

THE ANALYSIS OF REGIONAL BILATERAL TRADE BETWEEN PAKISTAN AND CENTRAL ASIAN REPUBLICS

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Abstract

This research examines the intensity, magnitude and direction of trade bilaterally between Pakistan and Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (the CARs) in 1995-2017. The analysis uses indices of export-import intensity and trade complementarity. The results of study show that Pakistan is a valuable trading partner to the region and on average experience greater export intensity rather than import intensity, depicting the fact that Pakistan has enjoyed intensity in overall trade and was relatively more specialized rather than CARs during the period of this analysis. Pakistan mainly exported cereals, oil and pharmaceutical products while imported cotton, iron and steel etc. The greater value of complementarity index indicates that Pakistan has exported most of these products to the countries which have high demand. The findings of intense trade relation between Pakistan and CARs suggest that Pakistan has an opportunity to exploit its resources, diversify exports and increase its trade relations with the region by signing free trade agreements.

Keywords: Bilateral Trade, Trade Intensity, Trade Complementarity, Pakistan, CARs.

JEL Classification: F10, F14, F15, O53.

I. Introduction

Central Asia includes Kazakhstan, Uzbekistan, Kyrgyzstan, Turkmenistan and Tajikistan, five former Soviet Republics. This area is in the focus of global political and economic attention since long ago. However, the fall of Soviet Union augmented reputation of the region. The Central Asian Republics (CARs) has enormous energy and gas resources as well as rich- educated human capital. All of this and especially proximity of the region with China could serve as an excellent platform for development of the region's economies. Instead, this is landlocked region and remote from many economic centers of the world. Therefore, the countries of CARs also face difficulties to expose itself to the world.

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Certainly, foreign trade is one of the most important factors of economic development and CARs are the economies that heavily depend on trade. Individually, these central Asian republics represent small markets; however, if these are taken together then it offers an enormous capacity for trade. Kazakhstan is the largest in term of economy and Uzbekistan is the most populous in terms of population. All of this including, the region has collective GDP of value US\$ 336.41 billion and constitutes a market of more than 60 million people. They merged large economic region of the world with an economic growth of 8 to 10 per cent in the year 2000. Geographically, Central Asia Republics are connected with Russia, China, West Asia and South Asia and other parts of the world through historic connection called silk route. The CARs have their borders with two large nations of the world, three of which (Kazakhstan, Kyrgyzstan and Tajikistan) have a common border with China, widening for more than 2,800 km. More importantly, Central Asia has become integral to China's "one belt one road" for reviewing and expanding the old Silk Road.

Pakistan's geographical position makes it important for the Central Asian economies. Being landlocked situation of the region, Pakistani ports offer CARs feasible shipping routes. To enhance trade of the regions, Pakistan provides the shortest routes through land and water to the CARs [Khan (2013)]. Tajikistan has common border with Pakistan at Wakhan Corridor, which is a Gate way for Pakistan to the central Asia. The development of CPEC would enhance contacts of CARs with many countries of the world while through this project the shortest sea route would be available from the Gwadar port to Kyrgyzstan. As noted, all the Central Asian Republics are landlocked and do not have access to the sea. Thus, they could launch trade and build energy corridor through the CPEC and other related projects. The construction of rail link under CPEC will provide facilitation not only to the CARs but to the Russian Federation as well. Due to the closest path of seaport and rail link connection, there is a win condition for both Pakistan and CARs.

Since independence of the region from the Soviet Union, Pakistan has tried to improve relations with newly and resources enriched region. Both regions have similar political, cultural and historical economic linkages. The land of Central Asia is useful and important for Pakistan in its culture and society [Khan (2009)]. Pakistan has a great opportunity in supplying of raw materials as well as manufactured goods through bilateral trade with central Asia [Anwar (1997)]. Due to the strategic position of Pakistan in South Asia, it is expected that the China Pakistan Economic Corridor will increase further its place in the region's strategic and economic dynamics. Certainly, with "one road one built" Pakistan will have uninterrupted access to the Central Asian Markets. This will open new doors of trade opportunities in the region [Hussain and Shah (2017)].

Most recent data reflects that Pakistan's trade volume with the region stands at US\$ 58.4 million. Pakistan's exports of goods and services was around US\$ 50.7 million to the CARs and imports from the region was of value US\$ 7.718 million [Altaf (2018)]. The magnitude of Pakistan exports is very low to the Central Asia, as Pak-

istan's exports to CARs counts for less than 1 per cent in total exports of the country. However, the trade balance is favourable to Pakistan in trade with Central Asia. By considering the trade data for last year, Pakistan's main trading partner in the area is Kazakhstan, followed by Tajikistan and Turkmenistan. To Kazakhstan, Pakistan exported goods of worth US\$ 36.8 million during the last year. Influence of the Pakistan economy in Central Asia is much lower. However, Pakistan has been trying to establish trade and economic cooperation with CARs. Currently, a ministerial meeting held between Pakistan Minister of Commerce and ministerial delegations from CARs in Islamabad and discussed the ways how to enhance the trade between the region and Pakistan. Also it has stressed the need to reduce non-tariff barrier to increase the country's trade volume with the Central Asian countries. As reported that the existing trade volume between Pakistan and CARs is below potential, and can be increased by adding improved linkages and removal of trade-barriers [Altaf (2018)].

Given this ambition, Pakistan could benefit from complementary trade ties with the Central Asian states. Central Asia is affluent in natural resources like gas, electricity and minerals while Pakistan is looking markets for agriculture and manufacturing goods. The rising demand of CARs offers opportunities for Pakistan to increase the balance of trade and earn high foreign exchange; it needs to pay for its imports. Mostly, previous studies have discussed the obstacles and opportunities in socio-economic relations between Pakistan and CARs. There is not a thorough study in which the author(s) have analyzed trade intensity and trade complementarity between Pakistan and Central Asian Republic states. Thus, bilateral trade analyses are important to understand the existing trade relation and the extent of trade intensity between Pakistan and CARs. Therefore, this study aims to examine the existing bilateral trade between Pakistan and Central Asia during the period of 1995-2017. Also to investigate their growth advantages to provide an appropriate policy implication on how such relationship can be improved or made mutually valuable.

The paper proceeds as follows. Section II reviews the relevant literature and Section III describes the methodology of analysis. Section IV present analysis and result discussion, Section V concludes the paper with some suggestions and policy implications.

II. Review of Literature

Many research studies have highlighted the geo, social and economic importance of CARs in their analysis. In this segment, we review some of the studies that are related to the analysis of trade behavior of Central Asia with their trade partners in general and with Pakistan in specific.

The importance of geography in politics has been started since the 20th century when political philosopher began to show the vital role of geographical location of the economy. The great philosopher Halford Mackinder revealed that geo-position plays an important role in the politics. The importance of geographical location of an econ-

omy can be shown in the 19th century during the competition between British and Russian empires in Central Asia. For instance, Rauf (2017) has highlighted the importance of Central Asia in his study. He has focused on the main three countries like Russia, USA and China and the competition between them in Central Asia. He stated that in the CAR's an exotic conflict is going on in which the CAR's is contributing different positions to their fans. He further confirmed that although 25 years have passed when the CAR's got its independence, it still looks for such partners that will improve its security. The enormous powers know about the economic and political importance of CAR that's why they are trying to make different agreements and ties with CAR's. Bano and Sohail (2014) investigated the economic future of Afghanistan, India and Pakistan in south and central Asia. They have focused on these countries because these countries have similarities in culture, religion and economics with Central and South Asia. They concluded that CAR's region is enriched with huge reserves of energy (oil and gas) and also vast resources of gold and other precious metals. So the developing countries like Pakistan, India and China, and developed countries like America have deep interest in such resources to boost up their economies. The big powers like America and EU have laid their eyes upon the great resources of CAR's. Most of the countries wish to have approach and influence on the resources of this region. Especially the big economies compete to get access to the big resources of CAR's. They further concluded that due to lack of access and due to the landlocked geographical position of CAR's, the power economies are trying to initiate disturbance in Afghanistan. If security issues were assured, then this region will be of great importance to big powers like India and America.

Javid and Dashti (2016) analyzed the relationship of Pakistan with CAR's. They stated that Pakistan is making efforts to promote its relations with the CAR's in different fields keeping in view the rich resources of this region. Similarly, the CAR's also provide opportunities for Pakistan for the mutual benefits. As the CAR's consist of five different countries, Pakistan has various MOU's and bilateral trade agreements with each country. Linn (2012) examined the regional economic integration and corporation of CAR's to confirm whether it's a reality or illusionary situation. He stated that the division of the Soviet Union led to the great economic depression in CAR's; however, in 2000 this region enjoyed economic development, internal and external integrations. Even with the huge resources of energy and oil reserves along with minerals of gold, other precious metals and educated human resources, the importance of CAR's is difficult to utilize by the neighbor countries like Pakistan due to lack of good governmental corporations. So a strong institutional bond is necessary among the countries within Central Asia and neighbor nations to achieve mutual benefits from these recourses.

Jafray (2016) examined the rising economic and strategic importance of CAR's. He concluded that Central Asia has the most important geographical location having shared borders with powerful nations along with the huge energy reserves. The empirical findings suggest that the CAR's region contain about 15 to 31 million barrel of oil,

whereas the gas reserves were estimated to be 230 to 360 trillion ft³. Pakistan will have greater benefits if it succeeds in its strategic relationship with the Central Asian Republic. Adnan and Fatima (2015) in their paper highlighted the strategic and economic interest of India and Pakistan in the CAR's. Central Asia is known as the heart of Asia and having similarities in politics, culture, strategic and economy with Pakistan and India. However, India has more focus on Central Asia because it has close border at Afghanistan to access CAR's and also sea and road links to the international markets of Central Asia. Both nations have their own objectives in Central Asia and are trying to create hurdles and obstacles for each other. However, from economic point of view, this region acts as donor in international economics. Naseem and Younas (2016) examined the special bonds between Central and South Asia within the special focus on Pakistan. The central Asian region has rooted similarities with the South Asian region (especially Pakistan) in culture and religion. Although these regions have abundant resources but economically, they are not much strong. They have gained importance due to its location. Although they have wealth but they do not have access to the outer world to use its wealth and explore its economy. Asif (2011) also examined the prospect and challenges of Pakistan relationship with CAR's. After the dissolution of the Soviet Union, central Asia provided opportunities for Pakistan to make strategic ties with CAR's. He concluded that the policymakers of Pakistan must adopt such policies that can change the challenges into opportunities. Pakistan must adopt policies to ensure gas pipeline from CAR's by promoting the economic relationship with them. Pakistan should ensure peace and security to promote economic ties with CAR's. Pakistan and CAR's have common membership in many agreements and MOU's. They are the members of SCO and ECO whose main aim is to promote a good transportation system in the region. In Pakistan, Karachi and Gwadar ports are the secure and shortest routes to the CAR's.

Xuegang, Zhaoping and Xuling (2008) empirically examined the bilateral trade of Xinjiang using gravity model approach. In building the gravity model, they used new variables like GDP, GDP Per Capita (GDPPC) and Shanghai Cooperation Organization (SCO) to measure the bilateral trade potential of Xinjiang. They have used cross-section data of 2004 and the regression model to introduce a new and extended form of gravity model. The empirical findings show that the explanatory variables are significant and show that this model fits to explain the bilateral trade of a nation. The finding further suggests that Xinjiang has successfully maintained its bilateral trade with its major partners.

All the studies as mentioned above reveal that Central Asia offers an array of economic opportunities for major powers and South Asian countries, including access to valuable natural resources and favorable term of trade. However, we couldn't find studies that have analyzed the trade intensity and regional bilateral trade with CARs empirically. Except, Vahalik (2014) who has analyzed regional bilateral trade between the European Union, China and ASEAN using the indices of trade intensity and trade complementarity. Vahalik (2014) area of analysis is different from CARs. Therefore,

our study attempts to carry out the analysis of regional bilateral trade between Pakistan and CARs focusing on the use of trade intensity and trade complementarity index. The analysis will fill the gap in literature and would help to understand the existing trade relation and intensity of trade between Pakistan and CARs.

III. Methodology of Analysis

The present study examines bilateral trade between Pakistan and CARs economies. More explicitly, it examines the export-import intensity and the profile of traded goods between Pakistan and Central Asian countries. The aim is to analyze how the Pakistan trade intensity and complementarity with CARs economies have changed over the last two decades. The analysis may be useful in indicating the potential for further export progression. In literature, there are numerous methods to measure the trade pattern and flow between the countries. However; to measure the intensity of trade between the nations can be identified using the index developed by Kojima (1964), named Trade intensity index (TII). The trade intensity is comprised of export intensity and import intensity index.

1. Export Intensity Index (XII)

Export intensity is an index usually used to measure the relative importance of a given country in total export to a trading partner. It is the ratio of two exports shares. This can be defined as following:

$$XII_i = \frac{x_{ij}/X_{iw}}{M_{jw}/(M_w - M_{iw})} \quad (1)$$

Equation (1) reflects export intensity index, Where X_{ij} is the export of Pakistan to CARs countries; X_{iw} is the export of Pakistan to the whole world in the particular time period, while in denominator the M_{jw} is the CARs countries imports from the world, M_w is the total world imports while M_{iw} is the Pakistan total imports from the World.

Usually, value of the export intensity index ranges from 0 to 1 or 0 to 100 (if multiplied by 100). A value equal to 1 or 100 indicates high trade relations between trading partners. The present case shows that Pakistan has export intensity with CARs. If there is a low or no trade relationship between exporting and importing countries then the index will reach to zero or close to zero. In other words this will reflect the opposite situation of export intensity.

2. The Import Intensity Index (MII)

Like export intensity, the import intensity index can be defined as follows:

$$MII_i = \frac{m_{ij} / M_{iw}}{X_{jw} / (X_w - X_{iw})} \quad (1)$$

Equation (2) reflects import intensity index, where m_{ij} is the Pakistan imports from CARs, M_{iw} is the Pakistan total imports from the World, X_{jw} shows the CARs exports to World, X_w is the total World export, while X_{iw} represent Pakistan exports to World in the specific time period. Again, its values range from 0 to 1 or 0 to 100. If the value is greater or equal to 1 then it shows that Pakistan has import intensity or high trade relation while 0 indicates the reverse position.

3. Trade Complementarity

The other part of empirical work is examined using the trade complementarity index. This index measures that to what extent the two trading economies are natural trading partners in the sense of what the exporting country exports overlap with what the importing country imports [WTO (2012)]. In the other words, the trade complementarity is an index which indicates that how the nation export deliver suit with another country import demand and whether two nations gain by trading with each other or not in a specific time period. A high level of trade complementarity shows the increasing similarities between the reporting country export and partner country import. TCI can be calculated by the following formula:

$$TCI_{ij} = 1 - \frac{\sum M_{jk} - \sum X_{ik}}{2} \quad (3)$$

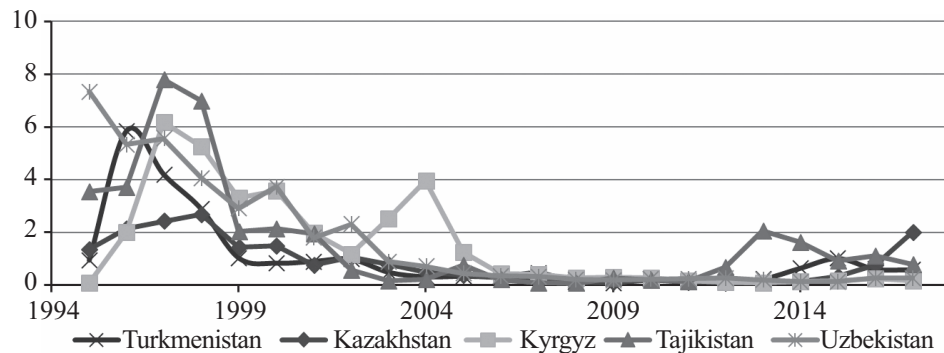
where, M_{jk} shows the share of commodity k in country j 's total imports while X_{ik} shows shares of commodity k in the country i 's total exports. Again the index value is zero when no commodities are exported by one country and are imported by other country. While 1 indicates the perfect match of supply and demand.

IV. Analysis and Results Discussion

The trends of export intensity and import intensity between Pakistan and each member of CARs are tested based on the methodology in Section III. The results are shown and interpreted in the following sections.

1. Export Intensity

Following Figure 1 reveals the export intensity index results between Pakistan and CARs countries.



Source: IMF 'Direction of Trade Statistics': the authors' own compilation.

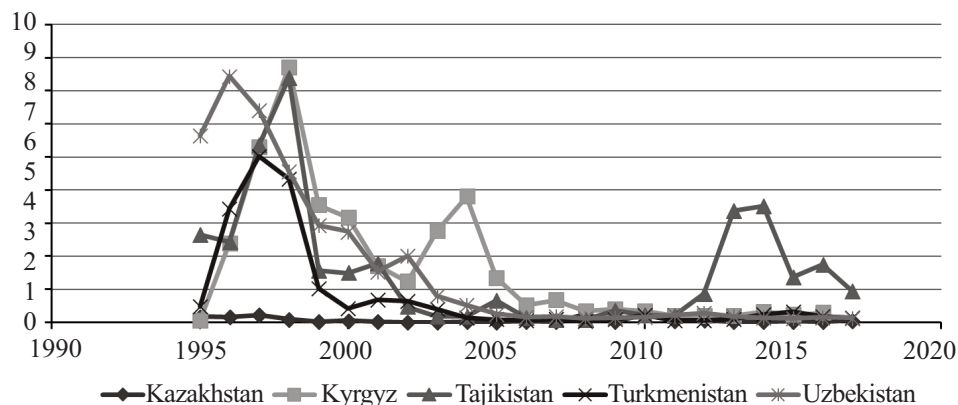
FIGURE 1

Intensity of Pakistan's Exports to CARs, 1995-2017

This figure represents the export intensity of Pakistan to Central Asian Republic countries for the period 1995 to 2017. From 1995 to 2002, Pakistan was enjoying the export concentration with CARs, but since 2003, their performance and intensity in export are decreasing continuously till 2017. Among CARs only with Kazakhstan, Pakistan recovers the position of export intensity. After Kazakhstan, Pakistan has moderate export intensity with Tajikistan and Turkmenistan. The countries to whom Pakistan has the lowest export intensity are: Kyrgyzstan and Uzbekistan. The downward trend in export intensity can be attributed to the war in Afghanistan, which affected the Country's overland export to CARs. Another reason is increased competition from other exporters of the world. In growing imports of CARs, regional economies of India and Iran as well as Turkey have maintained its rank in largest suppliers of products to CARs. Pakistan on the other hand, has not been able to maintain its share of exports to CARs. A decade earlier Pakistan was ranked 39 major exporters to CARs, which has dropped to 60 numbers in 2012.

2. Import Intensity

The import intensity of Pakistan with CARs is shown in Figure 2 Pakistan has the highest import intensity with Tajikistan while have the smallest import intensity with Kazakhstan during the period of analysis. From 1995 to 2002, same like export intensity, Pakistan has the highest import intensity to all CARs with the exception of Kazakhstan. On average, the export intensity of Pakistan is looking greater than as compared to import intensity of Pakistan, which depicted the fact that Pakistan is enjoying intensity in overall trade and is relatively more specialized rather than CARs. It is also apparent that since 2012, Pakistan has recovered the position of export intensity rather than import intensity. It shows that imports have gradually lost intensity in the last decade.



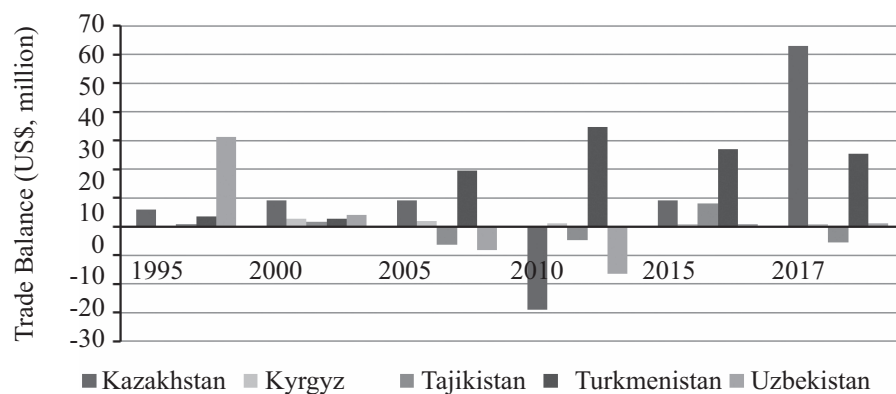
Source: IMF 'Direction of Trade Statistics': the authors' own compilation.

FIGURE 2

Intensity of Pakistan's Imports from CARs Countries, 1995-2017

3. Balance of Trade

The balance of trade between Pakistan and CARs countries is given in Figure 3. As shown by export and import intensities, Pakistan on average recorded trade surplus with respect to all CARs countries. More importantly, it has emerged as trade surplus and deficit with Tajikistan and Uzbekistan while a clear trend emerged with respect to Turkmenistan. Figure 3 indicates that Pakistan on average recorded trade surplus, instead of the year 2010.



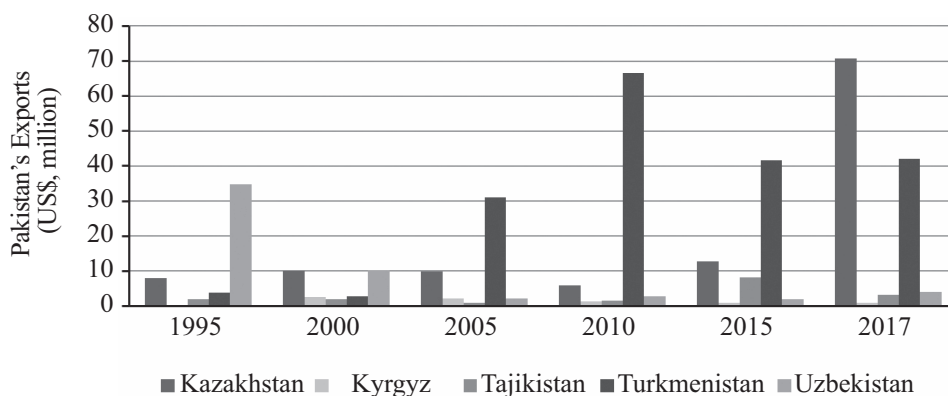
Source: IMF 'Direction of Trade Statistics': the authors' own compilation.

FIGURE 3

Balance of Trade between Pakistan and CARs Countries, 1995-2017

4. Values of Pakistan's Exports to CARs

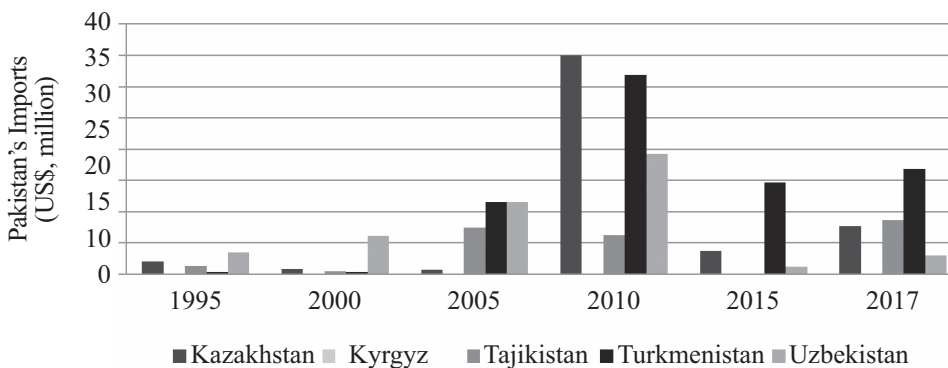
The value of Pakistan exports to CARs are shown in Figure 4. This figure shows an exciting increase in the value of exports to some CARs countries, notably to Kazakhstan and Turkmenistan, but not to other countries. For instance, Pakistan exports to Kazakhstan increased from US\$ 10 million in 2005 to around US\$ 60 million in 2017, while exports to Uzbekistan decreased from around US\$ 30 million in 1995 to below US\$ 5 million.



Source: IMF 'Direction of Trade Statistics'; the authors' own compilation.

FIGURE 4

Values of Pakistan Exports to CARs Countries, 1995-2017



Source: IMF 'Direction of Trade Statistics'; the authors' own compilation.

FIGURE 5

Values of Pakistan's Imports from CARs Countries, 1995-2017

5. *Values of Pakistan Imports from CARs*

The values of Pakistan's imports from CARs countries are reported in Fig.5. Like exports, Pakistan's import is dominated by Turkmenistan. However, on average, imports are from Tajikistan and Uzbekistan as well. Imports from CARs are looking on average less than exports of Pakistan to CARs since 2010. Additionally, the trade balance is looking favorable to Pakistan rather than CARs.

6. *The Composition of Pakistan Exports to and Imports from CARs Countries*

Table 1 indicates Pakistan's share of exports products to CARs and imports from CARs as a whole. Pakistan's export to CARs majorly includes cereals, oil seeds, pharmaceutical products, Edible fruits, vegetable and sugars, while its major imports from CARs are cotton, iron and steel, leather, salt and coffee, etc. Table 1 also indicates that cotton has a major share in Pakistan's imports from CAR and cereals have greater share in Pakistan's exports to CARs.

TABLE 1
Composition of Exports and Imports

Main Imports	Share (%)	Main Exports	Share (%)
Coffee, tea	1.57	Sugars and sugar confectionery	2.47
Salt sulphur	2.25	Other vegetable textile fibres	2.48
Raw hide, skins and leather	3.83	Edible fruit and nuts	4.69
Inorganic chemicals	4.17	Pharmaceutical products	5.56
Iron and steel	15.22	Oil seeds and oleaginous fruits	12.38
Cotton	70.09	Cereals	65.67

Source: ITC Trade Map; the authors' own compilation.

7. *Trade Complementarity*

Table 2 shows Pakistan trade complementarity with CARs from 1995 to 2017. The result clearly depicts that with Turkmenistan and Uzbekistan, Pakistan has the highest trade complementarity as compared to other countries of the region, while with Kazakhstan, Kyrgyzstan and Tajikistan, Pakistan is also enjoying the highest level of trade complementarity during the period of analysis except for some period where the values are lower than unity. Therefore, it can be concluded that overall results show strong trade complementarity between Pakistan and CARs economies which indicate strong future prospects for future trade potential.

TABLE 2

Trade Complementarity between Pakistan and CARs Countries; 1995-2017

Year	Kazakhstan	Kyrgyz Republic	Tajikistan	Turkmenistan	Uzbekistan
1995	1.00	1.00	1.00	1.01	1.00
1996	1.00	1.00	1.00	1.00	1.00
1997	1.00	1.00	1.00	1.00	1.00
1998	1.00	1.00	1.00	1.00	1.00
1999	1.00	1.00	1.00	1.00	1.01
2000	1.00	1.00	1.00	1.00	1.00
2001	1.00	1.00	1.00	0.99	1.00
2002	1.00	1.00	1.00	1.00	1.00
2003	1.00	1.00	1.00	0.99	1.00
2004	1.00	1.00	1.00	1.00	1.00
2005	1.00	1.00	1.00	1.00	1.00
2006	1.00	1.00	1.00	1.00	1.00
2007	1.00	1.00	1.00	1.00	1.00
2008	1.00	1.00	1.00	1.00	1.00
2009	1.00	1.00	1.00	1.00	1.00
2010	1.00	1.00	1.01	1.01	1.00
2011	1.00	1.00	1.01	1.00	1.00
2012	1.00	1.00	1.01	1.00	1.00
2013	1.00	1.00	1.02	1.00	1.00
2014	1.00	1.00	1.03	1.00	1.00
2015	1.00	1.00	1.03	1.00	1.00
2016	1.00	1.00	1.04	1.00	1.00
2017	1.00	1.00	1.01	1.00	1.00

Source: IMF, Direction of Trade Statistics: the authors' own compilation.

V. Conclusion and Policy Implications

Central Asia is a landlocked region; while Pakistan's geographical location strengthens the importance of the Central Asian region. Pakistan offers feasible shipping routes to CARs and provide connectivity with the rest of the world. It is expected that the China Pakistan Economic Corridor will further its place in the region's strategic and economic dynamics. Certainly, with the execution of 'One Belt One Road', Pakistan will have uninterrupted access to the Central Asian Markets. This will open new doors of trade opportunities in the region.

From 1995 to 2002, Pakistan was enjoying the export concentration with CARs, but since 2003, their performance and intensity in exports are decreasing continuously from 2017. On average, the export intensity of Pakistan looks greater as compared to import intensity of Pakistan. This depicts the fact that Pakistan has enjoyed intensity in overall trade and was relatively more specialized than CARs. This is also obvious that since 2012, Pakistan has recovered its position in export intensity. Therefore; Pakistan on the average recorded trade surplus with respect of all CARs countries. Generally Pakistan has a very high trade complementarity with CARs, which depicts the fact that Pakistan has exported most of those products for which these countries have high or insignificant demand. Thus Government of Pakistan should remove the trade barriers sooner for trade enhancement with CARs and must focus on most demanded products. Furthermore, Pakistan needs to sign a free trade agreement as early as possible and should focus on getting full tariff concessions on its top exported products.

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