on export growth and integration into GVCs. Geographic remoteness from major global transport networks imposes distance and transport costs on local manufacturers and reduces the attractiveness of transport routes running through the region, the latter mainly related to border crossing and handling costs. Distance and cost each accounted for about a third of Central Asia's connectivity gap in 2019, with the estimated cost of accessing market demand equivalent to 20% of world GDP amounting to USD 300 per tonne for Kazakhstan, compared to USD 50 per tonne for Germany and the United States – two of the world's best-connected economies. Moreover, the average distance for a Kazakh manufacturer to reach markets representing the equivalent of 20% of global GDP is 4000km, twice as much as for a German or US manufacturer (OECD-ITF, 2019[15]).

Intra-regional trade remains under-developed in Central Asia and the South Caucasus

There is limited trade integration between the four countries covered by this report, as economies of Central Asia and the South Caucasus are bound more by geographical proximity and historical legacy than by regional intra-industry trade patterns. Table 2.1 displays the IIT index for the four Middle Corridor countries under study here (Box 2.2). The number of products subject to intra-industry trade is quite limited. Although there are small fluctuations, there is an increase in the IIT index at the bilateral level among Middle Corridor countries from 2002 to 2022, especially between Georgia and Türkiye. The weighted indices of Georgia and Türkiye for other Middle Corridor economies have also risen over this period. However, the indices are quite low when compared to intra-industry trade in other partner country groups such as the EU, as the IIT index for the EU in Turkey was 0.404 in 2007 and 0.442 in 2018 (Nikolić and Nikolić, 2023[16]).

The low IIT product share in trade between countries signals a lack of division of labour amongst them. The sectoral composition of the intra-industry trade is concentrated on a few agricultural and industrial products. The countries under study may also exchange commodities that can be found specifically in one country, but there is a lack of specialisation in higher value-added industries that could foster the development of intra-industry trade.

Table 2.1. Intra-Industry Trade/Regional Trade Potential in Central Asia and the South Caucasus

Trade Among MC Countries (Except Reporter Country)

Reporter Country	Variable	2002	2012	2022
Azerbaijan	Number of IIT*	6	6	13
	IIT Import Share	0.28%	0.16%	0.68%
	IIT Export Share	3.89%	7.15%	0.28%
	Weighted IIT Index	0.016	0.028	0.024
Georgia	Number of IIT*	18	23	28
	IIT Import Share	1.65%	2.07%	1.71%
	IIT Export Share	7.90%	2.79%	3.70%
	Weighted IIT Index	0.036	0.056	0.064
Kazakhstan	Number of IIT*	12	12	26
	IIT Import Share	4.50%	0.34%	1.91%
	IIT Export Share	2.16%	0.08%	0.55%
	Weighted IIT Index	0.052	0.007	0.021
Türkiye	Number of IIT*	7	8	13
	IIT Import Share	0.06%	1.54%	0.49%
	IIT Export Share	0.14%	1.25%	0.53%
	Weighted IIT Index	0.014	0.021	0.050

Note: *: Number of IIT indicates the items whose IIT index is equal to or higher than 0.5
Source: OECD analysis.

Table 2.2. Intra-Industry Trade among Middle Corridor countries

Reporter Country	Partner Country	2002	2012	2022
Azerbaijan	Georgia	0.031	0.027	0.020
	Kazakhstan	0.006	0.006	0.017
	Türkiye	0.017	0.032	0.026
Georgia	Azerbaijan	0.062	0.057	0.086

Reporter Country	Partner Country	2002	2012	2022
	Kazakhstan	0.001	0.004	0.025
	Türkiye	0.019	0.061	0.062
Kazakhstan	Azerbaijan	0.102	0.013	0.094
	Georgia	0.022	0.005	0.004
	Türkiye	0.029	0.007	0.018
Türkiye	Azerbaijan	0.016	0.027	0.054
	Georgia	0.021	0.043	0.091
	Kazakhstan	0.010	0.002	0.019

Note: The indices in the table show the weighted IIT index of each reporter-partner country pairwise. Theoretically, for a given pair of countries, values should be symmetrical. Here, it is not the case because of reporting inconsistencies for trade values.
Source: OECD analysis.

Box 2.2. Interpretation of the intra-industry trade index (IIT)

Intra-industry trade occurs when two countries both export and import similar goods between one another. For instance, France and Germany both import and export an important number of cars from each other. The Intra-industry trade index (ITT), also known as the **Grubel-Lloyd (GL) Index**, is the most widely used measure of intra-industry trade in the literature.

There is an ITT for each country pair and specific good. The closer the ITT is to 1, the more intra-industry trade there is between these two countries for this good. An ITT of 0 means that no intra-industry trade occurs for this good.

The weighted ITT for a country pair represents the average intra-industry trade of the two countries, weighted by the importance of each industry in the total trade between the two countries. The higher the index, the more intra-industry trade occurs between the two countries. Developed countries typically have higher ITT indexes.

Though Central Asian countries have engaged in regional integration initiatives, they have not achieved much change in intra-industry trade patterns. This is mainly due to the loose and shallow nature of engagement aimed at only bonding tariff structures and insufficient implementation of the existing arrangements but also lack of market-based integration in the region (Box 2.3). In any case, the embryonic stage at which intra-industrial trade is in Central Asia means that there is considerable scope to increase it and therefore grow the demand for freight transport in the region.

Box 2.3. Dynamics of intra-industry trade (IIT) and regional integration in the world

Intra-industry trade represents international trade *within* industries rather than *between* industries. Such trade is argued to have more beneficial spillover effects than inter-industry trade because it stimulates innovation and exploits economies of scale and of scope. Moreover, since productive factors do not switch from one industry to another, but only within industries, intra-industry trade is less disruptive than inter-industry trade. About 60% of U.S. trade or European trade is intra-industry. Around 80% of U.S. trade with Mexico is intra-industry.

Intra-industry trade in Eastern Europe

IIT is often high for economies where FDI inflows have risen sharply. Among the countries with the most rapid increase in intra-industry trade over the 1990s were the Czech Republic, Hungary, Poland and the Slovak Republic. All these countries were characterised by high and increasing inflows of foreign direct investment (FDI) over the 1990s, especially from Germany. The combination of rising intra-industry trade and high foreign direct investment inflows is also observed as consistent with the increasing extent to which multinational firms have located parts of their production operations in these countries. Partly reflecting the trends in these countries, and the fact that there has been a steady increase in foreign direct investment outflows over the 1990s, Germany has also experienced a relatively rapid increase in intra-industry trade over the 1990s.

Intra-industry trade patterns have not developed yet in Central Asia

In Central Asia, the initial conditions were entirely different. The manufacturing matrix and integrated market did not exist in this region. In addition, Central Asian countries had not established a market-based resource allocation mechanism, they lacked diverse industrial structures, and they were located inland, far from the centres of global demand. Therefore, it is uncertain whether, and to what extent, regional trade agreements among Central Asian countries promoted the intra-regional trade. Byrd et al. (2006) point out that the current Central Asian economies would achieve dramatic growth in trade and economic welfare if they co-operated in trading policies, border control, customs clearance, and transport management.

Most of the countries that have relatively low and stable intra-industry manufacturing trade are also those that are most heavily dependent on non-manufactured goods in total exports. This indicates that the low share of intra-industry trade reflects a tendency for a high proportion of these countries' manufactured exports to consist of relatively simple transformations of the raw materials with which the country is endowed and that such transformations are not suited to division across different countries.

Source: (Ruffin, 1999[17]; OECD, 2002[18]; Byrd et al., 2006[19]; Baldwin, 2007[20]; Wang, 2014[21])

In Central Asia road freight traffic is largely concentrated around local markets and population hubs and does not outline important regional trade flows. Historically, South Caucasus countries have been – and remain – an important transit corridor, well connected to international routes. Georgia has access to the Black Sea, Azerbaijan has a coast on the Caspian Sea, and the two countries have solid rail and road connections with Türkiye. Given Central Asia's landlocked position and relatively low population densities, road freight flows are concentrated around local markets and population hubs. Around urban centres, traffic on the region's road network is comparable to traffic in OECD countries, dropping by a factor of three outside these areas and falling at border crossing points (BCPs). As a result, road freight mainly serves local markets, with 50% to 70% of trucks operating on inter-urban services. Official statistics indicate an average shipment distance under 100 km, falling to 20 km in Uzbekistan (OECD-ITF, 2019[15]).

Weaknesses in the overall business climate in Central Asia and the South Caucasus constrain private sector development and export growth

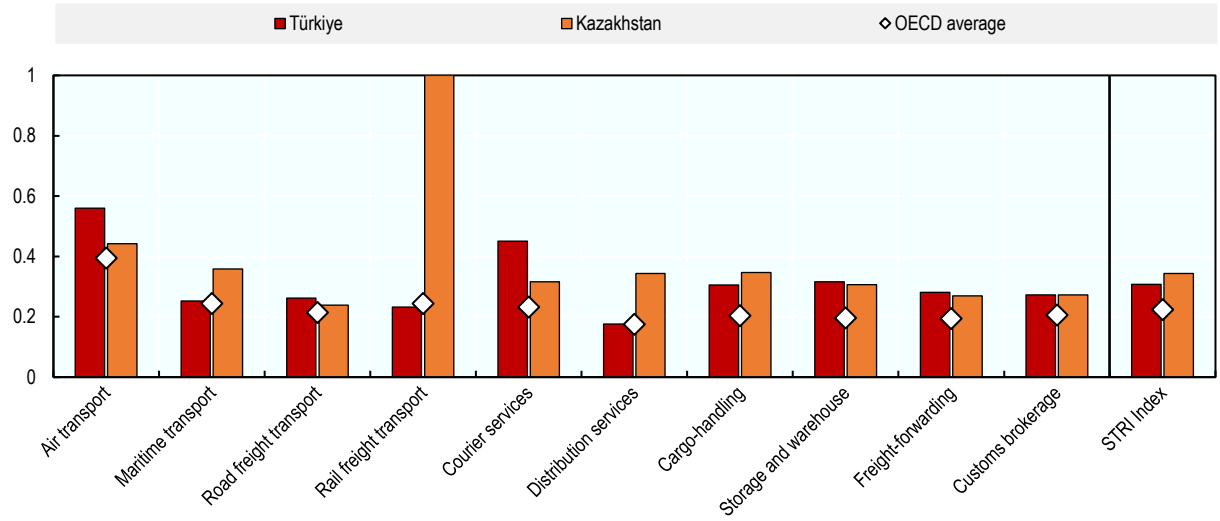
In Central Asia and the South Caucasus, the connectivity agenda is directly linked to structural reform challenges. Lower population densities and longer distances to major markets weaken competition and reduce productivity and innovation incentives. As a result, smaller goods baskets and higher prices confront domestic consumers, while domestic exporters face a competitive disadvantage, as competitive exports require sufficiently high productivity to offset higher transport costs. Weak domestic business environments undermine local competition, prevent productivity growth, and fail to protect local producers when enhanced connectivity leads to reduced trade protection (OECD-ITF, 2019[15]; López González and Sorescu, 2019[22]; OECD, 2021[23]).

In Central Asia, the pace of regulatory reforms and implementation gaps hinders confidence and predictability. Countries across the region have adhered to major international organisations and instruments that enable and govern foreign trade and developed relatively sound legal and regulatory frameworks for investment. Kazakhstan, Kyrgyzstan and Tajikistan have joined the World Trade Organisation (WTO), with Uzbekistan an observer; all have joined the World Intellectual Property Organisation (WIPO), ratified the Convention of the International Centre for Settlement of Investment Disputes (except Tajikistan) and signed the New York Convention (except Turkmenistan). More broadly, over recent years key anticorruption reforms, including increased digitalisation of public services, have improved the transparency of government and local public authorities and facilitated dialogue with representatives of the non-governmental sector. However, across all countries, implementation lags, creating low confidence, uncertainty, and administrative hurdles for domestic and international businesses alike. In particular, the pace of regulatory change remains a headache for private sector development, as firms face difficulties in adapting, while public administration lacks the time and capacities to properly implement changes, creating new barriers to business operations. (OECD, 2021[23]).

Despite reforms, remaining obstacles prevent the growth of SMEs in South Caucasus Since the early 2000s, countries across the region have been working to reform their business environments, focusing in priority on the development of small and medium enterprises (SMEs) and investment, the reduction of informality and corruption, and levelling the playing field between enterprises of all sizes and ownership types. However, important gaps remain, such as ensuring business integrity, competitive neutrality and equal access to inputs and markets for all businesses, all of which impede internationalisation efforts. In particular, the economic potential of the region's SMEs, which represent up to 99% of firms, 57% of private sector employment and 47% of value added, remains largely untapped, with the vast majority of SMEs being subsistence micro-entrepreneurs operating mainly in low-value added sectors and with a limited propensity for export (OECD, 2020[4]).

Restrictions and barriers in tradable services remain in the countries covered here, as illustrated by the data collected in Kazakhstan and Türkiye by the OECD. Despite a relatively open overall regulatory framework for investment, the OECD Services Trade Restrictiveness Index (STRI) reveals that Kazakhstan is the seventh most restrictive of the 50 economies covered by the index, even if services trade restrictions have been somewhat relaxed in recent years following the country's WTO accession (OECD, 2023[24]). Among the most heavily regulated service sectors are those in logistics and related services, including maritime and rail freight transport, as well as cargo handling (Figure 2.4). This impedes their ability to deepen regional integration and engage in enter regional and global value chains. While above the OECD average on nearly all logistics and trade services indicators, Türkiye scores better on rail freight transport and distribution services and performs better than Kazakhstan on maritime and rail freight transport, as well as cargo handling. However, Türkiye performs less well than both Kazakhstan and the OECD average on freight forwarding.

Figure 2.4. Kazakhstan and Türkiye's performance in the OECD Services Trade Restrictiveness Index (2022)



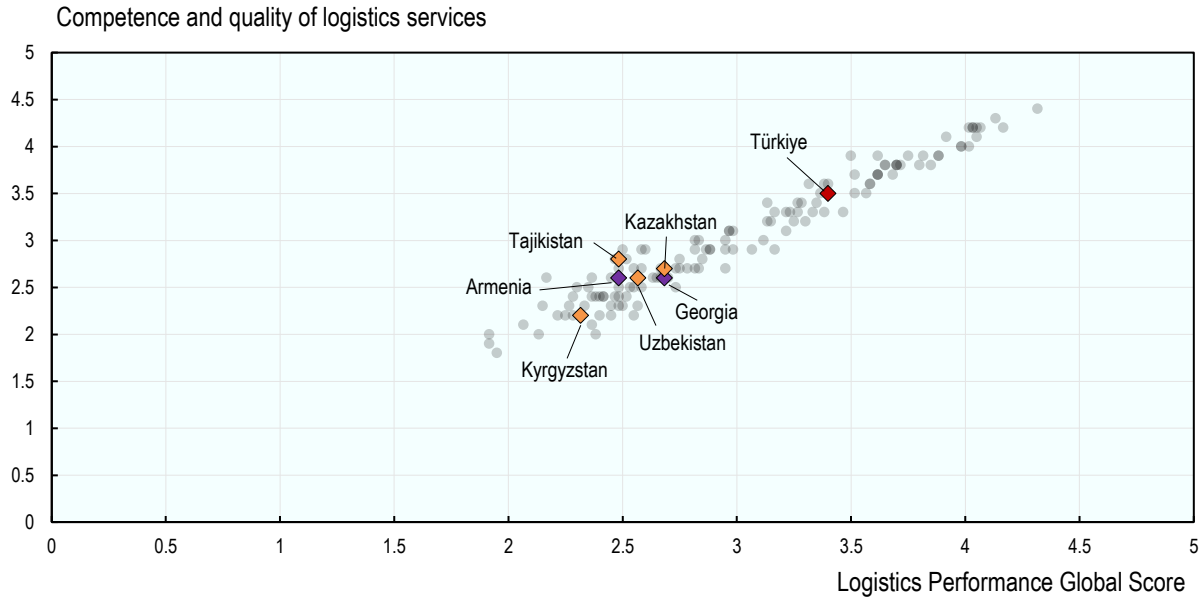
Note: The maximum score of 1 represents the highest level of regulation, often in relation to a total state monopoly, which is for instance the case for rail freight transport in Kazakhstan. Data for other countries of Central Asia and the South Caucasus is not available (not part of OECD database)
Source: (OECD, 2022[25])

Regional logistics services remain underdeveloped along the Middle Corridor reducing transit efficiency and reliability

High prices and low capacity along the Middle Corridor weigh on its competitiveness

Companies surveyed declared that non-competitive logistics prices and the low capacity of fleets hamper the Middle Corridor's ability to represent an alternative to the Northern Corridor. Respondents stress that Middle Corridor economies need to develop an offer for integrated national freight-forwarding and logistics services in the region to enhance the route's viability. Moreover, surveyed firms consider that the under-developed logistics sector is another serious challenge that hinders the development of regional markets in Central Asia, the South Caucasus, and Türkiye. According to respondents of all kinds (individual companies, business associations, and government agencies), a major consequence of Russia's war in Ukraine was the rise in logistics service prices in the region and a shortage of containers. In reaction, a plurality of businesses was forced to change their logistics network and work with new actors, upsetting the stability and reliability of flows.

Figure 2.5. Logistics and services trade performance of Central Asia, South Caucasus, and Türkiye



Source: (World Bank, 2023[26])

Box 2.4. Overview of the logistics sector in Türkiye

Türkiye in the World Bank Logistic Performance Index (LPI)

Türkiye is an upper-middle income country that has witnessed rapid economic growth and export expansion over the past decade, combined with keen attention to related policy actions including transport policy. In addition, Türkiye has shown a rather coherent development in the World Bank Logistic Performance Index (LPI) on several accounts until 2016 when the country`s performance declined until returning to an upward trajectory by 2023. Türkiye ranks 38th out of 139 countries in 2023 with a score of 3.4, indicating a relatively strong logistics performance compared to peer countries in the Middle Corridor (Kazakhstan and Georgia's equal scores of 2.7 place them 79th). Türkiye increased its ranking in all dimensions except the quality of trade and transport infrastructure. It performs rather well in ease of arranging competitively priced shipments jumping from 53rd in 2018 to 26th in 2023, and in quality of logistics services. Customs, scoring the lowest, still improves performance compared to 2018.

The logistics industry in the economy

Especially in emerging and developed economies, the main driver of logistics services is the quality of services. In logistics-friendly countries, shippers already outsource much of their logistics, in particular transport and warehousing operations, to third-party providers. The Turkish logistics market has grown rapidly and has attracted many international players through joint ventures. The share of transport services in GDP ranges from approximately 6% to 12% in developed countries. In Türkiye, the average share of transport and storage services in total GDP between 1998 and 2019 is around 9.0%; it reached 8.8% in 2021 after declining to 7.9 % in 2020. The share of transport and storage services in GDP ranks third in the Turkish economy after the "manufacturing industry" and "wholesale and retail trade and repair of motor vehicles and motorcycles".

Turkish logistics performance is primarily strengthened by the development of the private sector, which has evolved significantly in the last decade. It constitutes a growing number of international companies with overseas offices and the industry has experienced a transition from independent logistics service suppliers to integrated logistics service providers. However, many manufacturing companies still run their logistics operations in-house without extensive use of third-party logistics (3PL) providers. Türkiye's extensive network of chambers of commerce and industry associations are also strong promoters of the logistics industry; The Union of Chambers and Commodity Exchanges of Türkiye (TOBB) has financed the building of new Turkish border crossing points for instance.

Trade and logistics

Trade, and predominantly merchandise trade, has been a major driving force behind Türkiye's overall connectedness. Maritime transport dominates Turkish foreign trade by value accounting for 55.7%, followed by road transport (22.4%), air transport (9.6%) and railways (1%). Sea transport is projected to remain the dominant transport mode for international trade in 2025, measured in tonne-kilometres. The average share of rail transport is estimated to remain at around 1% between 2010 and 2025, according to ITF's projections. The Ministry of Trade has started to extend its support program for improving the quality and quantity of logistical services in the country. Trade in Transport and logistical services account for 40.3% of trade in services in Türkiye reaching 51.7 billion USD in 2022.

Source: (ITF, 2015[27]), (ITF, 2019[28]), (UTIKAD, 2022[29]), (Ministry of Transport and Infrastructure of the Republic of Türkiye, 2023[30]), (UNCTAD, 2022[31]), (Zhang, 2023[32]) (R.T. Ministry of Industry and Technology and UNDP Türkiye, 2021[33])

Rail and maritime tariffs and schedules are unpredictable and often poorly accessible

The Middle Corridor International Association annually sets the tariff schedules for rail and maritime cargo transport along the route. Established in 2017, the Working Group of the TITR Association is composed of the representatives of the national railway companies of Azerbaijan, Georgia, and Kazakhstan, of the ports of Aktau (Kazakhstan), Baku (Azerbaijan), and Batumi (Georgia), and of Azerbaijan Caspian Shipping (ASC), the main Caspian Sea ferry operator. In co-operation with associate members and partners, including the chief port management and transport companies, the Working Group sets the freight tariff rates for cargo transport along the rail and maritime segments of the route (ADB, 2021[34]; Middle Corridor Association, 2023[35]). Azerbaijani railroads JSC, Kazakhstan Temir Zholy JSC and Georgian Railway JSC have signed an agreement to create a single logistics company to deal with issues of tariff policy, cargo handling and transport process simplification on the TITR (Prime Minister, 2023[36]). The 2022-27 TITR Roadmap refers to carrying out a stable and competitive tariff policy in the railway sector and compliance with established through rate for transport along the Middle Corridor.

However, despite such co-ordination efforts, interviewees report unpredictable and poorly accessible rail and maritime tariff schedules. During interviews conducted by the OECD, transport and logistics companies raised the issue that actual rail and maritime tariff schedules often differ from the TITR agreed rates, in some cases with substantial amounts. These findings also seem to concur with a forthcoming World Bank study hinting at a substantial gap between agreed TITR association tariffs and the actual ones paid by transport companies along the route. In addition, interviewees raised the issue of an absence of clear communication on tariff schedules and their changes, reporting many instances where the cargo transporter is only informed of the actual tariff when arriving either at the rail or the maritime loading terminal. Sharp increases in transport costs, often at short notice, reduce the predictability of shipment costs for freight forwarders and thus the attractiveness of the route.

Overall, quasi-monopolies hamper the development of this sector

These issues point to a wider issue of price competitiveness along the route due to quasi-monopolies in rail and maritime freight services. Even if actual data are difficult to obtain, OECD interviews suggest that the cost of cargo delivery along the route from China to Europe is more than twice as high as on the Northern Corridor and amounts to about USD 5500 per TEU. Interviews conducted by the OECD indicate that tariff levels result in part from the quasi-monopolistic behaviour of the dominant railway and shipping companies. For instance, although Kazakhstan opened railway freight to competition since January 2021, allowing for the creation of private freight carriers, the cargo branch of the national operator KTZ retains a monopoly over freight traffic. Indeed, while the Ministry of Industry and Infrastructural Development of Kazakhstan delivers licenses to private freight carriers allowing for operations across the country, KTZ being the infrastructure operator retains the right to grant access to the network. Interviewees reported that in many instances, if access to the network is granted, it is only for small segments, preventing the development of a real private rail freight market. For Georgia, interviewees reported that cargo handling prices and tariffs are among the highest in Europe, mainly due to the monopoly situation of the operator in Poti port. For Azerbaijan, interviewees report that limitations on container usage for shipping to certain destinations imposed by the largest maritime shipping companies reduce the route's competitiveness. For instance, firms must return containers within a maximum of 14 days when shipping directly to Central Asia. However, Azerbaijan-Central Asia roundtrips are reported to last 25 to 35 days on average due to multiple bottlenecks along the route (see Chapters 3 and 4), with high maritime shipment tariffs doubling due to high downtime payments, amounting to up to USD 50 per day of delay.

Recommendations

Further reforms to improve framework conditions for private-sector development can enhance the region's trade potential and stimulate demand along the route

Develop national and regional export promotion strategies through SME and entrepreneurship development

The challenges related to the development of the Middle Corridor go beyond the purely technical aspects relating to the construction of modern infrastructure or trade facilitation procedures. It is vital to focus on the conditions of economic development in the countries concerned, particularly the development of diversified and complexified production activities and industries, that would then allow trade with other countries of the region. Indeed, if the increased activity along the Middle Corridor currently benefits from a substitution effect from the Northern Corridor due to the war in Ukraine, the longer-term sustainability of the route requires sufficient demand, as well as enhanced regional economic ties. If the impetus for the development of the Middle Corridor is, for the moment, prompted by the war, it nevertheless represents a real opportunity for the region to develop and benefit from enhanced trade and co-operation. Governments should continue to work to promote innovation and entrepreneurship (innovation hubs, research centres, and entrepreneurship programs to foster innovation and technology-driven growth) and to support SME development (access to financing, technology, and market information, etc).

Governments can also collaborate to formulate comprehensive export promotion strategies tailored to the comparative advantages of each country. These strategies should encompass targeted incentives, market diversification efforts, and capacity-building programmes to help local industries tap into regional and international markets. Governments should support linkages between local SMEs and national or international multinational enterprises (MNEs) to boost GVC integration through know-how and technology spillovers. Government-led regional integration initiatives are more likely to facilitate a level playing field where the countries would be exposed to competition necessary to develop their economies through benefiting from enhanced and deeper integration in larger markets like the EU (Wang, 2014[37]).

Address remaining gaps in the operational environment for firms, particularly in relation to trade and investment

Governments should prioritise addressing barriers that hinder businesses from fully capitalising on the Middle Corridor. This includes streamlining cross-border trade procedures, reducing bureaucratic hurdles, and providing efficient dispute-resolution mechanisms. Additionally, transparent and investor-friendly investment policies should be formulated to attract foreign direct investment and nurture local entrepreneurship. This could include digitalisation of procedures with online single windows for setting up business, targeted toward foreign investors.

The implementation of trade agreements and/or economic areas to promote trade among the countries along the Middle Corridor and their neighbours would enhance the development of regional trade by providing firms a better environment to trade with other countries. ADB (2021[34]) concludes, "In the long run, a trans-Central Asia–Caucasus–Türkiye trade area would enable participating countries to engage more effectively with the EU and China on trade policy, practices, standards, and technical and legal developments. For Middle Corridor economies, transparent pricing, openness to foreign investment, and transparent international agreements all point to a greater level of economic integration across the Middle Corridor economic area, with possibilities for future multilateral trade bloc integration. Creating a uniform transport bloc that could better facilitate trade with both Europe and the PRC is the best possible policy solution for these regional economies." Such areas would eventually promote intra-regional trade and investment but also attract foreign traders and investors.

Improved logistics services can increase the efficiency and reliability of the Middle Corridor and contribute to more integrated regional markets

Incentivise the development of logistics centres along the route, especially in Central Asia and the South Caucasus

Governments should incentivise private sector participation in establishing modern logistics centres strategically located along the corridor. These centres can act as hubs for efficient cargo handling, storage, and distribution, thus reducing transit times and costs. Improved logistics services would help mitigate the costs arising in connection with the multimodality of the route. Alongside the development of logistics centres, policymakers should support professional training and higher education in the field of logistics and transport. They could also give the private sector a greater voice in the design of national logistics policies.

Harmonise, and clearly communicate, rail and maritime tariffs along the route

The authorities should aim for stable tariffs and predictable and transparent pricing policy. Clarity and transparency would be reinforced by a unique way of communicating these tariffs and other associated issues. These actions could be performed by a single regional oversight body, allowing an easier transmission of the necessary data. The UNECE lists the evaluation of a reliable corridor-wide tariff policy in its priority actions, though it notes the operational difficulties of achieving it. TRACECA is also working on the harmonisation of methodology for tariff calculations on railways and looking for partners who can work with them and finance this research.

Box 2.5. Policies to build a country's industrial base and export profile: the case of Türkiye

Foreign direct investment policies

Since the 1980s, Türkiye has substantially liberalised its investment regime. One significant milestone was the Foreign Direct Investment Law No. 4875 in 2003. This law allowed foreign investors to establish wholly owned subsidiaries or form joint ventures with local partners, under national treatment. It also prompted stronger protection of investment against expropriation and nationalisation. The OECD FDI Regulatory Restrictiveness Index for the country, which stood at 0.283 in 1997 (far higher than the OECD average of 0.127) declined to 0.059 in 2019 (lower than the OECD average of 0.064). The total FDI stock of Türkiye, which stood at USD 15 billion in 2002, reached USD 253 billion by the end of 2022 (The Investment Office of the Presidency of the Republic of Türkiye, 2023[38]). In 2022 Türkiye ranked as the 28th most attractive FDI destination (World Bank, 2023[39]).

To attract foreign capital, the Turkish government implements a range of investment incentives. These incentives encompass tax benefits, customs duty exemptions, reduced corporate tax rates, and grants tailored to specific industries or regions. Additionally, the government has introduced sector-specific investments, engaged in Public-Private Partnerships (PPP), and designated free trade zones to further facilitate foreign investments. "Türkiye's Foreign Direct Investment (FDI) Strategy (2021–2023)", aims at increasing the share of knowledge-intensive and high-value-added investments and high-quality jobs.

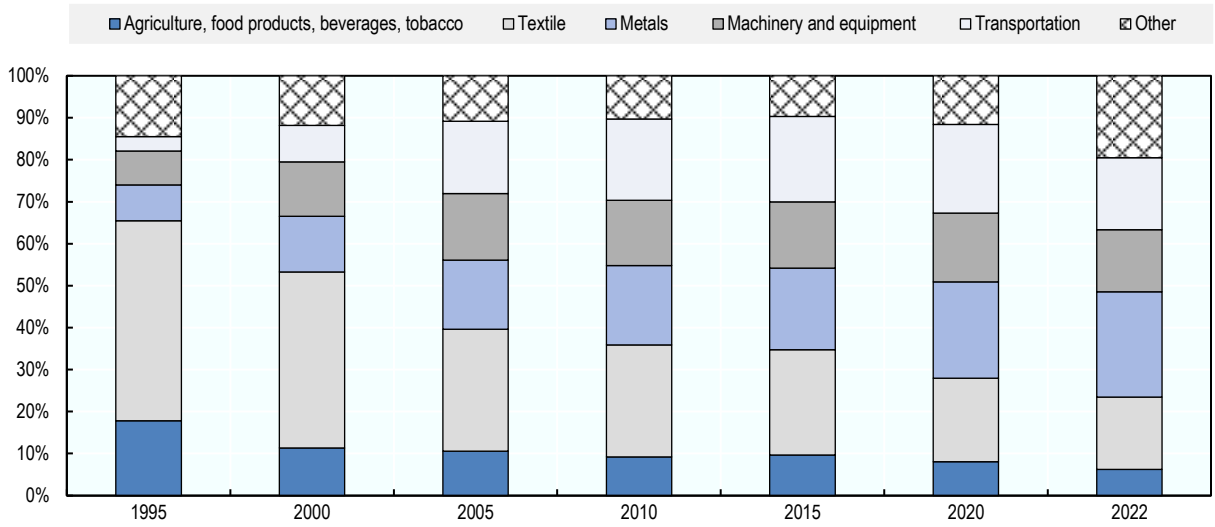
Industrial policies

The acceleration of industrialisation of Türkiye went hand in hand with liberalisation of trade and investment, which created a more market-oriented and business-friendly environment for firms. Turkish exporters benefited from efficiency gains through foreign competition, as well as acquiring new technology through foreign investments. Firm efficiency and overall production also benefited greatly from overall improvements in transport and energy infrastructure, accomplished especially through PPP investments over the past two decades. Specialisation through industrial clusters notably in automobile, textiles, electronics, and most recently the defence industry has increased industrial production, regional employment, and SME development. Türkiye's 10th and 11th Development Plans put a higher emphasis on increasing the share of R&D and scaling up in global value chains.

Customs Union

The Customs Union (CU) agreement signed between Türkiye and the European Union in 1995 eliminated customs duties and other barriers in industrial and processed agricultural goods, creating a single customs territory between the EU and Türkiye for the free movement of these goods without tariffs or quantitative restrictions. Going beyond a typical FTA, the CU allowed Türkiye to enjoy the same level of tariff protection from third parties, while levelling the playing field between Turkish and EU companies. Simplification of rules of origin coupled with the elimination of other bureaucratic barriers facilitated trade beyond what would have been the case with a conventional FTA. World Bank estimates that under an FTA, exports from Türkiye to the EU would have been 3.0-7.2% lower, with EU exports to Turkey as much as 4.2% lower compared to what has been achieved under the CU (World Bank, 2014[40]). Mandating Türkiye to harmonise its domestic legislation with EU standards for goods and adopt EU rules on commercial, competition policy, and intellectual property rights, the CU has facilitated the integration of Türkiye's industrial sector into EU value chains. It has allowed Türkiye to diversify its exports to the EU from traditional sectors of agrifood and textiles towards motor vehicles, chemicals, metals, electronics, and machinery (Figure 2.6).

Figure 2.6. Composition of Türkiye's exports to the EU27 (1995-2022)



Data source: (Turkish Statistical Institute, 2023[41]) for 1995 and 2000, and (ITC Trade Map, 2023[42])
Source: (The Investment Office of the Presidency of the Republic of Türkiye, 2023[38]) (World Bank, 2023[39]) (World Bank, 2014[40]) (Ministry of Trade of the Rebublic of Türkiye, 2021[43])

References

ADB (2021), *Middle Corridor - Policy Development and Trade Potential of the Trans-Caspian International Transport Route*, https://www.adb.org/publications/middle-corridor-policy-development-trade-potential. [34]

Aslam, A., N. Novta and F. Rodrigues Bastos (2017), "Calculating Trade in Value Added", *IMF Working Papers*, https://www.imf.org/en/Publications/WP/Issues/2017/07/31/Calculating-Trade-in-Value-Added-45114. [44]

Baldwin, R. (2007), *Managing the Noodle Bowl: The Fragility of East Asian Regionalism*, https://www.adb.org/sites/default/files/publication/28464/wp07-baldwin.pdf. [20]

Byrd, W. et al. (2006), *Economic Cooperation in the Wider Central Asia Region*. [19]

IMF (2023), *World Economic Outlook Database, April*, https://www.imf.org/en/Publications/WEO/weo-database/2023/April. [6]

ITC Trade Map (2023), *Trade Map Database*, https://www.trademap.org/Index.aspx. [42]

ITF (2019), *Enhancing Connectivity and Freight in Central Asia*, ITF/OECD. [28]

ITF (2015), *Drivers of Logistics Performance A Case Study of Turkey*, ITF/OECD. [27]

López González, J. and S. Sorescu (2019), *Helping SMEs internationalise through trade facilitation*, OECD Trade Policy Papers, No. 229, OECD Publishing, Paris,, https://doi.org/10.1787/2050e6b0-en. [22]

Middle Corridor Association (2023), *Middle Corridor Association*, https://middlecorridor.com/ru/. [35]

Ministry of Trade of the Rebublic of Türkiye (2021), *Gümrük Birliğinin Güncellenme Süreci*, https://ticaret.gov.tr/dis-iliskiler/avrupa-birligi/gumruk-birliginin-guncelleme-sureci. [43]

Ministry of Transport and Infrastructure of the Republic of Türkiye (2023), *2053 Transport and Logistics Master Plan*, TR Ministry of Transport and Infrastructure. [30]

Nikolić, G. and I. Nikolić (2023), "Can Structural Indicators of Trade Explain Why EU Candidate Countries Are Integrating Slowly?,", *Eastern European Economics*, pp. 1-23. [16]

OECD (2023), *Assessing the Impact of Russia's War against Ukraine on Eastern Partner Countries*, https://doi.org/10.1787/946a936c-en. [9]

OECD (2023), *Insights on the Business Climate in Kazakhstan*, https://www.oecd.org/publications/insights-on-the-business-climate-in-kazakhstan-bd780306-en.htm. [1]

OECD (2023), *Insights on the Business Climate in Kazakhstan*. [24]

OECD (2022), *Kazakhstan (2022)*, OECD Services Trade Restrictiveness Index (STRI), OECD Publishing, Paris, https://www.oecd.org/trade/topics/services-trade/documents/oecd-stri-country-note-kaz.pdf. [25]

OECD (2021), *Beyond Covid-19: Prospects for Economic Recovery in Central Asia*, OECD Publishing, https://www.oecd.org/eurasia/Beyond%20COVID-19%20Advancing%20Digital%20Transformation%20in%20the%20Eastern%20Partner%20Countries%20.pdf. [3]

OECD (2021), *Improving the Legal Environment for Business and Investment in Central Asia*, OECD Publishing, Paris, https://www.oecd.org/eurasia/Improving-LEB-CA-ENG%2020%20April.pdf. [23]

OECD (2021), *Trade in Value Added database (TiVA)*, OECD Publishing, Paris, https://stats.oecd.org/Index.aspx?DataSetCode=TIVA_2021_C1. [12]

OECD (2020), *SME Policy Index: Eastern Partner Countries 2020: Assessing the Implementation of the Small Business Act for Europe*, OECD Publishing, https://doi.org/10.1787/8b45614b-en. [4]

OECD (2002), *Economic Outlook 71*, OECD. [18]

OECD-ITF (2019), *Enhancing Connectivity and Freight in Central Asia*, https://www.itf-oecd.org/sites/default/files/docs/connectivity-freight-central-asia.pdf. [15]

OIC-SESRIC (2023), *OIC Statistics Database*, https://www.sesric.org/oicstat.php. [8]

Prime Minister (2023), *Heads of Kazakhstan and Georgia Government discuss TITR development and increase of mutual trade*, https://primeminister.kz/en/news/heads-of-kazakhstan-and-georgia-government-discuss-titr-development-and-increase-of-mutual-trade-24521 (accessed on 28 August 2023). [36]

R.T. Ministry of Industry and Technology and UNDP Türkiye (2021), *Logistics Sector Analysis Report and Guidelines TR63 Region (Hatay, Kahramanmaraş, Osmaniye)*, R.T. Ministry of Industry and Technology General Directorate of Development Agencies. [33]

Ruffin, R. (1999), *The Nature and Significance of Intra-industry Trade - Economic and Financial Review*. [17]

The Investment Office of the Presidency of the Republic of Türkiye (2023), *FDI in Türkiye*, https://www.invest.gov.tr/en/whyturkey/pages/fdi-in-turkey.aspx. [38]

The Observatory of Economic Complexity (2023), *Countries Profile*, The Observatory of Economic Complexity, Cambridge MA, https://oec.world/. [2]

Turkish Statistical Institute (2023), *Foreign Trade*, https://data.tuik.gov.tr/Kategori/GetKategori?p=dis-ticaret-104&dil=1. [41]

UN (2023), *UN Comtrade Database*, https://comtradeplus.un.org/. [7]

UNCTAD (2022), *Review of Maritime Transport, Navigating Stormy Waters*, UNCTAD. [31]

UNCTAD-Eora (2019), *Global Value Chain Database*, https://worldmrio.com/unctadgvc/. [14]

UNCTAD-Eora (2019), *Improving the analysis of global value chains: the UNCTAD-Eora Database*, https://unctad.org/system/files/official-document/diaeia2019d3a5_en.pdf. [11]

UTIKAD (2022), *Lojistik Sektörü Raporu (Report on Logistics Industry)*, UTIKAD. [29]

Wang, W. (2014), "The Effects of Regional Integration in Central Asia", *Emerging Markets Finance & Trade*, pp. 219-232. [21]

Wang, W. (2014), "The Effects of Regional Integration in Central Asia.", *Emerging Markets Finance & Trade*, Vol. 50, http://www.jstor.org/stable/24475713. [37]

World Bank (2023), *Logistics Performance Index*, https://lpi.worldbank.org. [26]

World Bank (2023), *World Development Indicators*, https://databank.worldbank.org/source/world-development-indicators. [39]

World Bank (2020), *Kazakhstan - Trade Competitiveness and Diversification in the Global Value Chains Era*, World Bank Group, http://documents.worldbank.org/curated/en/274611580795362180/Kazakhstan-Trade-Competitiveness-and-Diversification-in-the-Global-Value-Chains-Era. [13]

World Bank (2014), *Evaluation of the EU-Turkey Customs Union*, https://documents.worldbank.org/en/publication/documents-reports/documentdetail/298151468308967367/evaluation-of-the-eu-turkey-customs-union. [40]

World Bank, KNOMAD (2022), *Remittances Brave Global Headwinds*. [5]

WTO (2018), *Trade in Value Added and Global Value Chains*, https://www.wto.org/english/res_e/statis_e/miwi_e/explanatory_notes_e.pdf. [10]

Zhang, G. (2023), *Turkey's place in the Asia-Europe logistics reconfiguration*, https://market-insights.upply.com/en/turkeys-place-in-the-asia-europe-logistics-reconfiguration. [32]

Notes

[1] The report prioritises the use of OECD data, and therefore the OECD TiVA database (2021) when it comes to analysing the participation of countries in global value chains. However, among the countries of the present study, the OECD TiVA database only covers Kazakhstan and Türkiye. For the needs of our analysis, the UNCTAD-Eora database (2019) has also been used. Results across the two databases may differ but an overall consistency is observed (UNCTAD-Eora, 2019[11]). In an IMF working paper, Aslam et al. (2017) compared for different years the foreign value-added shares of UNCTAD-Eora and OECD TiVA databases and concluded that: "*Overall, the scatterplots reassure us that Eora and the OECD-WTO TiVA statistics are generally consistent with one another. Given this, we can feel somewhat more comfortable using Eora for countries for which the OECD-WTO TiVA data are not available*" (Aslam, Novta and Rodrigues Bastos, 2017[44]).

3 Facilitating trade: harmonisation and digitalisation for traffic development

The attractiveness of the Trans-Caspian route is reduced by the presence of cumbersome transit and trade procedures, which add to congestion at border crossing points and result in inconsistent and unpredictable transit and crossing times. In particular, the coexistence of multiple and unharmonised license and permit requirements for each country along the route is exacerbated by deficient border procedure co-operation, reducing network performance, competitiveness, and attractiveness. This chapter thus explores opportunities for harmonising and digitalising transit and border requirements.

Trade facilitation has progressed for each country along the route, but regional efforts so far remain limited

Stakeholders have identified the need for better trade facilitation and governments have advanced reforms to increase the Corridor's attractiveness

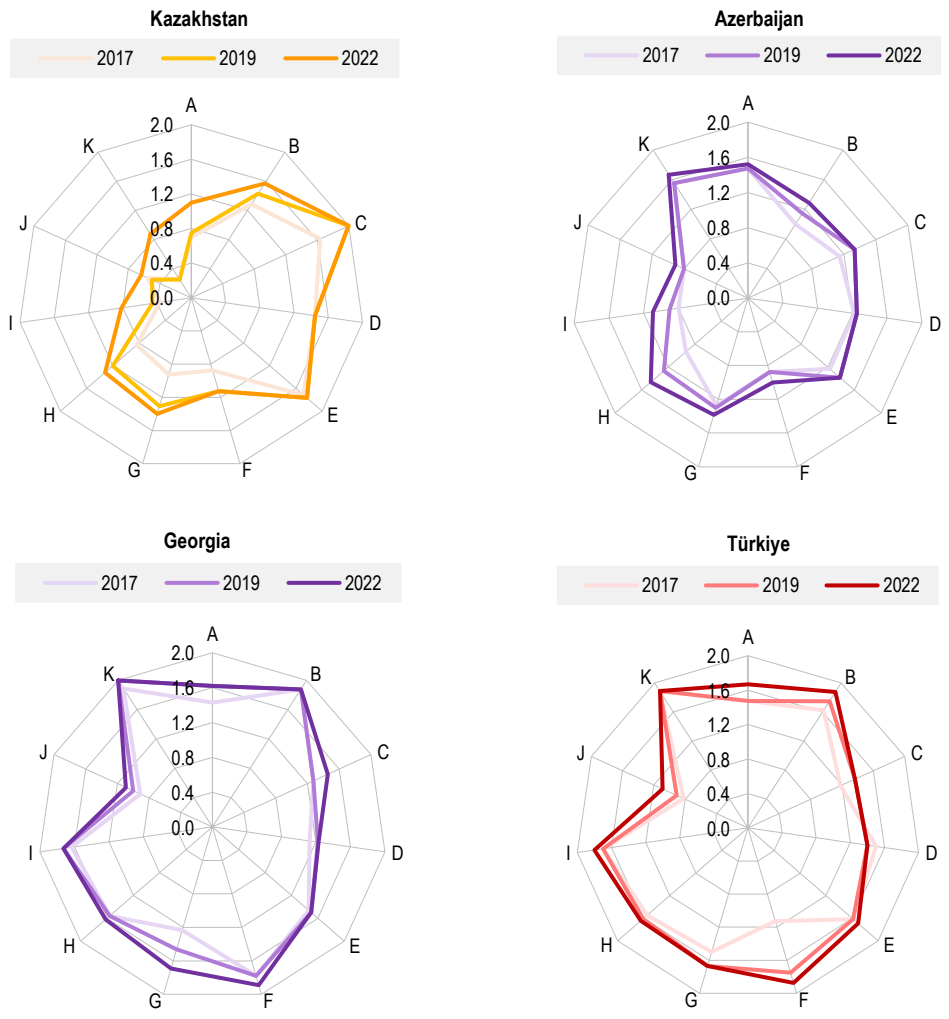
Stakeholders consulted by the OECD in the scope of this study have emphasised the need to implement trade facilitation reforms to increase the traffic capacity and attractiveness of the Middle Corridor. Respondents to the survey highlighted several actions that could facilitate trade along the route. First, introducing and developing electronic data exchange could accelerate and simplify border procedures. Indeed, digitalisation goes hand in hand with the automation of procedures and the standardisation of customs documents, which could be centralised on a single digital platform. To support such measures, respondents consider it necessary to improve capacities and skills of customs border personnel and harmonisation of freight-related regulatory standards through a common regional legal framework. It is noticeable that private-sector representatives and government agencies offer similar assessments of the main priorities here. These results concur with recent studies highlighting the importance of soft trade measures in improving transit and trade operations in Central Asia and the South Caucasus (OECD-ITF, 2019[1]; ADB, 2023[2]; Wang, 2014[3]). Higher trade costs associated with customs documentation and procedures, such as clearance and inspections, also slow down the international growth of firms, thereby reducing the development of intra-regional trade (López González and Sorescu, 2019[4]).

Progress has been observed in each Middle Corridor country, albeit from different starting points. Since 2017, Azerbaijan, Georgia, Kazakhstan, and Türkiye have consistently improved their performance across all areas covered by the OECD Trade Facilitation Indicators (TFIs) (Figure 3.1). Kazakhstan has made the largest relative and absolute improvements in its performance, followed by Azerbaijan, though both performed less well in 2022 than Georgia and Türkiye. Kazakhstan has advanced the most in its governance and impartiality, internal border agency co-operation, streamlining of procedures, and information availability. Azerbaijan has also advanced in streamlining its procedures, internal border agency co-operation, and involving the trade community. Türkiye and Georgia have made strides in the streamlining of documentation and automation of procedures, respectively.

At the national level, countries along the Middle Corridor have advanced trade and customs regulation and digitalisation of border documents and procedures in recent years. Türkiye is one of the most advanced countries in the region in digitalising customs. Kazakhstan, Azerbaijan, and Georgia have been improving the transparency and predictability of trade-related information, streamlining documentation requirements, increasing the use of digital tools, and intensifying internal border agency co-operation. For instance, Kazakhstan has launched several online trade portals and single windows, such as the Single Window for Export-Import Operations, the Kazakhstan Trade Portal, the Trade Facilitation Information Portal, and the Automated System of Customs and Tax Authorities (ASTANA-1) customs border portal, providing firms e-permits, information, references, and documents related to exports (Atameken, 2019[5]). The effects of these reforms have been most visible in the country's seaports, where cargo transit time has been halved from 12 to six days and is expected to fall to five days by end-2023 (The Astana Times, 2023[6]). Georgia and Azerbaijan have also introduced customs one-stop shops (OSS) to ease customs for businesses and improve inter-agency data exchange through integrated border management measures with agencies responsible for granting transit and trade licenses and permits (Georgia Revenue Service, 2019[7]; World Bank, 2020[8]). Georgia has also transformed its OSS into a customs Single Window, making its customs service one of the most efficient and technologically advanced in the CAREC region (CAREC, 2021[9]). Like Kazakhstan, Georgia has reduced the number of ministries and agencies involved at the border, which previously included the Customs Department (under the Ministry of Finance), the Border Police (under the Ministry of Internal Affairs), the Sanitary and Phytosanitary entity (under the Ministry of Agriculture), and

the Transport Administration (under the Ministry of Transport). Now just the Georgia Revenue Services and the Patrol Police are involved (CAREC-ADB, 2022[10]). Türkiye has increased the number of automated customs procedures, reduced the number of required trade documents, improved customs administration and negotiated border co-operation agreements.

Figure 3.1. Evolution of Azerbaijan, Georgia, Kazakhstan, and Türkiye's performance in the OECD Trade Facilitation Indicators, 2017-2022



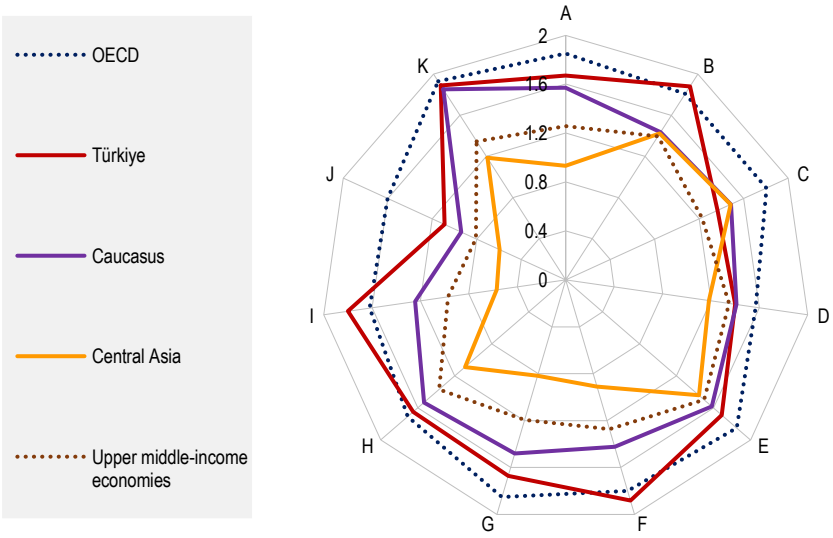
Legend: A - Information availability, B - Involvement of the trade community, C - Advance rulings, D - Appeal procedures, E - Fees and charges, F - Documents, G - Automation, H - Procedures, I - Internal border agency co-operation, J - External border agency co-operation, K - Governance and impartiality.
Source: (OECD, 2023[11])

Yet, the persistence of bottlenecks at borders highlights the need for soft measures to improve the route's competitiveness

Border delays are a major impediment to the Middle Corridor's development. The 2023 survey and interviews conducted by the OECD have highlighted the prevalence of issues relating to unharmonised cross-border customs procedures and administrative formalities resulting in border point and port congestion, delays that can amount to several days, and increased transit and transport costs. According to the respondents, such difficulties arise at each border along the route: China-Kazakhstan, the Caspian Sea, Azerbaijan-Georgia, and Georgia-Türkiye. Companies frequently spoke of congestion at border crossing points, making crossing times inconsistent and unpredictable. The case of Kazakhstan shows that despite investments in improving average rail transport speed without delays – rising from 40.5 km/h in 2010 to 65.2 km/h in 2020 – longer border-crossing delays were significant enough to slow the overall delivery of goods over this period (CAREC-ADB, 2022[10]). While infrastructure issues have a direct physical effect on traffic (such as the low number of lanes at border crossing points or inefficient multimodality management – see Chapter 4), unharmonised and complex border procedures lead to similar consequences on freight flows. Moreover, freight volumes have continued to grow, so that even improved infrastructure and processes may not be enough to maintain – let alone improve – transit times. At times, trade growth can outstrip investment and reform. Survey respondents underlined the need for simplified and standardised documents and procedures, as well as a streamlining of border regulations for more consistency, to eventually reduce border crossing times and traffic congestion.

The absence of automation and cross-border agency co-operation contributes to cumbersome procedures and long queues at border points. On average, Central Asia and the South Caucasus still lag Türkiye and the OECD average on internal and external border agency co-operation, harmonisation of documents and procedures, automated border points, information availability, and involvement of the trade community in trade facilitation policy, while border and customs fees exceed OECD average (Figure 3.2). While Central Asia is the least advanced on these matters, even Georgia and Türkiye – the regional leaders – also show higher fees and rates, lower automation rates, and lower cross-border co-operation than the OECD average. The combination of multiple and unharmonised document requirements for each country along the route with deficient border procedure co-operation reduces network performance. The surveys conducted by the OECD which show that the lack of co-operation between national governments on the regulatory framework and limited consultations with the private sector measurably reduce the attractiveness of projects for investors.

Figure 3.2. Performance of Central Asia, the South Caucasus, and Türkiye in the OECD Trade Facilitation Indicators, 2022



Legend: A - Information availability, B - Involvement of the trade community, C - Advance rulings, D - Appeal procedures, E - Fees and charges, F - Documents, G - Automation, H - Procedures, I - Internal border agency co-operation, J - External border agency co-operation, K - Governance and impartiality.
Note: Due to data availability, "Caucasus" is the average for Armenia, Azerbaijan, and Georgia; "Central Asia" is the average for Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan; "OECD" is the average for all 38 OECD member countries.
Source: (OECD, 2023[11]).

Multilateral efforts exist but are scattered

Middle Corridor countries have started engaging in multilateral initiatives on trade facilitation. A Preliminary Data Exchange Agreement for Facilitating Customs Transit Procedures was signed between Azerbaijan, Georgia and Türkiye for the BTK, though implementation is still on-going. (UNECE, 2023[12]). Georgia and Türkiye have signed a data exchange agreement on the joint use of land customs crossing points to accelerate border crossing times, with Azerbaijan and Türkiye having established a preliminary electronic information exchange system, as well. Türkiye and Azerbaijan and Türkiye and Georgia have signed separate simplified customs corridor agreements to facilitate faster customs procedures by enabling data exchange. As mentioned, Azerbaijani Railroads, Georgian Railway, and KTZ have signed an agreement to create a single logistics company to simplify TITR cargo handling and transport processes, among other goals (Prime Minister, 2023[13]).

Nevertheless, no initiative yet covers all Middle Corridor countries, which may lead to gaps and overlaps. Efforts to harmonise and digitalise customs documents and procedures have recently progressed in Central Asia and the South Caucasus. For instance, Armenia signed the Framework Agreement on Facilitating Cross-Border Paperless Trade in the Asia-Pacific Region (CPTA) in 2017, aiming at easing the implementation of digital trade facilitation measures, while Azerbaijan joined in 2018, and Turkmenistan and Tajikistan in 2022 (UNESCAP, 2023[14]). As United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) member countries, Georgia, Kazakhstan and Türkiye are qualified to become parties to the CPTA agreement. In the framework of the Conference on Interaction and Confidence Building Measures in Asia (CICA), co-ordinated by Türkiye, Central Asian countries have signed a regional legal instrument on the interaction of National Committees for Trade Facilitation in April 2023 to expand cross-border information exchange and help the participating states fulfil their WTO Trade Facilitation Agreement requirements – though Armenia and Georgia are not CICA members. Moreover, the Central Asia Regional Economic Co-operation Programme (CAREC) Customs Co-operation Committee (CCC) serves as the regional platform for enhancing customs co-operation. It helped bring

about the adoption of the Revised Kyoto Convention in Central Asia, South Asia, and the South Caucasus, though Türkiye is not a member. Additionally, the CAREC members have also collaborated on sanitary and phytosanitary (SPS) matters and agreed to the common use of electronic Phyto certificates (CAREC-ADB, 2022[10]), even though they are yet to be implemented in most countries of the region.

Box 3.1. International organisation trade facilitation projects in Central Asia, the South Caucasus, and Türkiye

International Trade Centre (ITC) Ready4Trade in Central Asia (R4TCA)

The ITC launched the four-year EU-funded R4TCA project in 2020 to help develop intra-regional and international trade by promoting soft measures on trade facilitation, administrative management, trainings, and support to exporting SMEs in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. It is designed to enhance the transparency of cross-border requirements, remove regulatory and procedural barriers, strengthen businesses capability to comply with trade formalities and standards, or enabling cross-border e-commerce. (International Trade Center, 2022[15])

United Nations Economic Commission for Europe (UNECE)

With 56 members including all Middle Corridor countries, the UNECE has a co-ordination committee dedicated to the Trans-Caspian and Almaty-Istanbul Corridors that convenes regularly to discuss progress on five clusters: (i) evaluating transport infrastructure renewal requirements as well as identifying missing links; (ii) digitalising, harmonising, and standardising transport documents in use on the corridors; (iii) evaluating availability of reliable corridor-wide agreed timetables and tariffs and other issues hampering regular rail freight services; (iv) evaluating the en-route border crossing efficiency identifying, prioritising and implementing border crossing facilitation initiatives; and (v) strengthening the economic viability and resilience of the corridors as well as their environmental performance. (UNECE, 2023[12])

Central Asia Regional Economic Co-operation (CAREC) Programme

Supported by six multilateral institutions, the CAREC programme helps to develop six transport corridors, including one from China through the South Caucasus to Europe, aiming to speed up passage for people and firms across borders and reduce the costs of crossing borders. For trade, it focuses on five priority areas: (i) simplification and harmonisation of customs procedures; (ii) information and communication technology development and data exchange, (iii) risk management and post-entry audit; (iv) joint customs control; and (v) regional transit development. All Central Asian republics and South Caucasus countries are members (CAREC, 2023[16])

Transport Corridor Europe-Caucasus-Asia (TRACECA)

TRACECA is an EU-led intergovernmental programme that aims at developing international transport and trade communication across the Black Sea basin, South Caucasus, and Central Asia. The four Middle Corridor countries and many of their neighbours are part of the programme that aims to develop multimodal transport routes across the region. (TRACECA, 2023[17])

BSEC

The Black Sea Economic Co-operation, regrouping among others Azerbaijan, Georgia and Türkiye*, aims at enhancing trade and economic development between its Member States. Within the workstream promoting regional trade and investment co-operation, the BSEC Working Group on Trade and Economic Development finalised two reports: 1. *Regional Trade Facilitation Strategy for the BSEC Region* and 2. *Framework for BSEC Single Window Co-operation*. Some trade facilitation tools were already implemented in the past, such as the BSEC permit. (BSEC, 2023[18])

Note: *BSEC member countries include Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, North Macedonia, Romania, the Russian Federation, Serbia, Türkiye, and Ukraine.

Other organisations have also advocated, and developed pilot programmes for, trade facilitation and customs interoperability. Private firms and state-owned enterprises such as the international association Trans-Caspian International Transport Route (IATITR), have contributed to trade facilitation efforts along the Middle Corridor (Box 3.2).

Box 3.2. the South Caucasus International Association Trans-Caspian International Transport Route

Initially established in 2014 to increase the flow of goods along the TITR, since 2017 the international association Trans-Caspian International Transport Route (IATITR) aims to ensure the competitiveness of the Middle Corridor by developing logistical soft and hard infrastructure, unify transport processes, reduce administrative barriers, and implement an effective tariff policy. It has eight regular members, including the national railway companies of Azerbaijan, Georgia, Kazakhstan, Türkiye, and Ukraine as well as the ports of Aktau and Baku and the Azerbaijan Caspian Shipping Company. There are 11 associate members, including Kazakhstan's Aktau Marine North Terminal, Kazmortransflot, and Port Kuryk, as well as regional logistics and port partners. These stakeholders frequently meet through working group sessions where they discuss the current state of the route and determine strategies to increase its efficiency.

Source: (TITR, 2023[19]).

Cargo traffic remains subject to multiple and unharmonised regulatory, license, and permit requirements along the Middle Corridor

Unharmonised legal framework conditions, especially for rail and road standards, result in interoperability issues along the route

Multiple legal frameworks regulating freight transit increase the unpredictability of transport times and add to border crossing complexity. Despite recent efforts to increase co-operation and harmonisation between regions and countries along the Middle Corridor, the lack of standardisation of rules and standards governing road and rail transit and transport procedures holds back intraregional trade. From the private sector's perspective, the differences in transport and customs laws between the countries of the Middle Corridor lead to arbitrary transport documentation and border crossing procedures, slowing down transit time and affecting service reliability (ADB, 2022[20]). OECD interviews indicate that regulatory differences affect both formal procedures and rules for entering and crossing each country, and road and rail vessel and equipment standards, adding to border crossing time and costs for shipments. When asked about national and regional policies that could enable the implementation of trade facilitation measures, various actions were considered to be pivotal, especially regarding the regulatory frameworks for transport modes and customs. Most prevalent among surveyed individual companies was the suggestion that governments deepen regional co-operation through the establishment of supranational transport and trade oversight bodies. These co-ordination platforms could introduce common standards for customs legal frameworks and transport modalities, and to a larger extent improve the regulation of rail, road and shipping sectors and reduce border crossing complexity (see also Chapter 5).

The development of road freight is complicated by the absence of truck requirement standardisation and the existence of a patchwork of rules applying to truck and driver transit (Table 3.1**).** Surveys and interviews conducted by the OECD further suggest that competing standards for road transport are holding back the development of a competitive freight forwarding market along the

Middle Corridor, especially for companies headquartered in Central Asia and the South Caucasus. Interviewees indicate that compliance with weight and dimensional parameters for trucks can be a challenge along the route: while standards exist, they are not yet enforced. Transferring freight between trucks is time-intensive and costly. In Central Asia, parameters are mainly set on a national basis and can conflict with regulations of neighbouring countries. Axle load restrictions are implemented for several months a year to prevent accelerated deterioration of roads, but weight certificates are not always mutually recognised, so trucks must stop at weighing stations in transit countries to attain the required documents. Road transit permits such as TIR cannot waive the need to transfer shipments because they do not obviate the need for vehicle passes. Moreover, protectionist measures to impose cabotage rules and protect local trucking industries from foreign competition are widespread (CAREC-ADB, 2022[10]). Finally, additional national requirements have been reported to cause compliance difficulties and increase shipment costs, including fuel limits for foreign trucks entering Georgia.

Table 3.1. Weight dimensions for goods transport vary significantly across the Middle Corridor

		Azerbaijan	Georgia	Kazakhstan	Türkiye
Maximum axle weight	Per non-drive axle	10t	10t	10t	10t
	Per drive axle	-	11.5t	-	11.5t
	Other (tandem/tridem, trailer, semi-trailer, single/dual tyres…)	23 categories (11-24t)	-	24 categories (5-26.5t)	-
Maximum permitted weight		8 categories (18-38t)	1 category (44t)	10 categories (18-48t)	8 categories (18-44t)
Maximum height		4m	4m	4m	4m
Maximum width		2.55m	2.55m	2.55m	2.55m
Maximum length	Motor vehicle	12m	12m	12m	13.50m-15m
	Articulated vehicle	20m	20m	20m	18.75m (bus)

Note: m=metre, t =tonne.
Source: OECD analysis based on IRU documentation.

The legal regime for rail cargo carriage creates interoperability issues

Governments along the Middle Corridor have been working to enhance transit facilitation and predictability for rail transport. Cargo carriage is subject to two different legal regimes along the route. In China and Central Asia, rail freight is subject to the SMGS agreement developed by the Organisation for Co-operation of Railways (OSJD), whereas Türkiye and Western Europe apply the CIM Uniform Rules established by the Intergovernmental Organisation for International Carriage by Rail (OTIF). Azerbaijan and Georgia are at the crossroads, accepting both standards, though SMGS reportedly prevails. The lack of a single legal framework puts rail operators at a considerable competitive disadvantage vis-à-vis other transport modes, as a reconsignment of the goods is necessary at the handover point between the CIM and SMGS freight law systems (Box 3.3). This frequently requires consignment notes to be transferred from CIM to SMGS, resulting in additional costs and delays. Moreover, two freight law conventions means that customers face hurdles identifying and enforcing claims in case of cargo losses (UNECE, 2022[21]). Additionally, 35 UNECE members including Azerbaijan, Kazakhstan, and Türkiye, as well as non-UNECE members Mongolia and Pakistan have signed the Joint declaration towards Unified Railway Law (URL) to overcome the two legal frameworks – though Georgia is notably absent (UNECE, 2022[21]).

Acknowledging the coexistence of these regimes as a major bottleneck for rail freight development, governments, in co-operation with the International Rail Transport Committee, established a combined CIM/SMGS consignment note for the countries traversed by the Middle Corridor (Box 3.3). In May 2023, a memorandum was signed between the railway administrations of Azerbaijan, Georgia, Kazakhstan, Türkiye, and Ukraine on piloting of the CIM/SMGS electronic

consignment note (UNECE, 2023[12]). While the legal framework exists, though, *de facto* implementation lags: OECD interviews indicated that the joint note is not systematically used nor recognised in practice, leading to a duplication of procedures.

Yet, different legal requirements complicate rail freight transport between Asia and Europe and create rail-road interoperability issues. The coexistence of two different legal regimes governing carriage of freight featured prominently in interviews conducted by the OECD. Though the consignment notes under both the CIM and SGMS systems contain the same information, their scope of application differs, especially in multimodal transport across maritime routes, creating interoperability issues. For instance, SMGS is only applicable to international railway-ferry traffic where the parties to the Convention "Agreement on International Goods Transport by Rail" (SMGS Agreement) have explicitly declared the waterway sections to be open for such carriage. In contrast, CIM Uniform Rules apply a broader "rail+" approach extended to road transport when international carriage includes carriage by road for national traffic (International Ral Transport Committee and World Transport Organisation, 2016[22]; International Rail Transport Committee, 2023[23]).

The 2022-2027 TITR Roadmap has identified these interoperability issues and includes an action to simplify multimodal border crossing procedures. By 2024, the signatories aim to use the unified CIM/SMGS railway consignment note. They also seek to use SMGS, CIM, or CIM/SMGS railway consignment notes on the Caspian Sea maritime sections using rail ferries. Finally, both notes pose a translation issue, as the SMGS consignment note is issued only in Russian or Chinese, whereas the CIM one is issued in the country of dispatch's language with a translation into French, German, or English. As a result, businesses surveyed by the OECD report frequent instances of duplication of documents as cargo needs to be registered under both systems.

Box 3.3. Harmonised railway trade and transit systems

A combined CIM/SMGS consignment note

Europe-to-Asia traffic is managed through two distinct legal regimes: (i) the **CIM Uniform Rules**, administered by the Intergovernmental Organisation for International Carriage by Rail (OTIF)*; and (ii) the **SMGS Agreement**, also known as the Agreement on International Traffic by Rail, administered by the Organisation for Co-operation between Railways (OSJD)**. Due to the coexistence of the CIM Uniform Rules and the SMGS Agreement, the carriage of freight between China and Europe is subject to different languages and requirements, including two consignment notes. In Türkiye, Western and Central Europe, rail freight transport abides by the CIM rules, while the SMGS law applies for China, Russia, and Central Asia. In Georgia, Azerbaijan, Ukraine, and other Eastern European countries, both frameworks exist.

To facilitate the transit of goods along the Middle Corridor, a common CIM/SMGS consignment note was created in 2006 by a joint International Rail Transport Committee-OSJD initiative to allow legal interoperability. The CIM/SMGS consignment note simplifies and accelerates rail cargo transport by being a CIM consignment note in the CIM area and, simultaneously, a SMGS consignment note in the SMGS area. It contains the necessary standardised information for goods consignment, provides greater legal certainty on the entire carriage process, and authorities recognise it as a customs paper. Such a harmonised document avoids any reconsignment at geographical points of intersection between CIM and SMGS regimes, reducing border crossing times and costs. (CIT, 2013[24]; UNECE, 2019[25])

Unified Railway Law

The Unified Railway Law (URL) has been developed from the CIM and SMGS systems as well as other international conventions for other modes of transport. For the most part, the CIM and SMGS provisions have been included, except for where these two differ (i.e., carrier's liability) resulting in URL compromises. To simplify and clarify the URL and make it easier to use than the CIMS or SMGS systems, provisions of lesser importance have been excluded (i.e., declarations of value, interest in delivery, cash on delivery, rail-sea traffic and nuclear incidents). The URL has not yet been formally adopted and consequently, has not entered into force.

The contract of carriage is accompanied by a single URL consignment note subject to one legal regime. URL establishes a uniform international legal framework for rail freight transport between the participating states falling otherwise under the CIM or SMGS regimes, including Azerbaijan and Georgia. The URL provisions take priority over their national laws and apply to each single international contract of carriage between those states if the parties to the contract of carriage opt to apply URL to their contract. URL is a voluntary choice for the contracting parties. It will continue to be possible to apply CIM and SMGS systems for carrying goods between Europe and Asia if the parties choose not to apply URL for a specific consignment. In this case, it will once again be necessary to conclude two contracts of carriage, one under CIM and another under SMGS systems, and the consignment needs either two consignment notes or a single CIM/SMGS consignment note. (UNECE, 2019[25]; UNECE, 2022[21])

Note: * CIM including 51 States, of which 25 are EU Member States, and the EU **29 States, of which 9 EU Member States from eastern Europe, Russia, China, and most of the Central Asian countries

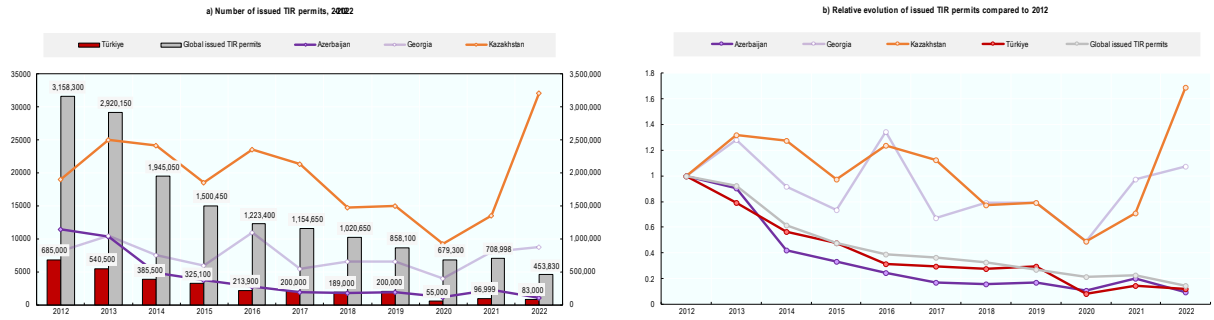
Road cargo transport documents and procedures

OECD survey respondents and interviewees have both named the harmonisation of regulatory requirements and permits for road freight transport as a major priority in developing the Middle Corridor. Road traffic is reported to be heavily regulated, with overlapping permits and requirements resulting in high transit costs**.** Interviewees indicated that in the absence of a regional legal framework for freight forwarding, cargo transport is subject to varying national requirements for truck transit permits and driver transit visas depending on the country of transit. In addition, they reported that prior information on required documents or the duration of their validity is hard to obtain, requiring trucks to carry a vast array of mainly paper documentation and to purchase similar permits in each country of the route. The Georgian "transit card" has been often cited as a case in point, as its price and scope have changed considerably in a short time period: while the transit card used to apply to a truck's roundtrip through the country, it is now only one-way, while the price has increased from 200 lari (round-trip) to 350 lari per single fare.

The Middle Corridor countries have worked to streamline road border crossing document and procedure requirements, though implementation lags and efforts are fragmented. Kazakhstan, Azerbaijan, Georgia, and Türkiye have all ratified the TIR Convention to simplify and harmonise the administrative formalities of international road transport (Box 3.4). The TIR Convention facilitates cross-border trade using a standard, internationally recognised customs document and transit guarantee (TIR Carnet). China also joined the TIR Carnet transit framework in 2017, increasing the scope of end-to-end transit operations along the Middle Corridor. OECD interviewees reported that the degrees of implementation and scope of acceptance of TIR carnets for shipments vary greatly across the four countries, and even between customs posts within countries. As a result, in most cases each road freight driver needs to fill out, pay for, and carry a national transit permit certifying their cargo within each country. In addition, cargo documentation varies in each country, from a single one-page transit document for the entire cargo load, to multiple documents to be filled out for each single cargo load category. UNECE stated TIR is only operational and used by a part of the contracting countries, and that it does not appear fit for intermodal transport (UNECE, 2021[26]).

Moreover, the TIR Carnet system does not appear to respond to private sector needs in the region, including harmonisation with EU standards or digital processes (Figure 3.3**).** UNECE (2021[26]) states that "the TIR Convention is outdated, is not a modern tool adapted to current business requirements but rather an old legal instrument that failed to foresee the future business requirements and need". Some CAREC countries have recorded a decline in the number of TIR carnets due to the Russian Federal Customs Service's decision to implement its own transit regime in 2014 and to discontinue paper procedures in 2020 (UNECE, 2021[26]). Since shipments from Central Asia were often headed to Russia, this affected decisions to use TIR. Moreover, the EAEU membership of Kazakhstan and Kyrgyzstan further reduced interest in using TIR in these countries. The UNECE stated that a significant reduction in sales from 2013 onwards was due to a reduction in Russian, Ukrainian, and Turkish permits. It attributed declining sales to the delay in implementing the e-TIR system (see below), as well as increased competition with other customs transit systems (UNECE, 2021[26]). TIR is also perceived to be costly, especially for shorter hauls (CAREC-ADB, 2022[10]).

Figure 3.3. Number of issued TIR Carnets, 2012-2022



Note: In panel a), the number of global and Turkish issued TIR Carnet are plotted on the right axis.
Source: (UNECE, 2022[27])

Other road trade facilitation initiatives exist. Kazakhstan, Azerbaijan, Georgia, and Türkiye have all also ratified the CMR Convention, with the CMR consignment note providing information about shipped goods and the transporting and receiving parties. All four countries also use the European Conference of Ministers of Transport (ECMT) permit, though its uptake throughout Europe is limited. The ATA Carnet, used by Kazakhstan and Türkiye and widespread in Europe, is not used in Georgia or Azerbaijan. Only Georgia and Türkiye use the BSEC permit developed by BSEC PERMIS and BSEC-URTA, though Azerbaijan is a BSEC Member State. Central Asian states are not yet part of the conversation and the number of allocated BSEC permits appears to be below the annual quotas, further limiting its suitability. Similarly, even if Azerbaijan and Kazakhstan are TRACECA Members, TRACECA's permit is used only by Georgia and Türkiye, and its reach is limited to just 200 permits per country. The 2022-27 TITR Roadmap for Azerbaijan, Kazakhstan, and Türkiye includes an action to encourage the liberalisation of transit permits for goods transported by road, although it lacks details.

Finally, the changing and unpredictable nature of trade and transit requirements not only increases official shipment costs but also leaves room for grey practices, the more so in the absence of integrated digital systems (see below). For instance, international freight transportation between China and Türkiye can fall under the category of "cabotage" (transport of goods within a territory by a transporter from outside the territory) under EAEU rules in certain cases in Central Asia, imposing additional permits requirements. The absence of harmonisation exacerbates border crossing congestion and therefore queuing and shipment times, while imposing multiple and overlapping requirements and costs upon transportation.

Box 3.4. Efforts to harmonise road trade and transit systems

Transports Internationaux Routiers (TIR) Carnet

Concluded in 1975, the multilateral TIR Convention aims to simplify and harmonise international road transport formalities. The United Nations Economic Commission for Europe (UNECE) in partnership with the IRU implements the convention using TIR Carnets. Transport operators holding a TIR Carnet can move goods without replicating border requirements and border checks at intermediate borders. Through mutually agreed customs controls and exchanging shipment data, transport operators using TIR can be exempted from repeated customs guarantees and inspections in each transit country. In 2021, the TIR Convention was adopted by 77 parties, including all Middle Corridor and CAREC countries, representing 33,000 international transport operators and 1 million TIR Carnets per year. (CAREC-ADB, 2022[10]; UNECE, 2021[28])

International Carriage of Goods (CMR) consignment notes

Signed in 1956, the United Nations (UN) Convention on CMR standardises road freight conditions and regulates transport of goods by road contracts or a bill of lading. CMR documents are primarily used for commercial transport contract purposes; they are also often used by law enforcement and customs authorities to check goods and information in cross-border trade. The convention includes Azerbaijan, Georgia, Kazakhstan, and Türkiye as well as EU member states (MS) and other countries (ADB, 2021[29]; ADB, 2022[30])

European Conference of Ministers of Transport (ECMT) permits

Introduced in 1974, ECMT permits allow mutual freight transport access to the markets of 43 mainly European countries, including Azerbaijan, Georgia, Kazakhstan, and Türkiye. Subject to a quota, the ECMT permit is valid for a specific time for an unlimited number of journeys. In 2017, the ECMT permits accounted for 4% of international road freight in Europe. ECMT aims to liberalise road freight transport, rationalise vehicle use to reduce empty running, and harmonise competition. (NI Business Info, 2021[31])

Black Sea Economic Co-operation (BSEC) permits

Implemented in 2014, the BSEC permit is a multilateral permit delivered to transport operators allowing vehicles to transit for goods carriage by road for a single trip. Valid for one calendar year, it does not exempt the carrier from other requirements related to the carriage of exceptional loads. In 2023, BSEC permit's quota has increased from 20,800 to 40,800 permits year-on-year, representing 5,000 for each Member State except for Armenia (800 permits), though actual uptake is lower. Efforts are made to expand the geographical coverage and to digitalise the process. (BSEC-URTA, 2022[32])

Transport Corridor Europe-Caucasus-Asia (TRACECA) permits

In 2016, Armenia, Georgia, Moldova, Romania, Türkiye and Ukraine joined the Multilateral Permits System TRACECA. Seeking to replace multiple permits among MS, TRACECA permits enable international carriage of goods by road, with 200 permits allocated per MS (TRACECA, 2023[17]).

Temporary Admission (ATA) Carnet

Part of the 1990 World Customs Organisation (WCO) Istanbul Convention, the ATA Carnet is an international customs document that permits duty-free and tax-free temporary import of goods for up to one year and serves as a guarantee to customs duties and taxes. ATA Carnets cut red tape by simplifying and unifying customs border crossing regulations. ATA Carnets are used in the EU, Türkiye, and Kazakhstan but not in Georgia or Azerbaijan (ATA Carnet, 2023[33]).

Countries are still working to address the partial and unharmonised digitalisation of transit and border documents

In 2022-23, cross-border co-operation talks have progressed in relation to harmonisation and digitalisation of documents, but implementation remains a challenge. During the interviews conducted by the OECD, the governments of Azerbaijan, Georgia, and Kazakhstan indicated that they reached an agreement early 2022 on the principle to implement single transit windows for cargo transport by road and rail between their territories. However, the practical implementation of such a system still needs to be carved out. OECD interviews and surveys also seem to indicate that maritime transport so far is not part of regional discussions, although individual countries have started prospecting harmonisation of maritime regulations. For instance, Türkiye's port Single Window system functions in a similar vein for traders and port authorities as the customs Single Window, while the Container and Port Tracking System enables electronic information exchange for all seaport customs operations. Georgia started developing a maritime Single Window for its Black Sea ports in April 2023, while Azerbaijan and Kazakhstan are working on a joint document to implement a single permit for freight transiting between the ports of Aktau and Alat.

The incomplete nature of transit and border document digitalisation efforts further complicates the unharmonised regulatory landscape and mosaic of overlapping permits and regional associations for businesses and governments alike (Box 3.5**).** For instance, Kazakhstan implements customs efforts oriented towards the EAEU through its ASTANA-1 project, whereas Georgia's standardisation efforts focus on the EU (UNCTAD, 2022[34]). As one of the most digitally advanced countries in the region, Türkiye has fully implemented an automated customs system, e-payment system for customs duties, and electronic submission of documents, eliminating the need for paper-based document submissions. Traders can also declare all export declarations and warehouse declarations electronically without any requirement for a paper-based document since 2019 and 2023, respectively (WTO, 2023[35]). Likewise, the Georgian customs service is one of the most efficient in the CAREC region due to recent digitalisation efforts, including the use of big data to manage risks related to customs control and electronic data exchange, and the creation of a Single Window. The Georgia Revenue Service updated the Single Window for taxpayers in 2015 in line with the UN ASYCUDA system. This allowed the paperless processing of most customs operations such as customs declaration, transit declaration, and the introduction of automated risk management (CAREC, 2021[9]). International organisations developed cross border initiatives to address interoperability issues, such as UNCTAD's ASYCUDA system or UNECE/IRU's e-TIR system. However, the partial harmonisation results in complex interoperability issues for governments, including the digital interconnection of national customs systems and the ensuing electronic exchange of data along the route. Interviews conducted by the OECD indeed indicated that the coexistence of different e-customs systems across the region, mainly the e-TIR and the UN ASYCUDA systems, prevent easy electronic exchange of data between user countries.

Governments are working to digitalise transit documentation and procedures, though none cover the entire Middle Corridor. Businesses and government agencies interviewed by the OECD highlighted that the partial harmonisation of documents is exacerbated by incomplete digitalisation efforts resulting in a duplication of digital and physical papers and procedures. TIR Carnet sales to Türkiye have dropped by 88% since it joined the New Computerised Transit System (NCTS) in December 2012, indicating the shift of operators' preferences from TIR to NCTS. Georgia is already using NCTS domestically and plans to expand it in 2024; Azerbaijan, and Moldova are taking steps towards joining NCTS as well. Azerbaijan, Georgia, and Kazakhstan are in the process of implementing the CAREC Advanced Transit System (CATS) which is based on the NCTS. Azerbaijan and Türkiye have also acceded to the digital e-CMR protocol, while Azerbaijan, Georgia, and Kazakhstan have signed an e-TIR letter of intent and the e-TIR main principles (IRU, 2023[36]; UN, 2022[37]). In 2022, Azerbaijan, Georgia, and Uzbekistan connected their national customs systems to the e-TIR international system with the remaining contracting parties along the Middle Corridor expected to follow (UNECE, 2023[38]; UNECE, 2021[28]). At the regional level, the digitalisation of transit documents is prevented by the absence of Kazakhstan in the digitalisation pilot, *de*

facto cutting the road transit connection. Azerbaijan, Kazakhstan, and Türkiye have all conducted e-TIR pilots, but only with Iran or other Central Asian countries rather than among each other. Azerbaijan and Kazakhstan pioneered the Global Transit Document (GTrD) pilot with other Central Asian countries in 2022, though the pilot results are not yet known, and it does not yet cover all Middle Corridor countries (UN, 2022[37]). Türkiye and Uzbekistan trialled the first BSEC e-Permits in their efforts to combine e-CMR and BSEC e-Permit in one project. Though at a trial stage with few permits allocated, the goal is for the e-Permits to work bilaterally between the BSEC countries or in a common network (BSEC-URTA, 2023[39]). Finally, the ECMT digital platform for licence management in place, though the full digitalisation of the quota system is still underway, with paper licenses still being used (ITF, 2021[40]).

Box 3.5. Information customs exchange efforts

New Computerised Transit System (NCTS)

The European New Computerised Transit System (NCTS) allows traders to submit electronic transit declarations online and minimise the number of required documents through the electronic exchange of information along the transport route. NCTS allows actors to monitor in real time/avoid fraud, ensure real-time IT information exchange, and communicate between involved offices (i.e., departure, destination, transit). Launched in 2003, it covers the 27 EU countries, the European Free Trade Association (EFTA) countries, the UK, Türkiye, the Republic of North Macedonia, and Serbia (Irish Tax and Customs, 2023[41]). NCTS deployment to Azerbaijan, Georgia, Moldova, and Ukraine is in progress with technical assistance of the Twinning project provided by the EU. (EU4Digital, 2019[42])

UNCTAD Automated System for Customs Data (ASYCUDA)

ASYCUDA is a customs management system for trade and transport operations. It aims to accelerate customs clearance via computerisation and simplified procedures, to increase customs revenue, and to produce reliable and timely statistics. ASYCUDA TIR is an international transit solution aligned with TIR-EPD/SafeTIR requirements. Within ASYCUDA, the ASTANA-1 integrated system between Kazakhstan and EAEU member states became operational in 2018 to modernise customs clearance procedures and provide a single window. ASYCUDA systems are running or being implemented in 102 countries, including Georgia and Kazakhstan (UNCTAD, 2019[43]; UNCTAD, 2022[44]).

CAREC Advanced Transit System (CATS)

CATS, initially piloted between Azerbaijan, Georgia, and Kazakhstan, aims to create a single harmonised electronic regional transit system that is more cost-effective than TIR and integrated with regional procedures. It streamlines and harmonises transit documentations and promotes the development of a modern, risk-based affordable guarantee mechanism that rewards compliant economic operators. The CATS technical specifications including software to use an alternative digital transit system based on the EU's NCTS. (CAREC-ADB, 2022[10]; CAREC, 2019[45])

Integration of ports information into national customs systems

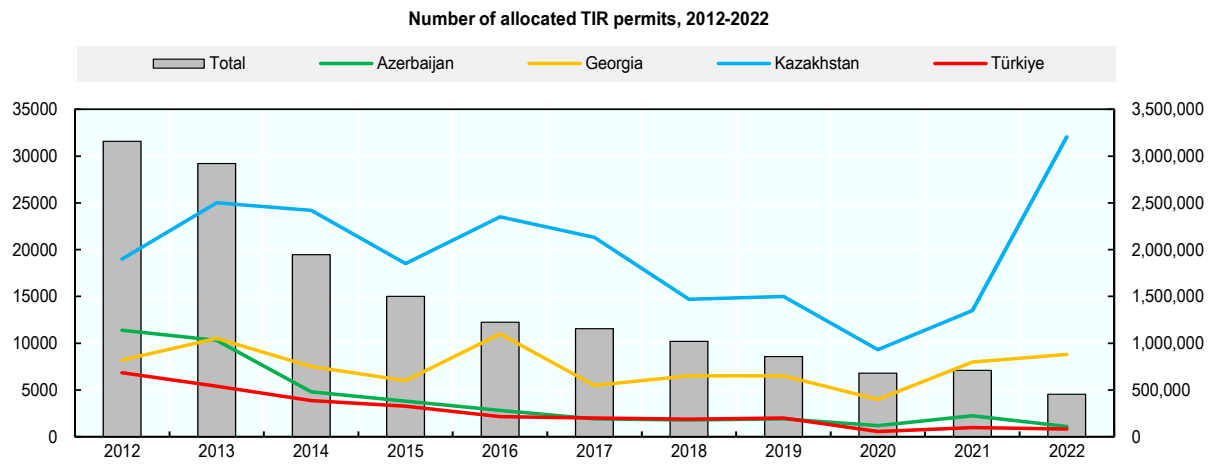
In 2020, the three-year OSCE *Promoting Green Ports and Connectivity* project covering Azerbaijan, Kazakhstan, and Turkmenistan was launched to improve sustainability, security, and connectivity of trade flows in the Caspian Sea region. One of its three workstreams, the *Digital Route*, is dedicated to connectivity with the aim to improve transport, trade, and border-crossings. The project establishes a common digital data transmission system for cargo transportation between the ports of Baku, Aktau, Kuryk and Turkmenbashi (OSCE, 2021[46]; Port of Baku, 2022[47]).

Insufficient border customs capacity and lacking co-operation among customs agencies along the route lead to congestion when traffic increases

Difficult co-operation between customs along the route lead to repetitive inspections and delays

OECD surveys and interviews indicate that lagging cross-border customs co-operation considerably increases shipment delays. In all four surveyed countries, the private sector cites border point congestion as the single most important bottleneck contributing to the Middle Corridor's unpredictability in terms of shipment time. This tendency is confirmed in the performance of Central Asian and Caucasus customs in the World Bank's Logistics Performance Index (LPI) (Figure 3.4). Both regions score below EU average and Türkiye on all indicators related to customs administration as well as the overall score, while progress in the past 15 years has only been modest.

Figure 3.4. Performance of customs administrations in Central Asia, the South Caucasus, and Türkiye



Note: 5 is the maximum score on each indicator. "Central Asia" includes Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan; "Caucasus" includes Armenia, Azerbaijan, and Georgia. For Georgia initial data is 2010, and for Azerbaijan end data is 2014.
Source: (World Bank, 2023[48]).

Businesses interviewed by the OECD point especially to cargo, vehicle, and driver inspection duplication in each transit country. The TIR carnet in theory guarantees the seamless flow of road cargo from the origin to the destination country, with transit customs recognising the results of inspections carried out in the origin country. In practice, though, businesses report controls and inspections at each border crossing point. Beyond cargo inspections, firms also report burdensome controls and inspections of trucks and drivers' visas, for which standards display a large variability between countries and for which no single permit system so far has been established. Given limited customs capacity along the Middle Corridor (see below), this translates into considerable congestion. Issues are reported to be most acute at the Kazakhstani-Chinese and the Azerbaijani-Georgian borders, where trucks are said to be queuing between two days and a week, if not even longer. Governments are taking measures to address this issue, including the construction of a joint BCP between Azerbaijan and Georgia (Box 3.6).

The absence of generalised electronic exchange of data between the countries of the Middle Corridor further aggravates the problem. Interviewees indicated that freight shipments frequently repeat the same procedures when shipping goods between China and Türkiye due to the duplication of digital

and physical border procedures. The issue is reported to be especially acute in Kazakhstan and Georgia. Truck drivers need to carry a large volume of paper documentation with them and undergo lengthy border queuing times and controls that could be avoided if electronic exchange of data were to function properly. Beyond additional time imposed on businesses, and overburdening of customs capacity (see next section), this situation is also reported to favour instances of corruption, leading to increased costs for businesses and revenue losses for customs and government authorities.

Box 3.6. Azerbaijan-Georgia Joint Border Control

Azerbaijan and Georgia are undertaking efforts to handle road traffic. First proposed in 2017, the joint border control at the Tsiteli Khidi or "Red Bridge" border control point (BCP) would be the first in the region. The joint BCP will enable import and export customs controls to be conducted simultaneously within a common area including customs offices of both administrations. It would also contribute to harmonised and mutually recognised customs formalities in Azerbaijan and Georgia. Though not yet launched, the authorities have analysed BCP traffic, assessed existing border crossing procedures, identified problems, and proposed improvement measures. Moreover, the joint BCP architectural concept and procedures have been developed and the two governments have signed a bilateral agreement on the BCP's implementation. The project's development still requires reducing customs formalities, harmonising customs control, improving risk management systems, and intensifying co-operation among customs authorities.

Under joint customs control, the authorities are proposing a new BCP at Abreshumis Gza–Ipek Yolu. A shipment crosses only one BCP instead of two (one entry and one exit) at the border, resulting in efficiency gains under joint management. If successful, such an experiment may offer lessons for a more streamlined and efficient border crossing. The Azerbaijan-Georgia joint BCP aims to streamline customs and border procedures, reduce crossing time, and develop new and modernised BCP, road, and logistic infrastructure.

Source: (CAREC, 2023[49]; CAREC-ADB, 2022[10])

The BCPs in the region chiefly conduct control activities, such as inspections of drivers, goods, and vehicles, and high-level documentary checks lengthening border-crossing times. When entering the BCP, different border authorities conduct checks on the driver and vehicle, usually starting with starting with border security officers before sanitary and phytosanitary measures, immigration, transport controls, and customs. As customs officers are often the final authority to complete the procedure, they can detain the shipment if any unsatisfactory matters arise even if the issue is not customs-related (i.e. vehicle license problem, driver visa error), with border-crossing delays attributed to customs when the reason is beyond customs' direct responsibility (CAREC-ADB, 2022[10]). In addition to being a lengthy series of actions, such a process complicates improvement in BCP functioning as it may be difficult to determine the root cause of border crossing issues. In contrast, Georgia's customs service follows the OSS principle, making it one of the most efficient and technologically advanced in the region (CAREC, 2021[9]). In Türkiye, the vehicles are released to a separate inland facility for customs clearance if compliance is, detected to relieve border congestion. However, OECD interviews indicate that this can be an expensive operation with additional risks as trucks to be tracked or accompanied by customs officials to the second location, resulting in the *de facto* implementation being largely suspended with all operations conducted at the border. As no OSS for imports or exports exist on Türkiye's land borders, vehicles are required to visit two perrons at the border entrance (police and customs) and another at the exit border, compared to a single OSS for all operations in Georgia.

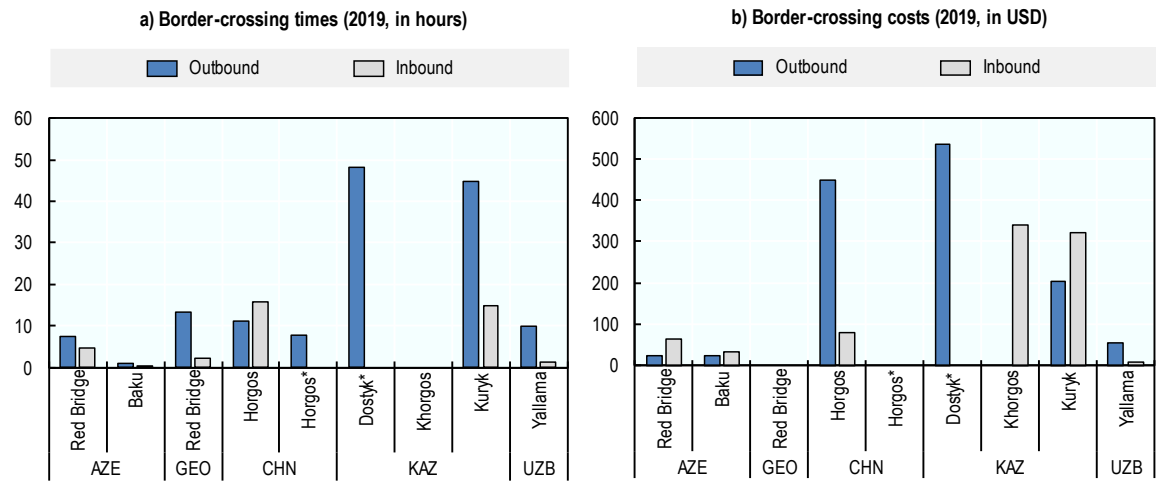
Border customs lack the capacity needed to handle increased traffic

OECD interviews and surveys indicate that border crossing points in Kazakhstan, Azerbaijan, and Georgia seem to have difficulties in handling increased traffic, especially for roads. From the private sector's perspective, border crossing times and predictability are key indicators of successful customs policies and attractiveness indicator for a given route – even more than costs. Shippers tend to value consistency in crossing times more than the overall travel time as high transport time variability complicates inventory management (OECD-ITF, 2019[1]). However, firms consulted by the OECD reported that border crossing times in Kazakhstan, Azerbaijan, and Georgia have drastically increased since early 2022 due to increased traffic on the Middle Corridor route. Businesses reported congestion issues to be the most pronounced for the Kazakhstani-Chinese Khorgos as well as the Azerbaijani-Georgian Red Bridge border crossing points despite efforts to renovate and improve BCPs. For rail transport with structurally higher crossing times, interviewees report that border crossing delays are mainly caused by technical issues, such as rail gauge changes and transhipments (see previous section) and wagon unavailability (see Chapter 4), rather than border inspections (OECD-ITF, 2019[1]).

Poor efficiency of customs clearance processes is both a cause and a consequence of delays. Interviewees reported that increased border delays and queues are mainly attributable to the low number of border points and passing lines, the mismatch of border capacity across countries, and the limited capacity of customs officials to perform all required inspections. The combination of an absence of automated or even digitalised customs systems and control facilities with understaffed and at times insufficiently trained customs personnel seems to lie at the centre of the issue. As road cargo inspections are a difficult and time-consuming task, the lack of harmonised transit procedures and the limited availability of infrastructure helping to sort road traffic by level of risk (i.e., green lanes or control facilities) complicates vehicle inspections and transforms into long delays. These results are in line with Kazakhstan, Azerbaijan, and Georgia's relatively low performance on customs clearance processes in the LPI, for which Kazakhstan's score even slightly decreased between 2018 and 2022, from 2.66 to 2.60 (World Bank, 2023[48]).

Border crossing times and costs vary significantly across the region (Figure 3.5). Though border crossing costs had decreased for Kazakhstan in 2019 compared to 2011, average costs remain higher than in the South Caucasus (Table 3.2). Azerbaijan has faced increasing costs in recent years – though from a comparatively low base. Interestingly, border crossing time in a given BCP can also face severe annual fluctuations. For instance, border crossing times significantly decreased in Khorgos starting from 2013 on the Kazakhstani side, and 2015 on the Chinese side, following investments in the construction of warehouses and separate vehicle inspection zones to facilitate border crossing (OECD-ITF, 2019[1]).

Figure 3.5. Border crossing costs and times along main border points of the Middle Corridor



Note: *Rail transport. Otherwise specified, data refers to road transport. Data is for 2019 (and not 2020) considering the circumstantial impact of COVID-19 on border processing. *Data is missing for the crossing times at Khorgos, the inbound crossing at Dostyk, crossing costs at the Red Bridge in Georgia, crossing costs at Khorgos, inbound crossing costs at Dostyk and outbound crossing costs at Khorgos.*
Source: (ADB, 2021[29]).

Table 3.2. Average border-crossing time and costs in Azerbaijan, Georgia, and Kazakhstan

	Indicator	Direction	2011	2019	2020
Azerbaijan	Time taken to clear a BCP (hours)	Outbound	2.1h	1.9h	6.3h
		Inbound	13.8h	3.6h	10.2h
	Cost incurred at a BCP (USD)	Outbound	$30	$34	$71
		Inbound	$30	$57	$97
Georgia	Time taken to clear a BCP (hours)	Outbound	-	12.9h	14.2h
		Inbound	-	2.6h	4.8h
	Cost incurred at a BCP (USD)	Outbound	-	$69	$45
		Inbound	-	$49	$78
Kazakhstan	Time taken to clear a BCP (hours)	Outbound	6.2h	7.9h	8.0h
		Inbound	8.2h	10.0h	9.2h
	Cost incurred at a BCP (USD)	Outbound	$155	$67	$58
		Inbound	$256	$139	$157

Note: "-" indicates data is not available for that year.
Source: (ADB, 2022[50])

The effects of the pandemic on trade in Central Asia and the South Caucasus have heightened border-crossing costs and times (ADB, 2022[50]). For instance, compared to the previous year, Azerbaijan's average outbound and inbound times in 2020 increased by 231.6% and 181.3%, respectively; Georgia's indicators increased by 10.1% and 84.6%. In contrast, Kazakhstan's times and costs decreased in 2020 – though clearance times in 2019 and 2020 remained higher than in 2011. Moreover, businesses consulted by the OECD indicated that the trend of rising border-crossing costs and times had taken hold or accelerated across the region since Russia's full-scale invasion of Ukraine in 2022.

Recommendation: develop a regional approach to border and transit documents, and build the capacity of border crossing points

Develop a single regional legal framework regulating all transport modes and ensure standardisation and implementation of requirements

Governments should focus on enhancing uptake and ensuring the practical implementation of the joint CIM/SMGS consignment note. To a large extent, the CIM/SMGS contributes to the objective of unification of legislative frameworks for trade, which significantly reduces transport costs and accelerates trade flows. Though countries are still subject to two legal regimes and thereby incur certain time and financial costs, the joint CIM/SMGS consignment note significantly simplifies cargo operations. In co-operation with the OTIF, OSJD, and UNECE bodies, Azerbaijan, Georgia, Kazakhstan and Türkiye should work towards implementing and developing a uniform CIM/SMGS consignment note application and towards the creation of legal, technical and technological conditions for the application of the electronic uniform CIM/SMGS consignment note (OSJD, 2023[51]). Firms should be free to choose whether they use the joint consignment note or whether they will re-consign goods at the handover point between the CIM and SMGS freight law regimes, but if they choose the former, the participating countries should ensure the relevant regulatory application is respected and applied. The 2023 memorandum on the pilot project should be accompanied by concrete implementation. Though the legal framework exists in Türkiye, it should focus its efforts on the implementation according to OECD interviews with private sector representatives, while Kazakhstan should introduce the joint consignment note too (UNECE, 2023[12]).

Governments should support the stepwise Unified Railway Law (URL) development. The authorities should consider forming an interface law for contract for international carriage of goods by rail between CIM and SMGS, as an opt-in solution. The development of the Agreement on the Contract for International Carriage of Good by Rail between Europe and Asia (CMR) would constitute a first URL Convention, which is more suited than the CIM/SMGS systems for multimodal container transport – a mode that is becoming increasingly important across the Middle Corridor. Without replacing the CIM/SMGS consignment note, this helps fill a gap in the international regulations for international rail freight carriage as neither CIM nor SMGS applies over the entire journey between Europe and Asia (UNECE, 2022[21]). Georgia should join the other Middle Corridor countries and sign the URL declaration. Though the practical use of the URL is subject to its adoption and subsequent entry into force, all countries could consider being more active in the URL discussions and, especially, Azerbaijan and Kazakhstan, which did not participate in the 2022 UNECE discussions nor questionnaire. As two well-established regional legal regimes for international railway traffic exist (OTIF, OSJD), unifying international railway law must be incremental and co-ordinated by both OTIF and OSJD. Moreover, the URL is generally preferred by industry representatives as it addresses their problems of operating in two regulatory regimes, while OTIF adopted an official position to develop the URL (Council of the European Union, 2022[52]).

The Middle Corridor countries should create a transit system in-line with EU standards. A unified transit system is one of the cornerstones of regional integration and can be created through bilateral, multilateral or regional agreements. It facilitates the free flow of goods by eliminating duties and taxes during transit, suspends duties and commercial policy measures, and thereby supports smooth trade flows in a region (WTO, 2012[53]). The EU is expanding its trade and transit policy to broader EU neighbourhood, including the Eastern Partnership countries, and shows a renewed interest in the Middle Corridor's development. Azerbaijan, Georgia, Kazakhstan, and Türkiye should capitalise on this and work to harmonise their standards with those of the EU, including its Union transit system, which allows for the movement of goods under customs control (Box 3.7). Both Azerbaijan's and Georgia's accessions to the Common Transit Convention and implementation of the NCTS have been ongoing since 2018. Both countries should ensure continued collaboration and implement proposed reforms to align their standards with the EU and Türkiye, among other participating countries (UNECE, 2021[26]). Though not an Eastern

Partner country, Kazakhstan could pursue the CATS implementation as a suitable and interoperable alternative system. Compared to TIR, the Common Transit Convention involves a more comprehensive guarantee scheme open to all modes of transit with unlimited loading and unloading and a digitalised system through NCTS (UNECE, 2015[54]).

Box 3.7. Common Transit Convention and the Single Administrative Document

The Common Transit Convention established a common transit procedure, while the Single Administrative Document provided for the simplification of formalities. Combined, the simplified rules (i.e., mutually recognised financial guarantees for customs transit, fewer controls) help to cut down on costs for EU and partner country businesses, while facilitating and boosting trade. SAD standardised the import, export and transit declarations and other customs procedures in the European Union (EU). The standardisation was accepted and mainstreamed when the New Computerised Transit System (NCTS) was developed in the 1990s. The first NCTS movements took place in 2000 and the roll out started in 2003. The form standardisation has paved the way for the standardisation of data elements and the EU data model, which itself is based on the global World Customs Organisation (WCO) data model. Contracting parties are the 27 EU member states, the four European Free Trade Association (EFTA) countries, Türkiye, North Macedonia, and Serbia.

Source: Adapted from (European Commission, 2023[55])

Countries can also look at the accession to, and implementation of, other conventions. For instance, the ECMT model bilateral agreement offers provisions that can be accepted by most countries; they do not necessarily need to be best practice. The ECMT is indirectly supported by a progressive multilateral permit and quota system that allows free access to bilateral, transit, and third-country transport market segments for transport operators in other ECMT participating states. It has been successful in developing an efficient European road transport environment and promoting regional convergence (World Bank, 2021[56]). Middle Corridor governments could consider the Convention on International Multimodal Transport or the FIATA Multimodal Bill of Lading, though they should ensure to do so in consultation with partners to avoid unnecessary and unharmonised initiatives.

The relevant authorities should expand the usability of permits and promote their uptake to government and business to reinforce security and trust. Regional integration processes entail the creation of common transit and trade areas, as can be seen in the worldwide TIR, the European Union's Common Transit Convention and the EAEU's transit systems. There has been an important decline in the use of the TIR system since 2014 in countries that were the main users of the TIR carnets, including Türkiye, as they switched to the European NCTS system. These developments have impeded regional integration (UNECE, 2021[26]). As TIR is in place, countries should continue its use, but they should look at alternative solutions in parallel. For instance, as Azerbaijan is already a BSEC member, it should consider ramping up efforts to implement the BSEC permit system. Though not a BSEC member, provisions should be considered for Kazakhstan's inclusion, especially to boost regional trade rather than China-Europe transit through the Middle Corridor, for which the rail regulatory harmonisation my prove a more suitable initiative. With Kazakhstan and Türkiye already ATA Carnet system members, Azerbaijan and Georgia could evaluate their need to join the system. Similarly, Azerbaijan and Kazakhstan can analyse their use cases in joining the TRACECA permit system. In general, governments should promote any permit and their electronic version to build trust and boost trade, though the objective should be to establish single transit document on corridor. This should subsequently be developed to allow for the electronic exchange of data between transit countries on all maritime, rail and road transport operations and the acceptance of pre-submitted transit declarations as a transit document.

Streamlining and rationalisation of permits and documentation are essential if digitalisation is to deliver real benefits. Turning the current mosaic of paper-based permits with deficient operational implementation into a patchwork of digital permits that are insufficiently interconnected along the Middle Corridor should be avoided.

The relevant bodies should develop a minimal agreed standard for truck requirements. Governments can comprehensively review all transport and vehicle standards and build a minimal standard for truck dimensions, axle loads, safety standards for vehicles and drivers, road signs, and navigation rules. The authorities should consider harmonising weight bridge certificates to avoid repeated weight inspections. The Middle Corridor countries can subsequently consider increasing the road quotas for one another and raise the number of road permits (CAREC-ADB, 2022[10]). Moreover, standardised requirements would help reduce the need to tranship from foreign trucks to local ones at country border, as eastern South Asian countries have done (Box 3.8). Finally, though Kazakhstan joined the ITF in 2017, it is not member of ECMT yet, and therefore didn't respond to the ITF's questionnaire on road weights and dimensions in 2022. It should consider joining the ECMT to help centralise requirements in a single space together with other ITF members, including Azerbaijan, Georgia, and Türkiye, which already contribute to the survey (ITF-OECD, 2022[57]).

Box 3.8. South Asia's Motor Vehicles Agreement

In 2015, the Eastern South Asian countries - Bangladesh, Bhutan, India, and Nepal (BBIN) - signed the Motor Vehicles Agreement (MVA) to replace various bilateral and bilateral agreements and facilitate the unrestricted cross-border movement of cargo, passenger, and personal vehicles between BBIN countries. Under MVA, trucks carrying export, import, or transit cargo can move inside the territories of other countries without transhipping to local trucks at border land ports. The MVA is a framework agreement; legal instruments and operating procedures still need to be agreed upon by the countries. Moreover, implementation of the MVA has been delayed as the countries work to clarify some of the provisions that are supposed to be elaborated in protocols, portraying the difficulty in aligning regulations.

Source: (World Bank, 2021[56])

Simplifying and standardising driver visa requirements across countries would address another industry pain point. Azerbaijan, Kazakhstan, and Türkiye are members of the Economic Co-operation Organisation, which has signed an agreement to simplify visa procedures for businesspeople in 1995 and extended this to transit drivers of ECO member states in 2009 (Box 3.9). Though this provides a framework, the need for an introductory letter and an endorsement by the Ministry of Foreign Affairs may pose a significant barrier, while the agreement's *de facto* implementation is not clear. The countries could consider a simplified procedure as implemented by the Asia-Pacific Economic Co-operation (Box 3.9).

Box 3.9. Visa simplification initiatives

Economic Co-operation Organisation (ECO)

The 1995 Agreement on Simplification of Visa Procedures for the Businessmen of ECO Countries states that ECO member states will issue entry visas within 72 hours to businesspersons who have an introductory letter from the relevant commercial affairs national authorities and are endorsed by the Ministry of Foreign Affairs. In 2009, this was extended to transit drivers of goods and passengers and other relevant transport crew to include a seven-day transit visa at the border of each member state if the individual has a valid visa for the destination.

Asia-Pacific Economic Co-operation (APEC)

The Asia Pacific Economic Co-operation (APEC) Business Travel Card facilitates short-term business travel within the APEC region by streamlining the entry process into APEC economies. The 'apply once, information used for multiple purposes' approach enables applicants to make one application for permission to enter participating economies. Successful applicants receive a five-year card to economies that have granted pre-clearance for short-term business travel of up to 60 or 90 days.

Source: (ECO, 2023[58]; APEC, 2023[59])

Digitalise border and transit documentation and intensify electronic exchange of data

Countries can further operationalise their national Single Window systems and integrate them with all relevant agencies to remove process duplication at borders (ADB, 2022[30]). Ideally, bordering countries would integrate existing systems on either side of the border on a common digital platform along with development of requisite regulatory framework to enable trade, transport, commercial and SPS data to be exchanged electronically among various government agencies and other key stakeholders. For instance, the absence of a single window system on Azerbaijan's side exacerbated already substantial wait times at the Red Bridge BCP (CAREC, 2023[49]). In general, Georgia's OSS principle at its BCPs should be replicated in other countries. Türkiye should consider establishing an OSS at the Sarpi-Sarp BCP with Georgia (BSEC-URTA, 2023[60]). Funded by the EU and developed by the International Trade Centre, the Central Asia Ready4Trade program launched the Info Trade Central Asia Gateway – a single point of contact for all national Single Windows within Central Asia that includes guidance and online trainings (ITC, 2023[61]; Info Trade Central Asia, 2023[62]). A similar approach could be taken for the Middle Corridor countries, to stimulate regional trade and transit.

Countries should develop the CAREC Advanced Transit System (CATS), which appears to be a suitable stopgap initiative for all countries of the Middle Corridor that cannot swiftly implement the European New Computerised Transit System (NCTS). Though it is only for CAREC countries, thereby excluding Türkiye, CATS is based on the NCTS, which has been implemented by Türkiye since 2005 and is operational since 2012. CATS can align CAREC transit procedures with other regional transit procedures such as the Common Transit Convention, enhance customs-to-customs information exchange, and advance customs risk assessment of transit movements (ADB, 2019[63]). This makes CATS uniquely positioned within the Middle Corridor countries to provide a harmonised electronic system that uses information customs exchange to facilitate transit. CATS could also provide an alternative to the existing TIR system and could be suited to short hauls within the region at a more cost-effective rate (ADB, 2021[29]). The ADB provides technical and financial assistance in developing CATS, whereas the EU does so for NCTS. By engaging multilateral development banks and local programs like CAREC and TRACECA to help implement best practices the Middle Corridor states countries can build upon existing frameworks and

initiatives rather than start anew (ADB, 2021[64]). Kazakhstan's participation can help expand CATS to other countries in the CAREC region and, especially, Central Asia to help facilitate both intraregional and international trade and transit.

Since TIR remains in use in the Middle Corridor, the countries along the route should develop e-TIR and other digital procedures. The 2022-27 TITR Roadmap indicates countries aim to digitalise the railway transport passing system and apply e-permit systems in international road transport. A starting point could be the pilot interconnection of national customs systems with the e-TIR system, which has been fully implemented by Azerbaijan, Georgia, and Uzbekistan in co-operation with IRU and UNECE (UNECE, 2023[65]). Even if the pilot is not yet a full customs-to-customs digitalised information exchange system, it provides a basis for paperless cargo trade and transit and represents a progress compared to the existing outdated TIR carnets. Countries can consider setting up Middle Corridor-specific e-TIR working groups to ensure its implementation, as is being done already in Central Asia (IRU, 2023[66]). They should also consider developing e-Visas, e-certificates, and e-Permits (i.e., BSEC e-Permits, e-CMR, CATS, etc.), all of which enhance the security, transparency, and flow of goods.

Any multilateral, regional transit system would need an insurance guarantee chain and the recognition of customs authorities to be successful (CAREC-ADB, 2022[10]).CMR provides insurance to road transport operators, so a digitalised version could complement TIR and CATS. As Azerbaijan and Türkiye have already acceded to e-CMR and Kazakhstan's accession is on-going, Georgia should also start the accession process, as it has already identified e-CMR as a potential next step (Revenue Service, 2023[67]). Moreover, Kazakhstan's national TIR association KazA could design an e-CMR implementation road map to align the e-CMR convention with the transit regime and liability guarantees mechanism as part of the EAEU (ADB, 2021[29]).

The authorities should provide incentives and raise awareness to enhance the digital uptake of certificates and the submission of documents. For instance, as OECD interviews with Port Aktau indicate that some shippers and firms prefer offline administration, governments could provide fiscal and nonfiscal incentives to encourage digital filing of certificates by the traders to reduce dwelling time for cargo at the trading gateways. Workshops for sensitisation and awareness creation among both traders and customs officials can encourage the online submission of all documents and the advance filing of declarations (ADB, 2022[30]).

Improve information exchange and expand customs capacity through intensified cross-border co-operation

The authorities should modernise and improve the underdeveloped infrastructure and layout at BCPs to address time-consuming delays at high-traffic BCPs. For instance, countries can use digital weight bridges to reduce time and eliminate corruption opportunities. Azerbaijan has recently automated truck and wagon weighing in the Port of Baku, which it should replicate at other BCPs; other countries should do the same (UNECE, 2023[68]). Governments should construct cross-docking stations to temporarily store goods that need to be transloaded and temperature-controlled storage for perishable agricultural goods, an important import and export sector (CAREC-ADB, 2022[10]). Authorities should consider replicating Türkiye's success in public-private partnerships (PPPs) to develop its (joint) BCPs (Box 3.10).

Box 3.10. Public-private partnerships to improve Türkiye's BCPs

Türkiye selected the Build-Operate-Transfer (BOT) model to renovate its border control points (BCPs) as described in the "Law of Undertaking Some Investment and Services within the Scope of Build-Operate-Transfer Model" in 2002. BOT contracts are signed between government and operator company. The Ministry of Trade ensures service sustainability given by other governmental bodies located in the BCP, approves the operator technical projects, executes new demands with the operator company during the operation period, and audits the operator company for administrative and technical issues to ensure contract liabilities, among other activities. The operator company prepares process analysis at the BCPs and offers improvement suggestions, develops the architectural and other technical projects at BCP according to the requirement analyses and physical limitations, submitting them for approval, reconstructs the BCP facility and operates the facility within the contract (operational activities such as lightning, heating, cleaning, maintenance as well as operating the duty-free shops, gas stations, restaurants, markets and other commercial places in the facility). Turkiye has renovated 12 BCPs so far, including Sarp-Sarpi, through which 85% of road exports pass through. The BCPs led to reduced freight costs and waiting times for trucks, while the government saved on expenditures while receiving additional trade-related revenue.

Source: (TOBB, 2023[69]; Yücel, 2015[70])

Governments should increase the number of passing lines and differentiate lines according to goods type, priority, and risk assessment levels. TIR Carnets already represent a step towards the streamlining and harmonisation of required documents. However, significant and rising traffic pressure produces long border queues across the Middle Corridor borders, notably due to inspections for the rising number of vehicles. Though there is not yet a legal provision in the TIR convention requiring separate TIR lanes or prioritised treatments, the contracting parties can consider establishing separate TIR lanes at borders and develop risk-based controls for TIR operations (UNECE, 2021[26]). For instance, the relevant authorities at the Georgian-Turkish Sarpi-Sarp BCP should create a TIR park facility on the Turkish side and a dedicated TIR lane, as Georgia has already constructed its dedicated lanes (ADB, 2017[71]; BSEC-URTA, 2023[60]). Kazakhstan and Uzbekistan have opened green lanes for digital TIR transits in 2021, so they could build upon this experience with Azerbaijan (Silk Road Briefing, 2022[72]).Where they exist, only authorised economic operators are eligible to use Türkiye's green lines, but with only 550 of such operators, the authorities should consider expanding both the number of lines and the number of authorized economic operators.

Box 3.11. TIR Green Lanes

The transition from paper-based to digital procedures can help to drastically reduce times and costs associated with border passages. Before the complete implementation of the e-TIR system as a fully digitalised border-crossing system, the IRU created TIR-EPD (Electronic Pre-Declaration) Green Lanes in 2012. TIR-EPD Green Lanes are dedicated lanes on both sides of a BCP. The transmission of electronic pre-declarations allows customs authorities to assess risks and determine in advance which truck should be subject to controls. TIR trucks permitted by customs to use TIR-EPD Green Lanes will only be subject to the scanning and stamping of their TIR Carnet, thereby significantly reducing border waiting times and transport costs, increasing risk assessment efficiency, and improving customs controls. By dedicating lanes at both sides of the BCP, customs authorities can assess risks and determine specific controls in advance. Dedicated TIR-EPD Green Lanes can save up to 40% transport time and costs, cutting border crossing times from two to three days to eight to nine hours.

Source: (IRU, 2023[73]; IRU, 2016[74]; IRU, 2012[75]).

Governments should build capacity and skills of their border officials. For instance, with support of the EU, Azerbaijan and Georgia conducted extensive capacity building activities at the Red Bridge BCP. The EU and UNDP provided training using EU's best practices on customs control procedures, phytosanitary, sanitary, veterinary and food safety border control issues to State Customs Committee representatives; EU experts from Latvia, Lithuania and Poland delivered 10 training programmes to BCP inspectors; and 20 knowledge sharing events were organised in both countries (UNDP, 2018[76]). The Organisation of Turkic States (OTS) with the support of international organisations has held workshops on Post Clearance and Risk management, Authorised Economic Operator systems, Customs Transit Facilitation, and the e-TIR System throughout the region. The relevant bodies should pursue similar activities across the route with support from the EU, UN, CAREC, ADB, TRACECA, OTS, ECO, or other organisations where necessary. The authorities could require border officials to take online courses, such as "Fundamentals of Freight Transport Connectivity in Asia and the Pacific" or "Rail Digital Transformation in Asia and the Pacific Region" available on the UNESCAP e-learning platform (UNESCAP, 2023[77]).

Azerbaijan, Georgia, and Türkiye should consider developing joint BCPs. This is a complex undertaking requiring co-ordination and collaboration between policy makers and border agencies from both countries. Co-ordinated border-crossing management involves standardising and extending the border-crossing operating, establishing green lanes (i.e., TIR shipments, perishable and time-sensitive cargoes), facilitating advanced shipping notification or declaration that allow risk management, and offering OSS services. Georgia has improved its internal agency co-ordination by involving just two agencies at BCPs – the Patrol Police and the Revenue Service who, respectively, control passengers and conduct truck driver and customs controls (Revenue Service, 2023[67]). In contrast, Azerbaijan should look to reduce the number of agencies involved at its borders. Moreover, the two countries should expand their efforts at the Tsiteli Khidi or "Red Bridge" BCPs and the under discussion Abreshumis Gza–Ipek Yolu BCP, perhaps taking inspiration from the one-stop shop road border crossing in Albania, North Macedonia, and Serbia (Box 3.12). Georgia and Türkiye should also look to create a joint BCP one on the Sarp-Sarpi crossing, though this concept is not possible in seaports.

Box 3.12. Joint border crossing points in the Western Balkans

The government Serbia and North Macedonia signed an agreement to establish joint controls at the border crossing point for international road traffic Presevo (Serbia) and Tabanovce (North Macedonia) in July 2019. 24/7 joint controls and checks at the border crossing point (BCP) started in August 2019. North Macedonia has also established a joint BCP with Albania at the Kjafasan border, and the Customs Administration is preparing to establish one with Kosovo at the Blace border crossing, allowing entry into Kosovo and movement to Serbia, Montenegro and then to the Adriatic Sea. Efforts are ongoing to apply joint controls with EU-member Greece, which would facilitate movement between an EU and non-EU member country, queues at the EU borders queues are frequently observed in the region.

Source: (The Republic of Serbia, 2019[78]; BSEC-URTA, 2023[79]; Republic of North Macedonia Customs Administration, 2023[80])

The authorities in Azerbaijan, Kazakhstan, and Türkiye should consider replicating the CCZs piloted by Georgia nearby external BCPs. The CCZs are well run and efficient and largely self-sufficient, with facilities and equipment not requiring further major assistance from CAREC (ADB, 2017[71]). Since 2006, Türkiye conducts its customs clearance in separate inland facilities away from BCPs, reducing congestion at borders. Governments could explore such a solution elsewhere, even if it is a not a true one-stop shop.

Box 3.13. Customs Clearance Zones in Georgia

CCZs are a single facility located near Border Control Posts (BCPs) and strategic locations to offer rapid customs documentation and clearance, shortening cargo clearance time for cross-border trade. Shippers visit a CCZ and use the e-Customs, where all cargo clearance is completed within 30 minutes or less compared to at least three-four hours before. Moreover, clearance of red channel shipments extends for another few hours, compared to a few days before. Georgian legislation also guarantees that cargo transit is duty-free, and no customs guarantee, nor bond is required. The Georgian experience has resulted in the following CCZ learning points:

- **Centralised location** shippers only need to go to one central location for cargo clearance and shipment/collection, resulting in double time savings. First, permits and import, export or transit approval from government agencies can be completed in one location. Second, external service providers (i.e., logistics companies, customs brokers, and banks) are present in each CCZ, making it easy to get quotes and engage the services;
- **Risk Management Customs:** officers use ASYCUDA World that are connected to other BCPs and CCZs in Georgia. The system recommends the treatment based on the customs declaration, with a low rate of cargo examination; and
- **Well-designed layout**: every CCZ has a standard conspicuous signage outside the building along the main road, making it easy for driver to locate the CCZs.

Source: Adapted from (ADB, 2017[81])

In parallel with improving capacity, governments can look to enhance the transparency and predictability of border crossing times and costs. While creating a fixed timetable for trains or Caspian Sea ferry crossings may not be necessary, communicating schedules in advance would help alleviate an industry pain point and would accompany well the planned expansion of the Caspian Sea fleet (see next

chapter). Modernised BCPs could share estimated border crossing times as close to real time as possible, further contributing to operational planning capabilities. To bridge the gap between the official tariffs and actual payments experienced by logistics firms, which respondents during OECD interviews cited as being significantly higher at times, governments could make sure to share the actual costs for Caspian Sea crossings, permits, and so on to improve transparency along the route. Over the longer term, Middle Corridor countries can continue efforts to set unified tariffs by rail, despite the operational difficulties to achieve (i.e., economic conjuncture, transfer and handling procedures, customs fees, additional charges, and transport costs of individual railway undertakings), as referred to in the 2022-27 TITR Roadmap and the UNECE's priority action of evaluating a reliable corridor-wide tariff policy (UNECE, 2023[12]).

References

ADB (2023), *Trade facilitation, infrastructure, and international trade in Central Asian countries*, https://www.adb.org/sites/default/files/publication/862871/eawp-058-trade-facilitation-infrastructure-central-asian-countries.pdf. [2]

ADB (2022), *How Trade via Rail in Central Asia Can Mitigate the Energy and Climate Crises*, https://blogs.adb.org/blog/how-trade-rail-central-asia-can-mitigate-energy-and-climate-crises. [20]

ADB (2022), *Integrated approach to trade and transport facilitation*, https://www.adb.org/sites/default/files/publication/850146/integrated-approach-trade-transport-facilitation.pdf. [30]

ADB (2022), *Progress in Trade Facilitation in CAREC Countries*, https://www.adb.org/sites/default/files/publication/844686/progress-trade-facilitation-carec-countries.pdf. [50]

ADB (2021), *CAREC Corridor Performance Measurement and Monitoring: Annual Report 2020*, https://www.carecprogram.org/uploads/carec-cpmm-annual-report-2020-en.pdf. [29]

ADB (2021), *Middle Corridor - Policy Development and Trade Potential of the Trans-Caspian International Transport Route*, https://www.adb.org/publications/middle-corridor-policy-development-trade-potential. [64]

ADB (2019), *CAREC Advanced Transit System (CATS)*, https://www.carecinstitute.org/wp-content/uploads/2019/01/Session-10-CATS-N.-Moore.pdf. [63]

ADB (2017), *Assessment of Customs and Border Crossing Points A Consolidated Report*, https://www.adb.org/sites/default/files/project-documents/47082/47082-001-tacr-en_0.pdf. [81]

ADB (2017), *Assessment of Customs and Border Crossing Points for Georgia*, https://www.adb.org/sites/default/files/project-documents/47082/47082-001-tacr-en_3.pdf. [71]

APEC (2023), *The Asia Pacific Economic Cooperation Business Travel Card*, https://www.apec.org/groups/committee-on-trade-and-investment/business-mobility-group/abtc (accessed on 29 August 2023). [59]

ATA Carnet (2023), *Carnet Countries*, https://www.atacarnet.com/carnet-countries (accessed on 1 September 2023). [33]

Atameken (2019), *Single window portal for export-import operations launched in Kazakhstan: Atameken The National Chamber of Entrepreneurs*, https://atameken.kz/en/news/31765-portal-edinoe-okno-po-eksportno-importnym-operaciyam-nachinaet-rabotu-v-kazahstane (accessed on 9 December 2022). [5]

BSEC (2023), *Trade & Economic Development*, http://www.bsec-organization.org/areas-of-cooperation/trade-economic-development (accessed on 13 July 2023). [18]

BSEC-URTA (2023), *BSEC-URTA Thanked North Macedonian Customs Authorities For The Application of the "One Stop Shop" Concept in the BSEC region*, https://bsec-urta.org/2023/02/27/bsec-urta-thanked-north-macedonian-customs-authorities-for-the-application-of-the-one-stop-shop-concept-in-the-bsec-region/ (accessed on 7 November 2023). [79]

BSEC-URTA (2023), *Project: Digitalization Direction: Lots of common work and cooperation*, https://bsec-urta.org/2023/04/08/project-digitalization-direction-lots-of-common-work-and-cooperation/ (accessed on 24 August 2023). [39]

BSEC-URTA (2023), *Sarp-Sarpi Border Crossing Visit: BSEC-URTA is in the field, to find Solutions*, https://bsec-urta.org/2023/06/13/sarp-sarpi-border-crossing-visit-bsec-urta-is-in-the-field-to-find-solutions/ (accessed on 29 August 2023). [60]

BSEC-URTA (2022), "BSEC-Permit 2023: The successful road transport tool of the BSEC region continues to grow", https://bsec-urta.org/2022/11/11/bsec-permit-2023-the-successful-road-transport-tool-of-the-bsec-region-continues-to-grow/#. [32]

CAREC (2023), *20th Transport Sector Coordinating Committee Meeting*, https://www.carecprogram.org/uploads/20th-TSCC-6-AZ-Geo_BCP-Improvement_Doborjginidze-EN-rev.pdf. [49]

CAREC (2023), *CAREC Program*, https://www.carecprogram.org/?page_id=31 (accessed on 1 September 2023). [16]

CAREC (2021), *Railway sector assessment for Georgia*, https://www.carecprogram.org/uploads/2020-CAREC-Railway-Assessment_GEO_7th_2021-3-4_WEB.pdf. [9]

CAREC (2019), *CAREC Advanced Transit System (CATS)*, https://www.carecinstitute.org/wp-content/uploads/2019/01/Session-10-CATS-N.-Moore.pdf. [45]

CAREC-ADB (2022), *Progress in Trade Facilitation in CAREC Countries*, https://www.adb.org/sites/default/files/publication/844686/progress-trade-facilitation-carec-countries.pdf. [10]

CIT (2013), *Common CIM/SMGS Consignment Note for Euro-Asian Rail Freight Shipments*, https://www.cit-rail.org/media/files/public/Publications/Common_CIM-SMGS_consignment_note_2013.pdf?cid=204900. [24]

Council of the European Union (2022), *Coordinated position of the Union and its Member States at the 76th meeting of the Working Party on Rail Transport of the United Nations Economic Commission for Europe (UNECE) as regards the "Unified Railway Law" initiative - Approval*, https://data.consilium.europa.eu/doc/document/ST-13525-2022-ADD-1/en/pdf. [52]

Development Asia (2022), "Facilitating Cross-Border Trade in Yallama", *Development Asia*, https://development.asia/insight/facilitating-cross-border-trade-yallama. [82]

ECO (2023), *Agreements*, https://eco.int/agreements-3/ (accessed on 29 August 2023). [58]

EU4Digital (2019), *Eastern partner countries to pilot mechanisms of exchange of information*, https://eufordigital.eu/wp-content/uploads/2020/06/eCustoms-Confirmed-list-of-pilot-countries.pdf. [42]

European Commission (2023), *Union and Common Transit*, https://www.wto.org/english/tratop_e/tradfa_e/comm_e/meet26june_union_common_transit_e.pdf. [55]

Georgia Revenue Service (2019), *Trade Facilitation and Information Exchange in Georgia*, https://unece.org/fileadmin/DAM/trade/SCTCS_2019/PPTs/5_Presentation_Georgia_Revenue_Service.pdf. [7]

Info Trade Central Asia (2023), *Central Asia Gateway*, https://infotradecentralasia.org/ (accessed on 22 August 2023). [62]

International Rail Transport Committee (2023), *CIM/SMGS*, https://www.cit-rail.org/en/freight-traffic/cim-smgs/. [23]

International Ral Transport Committee and World Transport Organisation (2016), *Guideline comparing the legal regimes CMR - COTIF/SIM - SMGS*, https://www.cit-rail.org/secure-media/files/guideline_cmr_cim_smgs_2017_03_28_en.pdf?cid=292731#:~:text=This%20is%20a%20mandatory%20law,2. [22]

International Trade Center (2022), *Central Asia: Ready4Trade (R4TCA)*, https://open.intracen.org/projects/XM-DAC-45001-B723. [15]

Irish Tax and Customs (2023), *New Computerised Transit System Phase 4 (NCTS-P4)*, https://www.revenue.ie/en/customs/businesses/electronic-systems/ncts.aspx (accessed on 24 August 2023). [41]

IRU (2023), *eCMR*, https://www.iru.org/what-we-do/facilitating-trade-and-transit/e-cmr (accessed on 24 August 2023). [36]

IRU (2023), *Powering the Middle Corridor with eTIR: experts meet in Samarkand*, https://www.iru.org/news-resources/newsroom/powering-middle-corridor-etir-experts-meet-samarkand (accessed on 29 August 2023). [66]

IRU (2023), *The growing need for trade facilitation across Central Asia*, https://www.iru.org/news-resources/newsroom/growing-need-trade-facilitation-across-central-asia. [73]

IRU (2016), *Implement TIR-EPD Green Lanes*, https://www.iru.org/sites/default/files/2016-01/en-tir-epd-green-lanes-0303.pdf. [74]

IRU (2012), *TIR-EPD Green Lanes*, https://www.iru.org/resources/iru-library/tir-epd-green-lanes. [75]

ITC (2023), *Central Asia reaches milestones in connecting small businesses to European markets, facilitating international trade*, https://intracen.org/news-and-events/news/central-asia-reaches-milestones-in-connecting-small-businesses-to-european (accessed on 22 August 2023). [61]

ITF (2021), *Forum on Sustainable Transport Connectivity between Asia and Europe*, https://www.unescap.org/sites/default/d8files/event-documents/ITF.pdf. [40]

ITF-OECD (2022), *Weights and Dimensions*, https://www.itf-oecd.org/weights-and-dimensions. [57]

López González, J. and S. Sorescu (2019), *Helping SMEs internationalise through trade facilitation*, OECD Trade Policy Papers, No. 229, OECD Publishing, Paris,, https://doi.org/10.1787/2050e6b0-en. [4]

NI Business Info (2021), *International road haulage permits*, https://www.nibusinessinfo.co.uk/content/ecmt-international-road-haulage-permits (accessed on 25 August 2023). [31]

OECD (2023), *OECD Trade Facilitation Indicators*, https://sim.oecd.org/default.ashx?lang=En&ds=TFI&d1c=eca&d2c=aze&cs=eca. [11]

OECD-ITF (2019), *Enhancing Connectivity and Freight in Central Asia*, https://www.itf-oecd.org/sites/default/files/docs/connectivity-freight-central-asia.pdf. [1]

OSCE (2021), *Promoting Green Ports and Connectivity*, https://unece.org/sites/default/files/2021-11/Session%202.11%20Daniel%20Kroos%20-%20OSCE%20activities%20in%20support%20of%20green%20trade%20in%20ports.pdf. [46]

OSJD (2023), *Cooperation with OTIF*, https://en.osjd.org/en/8868. [51]

Port of Baku (2022), *Port Community Systems in the Caspian Sea region*, https://www.unescap.org/sites/default/d8files/event-documents/Day1-Port%20of%20Baku.pdf. [47]

Prime Minister (2023), *Heads of Kazakhstan and Georgia Government discuss TITR development and increase of mutual trade*, https://primeminister.kz/en/news/heads-of-kazakhstan-and-georgia-government-discuss-titr-development-and-increase-of-mutual-trade-24521 (accessed on 28 August 2023). [13]

Republic of North Macedonia Customs Administration (2023), *FOLLOWING THE ESTABLISHMENT OF ONE-STOP SHOP AT THE BORDERS WITH SERBIA AND ALBANIA, FINAL PREPARATIONS ARE BEING MADE FOR THE ESTABLISHMENT OF A SINGLE BORDER CROSSING POINT WITH KOSOVO*, https://customs.gov.mk/en-GB/ns-newsarticle-po-vospostavuvane-na-one-stop-shop-na-granicite-so-srbija-i-albanija-finalni-podgotovki-za-vospostavuvane-na-edinstven-granicen-premin-so-kosovo.nspx (accessed on 7 November 2023). [80]

Revenue Service (2023), *One-Stop Shop Principle & Single Window*, https://www.carecprogram.org/uploads/Session-5_Samson-Uridia_One-Stop-Shop_ENG.pdf. [67]

Silk Road Briefing (2022), *Kazakhstan Benefitting From Middle Corridor Haulage*, https://www.silkroadbriefing.com/news/2022/10/13/kazakhstan-benefitting-from-middle-corridor-haulage/. (accessed on 12 September 2023). [72]

The Astana Times (2023), *Kazakhstan Reduces Freight Transit Time by Half via Trans-Caspian International Transport Route*, https://astanatimes.com/2023/03/kazakhstan-reduces-freight-transit-time-by-half-via-trans-caspian-international-transport-route/ (accessed on 4 May 2023). [6]

The Republic of Serbia (2019), *Road Border Crossing/Transboundary Points*, https://www.transport-community.org/wp-content/uploads/2019/12/Road-BCPs-state-of-play-Serbia.pdf. [78]

TITR (2023), *Press center*, https://middlecorridor.com/en/press-center/news (accessed on 17 July 2023). [19]

TOBB (2023), *Modernized Pazarkule Customs Gate opened for service (Modernize edilen Pazarkule Gümrük Kapısı hizmete açıldı)*, https://www.tobb.org.tr/Sayfalar/Detay.php?rid=29590&lst=MansetListesi (accessed on 9 November 2023). [69]

TRACECA (2023), *Mulilateral Permits System TRACECA*, http://www.traceca-org.org/en/home/multilateral-permit/ (accessed on 1 September 2023). [17]

UN (2022), *Digitalization of International Transport Corridor*, https://www.un.org/ohrlls/sites/www.un.org.ohrlls/files/h.e._mr._asset_assavbayev_secretary_general_traceca.pdf. [37]

UNCTAD (2022), *UNCTAD ASYCUDA Customs Transit Solutions*, https://unctad.org/system/files/non-official-document/MTW06_EN-Dmitry_GODUNOV.pdf. [44]

UNCTAD (2022), *UNCTAD ASYCUDA Customs Transit Solutions*, https://www.oecd.org/aidfortrade/casestories/casestories-2017/CS-26-Promoting-Regional-Connectivity-through-BBIN-MVA-Role-of-TIR-Convention.pdf. [34]

UNCTAD (2019), "Kazakhstan rolls out a single window to boost trade", *UNCTAD*, https://unctad.org/news/kazakhstan-rolls-out-single-window-boost-trade. [43]

UNDP (2018), *EU, UNDP support the Governments of Azerbaijan and Georgia in securing border control and boosting free trade*, https://www.undp.org/azerbaijan/press-releases/eu-undp-support-governments-azerbaijan-and-georgia-securing-border-control-and-boosting-free-trade (accessed on 30 August 2023). [76]

UNECE (2023), *First eTIR transport takes place between Uzbekistan and Azerbaijan paving the way to a digital era in international transport and transit*, https://unece.org/transport/press/first-etir-transport-takes-place-between-uzbekistan-and-azerbaijan-paving-way. [65]

UNECE (2023), *First eTIR transport takes place between Uzbekistan and Azerbaijan paving the way to a digital era in international transport and transit*, https://unece.org/media/transport/TIR/press/374919. [38]

UNECE (2023), *Overview of ongoing and planned operationalization activities in support of the Trans-Caspian and Almaty Tehran-Istanbul corridors*, https://unece.org/sites/default/files/2023-07/ECE-TRANS-WP5-2023-02e_0.pdf. [12]

UNECE (2023), *Progress report on operationalization efforts taking place in the framework of the Economic Commission for Europe/ Economic Cooperation Organization Coordination Committee for the Trans-Caspian and Almaty-TehranIstanbul Corridors*, https://unece.org/sites/default/files/2023-07/ECE-TRANS-WP5-2023-01e_0.pdf. [68]

UNECE (2022), *Summary of responses received during 2022 consultations on the development of the Unified Railway Law*, https://unece.org/sites/default/files/2022-09/ECE-TRANS-SC.2-2022-3e_0.pdf. [21]

UNECE (2022), *Total amount of TIR Carnets issued by IRU to National Associations 2001 - 2022*, https://unece.org/sites/default/files/2023-01/TIRCarnets2001-2022.pdf. [27]

UNECE (2021), *eTIR turns borders into bridges*, https://etir.org/#. [28]

UNECE (2021), *Working Party on Customs Questions affecting Transport 157th session*, https://unece.org/sites/default/files/2021-04/ECE-TRANS-WP30-2020-03r1e.pdf. [26]

UNECE (2019), *Presenting the Unified Railway Law (URL) as a new UNECE statutory instrument for the international transport of goods by rail*, https://unece.org/DAM/trans/doc/2019/sc2/Information_Note_on_URL-e.pdf. [25]

UNECE (2015), *Common Transit Convention and NCTS Implementation in Turkey*, https://unece.org/fileadmin/DAM/trans/doc/themes/UNDAC2C/presentations/Cokol_6_2015.pdf. [54]

UNESCAP (2023), *e-learning platform*, https://e-learning.unescap.org/thematicarea?catalog=21 (accessed on 30 August 2023). [77]

UNESCAP (2023), *Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific (CPTA)*, https://www.unescap.org/projects/cpta. [14]

Wang, W. (2014), "The Effects of Regional Integration in Central Asia.", *Emerging Markets Finance & Trade*, Vol. 50, http://www.jstor.org/stable/24475713. [3]

World Bank (2023), *Logistics Performance Index (LPI)*, https://lpi.worldbank.org/. [48]

World Bank (2021), *Challenges and Opportunities of Transport Integration in Eastern South Asia*, https://openknowledge.worldbank.org/server/api/core/bitstreams/0ed79b00-28ea-53c0-8843-1415a64153d8/content. [56]

World Bank (2020), *Improving Freight Transit and Logistics Performance of the Trans-Caucasus Transit Corridor : Strategy and Action Plan*, World Bank Group, http://documents.worldbank.org/curated/en/701831585898113781/Improving-Freight-Transit-and-Logistics-Performance-of-the-Trans-Caucasus-Transit-Corridor-Strategy-and-Action-Plan. [8]

WTO (2023), *Trade Facilitation Agreement Database*, https://tfadatabase.org/en/members/georgia/article-10-4-3 (accessed on 17 July 2023). [35]

WTO (2012), *Union and Common Transit*, https://www.wto.org/english/tratop_e/tradfa_e/comm_e/meet26june_union_common_transit_e.pdf. [53]

Yücel, A. (2015), *Success of Public-Private Partnership in Modernization of Border Crossing Points Projects*, https://docs.wixstatic.com/ugd/45a1ee_c49d7db5af73453db35f5e227c5ba2bc.pdf. [70]

4 Improving the Middle Corridor's attractiveness requires investing in port and rail infrastructure, with a focus on multimodality

Decisions concerning large infrastructure investment depend greatly on expectations about traffic growth, as they require long-term financial and political commitment. Given the uncertainty about the scope of the Middle Corridor's long-term traffic volumes, current road and rail infrastructure, supported by ongoing reforms could prove sufficient to absorb increased traffic in the short term. However, governments should prioritise the resolution of existing capacity gaps that reduce the route's attractiveness by generating long and variable delays. In particular, developing multimodal (rail-road) capacity at border crossing points and ports, and building fleet capacity in the Caspian Sea would support developing regional trade flows.

Governments across the region have invested in road, rail, and maritime infrastructure in recent years

Azerbaijan, Georgia, Kazakhstan, and Türkiye have been developing their seaports

Historically, Azerbaijan's port of Baku has been the largest on the Caspian Sea, handling about 80% of freight in transit owing to the port's capacity of 15mt of bulk and 10mt of dry cargo. In 2007, the government launched the construction of the new port of Alat (Baku International Sea Trade Port), 80km south of Baku, to host all freight activities and decongest the port of Baku. Port construction is to be done in three phases, with the first having been completed in 2018 when the port was opened for traffic with an annual capacity of 15mt (million tonnes) and 100,000 TEUs (Twenty-foot Equivalent Units) in containers. At the completion of the second phase, cargo handling capacity is expected to reach 25mt of general cargo, including 500,000 TEU in containers, though a precise date has not been communicated so far. Both ports are well connected to the country's railway network, allowing for easy multimodal connections (CAREC, 2021[1]).

On the eastern side of the Sea, the development of the Kazakh ports of Aktau and Kuryk has followed a similar dynamic. Kazakhstan's main Caspian Sea port of Aktau, with an annual throughput capacity of 15mt, has been complemented by the port of Kuryk, which started ferry operations in 2018. The latter was conceived to handle bulk commodities with the addition of new dry cargo carriers, and improve multimodal connections in Kazakhstan, although its multi-modal marine terminal (MMT), with a transhipment capacity of 10mt, will only be completed by 2030 (Kuryk, 2023[2]). By early 2023, both ports had a combined annual throughput capacity of 21mt and are part of the government's new plans to transform the Middle Corridor into one of the country's major trade routes (Adilet, 2019[3]; OECD, forthcoming[4]).

Table 4.1. Comparison of capacity of main Caspian, Black Sea, and European ports (2021)

Region	Country	Port	Capacity (mt/year)	Throughput (mt/year)	Container capacity (thousand TEU/ year)	Container throughput (thousand TEU/year)
Caspian Sea	Kazakhstan	Aktau	15	3.2	25	14.3
		Kuryk	6	2.4	100	0
	Turkmenistan	Turkmenbashi	17	8.3	400	19
	Iran	Bandar - Anzali	7	1	40	3.3
	Azerbaijan	Baku - Alat	15	4.6	500	35.1
	Russia	Astrakhan	12.1	2.2	10	2.6
Black Sea	Georgia	Poti	63	6.3	550	510
		Batumi	20	2.9	200	116.1
	Türkiye	Ambarli (Istanbul)	205	108	16,000	8,500
	Romania	Constanta	100	66	1,800	666
	Bulgaria	Varna	15	9.5	300	139
	Ukraine	Odessa	50	21.7	1,400	650
	Russia	Novorossiysk	200	154	1,600	755

Source: (CAREC, 2021[1]; CAREC, 2021[5]; CAREC, 2021[6]; ADB, 2021[7]).

Georgia's Black Sea ports serve as a gateway for trade between the South Caucasus and Europe, connecting to the Mediterranean Sea through the Bosporus. The Poti Sea Port is the largest port in Georgia, with an annual capacity of 550,000 TEU, handling freight transit traffic between the South Caucasus and the European ports of Constanta in Romania and Varna in Bulgaria, as well as a connection

to the Mediterranean Sea. While the port is also well connected to the country's rail network, its capacity is limited due to depth limitations (it cannot handle container vessels larger than to 1,500 TEUs) and frequent closures due to bad weather. The government therefore launched in 2016 a public–private partnership (PPP) scheme to build a deep-water port and a special economic zone at Anaklia about 35 km north of Poti, but due to a lack of funding the project was cancelled in 2020 (CAREC, 2021[6]). In 2020, the operating company of the port of Poti, APM Terminals Poti, announced its plan to expand the port by creating a deep-water port in two successive phases. The first phase is currently under construction and is to be completed in the coming years, allowing for an increase in capacity of about 150,000 TEUs, and a berth able to accommodate container vessels of up to 9,000 TEU (APM terminals, 2023[8]). The second phase, mainly about infrastructure development, is expected to double annual container capacity to about 1m TEU.

Rail networks have been expanded and modernised along the route

In the 1990s, state-owned enterprises (SOEs) were created to manage and operate railway networks and successive partial liberalisation measures increased private sector participation in Kazakhstan, Azerbaijan, and Georgia. After the collapse of the Soviet Union in 1991, Kazakhstan, Azerbaijan, and Georgia established, respectively, Kazakhstan Temir Zholy (KTZ), Azerbaijan Railways (ADY), and Georgian Railway (GR) – national railway companies to manage and maintain each national rail network. Faced with rolling stock fleet issues linked to underinvestment, age, and insufficient fleet numbers, governments took steps to partially liberalise railway service provision and increase efficiency. For instance, the private sector was permitted to own and supply wagons in Kazakhstan in the early 2000s, and by 2013 the number of privately-owned freight wagons exceeded KTZ-owned wagons. In Georgia a similar reform was implemented in 2015 (CAREC, 2021[6]; CAREC, 2021[5]; CAREC, 2021[1]). In January 2021, Kazakhstan's opened rail freight transport to private companies, although some companies report that KTZ effectively retains a monopoly over freight transport (see Chapter 2).

Kazakhstan's railway network was historically built along the North-South direction, but efforts in the early 2000s have completed the network on the East-West segment. Kazakhstan's railway network was born in the late 19th century to connect the country's vast territory and transport its raw materials over large distances, and the centrally planned model of the Soviet economy in the 20th-century led to an orientation of the network towards Russia. Between 2001 and 2016, the government undertook a major development programme, adding 2,500km to the East-West section of the network, allowing for better connections to China, other Central Asian countries, and the South Caucasus. This programme also encompassed the renewal of 4,700km of railway tracks, representing about 25% of the network's length (Table 4.2), and an asset modernisation programme with the upgrade of 1,000 locomotives and 37,500 freight wagons. As a result, just over a quarter of the network is electrified and has double track lines, reducing capacity bottlenecks. However, businesses interviewed by the OECD reported that bottlenecks remain and are exacerbated during traffic peaks, preventing the transport of additional freight, and further reducing speeds (CAREC, 2021[5]). Moreover, at least 70% of the locomotive fleet is outdated in Kazakhstan, though interviewees report that the uncertainty surrounding access to the freight network constrains their renewal - especially for private rail freight.

Table 4.2. Road and rail networks in the countries of the Middle Corridor (2021)

		Kazakhstan	Azerbaijan	Georgia	Türkiye
Road	Network (km)	96,167	24,981	21,110	426,906
	Density (m/km²)	35.4	288.5	302.9	544.8
	Freight (mt)	*231.8**	112.5		*>300*
Rail	Network (km)	16 500	2 140	1 363	12 532
	Density (m/km²)	6.1	24.7	19.6	16.0
	Freight (mt)	410.3	15.1	12.1	38.2

Note: *Due to a change in the methodology of the calculation of road freight volume by the Kazakhstan Bureau of National Statistics in January 2023, the corresponding number for 2021 was estimated.
Source: OECD analysis based on data from national statistical agencies.

The South Caucasus railway network has been developed to link the Caspian Sea to Türkiye, and recent reforms have modernised and expanded the network, greatly increasing freight traffic capacity. In the second half of the 19th century, Azerbaijan and Georgia's railway networks were developed East-West as part of the Russian Empire's Trans Caucasus Railway, to allow for the easy transport of oil from the Caspian Sea (Baku) to the Black Sea (Poti), before being completed by a North-South segment linking Russia to Iran. OECD interviews indicated that reforms over the past decade targeted rail track development, especially electrification and upgrade of the rail network to double tracks, resulting in a solid segment for heavy freight traffic on the Middle Corridor. For instance, 60% of Azerbaijan's 4,285km network is electrified and 38% is doubletracked, including the Azerbaijan-Georgia East-West segment; freight traffic represented 70% of the networks' utilisation in 2019. Georgia's railway network was already electrified in 1967 and is mainly oriented towards freight traffic, with twice as many stations for goods (100) as for passengers (51) along its 1,443km network. Nearly 20% of the network's main East-West line is doubletracked and uses automatic block signalling allowing to increase traffic capacity (CAREC, 2021[1]; CAREC, 2021[6]).

Azerbaijan and Georgia have comprehensively refurbished railway infrastructure and rolling stock. In 2014, Azerbaijan started renewing its rolling stock, with particular attention to the development of freight traffic. It has purchased 40 new freight locomotives, refurbished and upgraded older ones, and leased new engines under a partnership contract with Kazakhstan. It had also renewed most of its 4193 freight wagons (including 3101 new ones) by 2021. Until 2015, the rolling stock in Georgia suffered from underinvestment and old age, with more than half of freight wagons older than 35–45 years and a significant portion of the fleet close to the end of its normal economic life. The rolling stock fleet decreased by 30% in the preceding decade before the government launched a comprehensive program to refurbish its rolling stock, investing in fleet modernisation and encouraging the private sector to expand its role in rolling stock provision. By the end of 2018, just over half of freight transport used Georgia railway company's 5001 freight wagons, with the rest carried by other railways and private companies (World Bank, 2020[9]; CAREC, 2021[1]; CAREC, 2021[6]).

In 2017, Georgia, Azerbaijan, and Türkiye completed the construction of a direct rail connection allowing freight to avoid crossing the Black Sea. The construction of the Baku–Tbilisi– Kars (BTK) Railway provides a direct rail connection between Azerbaijan and southern Türkiye via Georgia. It is the shortest rail link between Europe and Asia and connects freight transport from the Caspian Sea to international markets via the Turkish Mediterranean Sea port of Mersin. The network uses the existing rail link between Baku and Tbilisi, connects with the Turkish railway network at Kars, and contains a transhipment terminal in Georgia (Akhalkalaki) to allow containers to change platform wagons between the broad gauge used in Central Asia and the South Caucasus and the standard gauge used in Türkiye. Since the opening of Istanbul's Marmaray Tunnel to freight trains in 2019, BTK allows for uninterrupted freight train traffic between Europe and the Caspian Sea by-passing Bosporus and Black Sea ferries, -

though firms interviewed by the OECD do indicate that bottlenecks at the Akhalkalaki Intermodal Station exist (CAREC, 2021[1]; CAREC, 2021[6]).

Box 4.1. Connecting the Black and the Mediterranean Seas: Istanbul's Marmaray Tunnel

Connecting Europe and Asia's rail networks

The Marmaray Tunnel (also referred to as the Marmaray Tube Crossing or Bosporus Rail Tube Crossing) is a 13.6-kilometre-long railway tunnel, of which 1.4 kilometres is submerged under the Bosporus Strait. It is among the largest immersed tunnels in the world and is the deepest, at 60 metres below the sea level.

The first phase of the Marmaray Project, which started in 2004, was completed in 2008 and was inaugurated in 2013, involved construction of the immersed tunnel by the Turkish-Japanese consortium led by Taisei Corporation. With the completion of this first phase, uninterrupted standard gauge railway connection between Europe and Asia has been maintained. Marmaray was financed by Japanese Official Development Assistance (ODA) loans through Japanese Bank of International Co-operation (JBIC) and soft loans from the European Investment Bank (EIB) and the estimated cost stands at USD 4.5 billion.

A new tunnel serving both local commuter and inter-continental freight services

With the primary focus on easing commuter congestion, Marmaray improved the connectivity of the public transport network of Istanbul by integrating metro line to metrobus, tram and ferry lines. The commuter line is further connected to the High-Speed Train that operates between Ankara-Istanbul as well as mainline, regional and international trains. According to the Ministry of Transport, 1 billion passengers have used Marmaray since its inception in 2013. Albeit limited to 00:00-05:00 am, the timeframe out of passenger commute, Marmaray also has a freight transport capacity of 21 pairs of trains per day although an average of 2-4 freight trains are reported to be using it ***daily.*** The first commercial train to use Marmaray was a container carrying magnesite from Cukurhisar (Eskisehir) to Austria in October 2019. This was followed by the highly publicised Chinese freight train from Xi'an to Prague that used both the Baku-Tiflis-Kars line and Marmaray, eventually completing its journey in 12 days. In 2022, 402 thousand tonnes of freight were transported through 1018 trips via the Marmaray Tunnel. Improving freight capacity of Marmaray would increase the volume of uninterrupted freight transport from West (London) to East (Beijing), further reinforcing the significance of the ''Middle Corridor''.

Eventually, rail traffic through the Bosporus strait will be transferred to the future high-speed rail running on the newly built Yavuz Sultan Selim bridge. This new rail link will ease congestion on the Marmaray tunnel and will allow for daytime crossings.

Source: (TCDD Taşımacılık, 2022[10]) (ADB, 2021[11])

Türkiye aims to increase the share of railways in freight transport to 22% by 2053. Türkiye has gradually shifted the bulk of investment in transport to railway infrastructure (the announced target for 2023 is 63% of investment). The country currently has a total of 13 896 km of railway network, including 11 668 km conventional, 2009 km high-speed and 219 km rapid railway lines. Some 49% of the lines are signalled and 51% are currently electrified, with an important increase planned in the coming years (UNECE, 2023[12]). In 2013, a new rail liberalisation law entered into force allowing private companies to construct new infrastructure and run trains on public tracks apart from TCDD (Turkish State Railway Authority). TCCD, as the main provider of infrastructure and equipment, also rents rolling stock to private sector companies. According to private sector interviewed by OECD, still much needs to be done to renew the locomotives and rolling stock. As of 2022, 21% of locomotives and 10% of freight wagons were over 40

years old. Private sector operators also request financial support to increase their share of rolling stock. Currently 41 private firms carry freight through owned wagons, accounting for 33.6% of total rail freight transport (TCDD Taşımacılık, 2022[10]).

For transport operations on the BTK line and the Middle Corridor, seasonal difficulties appear between Kars and Akhalkalaki during heavy winter conditions. The Akhalkalaki transfer station is being upgraded to meet rising demands for conventional and bulk cargo. Transport operations to Europe are performed via the Kapıkule-Svilengrad crossing on the border with Bulgaria and via the Uzunköprü-Pityon crossing on the border with Greece. The double-track Ispartakule-Cerkezkoy section, part of the electrified Halkalı-Kapikule railway line (3rd phase of construction as July 2023) is co-financed by European Union (EU) Instrument for Pre-accession Assistance (IPA) funds. Türkiye currently aims to increase the railway connections to ports and manufacturing sites; 21 ports and piers are connected to railways in the country, including Mersin, Izmir and Iskenderun ports while 13 organised industrial zones have direct access to railways. Increasing the number of logistical centres is also among the targets of the ambitious plans for infrastructure investments in the rail sector. (TCDD Taşımacılık, 2022[10]), (Ministry of Transport and Infrastructure, 2022[13]), (AA, 2023[14]).

Box 4.2. Modal shares for transport in the Middle Corridor countries

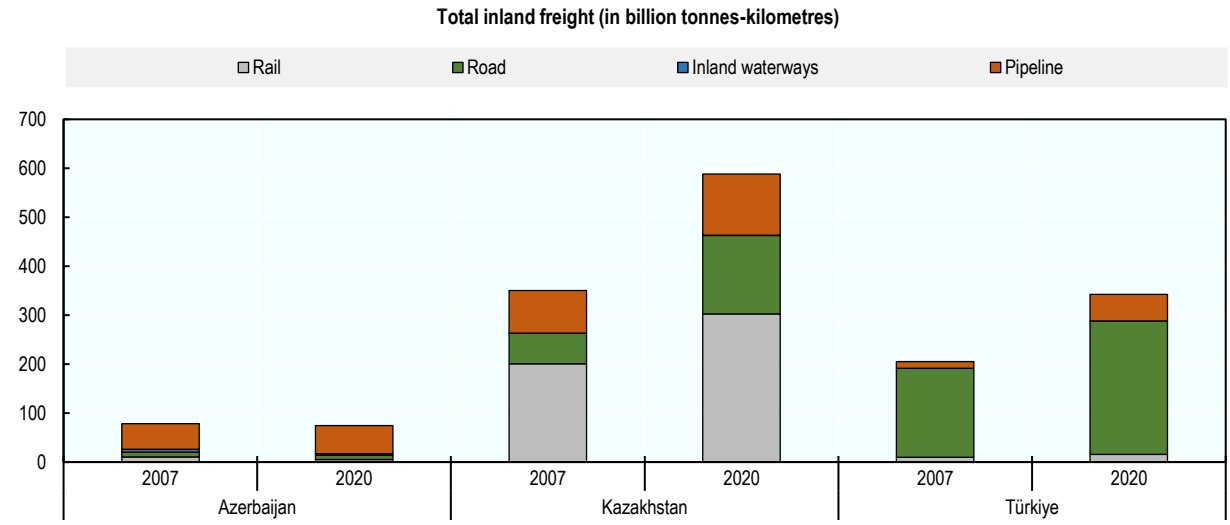
Central Asia and the South Caucasus have seen a rapid development of international road transport, though the former, in particular, remains below its potential. Tenfold more trucks cross Central Asian borders now than in the early 2000s where this number stood at 10 to 30 trucks a day per border crossing point, though the relative share of international road transport is still limited (OECD-ITF, 2019[15]). Historically, rail freight has served international demand and flows are high along the main economic corridors.

Kazakhstan accounts for over 80% of all rail freight activity in Central Asia, equalling to 200bn tonne-kilometres per year. The country's strategic location on the East-West corridor mainly accounts for this situation, as most of freight to other Central Asian countries transits through its territory.

In Azerbaijan, road transport represents the main mode of freight transport, totalling about two thirds in 2018, and even reaching 88% of goods transported if oil and gas pipelines are excluded. Road freight transport even increased its share between 2014 and 2019 by 17%, while transport via rail and sea decreased over the same period to reach respectively 8.6% and 3.4% in 2018 (OECD-ITF, 2020[16]).

A similar trend can be observed for Georgia, where rail freight traffic declined since the early 1990s to the benefit of road transport. In 2018, almost half of the country's exports were transported by road, compared to 3.6% by rail. Despite a decline in the total share of freight transport, rail freight containerisation rates almost doubled between 2014 and 2018 to reach 9.5%, reflecting improvements following recent reforms to address major bottlenecks on the network (CAREC, 2021[6]).

Figure 4.1. Decomposition of transport and shipping modes in Azerbaijan, Kazakhstan, and Türkiye

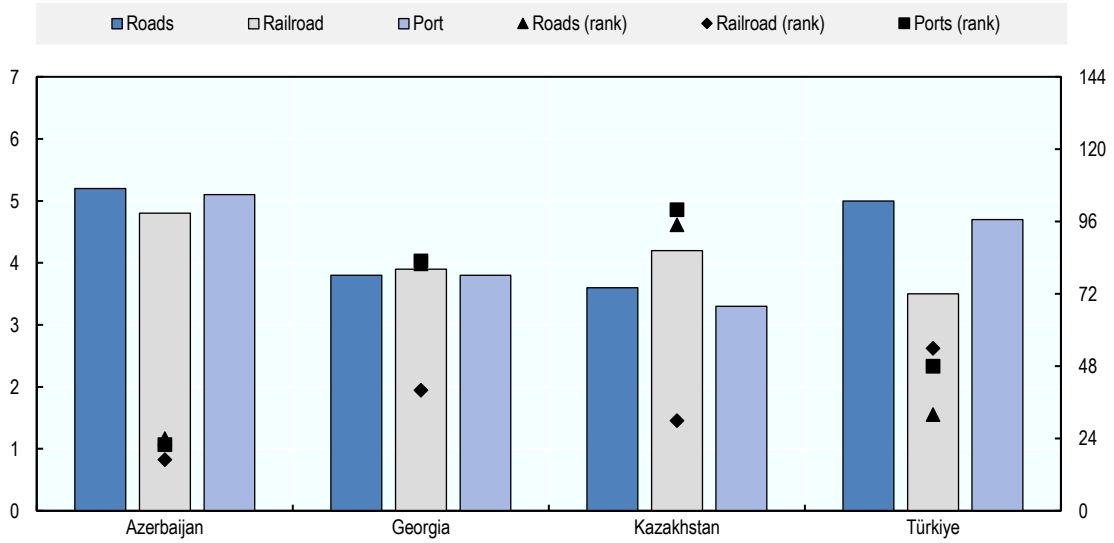


Note: Georgia is not indicated as data for pipelines are not available.
Source: (ITF, 2023[17])

Road networks have been expanded in the South Caucasus and Türkiye but remain problematic in Central Asia

Since the early 2000s, Azerbaijan and Georgia have been modernising their road networks with a focus on the East-West highway corridor. In both countries, roads play only a secondary role in freight transport, but the East–West highway linking the Caspian and Black Sea remains the most important regional corridor for international trade and has been a priority for public investment and loans from international financial institutions (IFIs). It runs over 500km in Azerbaijan and 400km in Georgia and is complemented in both countries by a North-South highway running from the Russian Federation to Iran. Azerbaijan and Georgia undertook large road asset renewal programmes in the mid-2000s, as roads and highways were in poor condition due to inadequate funding and vehicle axle overloading, which resulted in high transport costs and long delivery times (ADB, 2014[18]; ADB, 2017[19]). In Azerbaijan, a 2006 assessment revealed that approximately 70% of the country's road infrastructure required urgent maintenance, but most roads and highways, and especially the country's section of the East-West highway, had been rehabilitated by 2010 (CAREC, 2010[20]; ADB, 2017[19]). These upgrades have been matched by similar efforts on the Georgian side, which targeted the development of international trade corridors as part of the TRACECA and CAREC initiatives (ADB, 2014[18]). In particular, the East-West highway benefits from a 10-year development plan, with different phases financed by IFIs. OECD interviews indicated that out of the 430km of highway scheduled to be upgraded to four lanes, 230km have already been completed and further 180km are under construction, and work is expected to be completed by the end of 2023. However, some businesses indicated their concerns that the newly constructed sections of the East-West highway do not support the transport of heavy loads.

Figure 4.2. Road, rail, and port infrastructure quality in Central Asia, the South Caucasus, and Türkiye



Note: Quality of infrastructure is assessed on a scale from 1 (low) to 7 (high) for the year 2019. Ranks are given out of 144 countries. For Azerbaijan, WEF data for railroad infrastructure quality and ranking is only available for 2018.
Source: (World Economic Forum, 2020[21]).

While Türkiye continues to make significant investments in its road network, the country plans to reduce the share of roads in freight transport from 72% to 57% by 2053. Türkiye lying at the centre of three continents, serves as the intersection of numerous transport arteries. The length of the international road corridors through Türkiye is about 13,000 km. The country's entire length of dual carriageway as of 2022 was 28 816 km, of which 3633 km were highways. In order to provide comprehensive logistics services, roads are built with a view to provide connection to ports and border gates by the authorities. Türkiye has traditionally invested heavily in road transport; a total of $112.4 billion over the past 20 years. Road transport has been one of the top priority modes of transport both in freight and passenger transport in the country accounting for 88.3% in total inland freight. Over the next five years (2024-2029), Türkiye plans to invest $16 billion in road transport to improve regional connectivity. At the same time, the Ministry of Transport operated a shift towards increasing the share of investment on railways in the last decade (Box 4.3). Türkiye`s main target has been to enable and improve uninterrupted transit traffic through the country leading to much of the investment devoted to this end. Three bridges on Bosporus Strait connect Asia to Europe since 2016. Yavuz Sultan Bridge, inaugurated in August 2016, allows vehicles to pass through Istanbul without being subject to city traffic and more importantly without restrictions on drivers as opposed to other two bridges on the Bosporus. The 1915 Çanakkale Bridge, opened on March 18, 2022, connects the two continents by road from the south of the country.

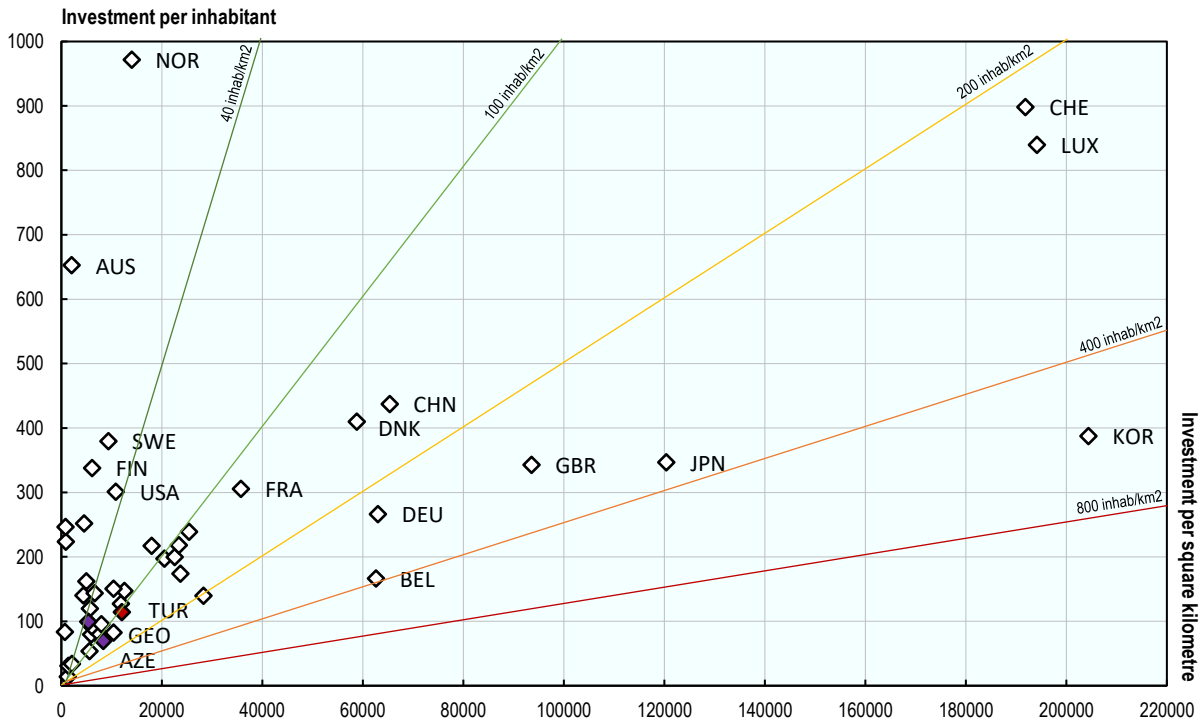
Despite improvements in recent years, the low quality of roads across Central Asia remains a major impediment to the region's freight connectivity. Road infrastructure development projects across the region have been carried out in recent years with substantial support in the context of framework initiatives such as CAREC and TRACECA. However, businesses reported to the OECD that on average the quality of road infrastructure remains low as a result of an inadequate investment environment, leading to high transport costs, and reducing the countries' attractiveness for international freight transport. For instance, without taking into account rising traffic stemming from the development of the Middle Corridor, meeting increased freight and maintaining the current level of network performance by 2030 is estimated to require road capacity increases varying from 84% In Mongolia to almost 500% in Uzbekistan, while Kazakhstan stands in a middle position, with a needed rise of 151% (OECD-ITF, 2019[15]). Kazakhstan has initiated an

ambitious programme of investments for its domestic road network, which comprises six international transit routes with a total length of about 8250km aimed at improving the connectivity and quality of road transport both across the country and with regional neighbours. It further aims to repair over 11 000km of roads by the end of 2023 (International Trade Administration, 2022[22]).

However, infrastructure bottlenecks lead to congestion, especially at border points and ports, and reduce the route's attractiveness

Despite increased investment in transport infrastructure, Middle Corridor economies' investments remain low in absolute terms

Figure 4.3. Total inland transport infrastructure investment (2015-2019 annual average, in EUR)



Note: Countries with a low density and an unequal distribution of population, such as Russia or Canada, have very low figures for their investment per square kilometre, due to much of their territory being uninhabited. Thus, it is not always representative of a weak effort in transport infrastructure investment. Data not available for Kazakhstan.
Source: OECD calculations based on ITF database

The current level of transport infrastructure investment remains below projected needs. The region's annual financing need in early 2020 was estimated at 7.8% GDP or USD 1.7tn for Central Asia and the South Caucasus over 2016-30. Investments in inland transport infrastructure in the countries of the corridor are substantial relative to GDP. However, commitments amounted to USD14-19bn per year from 2006 to 2011 and have been on a declining trend since (ADBI, 2021[23]) (University of Central Asia, 2023[24]). Investment per capita and per square kilometre remain insufficient in absolute terms to address the infrastructure gap (Figure 4.3). While these data predate Russia's war in Ukraine and renewed commitments to improving regional connectivity, more recent assessments also point to a persisting financing gap (EBRD, 2023[25]). For instance, for Kazakhstan the investment gap amounts to 1.11 % of GDP across all sectors if the country's infrastructure needs are to increase in line with its expanding

economy and growing population – not mention the need to develop new infrastructure. The gap is most prevalent in cross-border infrastructure, energy, and road transport, with 75% of existing transport infrastructure requiring replacement or rehabilitation, necessitating infrastructure investments amounting to 3.9% of GDP until 2040 (OECD-ITF, 2019[15]).

Box 4.3. Investment in transport infrastructure in Türkiye

Inland connections are relatively underdeveloped in Türkiye due the hilly landscape and poor infrastructure in remote areas. Despite sufficient capacity of terminal facilities for loading and unloading containers, port infrastructure of Türkiye still suffers from poor connections to high-quality roads and railways. In order to overcome these physical obstacles and to increase the accessibility of landlocked Anatolian manufacturers to European markets with low transport costs and high traceability, Türkiye launched several transport and logistics projects devoting large funds.

The Ministry of Transport and Infrastructure expects to increase the share of rail freight to 22% by 2053 reflecting this vision. Share of road infrastructure in public investment plans declined from 72% in 1999 to 35% in 2019, while railway spending increased its share from 7% to 37% in the same period. In 2023, government devoted highest share (27%) to transport and communications sector in the budget, with a 145% rise compared to 2022. The flagship projects in the investment program include the Ankara-Sivas High-speed train project, part of the Middle Corridor as an access to Europe from the Tbilisi-Kars railway. Türkiye also plans the establishment of 26 logistical centres. The target is linking up all industrial zones in the country to ports through railway.

The EU and some development partners also take part in financing some major railway projects. The double-track Ispartakule-Cerkezkoy section, part of the electrified Halkalı-Kapikule railway line, is co-financed by the European Union (EU) Instrument for Pre-accession Assistance (IPA) funds. The line is part of the EU Trans-European Transport Network (TEN-T). The European Bank for Reconstruction and Development (EBRD) has extended a €150 million loan to the Turkish government for co-financing the construction of a 67 km section of the high-speed railway line from Istanbul to the Bulgarian border. The loan will further support Türkiye's transition to a low-carbon economy.

On the other hand, in the last decade, the share of public investments made for air and maritime transport decreased, owing to the liberalisation and privatisation trends in these sub-sectors. As a result of the transfer of the operating rights of a very large part of the ports belonging to the private sector and application of Build-Operate-Transfer method for the construction of some airports, public investment in the maritime and air transport sectors have declined over time.

In April 2022, the Turkish government unveiled its 30-Year Transport and Logistics Master Plan, aimed at enhancing logistics infrastructure across various modes of transportation. As part of this initiative, Türkiye aims to allocate USD 153 billion by 2053 to facilitate substantial improvements in its infrastructure and become an international logistics hub.

Source: (Ministry of Transport and Infrastructure of the Republic of Türkiye, 2023[26])

Container and Caspian Sea vessel fleet capacity is not in line with current and projected needs and leads to congestion issues

Governments and businesses surveyed by the OECD indicated that increased traffic on the Middle Corridor has exacerbated pre-existing bottlenecks, such as a shortage of port capacity, containers, and vessels in the Caspian Sea. For instance, Poti was one of the 20 ports in the world were the average arrival times increased the most between 2021 and 2022 (World Bank, 2022[27]). Interviewees indicated

that addressing these bottlenecks should be a priority for infrastructure updates and development, as the corridor's reliability and ultimately its attractiveness relies on the ability of each segment to provide the level of service expected by users.

Despite capacity increases in Azerbaijan's and Kazakhstan's Caspian ports in recent years, they remain below the capacities needed to handle increased traffic. Current throughput capacity of Kazakhstan's main Caspian Sea port of Aktau is estimated at 15mt (rising to 21mt when combined with the nearby port of Kuryk), slightly above Azerbaijan's freight port Alat annual capacity of 15mt and 100,000 TEUs (Table 4.1) (CAREC, 2021[5]; CAREC, 2021[1]). However, current capacities of the Middle Corridor's main seaports of Aktau, Kuryk, Baku-Alat are estimated to be able to absorb only up to 6mt of cargo, including up to 4mt of bulk cargo and up to 100 thousand TEU, from the traffic of the Northern Corridor. (USAID, 2022[28]). This can be explained by the lack of modern transhipment and freight handling equipment in ports, which leads to congestion despite low utilisation rates (see below). In addition, because of depth limitations, ports can only accommodate small container feeder vessels, resulting in high shipping rates and limited service frequencies (CAREC, 2021[6]). Finally, businesses indicated that the imbalance of port capacity between both shores of the Caspian Sea, with Baku-Alat being the only operational port on the Western bank, leads to congestion there too.

Businesses report that the Caspian Sea crossing is a major bottleneck, as ferry vessels and services are insufficient to balance throughput capacity on either side. Though ferry and vessel limitations on the Caspian Sea are not a new issue, they have been dramatically exacerbated by the increase in traffic observed in 2022. Businesses report insufficient ferry fleet capacity and unpredictable schedules, contributing to long loading and crossing times and port congestion, as the loading and unloading of vessels can take up to 24 hours on either end (World Bank, 2020[9]). Indeed, there are only two companies operating routes across the Caspian Sea: Azerbaijan Caspian Shipping Company (ASCO) and KazMorTransFlot (KMTF). ASCO connects the port of Alat to Aktau, Kuryk and Turkmenbashi through rail ferry and RoRo services with a fleet composed of thirteen ferries, 25 years old on average, and two RoRo vessels, 36 years old on average (UIC and Roland Berger, 2021[29]; CAREC, 2021[1]; CAREC, 2021[5]). KMTF is specialised in oil transport but diversified its activity with a sub-fleet of three container ships and 2 dry cargo ships operating between Aktau, Kuryk and Alat. Businesses reported that the fleet was not able to cover their needs following increased traffic since early 2022, the more so that the ferry services do not have a fixed schedule. The frequency of services between Azerbaijan and Kazakhstan is reported to vary depending on weather conditions and demand, as vessels generally wait until fully loaded before departing, which averaged between three and five days before 2022, while the crossing itself takes about 1.5 days (World Bank, 2020[9]; UIC and Roland Berger, 2021[29]; PMCG, 2023[30]). Firms report that waiting times stayed the same and even increased in some instances due to increased traffic, while ASCO's near-monopoly situation also contributed to relatively high prices, further reducing the competitiveness of the crossing.

Interviews and surveys also highlighted that these issues are further exacerbated by container shortages. Respondents report shortages of both containers and container rail platforms. The lack of containers in the region can be explained by the imbalance between Westbound and Eastbound freight flows, and the low coverage of major shipping companies in terms of offices and container terminals. Consequently, shipping companies lend the containers to clients at ports (Poti for instance), but demand their return within 10-14 days, when containers shipped to Central Asia from Georgia take 25-35 days to return, exposing the client to important delay penalties. As an alternative option, clients are allowed to buy their own containers, which represents an additional cost. Regarding container rail platforms, companies indicated that they tend to get stuck at Akhalkalaki, the rail gauge change terminal at the Georgia-Türkiye border.

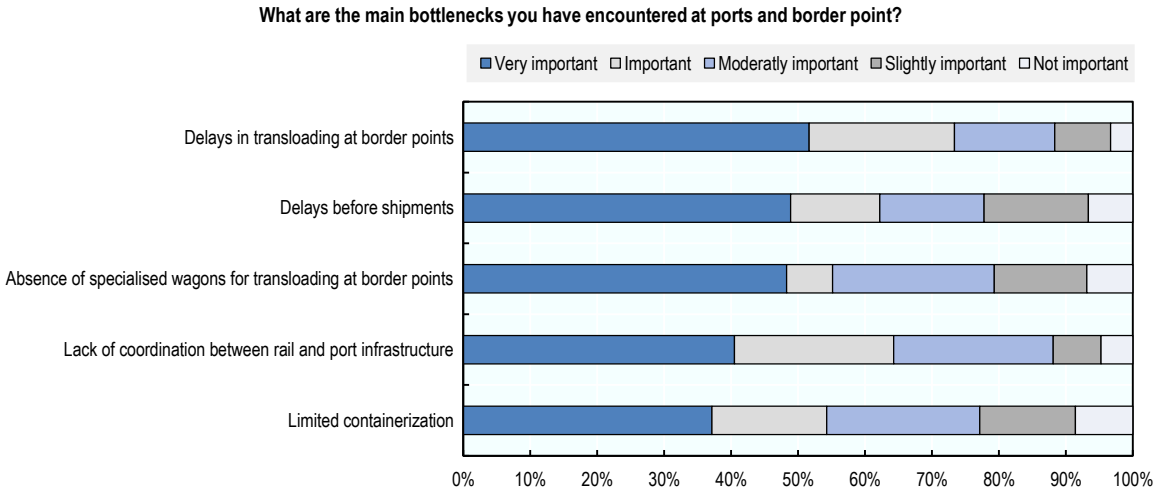
Finally, businesses reported that while rail fleets are less problematic, inefficiencies in wagon fleet management are nevertheless creating additional constraints. Businesses reported in OECD interviews and surveys that the shortage of locomotives and wagons, a long-standing issue especially in

Azerbaijan and Georgia, has added to border point congestion since early 2022. Kazakhstan faced a similar issue a few years ago on the Kazakh-Chinese border, but seems to have been able to address most of the gaps since, notably by allowing private ownership of freight wagons to attract private investment to the sector (OECD-ITF, 2019[15]). The Kazakh railway company NC KTZ has even been able to provide Azerbaijan with about 200 assembly platforms as wagon loading assistance (German Economic Team, 2022[31]). Governments also indicated that part of the issue arises from inefficiencies in the management of wagon fleets due to an absence of real-time tracking and online information about the rolling stock.

Deficient multimodality, lack of equipment and limited automation of ports lead to important congestion despite low utilisation rates

OECD surveys and interviews indicate that the Middle Corridor's existing infrastructure capacity is overall in line with traffic flows, though the route's main infrastructure components need more efficient interconnection to improve travel time predictability. Interviewees indicated that while the reliability of all transport modes along the route increased in recent years, the surge of traffic on the Middle Corridor following Russia's war in Ukraine has translated into bottlenecks at port and border crossing points. In particular, the lack of multimodal rail-road and rail-port infrastructure at these key junctures has been singled out as the most pressing infrastructure issues.

Figure 4.4. Assessment of multimodality-related bottlenecks in the survey



Source: OECD Middle Corridor survey

Lacking interfaces between land transport and ferry crossings in Caspian Sea ports are reported to be a major obstacle to predictable travel times. Businesses surveyed and interviewed by the OECD indicated that the lack of intermodal facilities to connect the Caspian maritime route with Azerbaijan and Kazakhstan's railways and roads is creating major bottlenecks for freight traffic. For instance, discharge and waiting times have been reported to amount to up to ten days both at Kazakhstan's Aktau and Azerbaijan's Alat ports, while an ideal port processing time should be two hours between the moment containers arrive by train to the moment they are loaded onto the ship (World Bank, 2020[9]; ADB, 2021[7]).

Caspian Sea port congestion mainly follows from insufficient or ageing loading equipment. East-West inland container traffic along the Middle Corridor is carried either on trucks or on railway flatbeds before reaching the ports of the Caspian Sea. Once containers reached the ports, two transhipment methods exist: roll-on/roll-off (RoRo) and lift-on/lift-off (LoLo). RoRo requires specifically built ships with an

integrated truck ramp or an integrated rail path to directly access the ship cargo loading platform. LoLo involves vertical loading, requiring either on-board cranes in ships or large cranes at the ports' docking stations. Despite the recent expansion of the RoRo vessel fleet in the Caspian Sea (see next section), transhipment equipment is reported to be lacking, though Alat port built a connection to the railway network and a rail terminal within the port (ADB, 2021[7]). Even if less pressing, similar issues have also been reported for the rail terminal of the Georgian Black Sea port of Poti (PMCG, 2023[30]).

Businesses report that the lack of modern container equipment and terminals at the ports of Kuryk/Aktau and Baku/Alat slow down traffic and increase transit costs and time. Rapid, secure, and sustainable container traffic along the Middle Corridor routes requires robust container handling infrastructure in each segment to ensure swift unloading, sorting, and reloading. However, in OECD surveys and interviews, businesses indicated that the lack of modern container infrastructure represented a major bottleneck at ports on both sides of the Caspian Sea. For instance, while container loading and unloading time in international ports such North Europe's Hanseatic ports takes on average five minutes per container thanks to the use of automated multimodal cranes or container terminals, in interviews conducted by the OECD, businesses indicated durations between 30-60 minutes for the same operations in the ports of Azerbaijan and Kazakhstan. Similarly, the feasibility study for the automation project of the port of Baku estimated that the additional costs incurred because of outdated infrastructure equipment amount to a total of about USD 5m per year, including USD 3m in ship waiting costs, USD 1.1m in truck waiting costs, and USD 0.4m in round-trip unloading costs (KSP, 2020[32]).

In particular, firms report a low transhipment productivity of Azerbaijan's port of Alat due to a lack of dedicated container equipment and terminal, and outdated infrastructure in Kazakhstan's ports. Interviewees indicated that because of the multi-purpose nature of the port of Alat, its equipment is intended for bulk operations rather than container operations, with containers handled at general cargo berths, without adapted infrastructure such as ship-to-shore cranes, reach stackers, and gantry cranes. As a result, the handling of containers lacks standardisation and results in additional delays, which is also confirmed by recent studies of the matter (World Bank, 2020[9]; KSP, 2020[32]). In Kazakhstan, businesses indicated that the loading equipment in the port of Aktau is outdated and lacks sufficient large cranes to meet modern standards, while the new port of Kuryk lacks the necessary loading equipment and is constrained to servicing only rail cargo from foreign ferries, though it can service both hinterland rail and automobile (USAID, 2022[28]; OECD, forthcoming[4]; ADB, 2021[7]). Interlocutors during an OECD field visit to the port of Aktau also pointed to Kazakhstan's relative inexperience in dealing with containerised freight as a challenge. Firms have suggested to develop intermodal platforms allowing for container loading and unloading as well as storing containers waiting to be transhipped (currently lacking), as well as to improve empty container management. Taken together, these bottlenecks reduce the speed of cargo handling, increase the difficulty of operational planning, raise costs and transport times, and reduce the attractiveness of the Caspian transit corridor.

As a result of deficient equipment, utilisation rates of Kazakh ports are low despite congestion. On the eastern shore of the Sea, the lack of intermodal infrastructure and vessels of Kazakhstan's ports of Aktau and Kuryk have translated in an acute transit capacity limitation, where both ports cannot meet rising railway freight trade originating from China (Rail Freight, 2022[33]). This issue seems to follow from a wider trend within the Caspian Sea, where port utilisation rates are systematically below capacity, in part due to higher costs of connectivity, and where actual capacity is below potential due to widespread underinvestment in infrastructure expansion and renewal. For instance, in 2021, the average capacity utilisation of Kazakhstan's seaports was just 31% in 2021, dropping to 25% and 20% for dry cargo and ferry terminals; utilisation is likely to have increased in 2022, but it does not meet the needs of increased traffic (Adilet, 2022[34]) (USAID, 2022[28]).

Border crossings and inland transport also suffer from a lack of multimodality

Railway gauges along the Middle Corridor are governed by two different standards, resulting in interoperability issues and increased transit times and costs. The most often cited issue by OECD interviewees referred to the difference in railway gauge standards between the former Soviet states of Central Asia and the South Caucasus, using the broad-gauge of 1520mm, and China, Türkiye, and Western Europe using the standard gauge of 1435mm. As a result, freight trains crossing from China into Kazakhstan and to Türkiye face at least two track interruptions and transloading of containers at border control points (BCPs), either to wagons with the correct gauge size or onto trucks. Both have been reported to be time-consuming and labour-intensive tasks adding to customs and border point infrastructure capacity limitations, especially at the China-Kazakhstan border crossing of Khorgos and the Kazakh Caspian Sea port of Kuryk. Since automatic change-of-gauge technologies are not yet widely used across the region, interviewees reported that trains stop for about five hours at each change of railway gauge – without accounting for the additional queues. Non-perishable and non-hazardous freight is also often transhipped onto trucks at Khorgos and at the borders between Azerbaijan and Georgia, which is complicated by frequent delays due to deficient multimodal infrastructure.

At dry border crossing points, infrastructure to support connectivity between rail and road freight transport is lagging. Businesses state that high border crossing times and congestion mainly result from technical issues created by inadequate infrastructure. For instance, the lack of proper transhipment facilities to handle containers from trucks to rail platforms or vice-versa, or to handle the marshalling of wagons leads to long queueing for both trucks and trains at loading terminals while waiting to be loaded and unloaded. This issue is reported to be particularly stringent at the border points requiring a change of railway gauge, such as between China and Kazakhstan, where containers can wait for up to ten days, as well as at the Turkish border. Even outside these border crossing points, the rotation of wagon fleets across the national railway networks of Kazakhstan, Azerbaijan, Georgia is reported to be suboptimal, lengthy, and costly, mainly due to a lack of block container trains[1] (World Bank, 2020[9]).

In Central Asia the issue is reinforced by the poor quality of last-mile connectivity as well as the small and aging truck fleets preventing efficiency improvements via freight bundling. Despite recent reforms, rail-road multimodality lags in Central Asia, resulting in a non-negligible amount of cargo being transported by trucks. For instance, public and private sector representatives reported during OECD interviews that domestic trucks are often overloaded in Kazakhstan, accelerating the deterioration of roads, especially those outside international corridors. Such secondary roads are usually poorly maintained. This accelerates the deterioration of already relatively old truck fleets and increasing fuel consumption up to 50 litres per 100km, as opposed to 20-30 litres in normal operating conditions (OECD-ITF, 2019[15]). As a result, many trucks active in Kazakhstan and in Central Asia are not fully compliant with international standards regarding safety, operational efficiency, and environmental impacts. For instance, in Kazakhstan, interviewees indicated that most trucks are still operating under levels 1 to 4 of European Emission Standards, while in Europe all fleets need to be at least compliant with level 5. The negative impact on environmental performance is further exacerbated by the small size of companies, preventing bundling of cargo transports and impeding fleet upgrades (OECD-ITF, 2019[15]). Overall, the trucking industry's competitiveness is hampered in Central Asia by important maintenance and fuel costs related to the age of the fleet, and important labour costs due to the small size of companies and lack of freight bundling.

While increased traffic has challenged border infrastructure all along the route, businesses report particular bottlenecks at the Red Bridge border crossing between Azerbaijan and Georgia. Public and private entities alike indicate that despite recent border crossing point infrastructure improvements in Kazakhstan, Azerbaijan, and Georgia, its capacity remains limited, which creates congestion when traffic increases. Among the main capacity limitations cited, the insufficient number of passing lines and the lack of secure customs clearance areas with dedicated inspection facilities are the most frequent. On these

matters businesses reported in particular the lack of capacity of the Red Bridge border crossing facility that lacks sufficient border entry points, logistics centres, and custom warehouses to efficiently service increased transit capacity on Azerbaijan's side of the border. On the Georgian side, the main reported issue relates to the lack of a secure customs area and dedicated control areas, which translate into queues of shipments waiting to be inspected. The absence of co-located Azerbaijani and Georgian inspection facilities as well as of differentiated passing lines by type of cargo or level of risk further adds to this situation, as it prevents a pre-sorting of traffic and processing for all shipments is hold up. However, both governments are aware of the issue, and reform discussions are ongoing to jointly improve infrastructure capacity at the border point (World Bank, 2020[9]).

Recommendations

Develop multimodal infrastructure

Enhance the transhipment of goods at border crossings

Government should develop and improve multimodal facilities at border crossings. Respondents of the survey indicated that inadequate transhipment infrastructure were the cause of important delays. At the borders between Kazakhstan and China, and Georgia and Türkiye, where gauge trains impose transhipment, operators must improve both bogie exchange and transhipment facilities. Containerisation could ease this process as modern cranes can rapidly ship a container from a train to another one.

Efficient multimodal hubs at the borders could also allow the transfer of goods from trucks to trains. Such new terminals located close to the border could integrate custom procedures and ease congestion at the road border crossings. This configuration would be particularly interesting between Azerbaijan and Georgia as an alternative to the congested Red Bridge border crossing. Another compelling aspect of these multimodal terminals at borders is that they can be combined with Special Economic Zones to develop into wide logistic and industrial complexes (CAREC, 2018[35])

Improve the multimodality of ports

Port authorities in Aktau, Kuryk, Alat and Poti should enhance the multimodality of their operations by prioritising the construction of transhipment facilities for containers. This includes container berths, container storage facilities and container cranes. Transferring containers more efficiently between trucks, trains and ships could reduce waiting times at ports. Though RoRo ferries are an efficient way to transfer wagons across the Caspian Sea, only the use of container ships will bring enough additional capacity to meet demand growth. This implies accelerating on the construction of container handling facilities, as planned for instance in the second development phase of the port of Baku-Alat, with five container berths.

Create dry ports and containerisation infrastructure

To enhance multimodality and develop containerisation of freight transport along the corridor, governments should develop inland container handling facilities. These logistic centres, sometimes called "dry ports" include container yards and Container Freight Stations (CFS). While container yards store containers and dispatch them between different transport modes, a CFS combines loose cargo into containers or separates cargo for pickup. This process can occur under the watch of customs authorities and offers shippers a cost-efficient method to employ containerisation for shipping goods to their ultimate destinations (CAREC, 2021[36]). Freight forwarders, shipping lines, and third-party logistics providers typically operate CFS. Demand for CFS could be important as the use of containers rises on the corridor, so governments should seek to attract international CFS operators to develop such infrastructure and

share their expertise with local companies through partnerships. A containerisation master plan could be crafted to address legislative, regulatory, and operational issues, and improve the capacities in container handling in the region.

At the national level, advance last-mile connectivity to better connect local growth poles along the route

Efforts should be directed towards bolstering transport networks that connect regional growth centres to the Middle Corridor. Governments can invest in road and rail infrastructure to bridge the last-mile gaps, ensuring smooth movement of goods from production hubs to the trade route (OECD-ITF, 2019[15]). This connectivity enhancement will enable local economies to leverage the corridor's potential for export and import activities. India's "Golden Quadrilateral" project, which aims to connect major cities with modern highways, showcases the impact of enhanced last-mile connectivity. Similar projects in Central Asia and the South Caucasus can connect production hubs to the Middle Corridor efficiently, boosting trade.

Increase vessel fleet capacity and regularity in the Caspian Sea

Kazakhstan and Azerbaijan should endeavour to extend the fleet of cargo ships in the Caspian Sea, with a focus on container ships. Alongside the extension of the existing ferry and RoRo fleets, operators should introduce more container ships. Container ships have a higher capacity than ferry and RoRo ships of equal dimensions and can contribute to significantly increasing the throughput of the link once multimodal infrastructure to handle containers is commissioned at the ports. Indeed, according to one of the respondents, KMTF's container ships can carry up to 1000 containers, when RoRo ferries can load 40 platforms, implying a load of just 40 containers. This capacity growth should rely on both the Azerbaijani and Kazakh national maritime operators, namely ASCO and KMTF. Kazakhstan's operator being a smaller player than Azerbaijan's ASCO, the fleet growth should be even more important for KMTF in order to have a healthy competition between two companies of a similar size and market power.

The route's competitiveness would gain from the implementation of fixed timetables for ferry operations between the Kazakh ports and Alat. Departures at fixed hours and important frequencies allowed by the growth of the fleet would contribute to shorter waiting times at Aktau and Kuryk.

Develop rail capacity to improve the route's throughput and sustainability

To ensure the Middle Corridor's competitiveness, rail companies should increase capacity along the route. Potential bottlenecks must be identified ahead of time to plan infrastructure enhancements such as double tracking on critical sections. Railway companies should aim for the corridor to be entirely electrified, to avoid locomotive changes and to ensure the sustainability of the route, with reduced CO2 emissions compared to road or maritime transport. This would require important investments in Kazakhstan, in particular, in addition to the planned electrification of the Dostyk-Mointy section (CAREC, 2021[5]).

Rail operators should address the insufficient number of locomotives and wagons on the trans-Caucasian section. While all countries along the corridor will have to make important investments to replace aging fleet and keep up with traffic growth, the situation is particularly difficult in Georgia. Therefore, the Georgian government should seek to increase the fleet of locomotives and wagons among Georgian Railways and the other private operators. Countries along the corridor could conduct procurement jointly, leveraging on Kazakhstan's industrial capacity with the presence of international manufacturers. Railway operators should also use digital monitoring to increase the availability of freight wagon (Box 4.4)

To support the required investments, governments should establish a framework to involve the private sector in the development of the corridor. The use of Public-Private-Partnerships should be

increased for railway infrastructure projects. Higher private investment in the rolling stock could be achieved by deepening reforms of the railway sector. The European initiative Shift2Rail (S2R) can represent an example of a region-wide initiative seeking focused research and innovation (R&I) and market-driven solutions to double the capacity of the European rail system and improve its reliability and service quality by 50%.

Planners should bear in mind that enhancing the throughput of rail freight should not be detrimental to local passenger connectivity. For instance, city bypasses can be an efficient way to increase freight capacity and reduce noise and risk of accident without diverting passenger traffic from the city centres. Tbilisi's halted railway bypass project is an illustration of this challenge. In this case, freight should be diverted outside of the city centre, but passenger trains should remain on the existing right of way to serve local demand and offer an alternative to road traffic.

Box 4.4. Digital freight train monitoring tools: the case of Fret SNCF

In 2017, the French rail network SNCF launched the "Digital Freight Train", in a partnership with Traxens, a French company developing shipping container tracking solutions. The Digital Freight Train uses an on-board network of interconnected sensors that can deliver multiple remote tracking and monitoring services. These tools are flexible and can depend on the willingness of stakeholders.

The digital train sends useful data to freight stakeholders, increasing the reliability and predictability of shipments. For instance, it is possible to monitor train mileage, precisely determine the train's geographic placement in real time, and receive alerts when shipments reach strategic locations, such as loading and unloading sites.

It also increases the safety and quality of shipments: sensors allow the monitoring of transport conditions for sensitive cargo, with numerous parameters such as pressure and humidity inside tank wagons. In terms of security, various functions such as the wagon load status recognition or the detection of operating incidents increases rail transport safety. The digital train can also detect abnormal shocks and automates test brakes before transport. Finally, these sensors optimise the necessary maintenance of wagons, since it allows to monitor the mileage, shocks and the wear of the equipment.

Source: (SNCF, 2020[37]; SNCF, 2019[38])

Set up adequate environmental standards and incentives to develop a low-carbon transport offer

The Middle Corridor development provides an opportunity to mainstream sustainable transport infrastructure planning, which can boost the route's attractiveness significantly. During interviews, public and private stakeholders alike have highlighted the importance of integrating environmental sustainability into the route's planning and regretted the small scale of reforms and subsidies in that direction so far. Interviewees noted that developing freight transport via rail can bring both efficiency gains and a more climate-friendly transport network, while allowing the route to align with the EU taxonomy and supply chain legislation, creating greener and more sustainable ways of doing business. Network electrification efforts along the corridor can only contribute to the route's sustainability if the share of rail freight increases considerably and the electricity originates from low-emitting sources. To make the route truly sustainable in environmental terms, planners should move away from coal and develop greener sources of electricity to power the railway electrical grid.

An enabling environment to develop a more sustainable trade and transport network is missing in the countries along the Middle Corridor. More generally, interviewees highlighted that despite

heightened attention towards the design of sustainability strategies by both the public and private actors, no comprehensive environmental standard setting strategy has been implemented at national or regional level (Box 4.5). The majority of existing sustainability strategies consider either a modal shift from road to less polluting modes of transport like rail or targets to reduce greenhouse gas emissions. However, sectoral energy efficiency standards, carbon footprint calculators, or subsidies to kickstart greener transport or pilot projects for alternative fuel options in the road transport sector especially are yet to be implemented. Clear sectoral decarbonisation plans for transport including GHG emission reduction targets are also lacking. The absence of robust Measurement, Reporting and Verification (MRV) systems and carbon accounting systems contributes to the low development of environmental planning.

Türkiye and Georgia are largely exposed to the Green Deal agenda and its implications. The 2021 Green Deal Action Plan published by the Ministry of Trade of Türkiye includes priority actions for the government institutions with respect to carbon border adjustment mechanisms (CBAM), circular economy, green finance, clean energy, sustainable agriculture, and smart and sustainable transport systems. The Action Plan sets the basis for future regulatory changes as regards the logistics industry in Türkiye. Adherence to the Green Deal will certainly encourage the already existing trend in the country to switch from road transport to railway, improve inter-modal transport and usage of zero emission vehicles as well electrification and development of alternative fuel capacity in all modes of transport. In the case of Georgia, the context of EU membership aspirations makes transport decarbonation goals even more important to reach.

Complementary reforms to modernise ports and develop environmental plans in the maritime sector can further support this trend. Azerbaijan, Kazakhstan, and Georgia have been modernising and expanding their main seaports and have introduced international environmental standards, including ISO certifications on energy usage, environmental impact and waste management. Azerbaijan and Kazakhstan's Caspian Sea ports also received the EU "green port" certification. Azerbaijan's port of Baku has developed a "Climate Strategy 2035" accompanied by a concrete Action Plan to mitigate the port's contributions to climate change and achieve its full decarbonisation by 2035 (WPSP, 2023). Kazakhstan's port of Aktau has become the first in the country to receive the Ports Environmental Assessment System certification and EcoPorts status from the European Sea Ports Organisation (ESPO) in July 2022, a global standard for environmental management certifying ports working to reduce their negative impact on the environment (OSCE, 2022[39]). Additional expansion projects of the port are to follow the same standards and will benefit from EBRD financing.

Successive modernisation and expansion plans of Georgia's port of Poti have systematically followed environmental and social impact assessments (ESIA) since 2010 and have been compliant with IFC standards (ADB, 2010[40]). OECD interviews also indicated that the port also aims to attain 75% carbon neutrality by 2030 and reach full carbon neutrality by 2040, while investing in new technologies for handling bulk cargo by minimising negative environmental impact. However, room for improvement exists, as a recent study indicates that the port has been the second most important contributor to air pollution in Georgia, after the port of Batumi, over the period 2010-2018, with emissions from container and general cargo ships amounting to more than 85% of total emissions (Tokuslu, 2021[41]).

Address intensified road freight traffic through targeted incentives to avoid greater negative externalities While an increase in road transport can bring considerable productivity gains in the short term, in the longer run, negative environmental externalities such as local pollution and CO2 emissions are high. For instance, the emission impact of transport in the countries of the Belt and Road Initiative (BRI), of which the Central Asian and the South Caucasus countries are members, finds that transport-related emissions are set to increase by 150% in the business as usual (BAU) scenario over the next 35 years, well above the targets set by the Paris climate accords. Emissions would still increase by 80% by 2050 compared to 2015 if all countries were to invest in best-in-class transport infrastructure technologies, while a two-degree scenario would require an emission reduction of at least 20% (UNESCAP, 2022[42]). Measures to limit the emissions of the road freight sector and incentivise a shift towards rail transport could

include fuel taxes or targeted road pricing. But a more sustainable way to reduce transport emissions would be to adopt a comprehensive policy framework, including coherent interventions across freight-transport modes, with emission reduction target for each transport mode adapted to the local context (ITF, 2022[43]).

Infrastructure planning should include resiliency as part of its sustainability agenda. In addition to climate mitigation strategies, climate adaptation and resilience have gained importance when planning important transport infrastructure. In France for instance, the future Montpellier-Perpignan high-speed rail line is being planned as a response to the current rail line's vulnerability to climate change and floodings along the Mediterranean coast. Potential climate-related vulnerabilities occurring on the entire life cycle of the infrastructure have been addressed in the planning of the new line. The life cycle approach to infrastructure planning is particularly relevant for the Middle Corridor, with climate change affecting the reliability of transportation in the future, from lower Caspian Sea levels to heat waves. The notion of resilience should also incorporate resistance to geopolitical or social shocks, and market evolutions with evolving energy prices for instance.

Box 4.5. Sustainable transport strategies in Central Asia and the South Caucasus

The infrastructure gap in the region is already substantial and widened by climate change

The region's investment needs in infrastructure are estimated to reach USD 492bn for the period 2016-2030, while climate change-adjusted estimates* increase estimated investment needs to USD 565bn (ADB, 2017). Among infrastructure projects planned and under construction in Central Asia and the South Caucasus, transport projects represent 17% of total investment (USD 94bn), and concern mostly road (60%) and railways (32%) (OECD, 2019). Given the transport sector's major role in greenhouse gas emissions, investments in sustainable transport infrastructure are a priority for the region's climate commitments.

Numerous investment plans related to sustainable transport infrastructure are planned

In Azerbaijan, sustainable development projects were initiated with the "Azerbaijan 2020 – A Vision of the Future" plan, covering various topics including the modernisation of transport infrastructure. Planned and current transport infrastructure projects account for USD 7.5bn (6% of total infrastructure projects), mostly budgeted on roads and railways development. A major ongoing project is the Railway Sector Development Programme, aiming to rehabilitate the track of the Sumgayit-Yalama rail line – a key link in the North-South Railway Corridor within the CAREC network. Moreover, the construction of a road/rail corridor between Torgundi (Afghanistan) and Istanbul (Türkiye), crossing Turkmenistan, the Caspian Sea and Baku (Azerbaijan), and linking Tbilisi and Georgian ports, will require USD 2bn of investment, divided equally between the five countries involved.

Georgia's 2030 Agenda for Sustainable Development provides for the development of economic corridors through the enhancement of transport and logistics networks. Planned and current transport infrastructure projects amount to USD 16.4bn (45% of total infrastructure projects), with a focus on the East-West highway.

With the Kazakhstan 2030 Development Strategy, the country launched major infrastructure projects to modernise the country's facilities. The sixth priority of this strategy is the development of transport infrastructure, aiming to improve rail, road, air and water infrastructures. Planned and current projects account for USD 39.9bn (20% of total infrastructure projects). However, rail projects only concern 16% of total transport projects, while the planned "Almaty-Aktogay Rail Electrification" or the "Railway Modernisation Improvement" projects will require USD 2bn, and increase regional connectivity.

Note: *Climate change-adjusted estimates account for additional infrastructure investment needs to mitigate carbon emissions and to increase resilience to climate change.
Source: (OECD, 2019[44]).

References

AA (2023), *Halkalı-Kapıkule Hızlı Tren Projesi'nin üçüncü fazında tünel açma çalışmaları başladı*, https://www.aa.com.tr/tr/gundem/halkali-kapikule-hizli-tren-projesinin-ucuncu-fazinda-tunel-acma-calismalari-basladi/2942415. [14]

ADB (2021), *Middle Corridor - Policy Development and Trade Potential of the Trans-Caspian International Transport Route*, https://www.adb.org/publications/middle-corridor-policy-development-trade-potential. [11]

ADB (2021), *Ports and Logistics Scoping Study in CAREC Countries*, https://www.adb.org/publications/ports-logistics-scoping-study-carec-countries. [7]

ADB (2017), *Azerbaijan: East–West Highway Improvement Project - Performance Evaluation Report*, https://www.adb.org/sites/default/files/evaluation-document/365706/files/pper-aze-ewhip_6.pdf. [19]

ADB (2014), *Georgia Transport Sector Assessment, Strategy, and Road Map*, https://www.adb.org/sites/default/files/institutional-document/34108/files/georgia-transport-assessment-strategy-road-map.pdf. [18]

ADB (2010), *Social Safeguards Report: Georgia Port of Poti Social Compliance Audit Report*. [40]

ADBI (2021), *Developing Infrastructure in Central Asia: Impacts and Financing Mechanisms*, https://www.adb.org/publications/developing-infrastructure-central-asia. [23]

Adilet (2022), *On approval of the Concept of Development of Transport and Logistics Potential of the Republic of Kazakhstan until 2030 (Об утверждении Концепции развития транспортно-логистического потенциала Республики Казахстан до 2030 года)*, https://adilet.zan.kz/rus/docs/P2200001116#z165 (accessed on 21 April 2023). [34]

Adilet (2019), *On measures to implement the election program of the President "A Just Kazakhstan - for All and for Everyone. Now and forever" (мерах по реализации предвыборной программы Президента "Справедливый Казахстан - для всех и для каждого. Сейчас и навсегда")*, https://adilet.zan.kz/rus/docs/U190000027U (accessed on 25 April 2023). [3]

APM terminals (2023), *Port of Poti*, https://www.apmterminals.com/en/poti/our-port/our-port#:~:text=The%20Poti%20Sea%20Port%20is,17%20km%20of%20rail%20track. [8]

CAREC (2021), *Carec Corridor Performance Measurement and Monitoring, Annual Report 2020*. [36]

CAREC (2021), *Railway sector assessment for Azerbaijan*, https://www.carecprogram.org/uploads/2020-CAREC-Railway-Assessment_AZE_4th_2021-3-4_WEB.pdf. [1]

CAREC (2021), *Railway sector assessment for Georgia*, https://www.carecprogram.org/uploads/2020-CAREC-Railway-Assessment_GEO_7th_2021-3-4_WEB.pdf. [6]

CAREC (2021), *Railway sector assessment for the Republic of Kazakhstan*, https://www.carecprogram.org/uploads/CAREC-CRA-KAZ_7th_4MAR2021_WEB.pdf. [5]

CAREC (2018), *Strategic Framework for Special Economic Zones and Industrial Zones in Kazakhstan*. [35]

CAREC (2010), *East–West Highway Improvement Project*, https://www.carecprogram.org/?project=east-west-highway-improvement-project. [20]

EBRD (2023), *Sustainable transport connections between Europe and Central Asia*, https://www.ebrd.com/news/publications/special-reports/sustainable-transport-connections-between-europe-and-central-asia.html. [25]

German Economic Team (2022), *Transport- und Handelskorridore in*, https://www.german-economic-team.com/wp-content/uploads/2022/12/GET_UZB_TN_07_2022_de.pdf. [31]

International Trade Administration (2022), *Infrastructure*, https://www.trade.gov/country-commercial-guides/kazakhstan-infrastructure. [22]

ITF (2023), *Transport Statistics (Database)*. [17]

ITF (2022), *Mode Choice in Freight Transport*, https://www.itf-oecd.org/sites/default/files/docs/mode-choice-freight-transport.pdf. [43]

KSP (2020), *Feasibility Study on Automation of Business Processes in the Port of Baku*, https://www.ksp.go.kr/english/pageView/info-eng/735. [32]

Kuryk (2023), *Kuryk Port Development Project*, https://kuryk.kz/en/kuryk-project/project-description.html (accessed on 20 April 2023). [2]

Ministry of Transport and Infrastructure of the Republic of Türkiye (2023), *2053 Transport and Logistics Master Plan*. [26]

Ministry of Transport and Infrastructure, R. (2022), *Ulaştırma Ve Altyapı Bakanı Karaismailoğlu: Demiryollarının Yatırımdaki Payını 2023'te %63'e Yükselteceğiz*, https://www.uab.gov.tr/haberler/ulastirma-ve-altyapi-bakani-karaismailoglu-demiryollarinin-yatirimdaki-payini-2023-te-63-e-yukseltecegiz. [13]

OECD (2019), *Sustainable Infrastructure for Low-Carbon Development in Central Asia and the Caucasus: Hotspot Analysis and Needs Assessment*, OECD Publishing, Paris, https://doi.org/10.1787/d1aa6ae9-en. [44]

OECD (forthcoming), *Improving Kazakhstan's trade connectivity*. [4]

OECD-ITF (2020), *Decarbonising Azerbaijan's Transport System: Charting the Way Froward*. [16]

OECD-ITF (2019), *Enhancing Connectivity and Freight in Central Asia*, https://www.itf-oecd.org/sites/default/files/docs/connectivity-freight-central-asia.pdf. [15]

OSCE (2022), *Aktau becomes first certified EcoPort in Kazakhstan with OSCE assistance*, https://www.osce.org/secretariat/522520#:~:text=Aktau%20Port%20received%20the%20certificate,sustainability%20of%20the%20transport%20sector. [39]

PMCG (2023), *Maritime Trade in the Black Sea in the Context of the Russo-Ukrainian War*, https://pmcg-i.com/publication/maritime-trade-in-the-black-sea-in-the-context-of-the-russo-ukrainian-war/. [30]

Rail Freight (2022), *Middle Corridor unable to absorb northern volumes, opportunities still there | RailFreight.com*, https://www.railfreight.com/specials/2022/03/18/middle-corridor-unable-to-absorb-northern-volumes-opportunities-still-there/ (accessed on 24 June 2022). [33]

SNCF (2020), *The Digital Freight Train*, https://www.sncf.com/en/logistics-transport/rail-operations/fret-sncf/digital-freight-train. [37]

SNCF (2019), *Digital Freight Train: Innovative Services for the Rail Freight Community*, http://medias.sncf.com/sncfcom/infosinternes/19LI/19_train_fret_digital.pdf. [38]

TCDD Taşımacılık (2022), *2022 Faaliyet Raporu*, https://adminapi.tcddtasimacilik.gov.tr/files/pdfs/TCDD-Tasimacilik-2022-Faaliyet-Raporu%5b26218%5d.pdf. [10]

Tokuslu, A. (2021), *Estimating greenhouse gas emissions from ships on four ports of Georgia from 2010 to 2018. Environmental Monitoring and Assessmen*. [41]

UIC and Roland Berger (2021), *Eurasian Rail Traffic Development: Southern and Middle Corridor*, https://uic.org/events/IMG/pdf/presentations_210422_uic_corridor_study_2021_1.pdf. [29]

UNECE (2023), *Overview of ongoing and planned operationalization activities in support of the Trans-Caspian and Almaty-Tehran-Istanbul corridors*, https://unece.org/sites/default/files/2023-07/ECE-TRANS-WP5-2023-02e_0.pdf. [12]

UNESCAP (2022), *Strengthening capacity for operationalizing sustainable transport connectivity along the China-Central Asia-West Asia Economic Corridor to achieve the 2030 Agenda*. [42]

University of Central Asia (2023), *Transport transision to decarbonisation in Central Asia*, https://sipa-centralasia.org/wp-content/uploads/2023/09/5.-ENG-SIPA_decarb_transport_UCA_1109.pdf. [24]

USAID (2022), *Trans-Caspian Corridor Development*, https://www.carecprogram.org/uploads/19th-TSCC_A05_USAID-TCAA.pdf. [28]

World Bank (2022), *The Container Port Performance Index 2022*, https://documents1.worldbank.org/curated/en/099051723134019182/pdf/P1758330d05f3607f09690076fedcf4e71a.pdf. [27]

World Bank (2020), *Improving Freight Transit and Logistics Performance of the Trans-Caucasus Transit Corridor : Strategy and Action Plan*, World Bank Group, http://documents.worldbank.org/curated/en/701831585898113781/Improving-Freight-Transit-and-Logistics-Performance-of-the-Trans-Caucasus-Transit-Corridor-Strategy-and-Action-Plan. [9]

World Economic Forum (2020), *The Global Competitiveness Report 2020*, https://www3.weforum.org/docs/WEF_TheGlobalCompetitivenessReport2020.pdf. [21]

Notes

[1] Block or unit trains refer to freight trains transporting a single commodity bound for the same destination, without switching cars or stopping for storage purposes along the way.

5 Effective implementation: strategic planning, private sector involvement and regional co-operation

In the short-to-medium term, addressing both trade facilitation needs and infrastructure bottlenecks will require a combination of national initiatives and regional co-operation. The creation of regional oversight bodies could facilitate effective implementation, along with the deepening of regional and international agreements. In the longer term, if these reforms are to contribute to the development of the Middle Corridor into a central regional trade route, there must also be a strong, sustained political commitment to build and integrate regional markets in Central Asia and the South Caucasus and to connect them with Europe and Asia.

Regional dialogue on the Middle Corridor has intensified, but greater co-ordination will be needed to develop it

A regional inter-governmental dialogue on an action plan to develop the route has started to formalise

Azerbaijan, Georgia, Kazakhstan and Türkiye have reinforced their co-operation to develop the Middle Corridor as a credible and attractive trade route. 2022 saw an intensification of political re-engagement between the governments in Central Asia and the South Caucasus, as well as a deepening of their ties with the European Union (EU) in a joint effort to develop the Middle Corridor as an alternative trade route (PMCG, 2023[1]). In March 2022, Kazakhstan, Azerbaijan, and Georgia established the joint venture (JV) Eurasian Joint Alliance to automate logistical services to provide efficient administration of transit operations and facilitate customs and border crossings. Together with Türkiye, they signed a quadrilateral declaration to improve transhipment capacity and encourage global trade integration. In April, the public railway firms of Kazakhstan and Azerbaijan signed a logistics co-operation document, while the following month governments and leading logistics agencies of Azerbaijan, Kazakhstan, Georgia and Türkiye agreed to close co-ordination (Geopolitical Monitor, 2022[2]) the South Caucasus. At the ministerial meeting on Trans-Caspian connectivity in Aktau in November 2022, all four countries signed a Roadmap and Action Plan to enhance the Middle Corridor's competitiveness, with the aim of increasing its throughput capacity to 10m tons per year by 2025 (see Box 5.1) (Government of Kazakhstan, 2022[3]). This was followed in June 2023 by the signature of a trilateral co-operation protocol to establish an intergovernmental working group on the development of trade along the Middle Corridor between Kazakhstan, Azerbaijan, and Türkiye. The development of new transport routes and logistics projects has also been at the centre of high-level political discussions with China and the EU, as witnessed by the first ever European Union-Central Asia leaders' summit in October 2022, the May 2023 Xi'an Summit between China and Central Asia, the May 2023 EU-Central Asia Economic Forum, and renewed talks between the EU, Azerbaijan, and Georgia.

Box 5.1. The 2022-27 TITR Roadmap dimensions and implementation

The road map consists of seven pillars of work on which the Governments of Azerbaijan, Georgia, Kazakhstan and Türkiye agreed to focus:

- development of commonly prioritised transport and logistics infrastructure;
- operational optimisation through the attraction of additional cargo flows;
- implementation of a unified tariff policy;
- development of a commonly agreed network of logistics centres;
- sustainable development of multimodal transportation; and
- implementation of a unified digital transport corridor.

The Roadmap delineates each dimension into sub-actions, each with a deadline, completion output, and the responsible parties (i.e., ministries, national companies, railway companies, ports, private firms, and authorities).

Source: (UNECE, 2023[4]; Azerbaijan Railways, 2023[5])

Progress has been made in creating a TITR co-ordination body. The Economic Co-operation Organisation (ECO) and the United Nations Economic Commission for Europe (UNECE) convened the First Co-ordination Committee Meeting (CC) on the Trans-Caspian and Almaty-Istanbul Corridors in

September 2022, with the second and third meetings taking place in June and July 2023 (ECO, 2022[6]). In addition to government representatives, these meetings included representatives from international organisations, non-governmental organisations, and the private sector – though customs authorities and railways firms are the dominant participants, with rail capacity being the central topic (UNECE, 2023[4]). They are complemented by more frequent discussions, such as on multimodal inland transport routes between Asia and Europe. Kazakhstan has also improved domestic co-ordination: every quarter, a working group with relevant vice ministers, managers and local administrations is chaired by the Ministry of Trade and Integration to report on the five CBC hubs progress, identify issues and decide on solutions and next steps to deblock potential bottlenecks.

Collaboration between Middle Corridor countries is increasing but could be further improved

Examples of transnational infrastructure co-operation in the region exist. For instance, the construction of the Baku–Tbilisi–Kars (BTK) Railway was initially financed by the governments of the three participating countries. Azerbaijan's State Oil Fund ultimately provided loans to cover Georgia's section of the track, though all three national railway companies retain ownership (Eurasian Research Institute, 2017[7]). Funded by the two national governments and international financial institutions (IFIs), Georgia's and Azerbaijan's East-West Highway has helped reduce travel times significantly and resulted in dozens of new small and medium enterprises (SMEs) being set up along the route, while it also contributed to the development of agriculture and other non-hydrocarbon sectors in Azerbaijan (CAREC, n.d.[8]; World Bank, 2022[9]). Moreover, as indicated in Chapter 1, the two governments are discussing reforms to jointly improve the Red Bridge border crossing facility infrastructure capacity beyond improvements in previous years (World Bank, 2020[10]). Finally, Kazakhstan is developing five cross-border co-operation (CBC) hubs to boost its trade, transport, and transit connectivity with its neighbours, including some bilateral co-operation (Box 5.2). Türkiye has undertaken several bilateral initiatives with countries along the Middle Corridor route, which can lay the foundation for multi-country initiatives. A data exchange agreement was signed between Georgia and Türkiye, within the framework of the Baku-Tbilisi-Kars railway (BTK), on the joint use of land customs crossing points to accelerate border crossing times. Azerbaijan and Türkiye have also established a preliminary electronic information exchange system. Simplified customs corridor agreements exist between Türkiye and Georgia and between Türkiye and Azerbaijan enabling data exchange to facilitate faster customs procedures.

Box 5.2. Kazakhstan: developing cross-border co-operation hubs

Kazakhstan's *National Entrepreneurship Development Project for 2021-2025* seeks to diversify sectors of the economy. It aims to develop a roadmap for the creation and modernisation of five cross-border co-operation hubs delineated in the *2030 Transport and Logistics Potential Development Concept* approved in 2022. Under the Ministry for Industry and Infrastructure Development (MIID), *Concept 2030* expands Kazakhstan's existing cross-border co-operation hub (CBC) concept in Khorgos with China to four new ones: the Caspian Knot maritime hub in Aktau, as well as Central Asia, Alatau and Eurasia, bordering Uzbekistan, Kyrgyzstan, and Russia, respectively. Together they seek to foster connectivity with neighbouring countries, with Khorgos and the Caspian Knot aiming to address Middle Corridor bottlenecks:

- **Khorgos**: a joint project between Kazakhstan and China implemented under the previous Nurly Zhol strategies to develop Kazakhstan's transport infrastructure within China's Belt and Road Initiative. It serves road, rail, and pipeline traffic and consists of facilities on the Chinese-Kazakh border developed in the last decade, including a Special Economic Zone (SEZ), checkpoints, a railway station and terminal, and an International Centre for Cross-Border Co-Operation (ICBC) Free Trade Zone. The ICBC is a Free Trade Zone that enjoys a special legal and tax regime within its own borders, divided into a Chinese and a Kazakh block. Access and exit to the ICBC are independently regulated by both country's customs offices. Chinese or Kazakh individuals can remain visa-free on either side for 30 days.
- **Caspian Knot**: seeks to improve internal co-operation with Caspian Sea littoral neighbours and develop trade and logistics infrastructure development. It chiefly focuses on building containerisation capacity for trade and transit of goods in Aktau and Kuryk ports, though parts will also be included in SEZ Port Aktau to stimulate investment.

Source: (Adilet, 2022[11])

Reform efforts also largely remain within the domestic scope

The lack of co-ordinated effort between countries on infrastructure projects does not guarantee continuous traffic flows. Kazakhstan's Caspian Knot aims to significantly expand the containerisation of trade and transit, though this can only succeed if other Middle Corridor countries boost their own container capacities – especially Azerbaijan. Firms report low transhipment capacity of Azerbaijan's Alat port due to a lack of dedicated container equipment and terminal, where equipment is intended for bulk operations rather than container operations. As a result, container handling results in additional delays, regardless of Kazakhstan's efforts to modernise its equipment or Georgia's containerisation expansion project in Poti. Kazakhstan's *Concept 2030* states that it will develop road infrastructure to Turkmenistan's western border within the North-South Corridor. Though there is low traffic today, the government forecasts an increase in traffic, but the hard infrastructure links, as well as a border logistics centre on Turkmenistan's side, would need to be improved for the trade and transit link to be of enhanced practical use (EBRD, 2023[12]; OECD, 2023[13]). The absence of a single co-ordinating body or multilateral mechanism further hinders regional integration, as governments focus on bilateral and trilateral discussions that risk failing to integrate all points of view.

Governments tend to focus on large infrastructure development plans at the national level with only limited regional integration. Georgia has developed its side of the Sarpi-Sarp border control point (BCP), but without corresponding dedicated TIR lanes on the Turkish side, its impact on transit costs and times is limited. Both Azerbaijan and Georgia are developing the Red Bridge BCP, but

Azerbaijan's Single Window development lags that of Georgia, resulting in limited efficiency gains for drivers. While Kazakhstan's CBC hubs fit into its broader national infrastructure strategy, it risks developing isolated cross-border initiatives ill-suited to Middle Corridor needs. For instance, the Khorgos hub lacks a regional vision beyond limited bilateral co-operation with China, and the Caspian Knot development appears devoid of any other country's involvement. Azerbaijan and other economic partners are mentioned at times in Kazakhstan's Concept 2030, there are measures to co-operate or align TITR development plans. The Concept 2030 appears to have been designed without consulting foreign governments or integrating their development strategies with Kazakhstan's own infrastructure strategies. Similarly, the capacity in million tons of Georgia's two Black Sea ports is significantly beyond that of Azerbaijan's Caspian Sea port, while its utilisation rate was just 10% (see Chapter 4), pointing to a mismatch in needs. Containerisation capacity and utilisation are high, but the Poti ATM Terminals' expansion plans will need to be aligned with forecasts in container traffic and infrastructure development in Azerbaijan and Kazakhstan. Both Azerbaijan and Georgia embarked on rail and road modernisation and expansion around the same time (see Chapter 4), though they have not systematically co-ordinated their approach. Streamlining the existing conventional and single-track Kars-Akhalkalaki rail network into electrified and double-track, as supported by Türkiye, has not been agreed by the Georgian side yet. Türkiye's public investment plans reflect the ongoing shift to railway investments supporting the Middle Corridor route. However, in some cases, the location and capacity of the logistical centres do not match the expectations of the private sector in terms of efficiency as expressed to OECD.

Trade facilitation strategies are mainly implemented with only a national scope. While international organisations have supported the Central Asian countries in setting up a regional Single Window (see Box 5.3), the gateway was an EU-led initiative and does not cover the remaining Middle Corridor countries. Kazakhstan's *Concept 2030* states that non-physical barriers in international transport communication, including the long and complex cycle of customs administration of the process of multimodal transport of goods in international traffic are a significant barrier, though attention to the Caspian Sea is limited. OECD interviews indicate that though Kazakhstan and other Caspian littoral countries are working on digitalisation of customs information, as well as harmonising and simplifying requirements, most software solutions are developed only with the domestic market in mind. This hampers the exchange of data and reduces the tangible benefits for traders, shippers, and other actors (OECD, 2023[13]). Only part of the signed and ratified agreements is enforced as there is no mechanism for overseeing their implementation. Countries have different standards for the maximum weight and axle loads of heavy goods vehicles and different formal procedures and rules for entering and crossing each border, exacerbating co-operation and harmonisation problems. The situation is further complicated by the substantial border-crossing times (See Chapter 3). (OECD-ITF, 2019[14])

Box 5.3. The Info Trade Central Asia Gateway for Single Windows in Central Asia

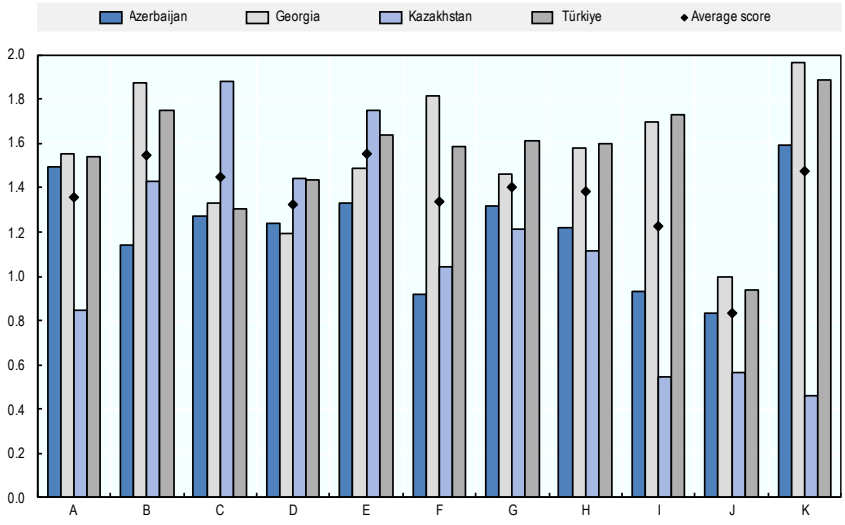
Developed by the International Trade Centre (ITC) and funded by the European Union's (EU) Ready4Trade Central Asia (R4TCA) project, the Info Trade Central Asia Gateway (Central Asia Gateway) aims to provide greater transparency in cross-border trade and remove regulatory and procedural barriers. Launched in 2023, the Central Asia Gateway provides direct access to step-by-step guides on licenses, pre-clearance permits and clearance formalities for most traded goods within, to and from Central Asia. It automatically extracts information from national trade facilitation portals in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan that present national export, import and transit formalities step-by-step by mode of transport.

From each step, the Central Asia Gateway informs users on where to go, who to meet, what documents to bring, what forms to fill, what cost to pay, what law justifies the step and where to complain in case of problem. ITC also designed free courses which it provides for small and medium-sized enterprises (SMEs) in each participating country to encourage regional and international trade. The courses vary from global trade rules to export procedures, transit routes, quality and compliance standards, and EU market standards. The Central Asia Gateway also links to partner helpdesks (i.e., EU, United States, China, ASEAN) as well as the trade capacity-building and knowledge training websites of each of the five countries, thereby bringing relevant trade information into a single point of contact.

Source: (ITC, 2023[15])

Co-ordination and collaboration in trade facilitation remain a difficult point. All four countries perform worse on external border agency co-operation than any of the other TFI dimensions. Internal agency co-operation is the second poorest performance area in the four countries, though Georgia and Türkiye score well in this area and could likely provide good practices to Azerbaijan and Kazakhstan. Kazakhstan has intensified domestic co-ordination and harmonisation of data requirements and documentary controls among agencies involved in cross-border trade, including increased real-time availability of pertinent data among domestic agencies. Progress is also being achieved in setting the basis for the co-ordination of risk management systems implemented by various agencies, including through shared results of inspections and controls (see Chapter 3). However, according to OECD interviewees, the lack of co-ordination among international organisations, development banks, and development agencies on facilitation initiatives contributes to an uneven and unaligned trade facilitation landscape that already suffers from the absence of a single regulatory authority (OECD, forthcoming[16]).

Figure 5.1. Middle Corridor country trade facilitation indicator performance, 2022



Legend: A - Information availability, B - Involvement of the trade community, C - Advance rulings, D - Appeal procedures, E - Fees and charges, F - Documents, G - Automation, H - Procedures, I - Internal border agency co-operation, J - External border agency co-operation, K - Governance and impartiality.
Note: 2 is the maximum score.
Source: OECD TFIs database, 2022.

At the national level, the lack of an integrated strategy and limited co-ordination between levels of government constrain reform

Co-operation and co-ordination among various authorities, as well as between the public and private sectors at the national level, is still insufficient

Middle Corridor organisation takes place largely through the railroad and port institutions of the constituent economies – as seen by the TITR international association membership. National-level state development of the Middle Corridor is highly dependent on the rail freight development plans of the state-owned railroads and associated port infrastructures (ADB, 2021[17]). For instance, the Ministry of Regional Development and Infrastructure of Georgia appears to be absent in Middle Corridor discussions, despite being responsible for the East-West Highway development. OECD interviews indicate that a new regional working group or committee on connectivity, digitalisation, and border procedure issues in the region is being set up, while the Transport Corridor Europe-Caucasus-Asia and IRU hold sporadic meetings on combining transport modes across the Middle Corridor (IRU, 2023[18]). Such initiatives are a step in the right direction but remain far removed from a holistic institutional framework to address all issues. Moreover, a fragmented landscape of regional initiatives could fail to address the common challenges in making the TITR more competitive.

The absence of a public- or private-sector body supervising all modes of transports is detrimental to multimodality. In Kazakhstan, KTZ Express JSC is the single authorised transport operator that provides unified logistics services for multimodal transport. While this helps facilitate flows and attract cargo traffic, a transnational player is notably absent (OECD, forthcoming[16]). Moreover, the absence of an administrative body in charge of multimodal transport planning in Kazakhstan hampers connectivity, as road and railway agencies often do not work closely together (ITF-OECD, 2019[19]). The national railway company KTZ owns most of Aktau's port as well as Kuryk's ferry operations, and its strategies and handling may differ from those of an independent multimodal actor. The rest of Kuryk port is the property of Semurg

Invest, and the co-operation between the two port owners is primarily based on exchange of information instead of structural co-operation. Collaboration exists, as interlocutors state that sufficient cargo exists to be handled, though the ports show continued underutilisation and compete for largely similar cargoes (ADB, 2021[20]). The changing geopolitical context could make volumes decline, and competition increase simultaneously. Without minimum volume guarantees or a framework to plan for such eventualities, Caspian Sea port strategies may misalign in the future, especially if they do not intensify domestic and multinational co-ordination among themselves (OECD, 2023[13]). Additionally, Caspian shipping operations are dominated by Azerbaijani firms, which adds a layer of complexity in the collaboration with Kazakh port authorities.

Public-private co-operation also remains at the margins and limits private sector involvement in the planning and financing of the route's development

Public-private partnership frameworks for infrastructure financing and development exist, yet remain at an early stage of development

Private sector participation in the development and financing of transport infrastructure, essentially in the form of PPPs remains at an early stage in Central Asia and the South Caucasus. Despite being a widespread tool for long-term transport infrastructure financing across OECD countries (Box 5.5), PPP schemes have indeed been either introduced only recently, as in Azerbaijan or Georgia, or rarely used, as in Kazakhstan, to maintain and expand transport infrastructure (Box 5.4). Despite having pioneered PPPs in the region, Kazakhstan has used them only in a limited way for transport infrastructure initiatives. The 2006 Law on Concessions opened the way to private sector participation in the development of the transport sector, whose scope has been later formalised and expanded by the 2015 PPP Law and more recent amendments (UNESCAP, 2018[21]; ITF-OECD, 2019[19]; ADB, 2022[22]). Businesses interviewed by the OECD indicated that though the framework has eased the PPP process, the transport sector represents only 3% of the country's 1,357 PPP projects (ADB, 2022[22]; KZPPP, 2023[23]). In particular, the government's current infrastructure development strategy *Concept 2030*, unlike its predecessors, does not contain precise financial allocations for individual items, nor a list of projects which the private sector could bid. The *Concept 2030* however consecrates PPPs as a major tool to develop the infrastructure of seaports and attract private investment to create specialised terminals, while entrusting private investments to finance transport and logistics infrastructure (Adilet, 2022[11]).

Azerbaijan and Georgia have also aimed at increasing private sector participation in infrastructure development by elaborating PPP frameworks. Since 2013, PPPs have been promoted in Georgia as an alternative means of financing infrastructure projects. This has been reemphasised in 2016 and led to the 2018 PPP law which authorises the tool. However, so far only 33 PPP projects seem to have been effectively developed, with the transport sector being the second beneficiary after the energy sector (ADB, 2020[24]; World Bank, 2023[25]). In Azerbaijan, no PPP in the transport sector has been reported so far, largely due to the novelty of the framework, initiated in 2016 and formalised only in December 2022 with the Law on PPP (Public Private Partnership Development Centre, 2022[26]; World Bank, 2023[25]).

After Brazil and China, Türkiye was the third largest recipient of PPI (Private Participation in Infrastructure) investments in 2021, and infrastructure investments have been gaining momentum with larger projects in the pipeline. The first structured legal framework regarding PPPs, specifically Build-Operate-Transfers (BOTs, a project delivery method where the private entity builds the infrastructure and obtains the right to operate it to cover the construction costs) was introduced as early as 1994. However, the major boost to transport infrastructure investments came through 2011 amendments to this law and 2005 amendments to the Transfer of Operating Rights (TOR, a model in which operating rights of existing facilities are transferred from the state to a private entity) provisions with regards to airports. These two changes have contributed significantly to an increasing share of infrastructure PPPs in Türkiye's

investment portfolio. While from 1990-2011 the largest PPP investments were reported in the electricity sector, from 2012-2022 airports took the highest share with significant increases in roads and ports as well. The aggregate PPI in transportation (airports, ports, roads, railways combined) stands at USD 79.3 billion as of 2022 (World Bank, 2023[25]). Türkiye has ambitious transport projects in the pipeline, most notable ones being Canal Istanbul, a constructed sea-level water passage from the Black Sea to the Marmara Sea and the Gebze-Halkali railway over the 3rd Bosporus Bridge (Investment Office, 2023[27])

Box 5.4. Public-private partnership (PPP) frameworks and Traditional Public Investment (TPI) in transport infrastructure in Central Asia, the South Caucasus, and Türkiye

Azerbaijan

Since 2016, PPPs have been regulated by the "Law on the Implementation of Special Financing for Investment Projects in Connection with Construction and Infrastructure Facilities ("Build-Operate-Transfer/BOT Law") and the Order on the establishment of conditions of the realisation by investors of investment projects with respect to construction and infrastructure objects with the "BOT" order. A PPP Unit has been established in 2018 that develops and implements PPPs. Nevertheless, beyond the first PPP in 2021, only three PPP projects have been initiated since 2016 (The World Bank, 2022[28]). Azerbaijan's PPP framework requires a substantial upgrade to comply with internationally recognised standards, which could enhance the development and implementation of more PPPs (EBRD, 2021[29]).

Georgia

The decrees on the "Approval of PPP Policy" and "Approval of Investment Projects Management Guide" were adopted in 2016, setting out the principles organising the institutional and legislative framework of PPPs and the outlines of evaluation, approval and implementation procedures for public investment projects including PPPs, followed by a 2018 "Law on Public-Private Partnership". Created in 2018, the Public and Private Co-operation Agency – a dedicated government entity – identifies possible PPP projects, ensures their selection and coordinates the development and implementation of the projects. Since 1993, 15 PPP projects have been initiated, including one after the adoption of the new law in 2018 for the Port of Poti marine terminal (The World Bank, 2022[28]).

Kazakhstan

Two main laws regulate PPPs: the 2015 Law "On Public Private Partnership" and the 2006 Law "On Concessions". Created in 2008, the Center for Development of PPPs is a specialised government entity dedicated to facilitating PPPs. It conducts research to develop recommendations on PPPs, examines PPP projects, evaluates their implementation, and trains specialists. Since 1997, 36 PPP projects were initiated, including 15 after the implementation of the PPP law in 2015 (The World Bank, 2022[28]).

Türkiye

Legislation does not have a single and unified legislative framework for PPPs. Depending on sectors (i.e., infrastructure projects in transportation, energy…) and the PPP model, numerous laws can apply. Since 2018, the Department of PPP of the Presidency of Strategy and Budget has been building PPP capacity, approving projects, and overseeing their implementation. The Ministry of Treasury and Finance is also involved in the facilitation of the PPP program. Since 1990, 222 PPP projects have been initiated (The World Bank, 2022[28]).

Source: (World Bank, 2020[30]).

Table 5.1. Performance of PPP and TPI systems in Central Asia, the South Caucasus, and Türkiye

Dimension	Azerbaijan	Georgia	Kazakhstan	Türkiye
Preparation of PPPs	30	65	49	37
Procurement of PPPs	43	74	63	69
PPP Contract management	51	79	62	75
Infrastructure asset management under TPI	73	61	n/a	46

Note: Selected scores (out of 100) from the 2020 World Bank PPP and TPI surveys

Despite improved dialogue at the regional level, the private sector is largely excluded from strategic discussions about the route's development, at the national level

At the regional level, the private sector has been working towards common standards and addressing recurrent issues along the route. National business associations as well as regional and international organisations covering the different business activities along the Middle Corridor logistics route have been actively mapping infrastructure and trade facilitation bottlenecks and developing dialogue platforms to address them. In particular, the interplay of business representatives and international organisations in the framework of BSEC, IRU, or TRACECA has allowed the elaboration of common transit standards, and the development of pilot projects, in particular about trade facilitation aspects (see Chapter 3). At the regional level, the TITR association has also been instrumental in triggering public-private discussions about the necessary adaptations to raise the route's attractiveness. The association's structure, combining membership of major state-owned enterprises as well as other private key players in the rail, road, port, and logistics sectors, has contributed to initiating discussions with governments in Central Asia, the South Caucasus, and Europe, as witnessed in the association's contribution to the November 2022 TITR Development Roadmap.

However, at the national level, the private sector is consulted only occasionally by governments on infrastructure and trade facilitation issues and policies. Some of the business associations interviewed by the OECD in the countries of the Middle Corridor said they had been consulted by their governments to contribute to national strategies for transport infrastructure development and trade facilitation, providing expert opinions on proposed measures or suggesting additional or alternative ones. In some rare cases, such a dialogue is formalised in the framework of joint action plans, as for instance between the Union of Transport Workers of Kazakhstan and the Ministry of Industry and Infrastructure Development. However, interviews conducted by the OECD suggest that this type of formal arrangement and consultation remains an exception, while most interactions apply to specific laws rather than the development of strategies. Türkiye has a strong private sector with effective lobbying capacity through various sector-specific business NGOs, including those in the transport and logistics sector. These NGOs are consulted on regular basis during the preparation of nation-wide strategic development plans (e.g. so called "Development Plans") at macro level; while the private sector stakeholders consulted by OECD refer to lack of effective consultation during the preparation and implementation of micro-level infrastructure plans. Consultations for Trade Facilitation, on the other hand, are institutionalised in view of Türkiye's status as a party to the WTO Trade Facilitation Agreement, which stipulates the establishment of a country-wide coordination committee for trade facilitation encompassing all related public and private stakeholders.

In each country, businesses consulted by the OECD highlighted the lack of an institutionalised public-private dialogue (PPD) on infrastructure development as a major impediment to the route's development. Beyond the occasional consultation of representatives of the main transport sectors (road, rail, ports) or major business activities on the logistics chain (e.g., freight forwarders), interviewees indicated that PPD remains limited. In particular, interviews indicated an absence of strategic consultations of the private sector by governments when developing the regulatory framework for transport infrastructure expansion or trade facilitation strategies. It appears that Kazakhstan has not systematically consulted non-

public stakeholders, while designing the Port Aktau Special Economic Zone (SEZ) or during its operations following the 2003 launch or the planned expansion in 2023. The involvement of private company DP World in Port of Aktau and its intended participation in ownership of SEZ Aktau may have improved operational and governance performance, but with its departure and the absence of other business representatives, such dialogue remains mostly absent (OECD, forthcoming[16]). If such consultations happen, it is mainly in the framework of international sectoral business associations or organisations, such as UIC, IRU or TITR.

Box 5.5. The OECD Principles for Public Governance of Public-Private Partnerships

Overview of the OECD framework for Public-Private Partnerships

Private investment has the potential to supplement public investment to meet investment needs. Investors, particularly long-term ones, expect governments to be competent and reliable partners and to promote a stable business climate for investment. The use of PPPs in OECD countries calls for capacities in government in terms of skills, institutional structures and legal framework to address the complexity of PPPs. Policymakers are encouraged to adopt a robust system of assessing value for money that involves classifying, measuring and contractually allocating risks to the party best able to manage them. Good governance of PPPs requires the alignment of public sector areas such as institutional design, regulation, competition, budgetary transparency, fiscal policy and integrity at all levels of government.

- Establishing a clear, predictable and legitimate institutional framework supported by competent and well-resourced authorities is essential for the good governance of PPPs. Regulations affecting the operation of PPPs should be clear, transparent and adaptable to changing conditions.
- The selection of PPPs should be grounded in value for money principles and based on a whole government perspective. The decision to choose the delivery mode should be separate from how to procure and finance the project to avoid institutional, procedural or accounting bias, either in favour or against PPPs.
- Transparency in the budgetary process is essential to minimise fiscal risks and ensure the integrity of the procurement process. This will help ensure the affordability and sustainability of the overall investment envelope.

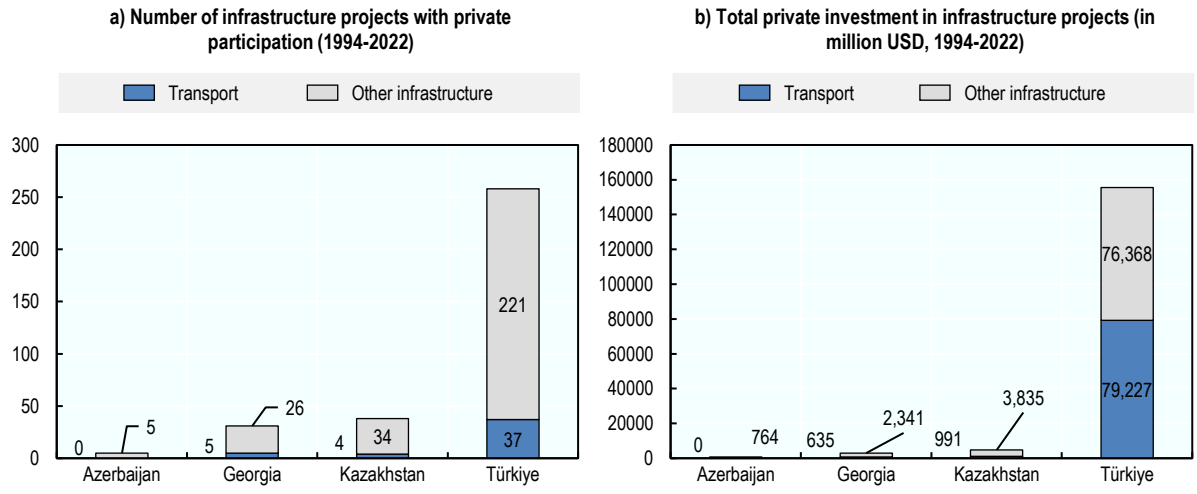
Source: (OECD, 2012[31])

Current infrastructure projects therefore remain mainly publicly financed, with limited interest from private investors

Private sector participation in the financing of infrastructure projects remains limited. OECD interviews indicated that the low use of PPPs in the transport sector combined with the prevalence of the state in the rail and road sectors have limited the scope of private sector financing. Port development in Azerbaijan, Georgia, and Kazakhstan seems to be a somewhat notable exception, as despite difficulties, recent construction and expansion projects have attracted some investor interest. Kazakhstan's Sarzha multimodal marine terminal in Kuryk is being financed by Semurg Invest, a private company owned by a single anonymous individual. However, across both Central Asia and the South Caucasus, public funds, donor financing and concessional loans by major international financial institutions, key among which the EBRD or the ADB, remain the major sources of infrastructure financing while the operation and

maintenance of infrastructure assets are mainly covered by public funding (World Bank, 2020[30]; ADB, 2020[24]).

Figure 5.2. Private sector participation in transport and infrastructure projects financing in Central Asia, the South Caucasus and Türkiye



Note: The figure takes into account "active" or "concluded" projects from the PPI database, and not "cancelled" or "distressed" ones.
Source: (The World Bank, 2022[28])

Part of this trend seems to result from limited investor interest in developing segments of the Middle Corridor. OECD surveys and interviews indicated that, despite believing in the potential of the route, the private sector is rather reluctant to commit to projects that could develop some of its segments. Indeed, the uncertainty about future traffic flows is considerably reducing investor interest and willingness to engage in development projects requiring long-term financial engagements (OECD, 2023[13]). The non-fulfilment of the PPP scheme for the development of Georgia's Anaklia deep seaport in 2020 due to outstanding issues between the project consortium and the government is indicative (CAREC, 2021[32]). However, increased private sector interest in the development of the route since early 2022 could change the situation. Businesses interviewed by the OECD indicated their willingness to engage more closely in the development of the route, addressing key infrastructure bottlenecks, but they also indicated that this would require a change in government practices towards greater consultation of the private sector, use of PPPs, and increased dedicated capacity in relation to both topics.

OECD surveys also indicate that low awareness of PPPs among government officials and the business sector is limiting private sector involvement in infrastructure financing or maintenance. The relative novelty of PPPs in the transport sector especially in Azerbaijan and Georgia, resulted in a low awareness of the tool's opportunities and benefits among responsible government departments and the private sector and was not yet integrated as a core element of infrastructure planning strategies (ADB, 2020[24]). For instance, while in Türkiye the regulatory framework provides for the inclusion of PPPs in the national budgetary framework and details a specific procedure to ensure the consistency of PPPs with other public investment priorities, such provisions are absent in Azerbaijan, Georgia, and Kazakhstan. In Georgia and Kazakhstan, the regulatory framework only prescribes the need for PPPs to be consistent with all other investment priorities, without establishing a specific procedure to achieve that goal (World Bank, 2020[30]).

More broadly, government bodies responsible for managing infrastructure face major capacity constraints in relation to financial risk analysis, screening, and implementation of infrastructure projects. In particular, risk analyses, ranging from financial to social and environmental aspects, are not

yet widespread practices among government agencies when developing infrastructure projects. Capacity constraints also exist in relation to the maintenance and improvement of existing infrastructure assets. For instance, while in Türkiye, Georgia, and Azerbaijan, governments developed routine maintenance and improvement plans for such assets and maintained a related database, no regular surveys of stocks, conditions, and quality of the infrastructure assets were carried out (World Bank, 2020[30]).

Defining a co-ordination framework and building capacity for efficient and transparent planning to enhance regional co-operation

Develop the institutional tools to support a common approach to the development of the Middle Corridor

Set up a formal coordination framework for the Middle Corridor

Partner countries should clarify the Middle Corridor co-operation framework to avoid overlap. Compared to individual country actions, co-operation and common approaches at the Middle Corridor level can leverage mutual expertise in capacity building, research, information and data gathering. Coordination organisations and mechanisms already exist for the Middle Corridor, but there is important overlap in their scope, and competition logics can exist between the different institutions. In certain cases, they cover a bigger region than the four project countries, and in other cases such as the TITR roadmap, they are not formalised. The more formalised the management body will be the more important visibility and enforcement power it will have. This would pave the way for an improved project prioritisation process (EBRD, 2023[12]).

Azerbaijan, Georgia, Kazakhstan and Türkiye should formalise the dialogue between stakeholders involved in the development of the Middle Corridor. Rather than creating from scratch a new management body for the Middle Corridor, governments should formalise the dialogue between the existing international and regional organisations and the relevant administrations in each country. This framework could take the form of regular meetings between representatives of regional organisations and initiatives (TRACECA, CAREC, BSEC, OTS, TITR Association), relevant ministries in each country and National Trade Facilitation Committees. Both high-level ministerial committees and technical committees should be gathered. The participation of private stakeholders in working groups could also be relevant, replicating at the regional scale what is already done in some countries, like in Georgia with quarterly meetings organised with the Business Association of Georgia. Relevant private stakeholders could include business associations, freight forwarders, manufacturers and investment funds. For this framework to be efficient, governments should entrust institutions with clear and consistent mandates, preventing to the extent possible any overlaps in responsibilities both in terms of infrastructure sectors and functions (policymaking, planning and execution). They must also provide entities with ample decision-making powers and allocate sufficient financial resources to ensure their ability to react more promptly to evolving situations (ADB, 2022[33]) (IRU, 2017[34]).

Box 5.6. Regional Trade Facilitation Committees in Africa

There are currently two Regional Trade Facilitation Committees (RTFCs) in operation within Africa. One was established by the Economic Community of Central African States (ECCAS) in 2018. This platform aims to coordinate efforts related to transit facilitation and to implement the World Trade Organization (WTO) Trade Facilitation Agreement. the Economic Community of West African States (ECOWAS) also set up a similar structure in June 2021. The purpose of this initiative is to enhance trade facilitation in the region by fostering co-operation and coordination among ECOWAS National Trade Facilitation Committees (NTFCs). The goal is to achieve a harmonized implementation of trade facilitation reforms at the national, regional, continental, and international levels. A roadmap has also been drafted for the creation of a Regional Trade Facilitation Committee for the Horn of Africa (HoA).

These Regional Trade Facilitation Committees aim is to provide a regional platform for the exchange of expertise, to harmonise the implementation of international trade facilitation reforms and to provide recommendations to the member states regarding the simplification of trade procedures.

Source: (Initiative, 2022[35])

Define and publish a long-term infrastructure development plan

Governments should draft a long-term infrastructure plan in coherence with the priorities established through coordination mechanisms. These types of plans establish long-term time horizons and generally range between 10 and 20 years. The plan should frame the choice of what to build with a cross-sectoral approach to the region's future, considering synergies and trade-offs. It should have measurable goals and targets to be achieved through the infrastructure investment programme. The document would present a pipeline indicating priority projects, for each one with an explanation of the purposes and objectives and their alignment with the overarching infrastructure strategy. It should also include a timeline illustrating the different project phases and milestones. Planners should publish the long-term plan and ensure transparency of the strategy.

The authorities should monitor and update the plan regularly. They should define specific indicators to monitor and evaluate the implementation of the long-term plan, such as overall traffic and capacity on the route, waiting times at border points, or the carbon footprint of the corridor. The plan should also be as adaptable as possible. Experts should conduct on a regular basis a technical assessment of infrastructure needs and take stock of existing infrastructure. They should keep track of rapidly evolving technologies, environmental or climate change hazards and behavioural changes in society to adapt strategic plans accordingly. From the beginning, the strategic plan should be formulated in a way that is flexible enough to adapt to changing contexts. A formal process should be established to update the long-term infrastructure plan, ensuring this update is undertaken at fixed time intervals.

Box 5.7. Single Trade Corridor Management Authorities in Africa

CMAs established through government-to-government agreements

Most of the Corridor Management Authorities (CMAs) in Africa are set up through governmental co-operation. They usually follow a structure with a council of ministers from the countries' key ministries, as well as a senior officials committee and sector-level technical committees. The authority is usually administered by a secretariat and relies heavily on support from international cooperating partners. Such CMAs include:

- Northern Corridor Transit and Transport Coordination Authority (Burundi, DR Congo, Kenya, Rwanda, Uganda, South Sudan)
- Central Corridor Transit Transport Facilitation Authority (Burundi, DR Congo, Rwanda, Tanzania, Uganda)
- Dar es Salaam Corridor (Tanzania, Zambia, Malawi)
- North-South Corridor (South Africa, Zimbabwe, Botswana, Zambia, DR Congo)
- Abidjan Lagos Corridor (Benin, Ghana, Ivory Coast, Nigeria, Togo)

Private sector initiatives

Private-sector Corridor Management Authorities are less common. An example is the Maputo Corridor Logistics Initiative (MCLI). The aim of this corridor is to provide a link between the industrial region of Gauteng in South Africa and the sea, through the port of Maputo, in Mozambique). The MCLI was initiated in 2004 by users of the corridor, infrastructure investors, cargo owners and freight forwarders seeking to improve transport conditions on the corridor. The MCLI was composed of 170 members at its peak and was very successful at conducting infrastructure enhancement, by assisting with the broking of road and port concessions, leading to some of the most successful PPPs on the continent. Yet, the MCLI failed at tackling border crossing improvements, because its private sector nature prevented it from influencing public administrations in the two countries of the corridor.

Source: (UNCTAD, 2022[36])

Ensure sustainability and consensus around the corridor through a transparent and qualitative planning process

Conduct a solid data-supported assessment of infrastructure needs

Countries of the corridor should adopt a methodology to collectively assess current and future infrastructure needs. To avoid an imbalance in capacity on different segments of the corridor, and address efficiently the most pressing bottlenecks, governments should identify infrastructure requirements at a regional scale rather than at the national level. This will require liaising with line ministries and agencies responsible for different infrastructure sectors to take into account complementarities, promote synergies and limit possibilities for overlap. Informing the assessment through a rigorous analysis of evidence and data would help maximise the efficiency of investments and avoid projects ending up as white elephants. To project needs into the future and consider future risks and uncertainties, planners could resort to strategic foresight tools.

Governments should facilitate the access to trade and transport data. Efficient infrastructure planning can rely on quantitative assessment tools, such as the International Transport Forum's International Freight Model. These models require access to transport and trade data to be refined and adapted to local and

regional contexts. Therefore, countries of the corridor should enhance the collection and dissemination of data. Among the possible measures, authorities should define standards for data sharing and establish common platforms. The Middle Corridor's coordination body could also consider including a "regional observatory for data collection" (ITF-OECD, 2019[19]). Ensuring interoperability between public and private data systems and promoting open data could also benefit the private sector and its involvement in logistic and connectivity challenges.

Box 5.8. The coordination framework of the NAFTA/USMCA corridors

The North American Free Trade Agreement (NAFTA) created a free-trade area between Canada, Mexico and the United States. The combination of a free trade agreement with the development of infrastructure corridors has resulted in the birth of a network of economic corridors. In 2018, NAFTA was succeeded by the United States–Mexico–Canada Agreement (USMCA), sometimes known as "NAFTA 2.0".

NAFTA resulted in the creation of a Free Trade Commission (now the USMCA Free Trade Commission), bringing together cabinet-level representatives from the United States, Canada and Mexico, as well as NAFTA working groups dedicated to specific subjects with a focus on trade facilitation, investments, subsidies and standards, and a NAFTA secretariat (now the USMCA Secretariat), responsible for the administration of the dispute settlement provisions of the Agreement.

Various stakeholders were involved in the corridor's development, including national governments, provincial and state governments, local authorities, private companies and regional development associations. The NAFTA/USMCA corridors were shaped by market forces, and there was and is no official coordination body. Yet, interested parties have gathered in various coalitions, such as the North American Supercorridor Coalition (NASCO).

The North American Supercorridor Coalition (NASCO)

NASCO is an association of elected officials and private companies who were concerned with the NAFTA increasing congestion along the I-35 Highway. They decided to act together to improve transport infrastructure and accommodate trade growth on a North-South corridor. NASCO was originally focused on road transport, but expanded its focus on all modes of transport, including rail and sea. NASCO members provide guidance to authorities on multiple subjects, include supply chain integration or workforce. The publication of border action plans is a major outcome of NASCO's work, with recommendations from local and national officials, and private sector stakeholders, to improve border crossings and international trade between Mexico, the United States and Canada.

Source: (CAREC, 2011[37]) (NASCO, 2023[38])

Finance jointly the investments required for the route's development

Middle Corridor partners should consider joint investments for the enhancement of the route. Similar to what was done for the Baku-Tbilisi-Kars Railway, where Azerbaijan's State Oil Fund funded the Georgian section of the project, countries could collectively take part in the financing of projects. This would be especially relevant for the Middle Corridor as the different countries don't have the same financing abilities, with Azerbaijan and Kazakhstan's public budget benefitting from revenues related to the extractive sector. Joint investment in infrastructure is a crucial source of funding for the Trans-European Transport Network (TEN-T) and is achieved through the European Investment Bank or the Connecting Europe Facility (CEF) program. Similar schemes could be set up within the Middle Corridor's coordination body, whether it be through subsidies or a common lending institution.

Ensure transparency and affordability in the planning of the Middle corridor

Governments should involve the private sector to improve the affordability and the fiscal sustainability of investments. When applicable, planners should identify alternative sources of financing, including Public Private Partnerships (PPP). This would mean continuing to enhance the PPP framework in the countries of the corridor. The resort to PPP should not prevent authorities from conducting a solid cost-benefit analysis for projects. The decision to invest in a specific project should be made separately from the decision to procure it through the private sector. Governments should conduct a Value for Money (VfM) assessment for all projects, based the whole life cycle (i.e., design, construction, operation, maintenance, adaptation, and decommissioning). (OECD, 2012[31]; ADB, 2022[22]; Zhao et al., 2022[39]; Watermeyer, 2013[40]).

Planners should involve all institutional and community stakeholders to seek consensus around the Middle Corridor-related projects. At the institutional level, governments should present the long-term infrastructure plans to parliament to ensure political approval over the definition of the strategic vision. Regional co-operation shouldn't diminish the importance of involving subnational governments in the process of identifying infrastructure needs, making sure to address concerns related to regional disparities and urban-rural gaps. Authorities should also establish a detailed process for public consultation on the strategic vision and subsequent plans. To do so, they should map thoroughly the key stakeholders involved, identifying and addressing participation barriers faced by under-represented and vulnerable populations.

Box 5.9. OECD Framework for the Governance of Infrastructure

The Recommendation was adopted by the OECD Council on 17 July 2020. The OECD Framework for the Governance of Infrastructure to plan and prioritise investments, manage PPPs and procurement, design effective regulatory environments and manage integrity risks. It consists of ten recommendations:

- Develop a long-term strategic vision for infrastructure
- Guard fiscal sustainability, affordability, and value for money
- Ensure efficient and effective procurement of infrastructure projects
- Ensure transparent, systematic and effective stakeholder participation
- Co-ordinate infrastructure policy across levels of government
- Promote a coherent, predictable, and efficient regulatory framework
- Implement a whole of government approach to manage threats to integrity
- Promote evidence-informed decision making
- Make sure the asset performs throughout its life
- Strengthen critical infrastructure resilience

References

ADB (2022), *Integrated Approach to Trade and Transport Facilitation*. [33]

ADB (2022), *Public-private partnership monitor Kazakhstan*, https://www.adb.org/sites/default/files/publication/850386/public-private-partnership-monitor-kazakhstan.pdf. [22]

ADB (2021), *Ports and Logistics Scoping Study in CAREC Countries*, https://www.adb.org/sites/default/files/publication/690856/ports-logistics-scoping-study-carec-countries.pdf. [20]

ADB (2021), *Unlocking transport connectivity in the Trans-Caspian corridor*, https://www.adb.org/sites/default/files/publication/743006/adbi-unlocking-transport-connectivity-092921-web.pdf. [17]

ADB (2020), *Public–Private Partnerships in Georgia and Impact Assessment of Infrastructure. Working Paper N°1162*, https://www.adb.org/publications/ppp-georgia-impact-assessment-infrastructure. [24]

Adilet (2022), *On approval of the Concept of Development of Transport and Logistics Potential of the Republic of Kazakhstan until 2030 (Об утверждении Концепции развития транспортно-логистического потенциала Республики Казахстан до 2030 года)*, https://adilet.zan.kz/rus/docs/P2200001116#z165 (accessed on 21 April 2023). [11]

Azerbaijan Railways (2023), *ITF-Azerbaijan Special Presentation in OECD GRC Istanbul Centre*. [5]

CAREC (2021), *Railway sector assessment for Georgia*, https://www.carecprogram.org/uploads/2020-CAREC-Railway-Assessment_GEO_7th_2021-3-4_WEB.pdf. [32]

CAREC (2011), , https://www.carecprogram.org/uploads/NAFTA-Economic-Corridor-Development.pdf. [37]

CAREC (n.d.), *East–West Highway Improvement Project*, https://www.carecprogram.org/?feature=east-west-highway-improvement-project. [8]

EBRD (2023), *Sustainable transport connections between Europe and Central Asia*. [12]

EBRD (2021), "PPP Regime Development in Armenia, Azerbaijan and Georgia: Further regulatory efforts could stimulate private sector participation", *Laws in Transition Journal*, https://www.ebrd.com/law-in-transition-2021. [29]

ECO (2022), *ECO-UNECE Convene First Coordination Committee Meeting on the Trans-Caspian and Almaty-Istanbul Corridors*, https://eco.int/eco-unece-convene-first-coordination-committee-meeting-on-the-trans-caspian-and-almaty-istanbul-corridors/ (accessed on 6 September 2023). [6]

Eurasian Research Institute (2017), *Recent Developments in the Baku-Tbilisi-Kars Railway Project*, https://www.eurasian-research.org/publication/recent-developments-in-the-baku-tbilisi-kars-railway-project/. [7]

Geopolitical Monitor (2022), *The Rise of Trans-Caspian Routes amidst Russia's Isolation*, https://www.geopoliticalmonitor.com/russian-isolation-and-the-trans-caspian-international-transport-route/ (accessed on 3 April 2023). [2]

Government of Kazakhstan (2022), *Kazakhstan, Azerbaijan, Georgia and Turkey discussed the development of transport routes through the Caspian Sea*, https://www.gov.kz/memleket/entities/mfa/press/news/details/466518?lang=en (accessed on 3 April 2023). [3]

Initiative, H. (2022), *Regional Trade Facilitation Roadmap*. [35]

Investment Office (2023), *Investing in Infrastructure & PPP*, https://www.invest.gov.tr/en/library/publications/lists/investpublications/infrastructure-industry.pdf. [27]

IRU (2023), *East-west connectivity on agenda for IRU and TRACECA*, https://www.iru.org/news-resources/newsroom/east-west-connectivity-agenda-iru-and-traceca (accessed on 6 September 2023). [18]

IRU, W. (2017), *Road Freight Transport Services Reform*. [34]

ITC (2023), , https://intracen.org/our-work/projects/central-asia-ready4trade-r4tca (accessed on 3 October 2023). [15]

ITF-OECD (2019), "Enhancing Connectivity and Freight in Central Asia", *International Transport Forum Policy Papers* No. 71. [19]

KZPPP (2023), *Infographics (Инфографика)*, https://kzppp.kz/en/infographicsen/ (accessed on 3 May 2023). [23]

NASCO (2023), , https://www.nasconetwork.com/. [38]

OECD (2023), *OECD Study Visit to Aktau*. [13]

OECD (2012), *Recommendation of the Council on Principles for Public Governance of Public-Private Partnerships*, OECD Publishing. [31]

OECD (forthcoming), *Improving Trade Connectivity in Kazakhstan*. [16]

OECD-ITF (2019), *Enhancing Connectivity and Freight in Central Asia*, https://www.itf-oecd.org/sites/default/files/docs/connectivity-freight-central-asia.pdf. [14]

PMCG (2023), *Maritime Trade in the Black Sea in the Context of the Russo-Ukrainian War*, https://pmcg-i.com/publication/maritime-trade-in-the-black-sea-in-the-context-of-the-russo-ukrainian-war/. [1]

Public Private Partnership Development Centre (2022), *https://www.pppdc.gov.az/en/posts/xeberler/dovlet-ozel-terefdasligi-haqqinda-azerbaycan-respublikasinin-qanunu-tesdiq-edildi*, https://www.pppdc.gov.az/en/posts/xeberler/dovlet-ozel-terefdasligi-haqqinda-azerbaycan-respublikasinin-qanunu-tesdiq-edildi. [26]

The World Bank (2022), *Private Participation in Infrastructure Database*, https://ppi.worldbank.org/en/ppidata. [28]

UNCTAD (2022), *Transport and Transit Facilitation Systems, Lessons from Regional Transport and Transit Systems in Africa*. [36]

UNECE (2023), *Progress report on operationalization efforts taking place in the framework of the Economic Commission for Europe/ Economic Cooperation Organization Coordination Committee for the Trans-Caspian and Almaty-TehranIstanbul Corridors*, https://unece.org/sites/default/files/2023-07/ECE-TRANS-WP5-2023-01e_0.pdf. [4]

UNESCAP (2018), *Public-private partnership in Kazakhstan*, https://www.unescap.org/sites/default/files/4-5.%20Presentation_KZ_Guyang_UNESCAP-2.pdf. [21]

Watermeyer, R. (2013), *Value for Money in the delivery of public infrastructure*, http://ioptions.co.za/sites/default/files/rbwpapers/P7+%20P8%20papers/P7-8.pdf. [40]

World Bank (2023), *Private Participation in Infrastructure (PPI)*. [25]

World Bank (2022), *World Bank and Georgia: Supporting Transport Infrastructure*, https://www.worldbank.org/en/news/video/2022/09/07/world-bank-and-georgia-supporting-transport-infrastructure (accessed on 9 August 2023). [9]

World Bank (2020), *Benchmarking Infrastructure Development*, https://bpp.worldbank.org/economy/. [30]

World Bank (2020), *Improving Freight Transit and Logistics Performance of the Trans-Caucasus Transit Corridor : Strategy and Action Plan*, World Bank Group, http://documents.worldbank.org/curated/en/701831585898113781/Improving-Freight-Transit-and-Logistics-Performance-of-the-Trans-Caucasus-Transit-Corridor-Strategy-and-Action-Plan. [10]

Zhao, J. et al. (2022), "Value for money in transport infrastructure investment: An enhanced model for better procurement decisions", *Transport Policy*, Vol. 118, pp. 68-78, https://doi.org/10.1016/j.tranpol.2022.01.021. [39]

Annex A. Country chapters

Azerbaijan

Economic overview

With respectively 0.4% and 0.5% of the world's proven oil and natural gas reserves for approximately 10 million inhabitants, Azerbaijan has undergone an important oil-based economic expansion since its independence. The country's economy is highly dependent on the oil prices, and therefore GDP growth is erratic and fluctuates with its variations. Since 2010, Azerbaijan's real GDP has grown at an average annual rate of 1.7%, with negative growth rates in 2011, 2016 and 2020. Year-on-year inflation reached 13.8% in 2022. The unemployment rate was equal to 5.9% in 2022 (IMF, 2023[1]).

The significant remaining reserves of oil and, above all, natural gas ensure important export revenues for the future, but the country is trying to address the challenge of diversification to reduce its vulnerability to external shocks. Indeed, Azerbaijan's share of oil in exports reaches 90%. The main sectors in terms of contribution to GDP in 2022 were *mining and quarrying* (35.8%), *transportation and storage* (16.9%) and *wholesale and retail trade* (8.6%).

The government launched a strategic plan for the diversification of the economy in 2016, identifying 11 sectors to develop in priority. For now, most efforts have been dedicated to agriculture and tourism. As part of this strategy, authorities opened industrial estates in several regions and a free trade zone dedicated to non-oil activities in the port of Alat.

Trade profile

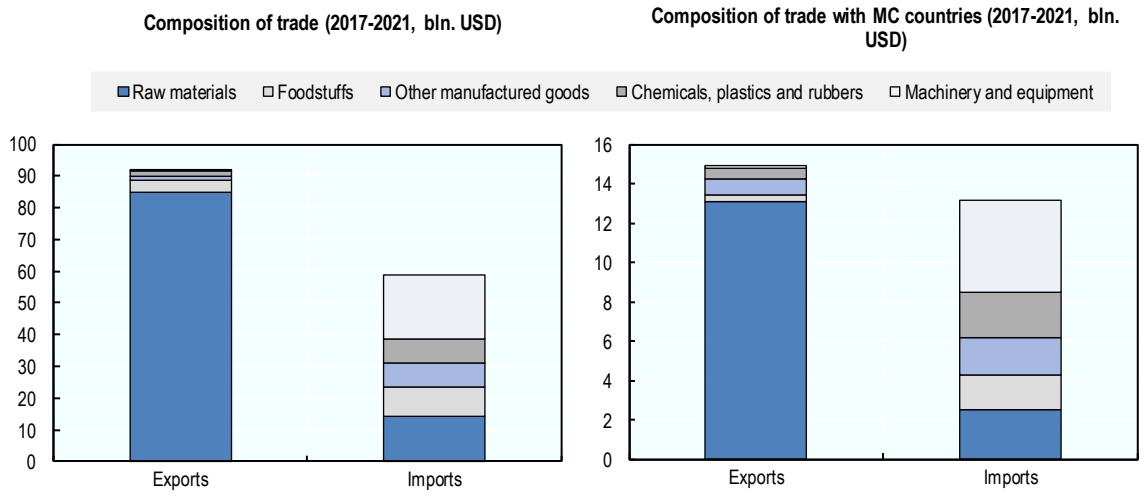
Azerbaijan's exports of goods and services accounted for 60.0% of GDP in 2022, while imports accounted for 27.0% in the same year.

Between 2017 and 2021, Azerbaijan's main exports partners were Italy, with 33.3% of total exports, Türkiye (12.6%) and Israel (5%). Europe represents 60% of total exports, while Asia represents 32% of total exports. Azerbaijan's exports are not diversified, as 90% of total exports are mineral fuels. It should be noted that Russia is Azerbaijan's first export partners for non-oil products, with an important share of food products.

On the other hand, Azerbaijan's mostly imports machinery and equipment (34.1% of total imports), but still imports raw materials (24.0%). Between 2017 and 2021, the three main imports partners were Russia (17.3%), Türkiye (16.1%) and the United Kingdom (8.5%). The country imported a significant quantity of goods from Europe (32.1%) during this period (OEC, 2023[2]).

In 2022, Azerbaijan's exports skyrocketed due to an increase in oil and natural gas prices. In the coming years, natural gas will account for most of the growth in exports, given the important remaining reserves. In this respect, the country signed a Memorandum of Understanding with the European Union on a strategic partnership in the field of energy, including the commitment to double the capacity of the "Southern Corridor pipeline".

Figure A A.1. Azerbaijan's trade composition



Source: OEC (2023)

Survey overview

For Azerbaijani businesses interviewed, the main reasons preventing them from using the Middle Corridor as their main transit route are non-competitive transport costs, limited digitalisation of services and limited rail and port infrastructure. The main infrastructure-related delays are located at the border crossings between Azerbaijan and Georgia and between Türkiye and Georgia, and on the Azerbaijan-Georgia section of the route. At these border points, the main bottleneck encountered was the lack of standardised customs documents. It comes as no surprise that Azerbaijani businesses cited "streamlining border regulations for consistency" and "simplifying and standardising border procedures" as the most important actions to be taken to facilitate trade along the Middle Corridor.

The Middle Corridor represents a solid alternative to other routes as Azerbaijani businesses stated that "political stability" was one of the main reasons why they were choosing to operate on the Middle Corridor.

Georgia

Economic overview

Thanks to important economic reforms between 2003 and 2014, Georgia successfully transitioned to a free market economy. Since 2010, Georgia's real GDP has grown at an average annual rate of 4.7%, with a constant evolution (IMF, 2023[1]). The country's economy revolves around tourism, agriculture and mining (manganese and copper). The main sectors of the economy in 2022 were *Wholesale and retail trade* (15.2% of GDP), *Manufacturing* (11.1%) and *Real estate activities* (9.9%).

Though the Georgian economy is very vulnerable to external shocks, Russia's invasion of Ukraine unexpectedly boosted the country's activity, with a 11% year on year GDP growth in 2022. The appreciation of the lari should allow for a reduction of inflation, which reached a peak in 2022 with 11.9%.

The effect of Russia's war of invasion on the long run is still unknown. The prolongation of the conflict could affect the Georgian economy through exports, tourism or transfers from emigrants. On the other

hand, the return of Russian immigrants could put an end to the financial windfall they brought. The unemployment rate remains high (18.7% in 2022) and the country must attract well paid jobs to address the demographic challenge caused by an important emigration.

Trade profile

Georgia's exports of goods and services accounted for 52.8% of GDP in 2022, while imports accounted for 63.0% in 2022. The country has a structural trade deficit.

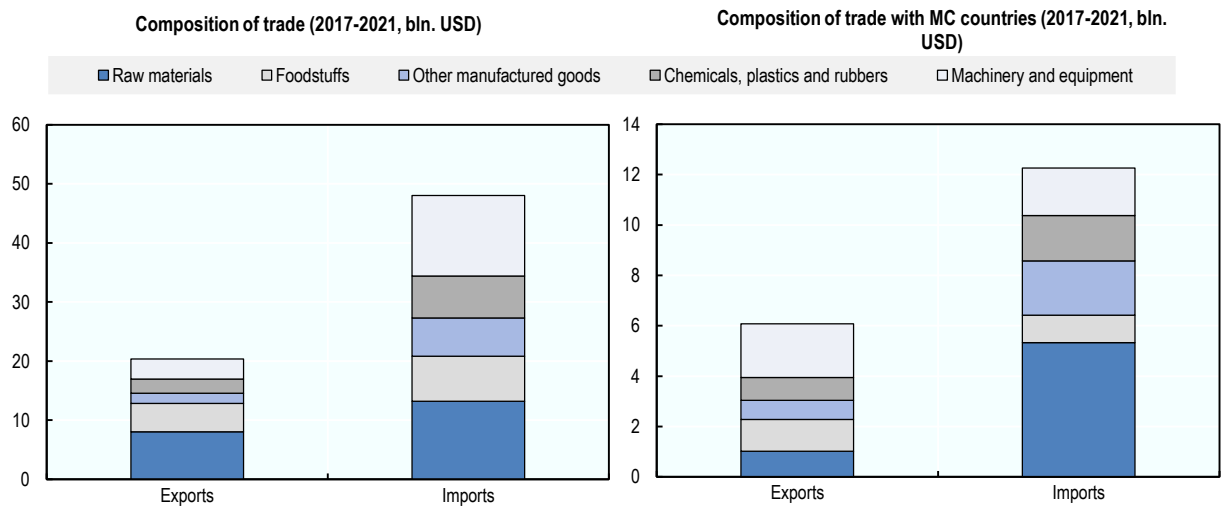
Between 2017 and 2021, Georgia's main exports partners were Russia (11.8% of total exports), Azerbaijan (11.1%) and China (9%), followed closely by Bulgaria, Türkiye, Armenia and Ukraine. The exportations are diversified, with copper ore being the first contributor, followed by second-hand cars, ferroalloys and wine.

The importations are also very diversified. Between 2017 and 2021, the two main commodities imported were refined petroleum (8.23% of total imports) and cars (8.17% of total imports, due to Georgia developing as a car reselling hub for the region). During the same period, Georgia's main suppliers were Türkiye (16.4%), China (11.1%) and Russia (9.6%) (OEC, 2023[2]).

In 2022, The European Union made up 20.5% of Georgia's foreign trade, representing the country's main partner when considered as a whole. The Association Agreement signed in 2014 between the EU and Georgia introduced a preferential trade regime, the Deep and Comprehensive Free Trade Area.

Georgia's foreign trade has been steadily growing since 2016, with an acceleration of the dynamic after the pandemic. In 2022, exportations grew by 31.5% compared to 2021, reaching $5.6B, and importations grew by 33.8% to reach $13.5B. The arrival of immigrants with a high purchasing power from Russia, Belarus and Ukraine contributed to the rise of interior demand and the growth of importations.

Figure A A.2. Georgia's trade composition



Source: OEC (2023)

Survey overview

Georgian businesses surveyed indicated that the main reasons preventing them from using the Middle Corridor as their main transit route were the lack of rail infrastructure, weak demand from clients compared

to other routes and limited digitalisation of services. As for Azerbaijani businesses, the main infrastructure-related delays are reported at the two border crossings with Azerbaijan and Türkiye. Georgian respondents also point out a lack of coordination between rail and port infrastructure. For them, the most important actions to take to improve the competitiveness of the Middle Corridor are on the infrastructure side to grow and improve the rail rolling stock in the Southern Caucasus, and on the trade facilitation side to harmonise freight related regulatory standards and to develop electronic exchange of data.

Despite the challenges cited above, Georgian businesses interviewed decided to operate on the Middle Corridor mainly to access to the growing domestic markets in the Southern Caucasus and in Central Asia.

Kazakhstan

Economic overview

With approximately half of Central Asia's GDP for 19 million inhabitants, Kazakhstan is the region's biggest economy both in absolute terms and per capita. The country's important reserves of oil, minerals and metals endured a solid economic growth since 2000. After a 10% average real GDP growth between 2000 and 2007, the annual expansion has declined just under 4% since 2008. Though Kazakhstan's growth fluctuates depending on oil prices, 2020 was the only year since 1999 with a contraction of GDP. The unemployment rate is low, equal to 4.9% in 2022 (World Bank, 2023[3]).

Kazakhstan's economy is still very dependent on the extractive sector. In 2022, the most important sectors of the economy were *Wholesale and retail trade* (16.4% of total GDP), *Mining and quarrying* (14.5%) and *Manufacturing* (13.4%).

High commodity prices and new projects in the hydrocarbons sector will ensure a solid growth of GDP, between 3.5% and 4% from 2023 to 2025. In the coming years, agriculture should represent an opportunity for diversification, with the country's geography and the high prices of grain ensuring a potential for important non-oil exportations. Despite this, the country will have to address the challenge of high inflation (15.0% year on year in 2022) and low productivity to avoid a tendential slowdown of GDP growth.

Trade profile

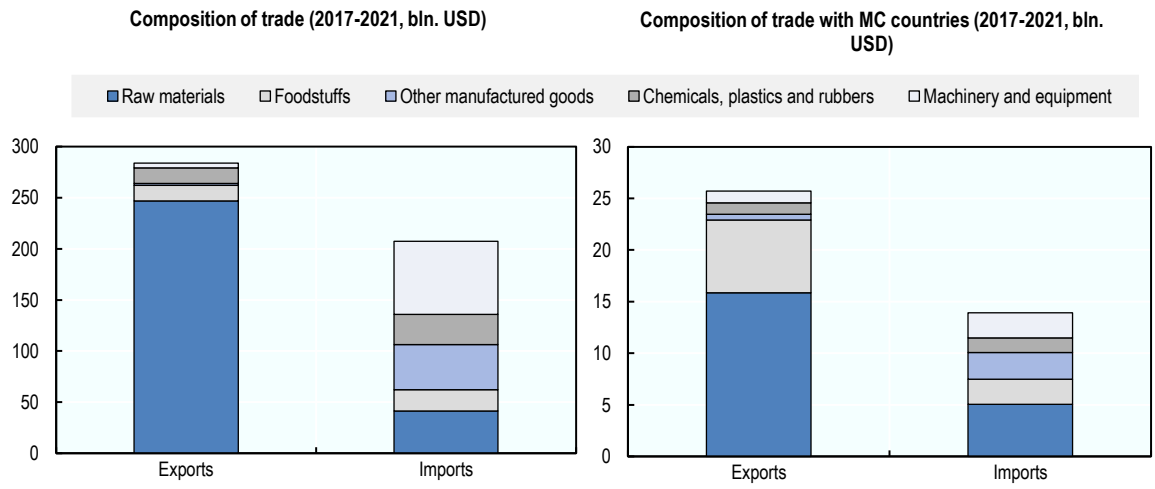
Kazakhstan's exports of goods and services accounted for 42.1% of GDP in 2022, while imports accounted for 26.6% the same year.

Between 2017 and 2021, Kazakhstan most important export partners were China (14.2% of total exports), Italy (12.6%) and Russia (9.6%). During the same years, mineral products and metals represented 84% of the country's exportations. Crude petroleum alone corresponded to 52.7% of exportations, and its weigh can be more important in bilateral trade, representing 94.4% of exportations to Italy for instance).

Importations are more diversified in terms of types of goods. Among the main categories of products imported by Kazakhstan between 2017 and 2021, the three most important one were Machines (29.4% of importations), Metals (14.5%) and Transportation (14.5%). On the other hands, importation partners are less diversified than export partners. Russia and China are by far the 2 most important suppliers of Kazakhstan, with respectively 34.9% and 27% of importations (OEC, 2023[2])

Exportation have been growing strongly in value in 2022, due to a rise in the prices of commodities. In 2023, exportations slightly decreased following oil prices, while importations were growing strongly due to the global inflation and important investments in the country (QazStat, 2023[4]).

Figure A A.3. Kazakhstan's trade composition



Source: OEC (2023)

Survey overview

The main reasons preventing the surveyed Kazakh businesses from using the Middle Corridor as their main Transit Routes are non-competitive costs and long, unreliable and unpredictable transport times. For them, the most important infrastructure-related issues are located at the border crossing between China and Kazakhstan and on the Caspian Sea crossing. Kazakh private stakeholders consider that the most important actions to be taken in terms of infrastructure enhancement is to increase the Caspian vessel fleet, and in terms of trade facilitation to introduce and develop the use of automated border procedures. Given the size of its territory, Kazakhstan is the only country where businesses mention the limited speed of certain segments as an important setback. They indicate that they operate less on the West-East route (from Europe to Central Asia and China) because of an underdeveloped regional market in Central Asia.

Nevertheless, the main reasons motivating the operations of these businesses on the Middle Corridor are the access to regional and international markets, in particular the access to the Turkish market, and the existence of sufficient rail links.

Türkiye

Economic overview

With a GDP of about $906 billion in 2022, Turkey is the 19th-largest economy in the world. Services and Industry are the main driver sectors of the Turkish Economy. Between 2018 and 2022 services sector has contributed to 23.7 % of the GDP whereas industry sector has contributed 19.5%. Since 2010, Türkiye's real GDP has grown at an average annual rate of 5.9%, with a slight decreasing trend. Following a strong COVID-19 pandemic-related recovery, in 2022 the Turkish economy grew by 5.6% where private consumption and export of goods and services were the main drivers.

Manufacturing sectors contributed to 22.1% of the GDP in 2022. The second largest sector is "wholesale and retail trade" (13.5%) followed by "transportation and storage" (10.0%).

Year-on-year inflation reached 72.3% in 2022. The unemployment rate was equal to 10.5% and the share of the working age population was 68.1% in 2022.

Trade profile

Türkiye's exports of goods and services accounted for 38.6% of GDP in 2022, while imports accounted for 42.6% the same year. The average trade growth has been recorded as 9.7% over the 5 last years. The average growth of export and import for the same period were recorded 9.8 and 10.0% respectively. Significant increase was observed in total international trade in 2021 (27.6%) and in 2022 (24.4%) following Covid 19 Pandemic. The export growth was 12.9% in 2022 while the import growth was 34.0% in 2022.

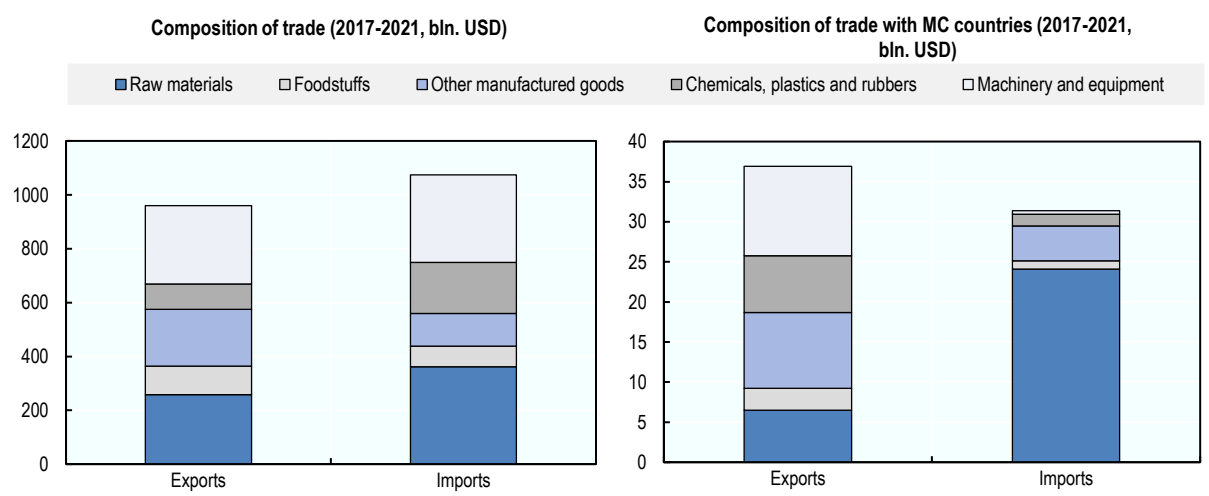
Since the country has highly diversified manufacturing basis and strong know-how on production, its export market is also diversified. Manufacturing products are the main driver of the Turkish exports. In 2022 the share of manufacturing industries products was 94.2% in total export. The country mainly exports basic metals (10.5%), motor vehicles, trailers, and semi-trailers (10.4%), and food products (8.0%) in 2022. The share of high technology and medium-high technology industries export in total export is 36.9% in 2022.

The main import product group is intermediate goods which has 80.4% share in total import recorded as 363.6 billion USD in 2022. The country mainly imports manufactured products (71.6 %) like basic metals (15.6%), chemical and chemical products (12.6%), and machinery and equipment (7.3%) in 2022. Energy imports account for a significant proportion of total import, with oil, natural gas and coal representing 10.1% of imports in 2021 (OEC, 2023[2]).

Türkiye's main trade partner is by far the European Union. The share of EU in total export is 40.5% while 25.6% of total imports originate from the EU in 2022. Türkiye mainly export industrial products to European Union. The main export partners excluding EU; are United States (6.6%), Iraq (5.4%), United Kingdom (5.1%), and Russian Federation (3.7%) as of 2022. The main import partners are Russian Federation (16.2%), China (11.4%), Switzerland (4.2%), and United States (4.2%) in 2022.

Türkiye exported 10.8 billion USD worth of goods to Central Asia and Caucasus countries whereas Türkiye imported 8.1 billion USD worth of goods from the region in 2022. Türkiye's export to Middle Corridor countries and import from MC countries were 6.5 billion USD and 5.2 billion USD respectively. Türkiye mainly exported machinery and mechanical appliances (13.7%), electrical machinery and equipment and parts thereof (8.3%), and plastics and articles thereof (6.4%) while mainly imported mineral fuels, mineral oils and products of their distillation (39.8%), copper and articles thereof (25.4%), and aluminum and articles thereof (4.7%). The top destination for trade among MC countries for Türkiye is Kazakhstan (5.1 billion USD) followed by Azerbaijan (3.3 billion USD) and Georgia (3.2 billion USD).

Figure A A.4. Türkiye's trade composition



Source: OEC (2023)

Survey overview

According to the interviewed Turkish businesses, the main setbacks in using the Middle Corridor as their main transit route are non-competitive transport costs and transport times, and limited digitalisation of services. The surveyed Turkish businesses encountered the most delays due to infrastructure issues at the border crossing between Azerbaijan and Georgia and on the Caspian Sea crossing. They reported that the most important bottlenecks were related to delays in transloading at border points, and inconsistent and unpredictable crossing times. For them, the priority actions to be taken in the infrastructure field are the growth of vessel fleet in the Caspian Sea and the enhancement of multimodality in Caspian ports. On the trade facilitation side, the most important measure for Turkish private stakeholders is to improve capacities and skills of customs and border personnel.

Despite these constraints, the businesses surveyed in Türkiye indicated that they had chosen to operate on the Middle Corridor because of sufficient road connections, and to access regional and international markets, particularly in the Southern Caucasus.

References

IMF (2023), *World Economic Outlook*. [1]

OEC (2023), *OEC Data visualisation tool*, https://oec.world/en. [2]

QazStat (2023), *Foreign trade turnover of the Republic of Kazakhstan*, https://stat.gov.kz/upload/iblock/fac/kribedoy4fj7j0jcolua3jcvkje3miut/Foreign%20trade%20turnover.pdf. [4]

World Bank (2023), *Kazakhstan Economic Update, Spring 2023: Economic Recovery During Challenging Times*. [3]

Realising the Potential of the Middle Corridor

Russia's full-scale invasion of Ukraine and the ensuing sanctions greatly complicated overland freight transport between Europe and China via the so-called Northern Corridor, which runs through the Russian Federation. This has prompted renewed attention to the development of the Trans-Caspian International Transport Route, a multimodal route running through Kazakhstan, Azerbaijan, Georgia, and Türkiye – the so-called "Middle Corridor". The present report looks at the Middle Corridor's potential and at the challenges that must be overcome to realise it, drawing on the perspective of relevant private-sector actors in the four Middle Corridor countries. Governments along the corridor have invested heavily to improve transport infrastructure, yet important bottlenecks remain due to the geography of the route, the number of border crossings and the lack of regional trade integration. This study, based on surveys from and interviews with the private sector, maps and sequences main reform priorities in relation to regional integration, infrastructure, trade facilitation and supra-national coordination. It suggests that the primary aim should be to develop the corridor not solely as a transit route for actors from outside the region but as an engine of integration and trade integration in Central Asia and the South Caucasus.

MINISTRY
OF FOREIGN AFFAIRS
REPUBLIC OF LITHUANIA

PRINT ISBN 978-92-64-86179-4
PDF ISBN 978-92-64-43697-8