SUMMARY

Analyzing the Factors that Constrain Trade Efficiency in CAREC

Inefficient transport network and high costs constrain the export of perishable agricultural products. Photo credit: ADB.

This study examines the impediments and gaps that hinder the growth of regional trade and ways to reverse declining trade efficiency.

Published: 20 October 2022

Overview

Despite having reached a certain level of consensus, Central Asian countries still face challenges in regional trade cooperation. Trade efficiency is generally low and even declined from 2001 to 2020.

Analyzing trade efficiency and influencing factors in the Central Asia Regional Economic Cooperation (CAREC)[1] region using the stochastic frontier gravity model showed that 56% of the 11 member countries have a trade efficiency score lower than 0.2. The study considered not only the countries’ economic scale, population size, and influencing factors, such as geographical distance and border condition, but also political barriers, differences in digitalization, and institutional distance.

Conducted under the CAREC Institute CTTN Research Grants Program 2021, the study found transportation costs and trade barriers among the major factors constraining the growth of regional trade, while interconnectivity serves as an important driver of trade. A widening gap in digitalization may
also affect regional trade prospects.

Governments should reduce regulations and allow market forces to allocate resources more effectively. Policy makers should also give attention to differences in informatization—how much information and communication technologies contribute to national development—among CAREC members.

Analyzing Trade Efficiency

CAREC is a crucial organization promoting trade cooperation. It involves many of the countries situated at the border of the European and Asian continents. However, the study showed that despite some progress, the current level of actual trade is far from ideal, and trade resistance is high.

Results of the study showed that Afghanistan and Tajikistan—because of their low economic level in the world—are generally inefficient in export trade and have not formed close trade relations with other CAREC members.

The Kyrgyz Republic and Pakistan also posted low trade efficiency levels with other CAREC countries. Kazakhstan, even with its membership in the Eurasian Economic Union, showed low trade efficiency.

Mongolia and Uzbekistan both showed high trade efficiency with the People’s Republic of China, but their trade volume with other CAREC countries is far from ideal.

Kazakhstan and Turkmenistan have high trade efficiency with other CAREC countries.

Azerbaijan and Georgia were the most efficient. However, their main export destination countries are outside CAREC. Majority of Azerbaijan’s exports go to Italy and Turkey, while Georgia’s exports go to Turkey and Russia.

Key Findings

Regional trade efficiency is generally in decline. Most CAREC countries became independent after the collapse of the Soviet Union and focused initially on national stability and reconstruction.

Since the 21st century, some countries showed strong willingness to develop foreign trade. However, because of high trade costs, intra-regional trade development did not keep pace with the expansion of the trade boundary. From 2000 to 2020, the CAREC regional trade inefficiency factor resistance increased rather than decreased.

Trade integration can play a huge role. The low trade efficiency in the region shows that actual trade is far from the ideal level. Actively promoting trade integration is one of CAREC’s priorities. Other donors and multilateral agencies can also support this regional trade cooperation initiative.

Transportation cost is a main constraint factor. The impact of transportation cost is significantly higher than that of other control variables, indicating that regional trade is still limited by backward
transportation infrastructure. The transport network inherited from the Soviet Union cannot meet the
development requirements of globalization, and countries in the region encounter various problems in
restarting their economies in the wake of the COVID-19 pandemic. There are not enough funds for
infrastructure maintenance, let alone for the construction of a new transport network.

At present, major powers, multilateral institutions, and nongovernment organizations are actively
involved in infrastructure construction in the region. The integration of transportation infrastructure in the
region—which will effectively reduce transportation cost—can promote the development of export trade.
Further efforts to promote regional connectivity in Central Asia remain an important focus in driving trade
development in the region.

**Trade barriers of exporting countries hinder efficiency.** In the trade freedom index, a country's
restrictions and obstacles to import and export trade reflect the political barriers to trade. Political
barriers of exporting countries have a significant effect on the efficiency of export trade in the region.
These include export subsidies, voluntary export restrictions, sanitary and phytosanitary standards, and
other nontariff trade barriers.

In order to release the region’s trade potential, CAREC countries should optimize their respective trade
policies, reduce government regulation, and gradually transition to using market forces to achieve
effective allocation of resources.

**Differences in digitalization (informatization) have a negative impact on trade efficiency.** Due to
the COVID-19 pandemic, the gap in digitalization may further widen and become a new factor hindering
trade development. Countries with weak digital infrastructure and insufficient digital development talent
are more likely to slow down the application of digital new technologies because of the decrease in
technology investment funds. The pandemic, however, has also indirectly promoted the spread of digital
life and accelerated digital transformation in various fields, including international trade.

CAREC is composed of Afghanistan, Azerbaijan, People’s Republic of China, Georgia,
Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.

**Resources**

Y. Wang and B. Yan. 2021. *Trade Efficiency and Influencing Factors in the CAREC Region: Based on
the Stochastic Frontier Gravity Model*. Central Asia Regional Economic Cooperation Institute. Xinjiang.

Yue Wang
Canvard College, Beijing Technology and Business University
Yue Wang is a lecturer at Canvard College, Beijing Technology and Business University, and a postdoctoral researcher in theoretical economics at Renmin University in Beijing. She obtained her PhD from the Central Asia Economic and Trade Research Institute of Xinjiang University of Finance and Economics. Her research focuses on the political, economic, and aid relations between the world's major economies and Central Asia.

Binyang Yan  
School of International Studies, Renmin University

Binyang Yan is a PhD student specializing in world economics at Renmin University in the People's Republic of China. Her research interests lie in international macroeconomics and quantitative research in political economy and international trade.

Central Asia Regional Economic Cooperation Institute (CAREC)

The Central Asia Regional Economic Cooperation Institute (CAREC) is an intergovernmental organization promoting economic cooperation in Central Asia and along the ancient Silk Road through knowledge generation and sharing. CAREC is jointly shared, owned, and governed by 11 member countries: Afghanistan, Azerbaijan, People’s Republic of China, Georgia, Kazakhstan, Kyrgyz Republic, Mongolia, Pakistan, Tajikistan, Turkmenistan, and Uzbekistan.