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Export Competitiveness of Afghanistan with Pakistan: An Economic Evaluation

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Afghanistan with Pakistan: An
Economic Evaluation**

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Abstract

The main objective of this study is to analyze the export competitiveness of Afghanistan with Pakistan due to Afghanistan-Pakistan volume and dynamics of trade. The methodology employed is revealed symmetric comparative advantage index (RSCA) in order to gauge export competitiveness. Based on the rank the results are classified into four categories: highest revealed symmetric comparative advantage (HRSCA), highest revealed symmetric comparative disadvantage (HRSCD), marginal revealed symmetric comparative advantage (MRSCA) and marginal revealed symmetric comparative disadvantage (MRSCD). Out of 71 commodities traded between Afghanistan and Pakistan at three-digit level of SITC (Rev 3) classification Afghanistan enjoys HRSCA in 5 commodities, HRSCD in 42 commodities, MRSCA in 10 commodities and MRSCD in 14 commodities. The results suggest that Afghanistan has highest and marginal comparative disadvantage in more than half of these commodities (78.8 per cent) exported to Pakistan. Afghanistan can improve its market share for Lime, cement, fabrica. constr. mat. (excluding glass, clay), (661), Dyeing & tanning extracts, synth. tanning materials (532), Wood in the rough or roughly squared (247) and Animal or veg. oils & fats, processed, n.e.s.; mixt. (431) in Pakistan. Afghanistan has to adopt special strategies to improve the competitiveness of those commodities that fall in marginal comparative advantage and disadvantage. To increase the volume of cross border trading, political and diplomatic channels are required among the countries.

Keywords: RCA, RSCA, Exports, Afghanistan, Pakistan

1. Introduction

The trading scenario of the world has greatly changed since 1940, multiple measures have been adopted in the form of gradual decline in trade barriers and tariffs. Trade liberalization among the countries led to foster the world growth. In this era of globalization, bilateral and multilateral trading systems are endorsing the importance of export competitiveness. The subject matter of International business deals with the economic and monetary dependence among economies. It assesses the surge of goods, services, expenses and monies between a nation and the rest of the world, the policies bound for maintaining these flows, and their consequence on the nation's wellbeing. This sort of financial and economic interdependence in turn impacts the political, social, cultural, and military dealings among nations. The theory of international trade analyses the foundation and the gains from trade and the trade strategy examines the reasons for and the effects of trade boundaries. International trade is of growing importance to the nation's well-being. Trade is a phenomenon that every country needs to deal with. The theory of international trade analyses the foundation and the gains from trade and the trade strategy examines the reasons for and the effects of trade boundaries. International trade is of growing importance to the nation's well-being. Trade is an imperative part of the economy and coupled with the idea of globalization it reaches to the international level. In the last two three decades' world has seen a drastic alteration in expressions of economics, geopolitics, organization and allocation of production activities (Salvatore, 2014).

Earlier, the concept of competition used among industries at domestic level but nowadays it has extended to international level. Trade theories emerge from absolute advantage (Smith, 1776) and comparative advantage (Ricardo, 1817). However, Heckscher-Ohlin-Vanek (HOV) presented the model of two commodities and explained the comparative advantage of a country on the basis of relative factor endowment (Vanek, 1968). Leontief (1954) confirmed the failure of factor price equalization theorem of Heckscher-Ohlin (H-O) and known as Leontief paradox. Linder (1961) suggested that basis of trade among countries is the similar factor endowment rather than different factor endowment as proposed by H-O.

Balassa (1965) developed an index called "Revealed Comparative Advantage (RCA)" to make the phenomenon of comparative advantage simple and authentic. Many researchers have used this index to find the export competitiveness of a country in the world market. RCA index has been utilized to check the differences and variations in the trade pattern of countries over time, sectors, and regions (Richardson and Zhang, 1999).

Batra and Khan (2005) analyzed the export performance of India and China at two and six-digit level of Harmonized System (HS) of classification of commodities exported to world. They found that difference exists in the comparative advantage of commodities at different segregation level over time. According to classical, neo-classical, and endogenous trade theories, countries should trade those commodities in which they have comparative advantage, or in other words, countries have to specialize in those products in which they have lower opportunity cost. Several different models have been proposed to predict patterns of trade and to analyze the effects of trade policies such as tariffs. The Ricardian model focuses on comparative advantage and is perhaps the most important concept in international trade theory. In a Ricardian model, countries specialize in producing what they produce best (Deardorff, A. V. 2001). The Heckscher-Ohlin model was produced as an alternative to the Ricardian model of basic comparative advantage. The theory argues that the pattern of international trade is determined by differences in available factor of production. So that countries will export those goods that make concentrated use of locally abundant factors and will import goods that make concentrated use of factors that are locally scarce (Bergstrand, J. H. 1990).

Earlier studies measure the comparative advantage of Afghanistan by using Balassa (1965) index for agricultural and manufacturing products. This study significantly differs from earlier studies on two grounds: firstly, export competitiveness of Afghanistan is analyzing for all the commodities exported to Pakistan and categorized into highest and marginal comparative advantage and disadvantage, and secondly, Dalum et al. (1998) method of RSCA is used in order to avoid the problem of asymmetry in Balassa (1965) index (RCA).

The objective of this study is to analyze the export competitiveness of Afghanistan with Pakistan at three-digit level of Standard International Trading Classification (SITC Rev. 3) in 10 sectors for the year 2018. The type of research data is secondary, collected from Uncomtrade. The study analyzes the highest and marginal revealed symmetric comparative advantage as well as disadvantage of Afghanistan's exports with Pakistan by using revealed symmetric comparative advantage (RSCA) proposed by Dalum et al. (1998). The rest of the study is organized with section 2 discussing the literature review, section 3 talks about the methodology, section 4 depicts the results and discussions and finally section concludes the study.

2. Literature review

The most astounding aspect of the current global economic environment has been the process of intense integration of economies precipitated through gradual acceleration of multilateralism and emergence of regionalism, primarily facilitated by the growth of regional trading arrangements (RTAs) and bilateral free trade agreements (FTAs). Studies show that FTA framework injects a new dynamism into consideration of the liberalization of trade in goods. In committing to this agreement, countries recognize that multilateral trade negotiations are the most effective mechanism to achieve trade liberalization and thereby to promote national and regional economic development. Each country does, however, also recognize, through their existing bilateral free trade agreements with other selected trading partners, the potential for WTO-consistent free trade environment to deliver welfare at a more rapid pace. To a great extent, such agreements can, in turn, support and reinforce multilateral liberalization in the WTO.

Balassa, (1965) introduced the concept of “Revealed Comparative Advantage” (RCA) as a way to approximate Comparative Advantage in autarky and suggested that Comparative Advantage is „revealed” by observed trade pattern. On the assumption that the commodity pattern of trade reflects inter-country differences in relative costs as well as in non-price factors, this is assumed to reveal the comparative advantage of trading countries” Balassa Index tries to identify whether a country has a revealed comparative advantage rather than to determine the underlying sources of Comparative Advantage. The advantage of using the comparative advantage index is that it considers the intrinsic advantage of a particular export commodity and is consistent with changes in an economy’s relative factor endowment and productivity. The index will be greater than one if a Country has revealed comparative advantage in that product.

Maddison, (2007), suggested in his study that the development of trade needs must be rooted with diplomatic and economic process in South Asia. The existence of regional organizations is not a new phenomenon but their success has been more or less depends upon geographical, demographic, political and other factors. The article further highlights a major reason for the evolution of the ASEAN-India informal alliance is the perceived hegemony of China in Asia. Southeast Asian States are very interested in balancing Chinese power through India, in the region. The association between India and Southeast Asia reflects the overall tendencies of the emerging regional infrastructure of East Asia.

Burange *et al.*, (2008) in their study evaluated India's RCA in exports and imports in different type of goods suggested that India enjoyed comparative advantage in the exports of Ricardo and Heckscher Ohlin (HO) goods while Product Cycle (PC) goods did not show any improvement in terms of RCA.

Chandran, (2010) studied the complementary sectors and products available for enhancing trade cooperation between ASEAN countries and India. India can export food grains and minerals to small and developed countries of ASEAN and it can import crude oil from ASEAN. India had advantage in some manufactured items like Chemicals, Textile, Iron and Steel, Gemstones and Jewelry and can export them to many ASEAN countries. ASEAN has comparative advantage in Electrical and Electronic components and India can import them from ASEAN.

Ana *et al.* (2011) examined the Competitiveness of China and India in the European Union based on the international trade values, during the time period 2001-2009. The empirical analysis suggests that China's and India's exports are competitive in products identified by the three methodologies, having in many of them capacity to increase their exports to the European market. However, there still persist high levels of trade protection applied by the European Union, which can explain why China's and India's exports have not yet take advantage of their full potential.

Tyagi, (2014) studied bilateral trade intensively and gave a comprehensive analysis of the commodities traded. This preliminary study is an attempt to fill the void in the understanding of Sino-Indian bilateral trade as available studies investigate trade relationships for a small period of time. It provides a comprehensive analysis of trade for 20 years during the period 1992–2012 and suggests policy implications, also drawn from statistical calculations. Shahab *et al.* (2013) estimated revealed comparative advantage of leather industry and various leather products of Pakistan, China, India and Iran, by using Balassa index (1965) for the period of 2002 to 2009. The study found increasing trend of comparative advantage movement of leather industry of Pakistan. The study indicates that Pakistan has significant potential of growth in this sector.

Ahmad and Kalim, (2013) examined the impact of quota-free trade of textile and clothing sector of Pakistan. Their analysis includes before liberalization for the period 1972 to 1994 and after quota abolishment for the period 1995 to 2011. They found declining trend of revealed comparative advantage of Pakistan in textile and clothing sector during the year 2011 to 2012. Huo (2014) examined the factors effecting export competitiveness of

agricultural industries in emerging economies. Results showed that export of agriculture products, irrigated land area, and exchange rate have positive effect, while labor cost, and domestic consumption demand have negative effect on export competitiveness. Abbas and Waheed (2017) analyzed the export competitiveness of 14 major industries of agriculture and manufacturing sector of Afghanistan from 2003 to 2014. They found that Afghanistan has higher comparative advantage in agricultural sector, while disadvantage in capital-intensive industries.

Suwannarat (2017) examined the export competitiveness of five Thai products to China from 2010 to 2013. Study found that cassava has the highest comparative advantage, while computer equipment has comparative disadvantage in China. Wani and Dhani (2014) employed RCA and RID to evaluate the trade feasibility between India and Brazil. Although some studies were done in Afghanistan context as well with focus on trade compatibility against India (Wani, 2018) and export performance (Taj and Wani, 2019).

3. Research Methodology

There are various economic approaches to measure competitiveness. Competitiveness is the ability and capacity of an industry to maintain its market share and compete with foreign counterparts in both foreign and domestic markets under free trade. Heckscher-Ohlin theory explains comparative advantage, while Porter diamond model explains competitive advantage (Lall, 2001). Balassa (1965) developed an index called “Revealed Comparative Advantage (RCA)” to measure the trade specialization as well as comparative advantage. This index shows relative comparative advantage of a country’s export. Balassa index is computed as:

$$RCA_{ij} = (X_{ij}/X_{wj})/(X_i/X_w)$$

Where, RCA_{ij} is revealed comparative advantage of country i for a commodity or sector j , X_{ij} is exports of a country i for a commodity or sector j , X_{wj} is total exports of world for a commodity or sector j , X_i is total exports of country i , and X_w is total exports of world.

The value of RCA_{ij} (RCA) goes from zero to infinity with one as a break-even point. If the value of RCA_{ij} (RCA) is greater than one, it means that country i has comparative advantage in the export of commodity j in a particular country C and vice versa. However, on both sides of the break-even point the value of RCA (RCA) is not comparable because the value of RCA remains from zero to one, and this is due to asymmetry in its values. Dalum et al. (1998) provided modification of RCA that makes it symmetric

and known as revealed symmetric comparative advantage (RSCA). Mathematically, it is expressed as:

$$RSCA = (RCA - 1) / (RCA + 1)$$

The value of RSCA does not suffer from the problem of asymmetry, it remains between -1 to +1. If the value of RSCA is positive, then the corresponding commodity has revealed comparative advantage and vice versa.

4. Results and Discussions

The commodities are ranked according to RSCA for each country into four categories. Commodities with RSCA between 1 to 0.5 and -1 to -0.5 are classified as highest comparative advantage and disadvantage respectively. However, commodities with RSCA between 0 to 0.49 and 0 to -0.49 are classified as marginal comparative advantage and disadvantage respectively.

4.1 Export Competitiveness of Afghanistan with Pakistan

Table 1 presents the ranks of commodities based on RSCA and shows highest revealed symmetric comparative advantage (HRSCA) of Afghanistan with Pakistan. Afghanistan is exporting around 64 commodities to Pakistan in the year 2018. Only 5 out of 71 commodities fall in the HRSCA segment. The highest relative rank of first five commodities indicates that Afghanistan has highest RSCA in Coal gas, Water gas, Lime Cement, Fabrica, dyeing tanning extracts, Wood and animal or veg oils.

Table 1: Highest Revealed Symmetric Comparative Advantage (HRSCA) of Afghanistan with Pakistan

Commodity Code	Afghanistan with Pakistan HRSCA	RSCA	Rank
345	Coal gas, water gas & similar gases (excluding hydro car.)	0.9868	1
661	Lime, cement, fabrica. constr. mat. (excluding glass, clay)	0.9535	2
532	Dyeing & tanning extracts, synth. tanning materials	0.9531	3
247	Wood in the rough or roughly squared	0.9096	4
431	Animal or veg. oils & fats, processed, n.e.s.; mixt.	0.8939	5

Source: UNCOMTRADE

Note: RSCA is authors' calculation. Ranking of the commodities are done on the basis of RSCA

Table 2 presents the ranks of commodities based on RSCA and shows highest revealed symmetric comparative disadvantage (HRSCD) of Afghanistan with Pakistan. Around 42 out of 71 commodities fall in the

HRSCD segment. Result shows the relative ranking of commodities according to their highest disadvantage. Afghanistan has highest comparative disadvantage in Jewellery & Motor vehicles for the transport, non-alcoholic beverages, and textile are the five HRSCD in case of Afghanistan exports to Pakistan.

Table 2: Highest Revealed Symmetric Comparative Disadvantage (HRSCD) of Afghanistan in Pakistan

Commodity Code	Afghanistan with Pakistan HRSCD	RSCA	Rank
897	Jewellery & articles of precious materia., n.e.s.	-0.9996	1
781	Motor vehicles for the transport of persons	-0.9971	2
111	Non-alcoholic beverages, n.e.s.	-0.9959	3
782	Motor vehic. for transport of goods, special purpo.	-0.9943	4
651	Textile yarn	-0.9908	5
741	Heating & cooling equipment & parts thereof, n.e.s.	-0.9891	6
684	Aluminium	-0.9878	7
282	Ferrous waste, scrape; remelting ingots, iron, steel	-0.9842	8
882	Cinematographic & photographic supplies	-0.9836	9
287	Ores and concentrates of base metals, n.e.s.	-0.9825	10
335	Residual petroleum products, n.e.s., related mater.	-0.9818	11
657	Special yarn, special textile fabrics & related	-0.9794	12
898	Musical instruments, parts; records, tapes & similar	-0.9781	13
848	Articles of apparel, clothing access., excluding textile	-0.9736	14
582	Plates, sheets, films, foil & strip, of plastics	-0.9620	15
885	Watches & clocks	-0.9583	16
522	Inorganic chemical elements, oxides & halogen salts	-0.9566	17
284	Nickel ores & concentrates; nickel mattes, etc.	-0.9538	18
658	Made-up articles, of textile materials, n.e.s.	-0.9391	19
678	Wire of iron or steel	-0.9179	20
821	Furniture & parts	-0.9162	21
629	Articles of rubber, n.e.s.	-0.9130	22
775	Household type equipment, electrical or not, n.e.s.	-0.9126	23
899	Miscellaneous manufactured articles, n.e.s.	-0.9065	24
222	Oil seeds and oleaginous fruits (excluding flour)	-0.8934	25
774	Electro-diagnostic appa. for medical sciences, etc.	-0.8318	26
641	Paper and paperboard	-0.8161	27
122	Tobacco, manufactured	-0.8062	28
665	Glassware	-0.7749	29

731	Machine-tools working by removing material	-0.7266	30
553	Perfumery, cosmetics or toilet prepar. (excluding soaps)	-0.7187	31
581	Tubes, pipes and hoses of plastics	-0.7062	32
844	Women's clothing, of textile, knitted or crocheted	-0.6885	33
325	Coke & semi-cokes of coal, lign., peat; retort carbon	-0.6712	34
278	Other crude minerals	-0.6691	35
573	Polymers of vinyl chloride or halogenated olefins	-0.6486	36
322	Briquettes, lignites and peat	-0.6425	37
893	Articles, n.e.s., of plastics	-0.6380	38
699	Manufactures of base metal, n.e.s.	-0.6078	39
654	Other textile fabrics, woven	-0.5556	40
872	Instruments & appliances, n.e.s., for medical, etc.	-0.5404	41
625	Rubber tyres, tyre treads or flaps & inner tubes	-0.5260	42

Source: UNCOMTRADE

Note: RSCA is authors' calculation. Ranking of the commodities are done on the basis of RSCA

Table 3 presents the ranks of commodities based on RSCA and shows marginal revealed symmetric comparative advantage (MRSCA) of Afghanistan with Pakistan. Around 10 out of 71 commodities fall in the MRSCA segment. These commodities have comparative advantage but their comparative advantage is lesser as compared to those commodities presented in table 1. Majority of the products related to Tullies trimmings, footwear, fuel wood, and Paper & paperboard are in MRSCA.

Table 3: Marginal Revealed Symmetric Comparative Advantage (MRSCA) of Afghanistan in Pakistan

Commodity Code	Afghanistan with Pakistan	MRSCA	RSCA	Rank
656	Tullies, trimmings, lace, ribbons & other small wares		0.4191	1
851	Footwear		0.4144	2
245	Fuel wood (excluding wood waste) and wood charcoal		0.3784	3
642	Paper & paperboard, cut to shape or size, articles		0.2333	4
572	Polymers of styrene, in primary forms		0.1347	5
671	Pig iron & spiegeleisen, sponge iron, powder & granu		0.1291	6
292	Crude vegetable materials, n.e.s.		0.1261	7
611	Leather		0.0968	8
273	Stone, sand and gravel		0.0621	9
672	Ingots, primary forms, of iron or steel; semi-finis.		0.0500	10

Source: UNCOMTRADE

Table 4 presents the ranks of commodities based on RSCA and shows marginal revealed symmetric comparative disadvantage (MRSCD) of Afghanistan with Pakistan. Around 14 out of 71 commodities fall in MRSCD segment. These commodities are Machinery, household equipment, Agricultural machinery, metal containers and Iron & steel bars.

Table 4: Marginal Revealed Symmetric Comparative Disadvantage (MRCSD) of Afghanistan in Pakistan

Commodity Code	Afghanistan with Pakistan MRCSD	RSCA	Rank
728	Other machinery for particular industries, n.e.s.	-0.4692	1
697	Household equipment of base metal, n.e.s.	-0.4614	2
721	Agricultural machinery (excluding tractors) & parts	-0.3965	3
692	Metal containers for storage or transport	-0.3811	4
676	Iron & steel bars, rods, angles, shapes & sections	-0.3707	5
843	Men's or boy's clothing, of textile, knitted, croche.	-0.3609	6
831	Travel goods, handbags & similar containers	-0.3538	7
523	Metallic salts & peroxy salts, of inorganic acids	-0.2852	8
635	Wood manufacture, n.e.s.	-0.2369	9
592	Starche, wheat gluten; albuminoidal substances; glues	-0.1551	10
554	Soaps, cleansing and polishing preparations	-0.1446	11
659	Floor coverings, etc.	-0.0997	12
716	Rotating electric plant & parts thereof, n.e.s.	-0.0259	13
551	Essential oils, perfume & favour materials	-0.0089	14

Source: UNCOMTRADE

5. Conclusion

Afghanistan remains unable to utilize its untapped export potential in the world market, despite of abundant natural resources, rich and generous water resources as well as agro-ecological conditions for agricultural products and partially developed manufacturing sectors. Afghanistan is exporting a large number of diversified commodities to several countries.

The main objective of this study is to analyze the export competitiveness of Afghanistan with Pakistan at three-digit level of Standard International Trade Code (SITC Rev. 3) for the year 2018. Commodities with RSCA between 1 to 0.5 and -1 to -0.5 are classified as highest comparative advantage (HRSCA) and disadvantage (HRSCD) respectively. However, commodities with RSCA between 0 to 0.49 and 0 to -0.49 are classified as marginal comparative advantage (MRSCA) and disadvantage (MRSCD) respectively.

Afghanistan has exported 71 commodities to Pakistan in 2018, out of which 5,42,10 and 14 commodities fall in HRSCA, HRSCD, MRSCA and MRCSD respectively.

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