

**ASSESSING THE TRADE POTENTIAL OF  
PAKISTAN- SRI LANKA UNDER FREE TRADE  
AGREEMENT: INPUT-OUTPUT MODEL**



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**CERTIFICATE**

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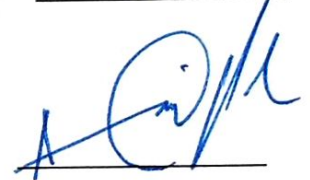
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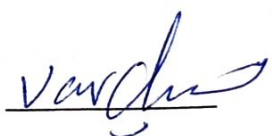


## Author's Declaration

I Vardah Sabir hereby state that my MPhil thesis titled Assessing the Trade Potential of Pakistan- Sri Lanka under Free Trade Agreement: Input-Output Model is my own work and has not been submitted previously by me for taking any degree from this University Pakistan Institute of Development Economics or anywhere else in the country/world.

At any time if my statement is found to be incorrect even after my Graduation the university has the right to withdraw my MPhil degree.

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## **DEDICATION**

*To my*

***BELOVED PARENTS***

*who have been a great source of inspiration and support;*

*their love encouraged me at every step-in life*

*and particularly during my studies at PIDE.*

*(Vardah Sabir)*

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## **Abstract**

Assessing the trade potential of Pakistan- Sri Lanka under free trade agreement: input-output model and to check the long-term Johansen cointegration analysis. The study uses the input-output model and Johansen cointegration on time series data to assess the Pakistan-Sri Lanka long term trade relation under the assigned FTA. The study was based on secondary data collected from World Bank and duration from 1988 to 2020. The study also checks the comparative index and revealed comparative index. Fully modify ordinary least squares (FMOLS) is used as it is best adapted for Cointegration Regressions. These independent variables Exports, GDP Per Capita, food and Imports are positively but Terrorism Index are negatively correlated with dependent variable trade. Also, the independent variables Exchange Rate, Exports, GDP Per Capita, Imports, food and Terrorism Index are significantly affecting the dependent variable trade in the long run.

**Keywords:** Input-output; Pakistan and Sri Lanka Free Trade Agreement; Cointegration; Comparative and Revealed comparative index

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## **List of Acronyms**

ACU	Asian Clearing Union
ASEAN	Association of Southeast Asian Nations
ASEAN 3	Association of Southeast Asian Nations Plus Three (APT)
CAGR	Compound annual growth rate
CGE	Computable General Equilibrium
ECO	Economic Cooperation Organization
FTA	Free Trade Agreement
FY	Financial Year
GDP	Gross Domestic Product
GDP	Gross Domestic Product
GTAP	Global Trade Analysis Project
GTI	Global Terrorism Index
ICRG	International Country Risk Guide
ISLFTA	India-Sri Lanka Free Trade Agreement
MOC	Ministry of Commerce
MOCT	Ministry of Commerce and Trade
NCOC	National Command and Operation Center
PBC	Pakistan Business Council
PCGDP	Per Capita Gross Domestic Product
PSFTA	Pakistan-Sri Lanka Free Trade Agreement
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Agreement
SAPTA	South Asian Preferential Trade Agreement
STPF	Strategic Trade Policy Framework
TDAP	Trade Development Authority of Pakistan
USD	United States Dollar

# CHAPTER 1

## INTRODUCTION

### 1.1. Background

Strong trade barriers exist along Pakistan's eastern, western, and northwest borders. In the past, Pakistan served as the intersection of important east-west trade routes linking China and Central Asia to India. However, Pakistan's trade with east has been hampered by strained relations between India, fighting and political unrest in Afghanistan, the lack of transportation systems for roads leading to China, instability in tribal areas, and Baluchistan. Numerous studies have demonstrated that expanding trade with neighbor's help countries' economies grow. Pakistan has a good chance to accelerate its economic growth as east-west trade grows (Bordo, 2017). Free trade agreements (FTAs) have made it possible for nations to trade with one another without being subject to tariffs. According to liberal trade ideas, increased international trade boosts exports and imports by promoting more effective resource allocation. Pakistan made numerous policy changes to increase exports and improve global economic integration, however there was little change in Pakistan's exports. To break the cycle of lack of development and increase export, Pakistani negotiated bilateral trade agreements of trade agreements, including Singapore, China, and Sri Lanka.

The Pakistan- Sri Lanka Free Trade Agreement PSFTA were signed in August 2002 by the governments of Pakistan and Sri Lanka, and it went full force in July 2005. The two markets also vowed to end any increases in current border taxes and levies, sometimes known as "para tariffs," and to ban the installation of any new para tariffs with their common agreement. Non-tariff trade barriers on products and services were to also be removed. The agreement provided

significant concessions to Pakistan's and Sri Lanka's top exporters. As a result, the total bilateral trade volume has increased by 50%, from US\$ 158.58 million in 2005 to over US\$ 451.31 million in 2019. Sri Lanka was given immediate access to the duty-free market for 206 products, while Pakistan was given access for 102 products. Under the PSFTA, Pakistan and Sri Lanka initially enjoyed 100% concessions on significant export sectors. Ostensibly because of the positive effects of the PSFTA on commerce, Sri Lanka's Import from Pakistan surged by about 5.4 times in 15 years, from US\$ 68.61 million in 2005 to US\$ 369.78 million in 2019. Like this, Sri Lanka's exports to Pakistan surged, nearly tripling in value from US\$ 43.02 million in 2005 to US\$ 81.53 million in 2019 (Government of Sri Lanka 2019).

**Table 1.1: Sri Lanka's Trade with Pakistan (1995-2019) -Value in US\$ Mn**

<b>Year</b>	<b>Sri Lanka's Export to Pakistan</b>	<b>Share of total Sri Lanka's export to the world</b>	<b>Sri Lanka's Import from Pakistan</b>	<b>Total Bilateral Trade</b>
1995	43.20	1.14	52.40	95.60
2000	29.59	0.56	68.61	98.20
2005	43.02	0.70	115.56	158.58
2010	60.45	0.73	282.11	342.57
2015	73.10	0.72	297.41	342.57
2016	63.80	0.62	304.33	368.13
2017	74.01	0.65	350.11	424.12
2018	75.94	0.64	428.55	504.49
2019	81.53	0.68	369.78	451.31

Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka 2019

The present Free Trade Agreement FTA-assigned trade potential between Pakistan and Sri Lanka is around \$2.7 billion (Mufti, 2020), but numerous obstacles and impediments prevent achieving the full trade potential. The input-output model, which has a strong theoretical foundation and has been proved to be useful in explaining bilateral trade flows experimentally, is used in research to assess the full potential of trade and identify the major trade impediments. They provide a picture of the flows of services and goods produced and consumed in the nation

over the course of a single year. In most cases, these tables can serve as a base for an economic model where total output is influenced by exogenous ultimate demand (Miller, 2009). This study's theoretical underpinnings include the input-output model of world trade and the Pakistan-Sri Lanka free trade agreement. Due to its widespread use in global trade, the input-output model was used for the study. The research focused on our problems and sought solutions using the most recent iteration of the input-output model.

This study seeks to explore the mutual influence in bilateral trade relations by analyzing trade flows between Pakistan and Sri Lanka. The study used a bilateral output input model to examine how final demand and input utilization in this nation's production influence output and value added in another country.

## **1.2. Purpose of this study**

The goal of this study is to evaluate how trade flows between Pakistan and Sri Lanka affect one another on a bilateral level. The significance of inputs and outputs combine to generate input-output models that governments may use to study economies and make educated policy decisions. Input-output models also investigate the consequences of direct, indirect, and induced impact.

The production effect on a State include:

- ❖ **Multiplier effects:** These show that the effects of domestic final demand on output.
- ❖ **International feedback effects:** Pakistan's output needs are influenced by Sri Lanka's production, which employed Pakistan's products as intermediate inputs.

### **1.3. Statement of the Problem**

The fundamental issue is that the FTA between Pakistan and Sri Lanka hasn't fully increased commerce because of several roadblocks. Numerous studies have been conducted to identify the primary obstacles and determine true potential using various indicators and methodologies, but the full potential, which is approximately \$2.7 billion, has not yet been realized. It implies that thorough qualitative and quantitative study is required to address this issue.

### **1.4. Research Problem**

Based on the narrative of problem statement as stated in the preceding text, we are narrowing research problem into “Assessing the Trade Potential of Pakistan-Srilanka under Free Trade Agreement: Input-Output Model” to pinpoint the main hurdles which do not allow the trading partners to achieve its full trade potential under their assigned FTA. We have operationalized research topic into following research questions and objectives. Input-output models are used to assess the total economic impact associated with a change in industry output or a change in the demand for one or more commodities.

### **1.5. Research Questions**

1. What is the significant role of the Pakistan and Sri Lanka's free trade agreement in the economy?
2. How can we find the impact of Pakistan and Sri Lanka's free trade agreement through Cointegration?
3. How to evaluate the estimations of the trade complementary index and identify Pakistan's and Sri Lanka's comparative advantages?



## **1.6. Objectives of the Research**

1. To list the obstacles and assess the possible trade benefits of the Pakistan and Sri Lanka free trade agreement.
2. To evaluate the long-term trade relations between Pakistan and Sri Lanka within the designated FTA
3. To evaluate the estimations of the trade complementarity index and identify Sri Lanka's and Pakistan's comparative advantages.

## CHAPTER 2

### REVIEW OF LITERATURE

In July 2002, Pakistan and Sri Lanka signed a free trade agreement. Since the FTA's commencement, trade between Pakistan and Sri Lanka has grown slowly. Pakistan's exports to Sri Lanka increased from 154 million USD in 2004 to 348.48 million USD in 2021, while Sri Lanka's exports to Pakistan increased from 46 million USD to 99.63 million USD over the same time. The conditions of the Pakistan-Sri Lanka Free Trade Agreement are beneficial, and both nations have robust markets for the other's key exports, making the poor status of bilateral commerce between the two more concerning. According to this study, a variety of obstacles are impeding greater commercial cooperation. One of them is the difficulty of the two nations' corporate groups and governments to connect. Additional concerns, it appears, include unilateral changes to FTA provisions that disrupt commerce, as well as a lack of investment by government entities in organizing single country exhibits and frequent trade delegations (PBC, 2015)

The factors influencing trade and export patterns between nations are of interest to researchers around the world. Even though Southeast Asia is the area with the fastest growth rates in the world, regional trade and economic expansion have not accelerated (Ahmed, 2010). A 35-year history of regional initiatives aimed at enhancing integration and cooperation can be found throughout the South Asian region. To this end, a corporation known as South Asian Association for Regional Cooperation (SAARC) was established in 1985, and in 1995 and 2005, two significant regional agreements were put into effect: the SAARC Preferential Trading Agreement (SAPTA) and the South Asian Free Trade Agreement (SAFTA). Due to the slow rate of global trade liberalization under the World Trade Organization, governments are relying more and more on regional trade accords. South Asia is thought to be one of the world's least integrated areas. High tariffs, non-

tariff obstacles, non-conducive MFNs, parallel comparative advantages, the potential for trade divergence, and the unequal economic scale of the region have a detrimental impact on the literature around South Asian Free Trade Area SAFTA. While (Pitigala, 2005) and (Bashir, 2007) suggested that trade divergence occurs frequently as a result of numerous obstacles, (Bandara, 2013) utilized a computable general equilibrium model to assess SAFTA and discovered that India had sizable advantages.

In contrast to (Hiranth, 2004), who found evidence of the development of commerce but no indications of diversion with the rest of the world, these findings are different. There is strong evidence that reducing border inefficiencies can result in large trade gains for South Asian countries (Weerahewa, 2009). Even if SAFTA is valued, there is now a decline in regional commerce. It places significant trade barriers in the way of some intra-regional trade. A study conducted by (Mehta, 2000) found that the intraregional commerce might expand by 160 percent if all tariffs were eliminated. Furthermore, countries that thought regional trade deals were moving too slowly were pushed to negotiate bilateral free trade agreements (FTAs).

Free trade agreements essentially motivate governments to engage in unrestricted trade. Normally, the tariff rates on the list of products become zero when two countries sign a free trade agreement. This means that there are no border taxes owed by importers of goods covered by the free trade agreement. FTAs are effective in some cases, but not all, according to the findings of various research. The goal of Vivek Joshi's essay was to demonstrate how the Sri Lanka and India Free Trade Agreement (ISLFTA) would impact trade between the two nations and the rest of the world. ISLFTA does have a massive effect on commerce between the 2 nations while having little effect on trade creation in non-ISLFTA nations (Suhail, 2011) investigated the impacts of trade treaties

in the SAARC region, specifically the FTA with Sri Lanka, using panel data analysis for panel linear regression.

Outcome of the study showed that trade between India and Sri Lanka has benefited from the FTA between these two trading partners. China is currently recognized as an economy in growth and has engaged in extensive free trade deal (FTA) negotiations with other nations. The advantages of the bilateral free trade agreements between China and Japan, Association of Southeast Asian Nations ASEAN, China and Korea, and ASEAN+3 were investigated in the present study by (Estrada, 2012). The results showed indicated China would gain from all bilateral free trade agreements in a big way, but especially from the FTA with the ASEAN+3 countries. Pakistan also has signed free trade agreements with China, Malaysia, and Sri Lanka to further its trade and economic development. The study by (Zada, 2017) examined the effects of Pakistan's existing FTAs between China, Sri Lanka, and Malaysia that use the Own Global Trade Analysis Project (GTAP) model within the frame of a global Computable General Equilibrium CGE model.

The study's findings indicated that while the FTA is advantageous for Pakistan when it comes to China and Malaysia, it is not advantageous when it comes to Sri Lanka. According to several research, Pakistan does not benefit from the FTA between China and Pakistan. (Khan, 2019) used time series data from 2003 to 2017 to assess the effects of the FTA between Pakistan and China on trade flow and exports. For the long-term association, the study also used multiple regression analysis, correlation, and co-integration. Due to Pakistan's sale of raw materials and intermediate goods to China, the results indicated that the FTA is not advantageous for Pakistan. By utilizing partial and general equilibrium methodologies to determine the trade potential, the work of (Ahmed, 2010) attempted to evaluate the before and post FTA pattern of Pakistan and Sri Lanka. The findings showed that while efficiency and welfare grew because of the FTA, the export basket

did not. In addition, the study (Nufile, 2013) used panel data from 1980 to 2010 to evaluate the Pakistan Sri Lanka free trade agreement using a gravity model. Finding both nations' trade potential both inside the SAARC region and globally is the goal.

The findings demonstrate a very high level of trade potential and the possibility for new product development in the bilateral trade agreement when compared to SAARC and SAFTA. The international trade gravity model is the most common model used to describe trade flows. Jan Tinbergen and Pentti Pöyhönen (1963) were among the forerunners of the gravity models in 1962. The gravity model explains why, due to high transportation costs, countries with higher GDPs trade more and those with greater distances trade less. Using the classic equation of gravity model, (Sohn, 2005) attempted to examine the bilateral trade flow of Korea with 30 trading partners. The findings demonstrated that Korea has significant trading potential with its neighbors, namely China and Japan. The gravity model has been employed in some research to explain the trade patterns of the individual SAARC nations. By analyzing data from 94 trading partners over a 29-year period, the study (Prasai, 2014) employed the gravity model to determine Nepal's trade patterns (Agrawala, 2003).

The study found that whereas economic size has a positive coefficient, distance has a negative coefficient. (Zaman, 2010) also use the gravity model to evaluate the prospects for bilateral trade between turkey and Pakistan. They described how trade and GDP, as well as trade and GDP per capita, had a high positive association. The relationship between commerce and distance from one another, however, is not very strong. Studies claim that the gravity model was modified over time to accommodate the requirements of new international trade regulations. (Sheikh, M. R., Kattumuri, R., Chaudhry, I. S., & Kumar, A, 2019) attempted to apply a gravity model in their 2019 study to analyze Pakistan's bilateral trade with ECO countries. The results of the analysis

show that the main variables affecting Pakistan's bilateral trade flows with ECO countries are terrorism, landlocked Ness, income, distance, adjacency, area, and population. (Ilyas) used an augmented gravity model to estimate Pakistan's trade potential with Asian Clearing Union ACU countries. Pakistan's exports to the ACU countries were promoted using the factors of population, real exchange rate, diplomatic ties, financial integration, and the removal of trade obstacles through regional trade agreement (SAFTA) (Murshed, 2018).

### **2.1. Pakistan and Sri Lanka Trade**

When the Pakistan-Sri Lanka Free Trade Agreement (PSFTA) is examined, the effects on the Sri Lankan economy are much minimal. Sri Lanka was keen to enter into a free trade agreement with the country, especially after gaining major market access because of the FTA negotiated with India. As a result, the PSFTA was signed in 2002 and went into effect in 2005 (Kelegama, 2013).

Sri Lankan textile and garment exports to Pakistan climbed by 88%, wood goods increased by 124%, and metal items increased by 116%. Pakistani exports increased significantly as well, with grains crops reaching 131%, vegetables and fruits climbing 73%, and drinks and tobacco goods increasing 70%. (Ahmed S. A., 2010) 26 performed a study to assess the impact of the PSFTA on several sectors of the Pakistani economy. Exporters and importers in Pakistan were interviewed to learn how effective the PSFTA was considered by the business sector. In the areas of rubber and plastics, electrical equipment, and chemical items, importers of Sri Lankan commodities in Pakistan were questioned. Those involved in the importation of rubber and plastics reported an increase in imports of 5% or more following the adoption of the PSFTA (Kelegama, 2013).

They did, however, allege that unregistered company operators were also involved in the importation of Sri Lankan products. Additionally, importers were afraid that Sri Lankan exports might be redirected to Malaysia, Indonesia, or Vietnam, which purportedly have no sales tax on

rubber and plastic imports, whereas Pakistan has a very high sales tax. Importers of electronic goods reported an average 5% rise in the post-FTA period following adoption in 2005. Importers in this industry in Pakistan are glad that the amount of paperwork necessary for importing has been reduced, but they are concerned about the remaining onerous filing requirements. As a result, they have urged government trade groups in both nations to streamline existing regulations. With the adoption of the PSFTA, the chemical products industry recorded a 15% rise in imports. Importers, on the other hand, have urged for more effective pre- and post-delivery checks at ports to assure excellent quality, as well as better port storage facilities for chemical products (Kelegama, 2013).

## **2.2. Pakistan-Sri Lanka Free Trade Agreement (PSFTA)**

Sri Lanka has viewed bilateralism as having higher benefits in terms of both joint commerce and economic cooperation that has evolved within the region. The Department of Commerce, Sri Lanka also serves as the focal point for joint commissions on trade and economic cooperation created under trade agreements. The Sri Lankan government representative is responsible, like the Department of Commerce (DOC), for the coordination and conduct of the following Joint Commissions/Committees convened at the Ministerial level. Sri Lanka has signed bilateral agreements with Bangladesh, China, Egypt, Iran, Iraq, Maldives, Pakistan, Romania, Thailand, and India.

Nonetheless, the bilateral agreements between India and Sri Lanka, as well as Pakistan and Sri Lanka, are quite effective and have a significant impact on intra-regional economic operations among the partner nations. The first was signed in December 1998 with India and went into effect in March 2000. The second agreement, with Pakistan, went into force in June 2005. These three countries are SAARC's most significant and developing partners. Notwithstanding the fact that both free trade agreements have provided Sri Lanka with vital market access to its primary

economic partners in the region, three SAARC member nations have engaged into bilateral trade agreements, emphasizing the relevance of SAFTA. Twenty-seven years have passed since the start of the SAARC, seven years since the start of the Pakistan-Sri Lanka Free Trade Agreement (PSFTA), and six years since the start of the South Asian Free Trade Area (SAFTA), and it is now possible to have a better understanding of the implications of all agreements. Nonetheless, overall figures demonstrate significant gains for Sri Lanka in terms of export growth and the reduction of negative net trade imbalances. Yet, it should be noted that a few studies conducted by specialists and academics suggest that the true picture is less favorable (de Mel, 2008). They also stated that the PSFTA has had little influence on commerce. Consequently, the agreement's efficacy and lessons for other countries may be assessed from this perspective.

The findings indicated that GDP had a favorable effect while distance between trading nations had a negative effect. As time goes on, new theories and methods for analyzing international trade patterns are developing. The Input-Output table has been used in some research to examine the trade patterns between two nations. Using an input-output model, the study (Thai, 2008) described the possibilities for commerce between Vietnam and China. The findings demonstrate that China profits more from Vietnam. Input-Output figures will also be used to determine the bilateral free trade between Pakistan and Sri Lanka.

### **2.3. Input Output Model and Bilateral Trade**

Understanding carbon emissions inherent in commerce is a critical requirement for effective climate mitigation policy design. This paper presents a multi-step forecasting technique based on input-output analysis and panel regression models to predict carbon emissions inherent in bilateral commerce. We analyze the carbon emissions embedded in Chinese-Australian commerce from 2000 to 2014 and project them for the period 2015-2022 under four distinct development scenarios.



The findings demonstrate that between 2000 and 2014, net carbon outflows from China to Australia grew from 2.2 to 15.5 Mt CO<sub>2</sub>, with the greatest concentration in the textile and heavy industrial sectors. The simulation findings demonstrate that the predictions of the "R&D emphasis" and "GDP focus" scenarios define the lower and upper boundaries of embodied emissions, with the latter being more than twice as large as the former in 2022 for both embodied emissions in Australian and Chinese exports. Finally, findings and policy implications are presented (Wang, 2019).

Bilateral trade agreements (BTAs) have grown in quantity and economic significance during the previous few decades. Significantly, such agreements have a significant impact on global commerce since the rearrangement of goods and services flows has significant effects not only on the economy of the contracting nations, but also on other parties who deal with these countries (directly or indirectly). We empirically investigate the effect of BTAs on the input-output linkages between the national economic sectors of the contractual parties by developing a new measure of Trade Interconnectedness (TI), which describes the relative importance of direct and indirect production linkages between the two countries in the international trade network. We show that, while most BTAs are followed by an increase in TI between the contractors, there are some significant outliers by evaluating its temporal development for each pair of trade agreement partners. When we compare the trade profiles of China and the United States (US), we see that both nations have pursued fundamentally different aims and techniques in the negotiation of BTAs (Maluck, 2018).

International trade CO<sub>2</sub> emissions are crucial to the national carbon reduction plan. In China, studies calculating embodied CO<sub>2</sub> emissions frequently exceed real quantities. Using a modified, non-competitive import input-output approach and the most recent data, this study analyses

China's CO<sub>2</sub> emissions embedded in bilateral commerce with the United States, the European Union, Japan, and other nations. The findings demonstrate that the net CO<sub>2</sub> emissions incorporated in China's commerce in 2007 were just 400 million tons, which is far lower than prior estimates. As a result, China's CO<sub>2</sub> emissions on the consumption side fell to 5.628 billion tons in 2007, with the transfer component accounting for 6.6% of total CO<sub>2</sub> emissions computed for the production side. It is stated that, because CO<sub>2</sub> emissions embedded in trade are not as large as previously assumed, China should focus more on energy conservation and emission reduction on its own side rather than emission transfer to significantly reduce CO<sub>2</sub> emissions (Liu, 2017).

Understanding the increasingly complicated patterns of international commerce is a major problem for policymakers, as nations' economic integration is marked by increased trading in intermediary commodities and services. Assessments based on international input-output tables can aid in the resolution of trade-related policy challenges while also giving insights into the socioeconomic and environmental consequences of globalization. To link national input-output tables to conduct cross-country interdependent studies, a consistent set of harmonized international bilateral trade data is required, ideally reflecting current production by the economic activity in issue. This study covers the difficulties encountered when attempting to build acceptable bilateral trade matrices utilizing annual data collected by the OECD and UN, as well as national sources. While the main focus of this paper is on the increasing presence of "re-exports" in reported exports of goods data, it also addresses some other statistical and data issues that must be addressed, such as the treatment of confidential (or "unallocated") trade in goods; trade in secondhand goods, scrap metal, and other waste; differences in trade statistics across international statistical agencies; and additional problems encountered when converting product-based trade data. Balance of Payments data, the primary source of trade in services, is also covered (Guo, 2009).

Attempts to limit greenhouse gas (GHG) emissions connected to the global climate system, such as the Kyoto Protocol, may fail if emission-restricted governments shift carbon-intensive industrial activities to non-restricted countries where main production factors rely on more GHG-intensive sources. Such relocating and expanded "carbon trading" appear to go counter to the GHG reductions envisioned in international accords. This study investigates carbon embodiments in trade utilizing globally comparable OECD data sources (Input-Output, Bilateral Goods Trade, and CO<sub>2</sub> emissions) for 41 countries/regions across 17 industries. According to simulation results under base case scenarios for the mid-1990s and early 2000s, "trade deficits" of CO<sub>2</sub> emissions are recorded in 21 OECD nations in the early 2000s, and the amount of the trade deficit rose in 16 countries in the late 1990s. While non-OECD economies accounted for a third (860 Mt CO<sub>2</sub>) of the worldwide growth in production-based emissions in the late 1990s, OECD consumption still accounts for more than half (1550 Mt CO<sub>2</sub>). According to the sensitivity simulations, growing global trade intensity has an increasing influence on embodied emissions, but technology transfers from carbon-intensive to high carbon-intensive nations reduce world emissions and carbon trade deficits (Nakano, 2009).

#### **2.4. Research Gap**

Following a review of the literature, it was discovered that the literature pertaining to Pakistan fails to use an input-output table to describe the potential for commerce between Pakistan and Sri Lanka under their FTA. Through an input-output model, this study will identify the trade flow between Pakistan and Sri Lanka to comprehend how the two countries' bilateral trade relations affect each other. Additionally, the literature fails to identify the primary challenges to the PSFTA through qualitative research that involves gathering some pertinent data from the ministry of trade and commerce, as well as the long-term connection between Pakistan and Sri Lanka. Therefore, we

will visit to the ministry of trade and commerce and conduct a detailed interview with concerned officials and add their opinion that which industries have the capacity to boost the trade between Pakistan and Sri Lanka, what are the hurdles and how these hurdles can minimize to improve the trade between Pakistan and Sri Lanka under their assigned FTA.

## **2.5. Significance of Research**

This study will find the trade potential of Sri Lanka and Pakistan. It will also find the factors which can boost the trade relation of both countries in the present time and in the long term. Additionally, the findings of this study will demonstrate how trade can be expanded and obstacles can be reduced underneath this FTA, as trade between the two nations surged in the formative days of the bilateral agreement but did not realize its maximum potential. \$2.7 billion in trade potential under the FTA has not yet been realized. The analysis will also show that the Pakistan Sri Lanka Free Trade Agreement (PSFTA) places minimal tariff restrictions on both countries, but that the effects of the PSFTA's tariff rationalization have been overshadowed by existing non-tariff barriers, which have been a significant drag on both countries' export performance. This research will help the ministry of commerce that how trade relation of Pakistan can be improved with Sri Lanka through qualitative work of collecting data from concerned ministry.

## **CHAPTER 3**

### **NATIONAL LEVEL POLICY**

The goal of this chapter is to describe national-level trade policies, tactics, and actions. Policy briefs are an important tool for communicating findings and suggestions to a non-specialized audience. They are a mechanism for offering evidence-based policy recommendations to readers to assist them make educated decisions. A strong policy brief summarizes research findings in simple terms and makes obvious connections to policy actions. To foster economic growth, the Ministry of Commerce and Trade wishes to boost export competitiveness, cut firm costs, and facilitate and liberalize trade in Pakistan. Additionally, Ministry of Commerce and Trade MOCT seeks to improve Pakistan's export contribution to overall commerce by focusing on foreign markets for our country's exports.

#### **3.1. Framework of Strategic Trade Policy (STPF) 2020-25**

The share of Pakistani exports in the world market has decreased by 10.5 percent over the previous ten years due to the country's poor export performance, which has fluctuated between \$20 and \$25. While Bangladesh, India, and China have seen increases in their export market shares of 27, 18, and 95%, respectively. On the other side, imports have seen a sharp increase, creating a huge trade deficit. Our growth path has become more cyclical due to the ongoing balance of payment issues, which has hampered Pakistan's ability to grow its economy sustainably (Government of Pakistan, 2020).

The Ministry of Commerce MOC established the Strategic Trade Policy Framework (STPF) 2020–25 to give Pakistan's exporters the necessary boost. The objective of the system is to improve its completeness through several direct policy actions that have an impact on the value chain. By addressing the persistent strategy fragmentation-related problems that have obstructed the

effective execution of past Trade Policy Frameworks, the Socialization process hopes to enhance the productive capacity of Pakistani business owners and disseminate and sell goods more effectively than their competitors (Government of Pakistan, 2020).

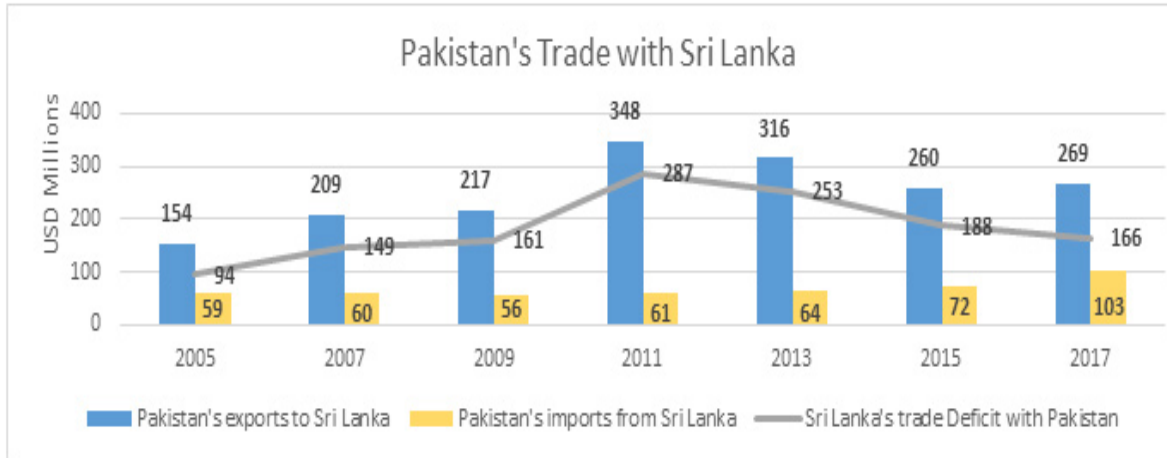
A static framework, the STPF. Any new adjustments to the international trade environment will be made as and when necessary to bring it into compliance with best practices around the world and to further the interests of the country. There are five major sections in the framework. The scope and goals of STPF are outlined in Section 1. The trade performance of Pakistan in recent years is explained in Section 2, which also emphasizes the exporters' challenges. The summary of prior trade policies in Section 3 includes the lessons discovered from the failure to develop and carry out prior yearly and strategic trade strategies. By describing the three main guiding principles of the policy framework, emphasizing its mission and vision, indicating its goals and target sectors, as well as the method used for measuring and reviewing it and the funding options offered by projects such STPF, Section 4 gives an overview of the current STFP 2020–25 framework. The STPF framework offers a thorough framework for actions under the STFP, to sum up. If put into practice, these interventions may increase Pakistan's export competitiveness, encourage investment in export-oriented industries, promote the development of the agricultural sector, integrate Pakistan into global value chains, and foster an environment that will allow Pakistan's export ecosystem to thrive (Government of Pakistan, 2020).

### **3.2. Review of Trade Performance**

After reaching a height of \$37.6 billion in 2017–18, Pakistan's trade deficit has grown over the past ten years at an average growth rate of 3.6 percent, from 15.6 billion in 2010–11 to 23.1 percent in 2019–20. The current account deficit, however, had its first improvement in July 2020. The government stabilized the bank account by reducing it by \$14.5 billion. Additionally, imports into

Pakistan had stabilized after peaking at \$60.8 billion in 2017–18. As a result, during the previous ten years, Pakistani imports have increased at an average rate of 0.9 percent (Government of Pakistan, 2020).

Over the last ten years, Pakistan's exports have increased at Compound annual growth rate (CAGR) of -1.3 percent. In the previous fiscal year (2019–20), exports began to rise by 3.6 percent, and so this trend continued till February 2020. The first two weeks of March (14%) and the entire month of February (13.2%) saw double-digit rise in exports. The worldwide economic collapse brought on by COVID-19 and the enforcement of the internal lockdown, however, prevented the growing momentum from being maintained. Consequently, shipments began to significantly decrease after the middle of March 2020. The successful lockdown approach, SOP improvement, and SOP administration by the Ministry of Commerce and Trade Development Authority of Pakistan (TDAP) resulted in a reasonable amount of \$21.4 billion<sup>10</sup>, who at the height of the outbreak seemed unduly hopeful. These following sections provided an outline of Pakistan's exportable performances to pinpoint the challenges the corporate sector is experiencing (Government of Pakistan, 2020).



**Figure 3.1: Pakistan Trade with Sri Lanka**

With the signing of the FTA, bilateral trade with Sri Lanka benefitted Pakistan. Between 2005 and 2011, Pakistan's exports more than doubled, while imports stayed relatively steady; Pakistan recorded its largest trade surplus in 2011, totaling \$287 million. From 2011, exports fell, reaching \$269 million by 2017. Imports, on the other hand, have climbed by around 60% since 2011, reaching a high of \$103 million in 2017. Pakistan's trade surplus with Sri Lanka was \$166 million in 2017.

This study identified twenty goods with the potential to boost Pakistan's exports to Sri Lanka by \$1.14 billion. According to a review of Sri Lanka's tariff policy, just four of Pakistan's top twenty exports to Sri Lanka obtain lower tariff rates than those imposed to India and China.

Cement and motorbike manufacturing are two Pakistani businesses with export potential to Sri Lanka. Impediments to boosting cement and motorbike exports from Pakistan have been found. This paper also includes an examination of Sri Lanka's strategy for developing its apparel and clothing, tourism, and tea industries. These contain some lessons for Pakistani policymakers.



**Table 3.1: Pakistan Top Export and Import to Sri Lanka**

Pakistan's Top 5 Exports to Sri Lanka in 2017			Pakistan's Top 5 Imports from Sri Lanka in 2017		
Code	Description	Value (USD Mn)	Code	Description	Value (USD Mn)
52	Cotton	79.14	89	Ships, boats & floating structures	30.52
30	Pharmaceutical products	25.28	14	Vegetable plaiting materials;	23.2
25	Salt; Sulphur; cement	25.19	40	Rubber and articles thereof	9.2
10	Cereals	22.99	44	Wood and articles of wood;	9.05
31	Fertilizers	17.82	08	Edible fruit and nuts;	5.53

Source: Pakistan Business Council 2022

The PBC is a non-profit private sector advocacy organization founded in 2005 by 14 (now 74) of Pakistan's top corporations. The PBC's research-based lobbying promotes policies that boost Pakistani industry's regional and global competitiveness.

### 3.3. Performance and Challenges of Exports

Some of the main reasons for Pakistan's poor export performance are increased business costs, low value addition of its products, and low export completeness. Energy costs that are high relative to their counterparts, lower enterprise productivity, a complex tax system, higher tariffs on capital and intermediate goods, a lack of quality and standards, and rent-seeking behavior that discourages investment in the export-oriented sector all serve to exacerbate the situation. To boost their national revenue, the emerging economies have placed a specific emphasis on exports. In this situation,

Pakistan's contribution to GDP growth via exports has been negligible, demonstrating that the majority of GDP growth has been driven by consumer spending (Government of Pakistan, 2020).

#### **3.4. Pakistan's Exports in 2019-20**

The Covid 19 epidemic significantly reduced Pakistani exports. Due to local and global shutdowns, exports, which had been growing steadily and had finally reached double digit growth in February (13.2 MoM), were unable to keep up the momentum. As a result, shipments began to drastically decline in mid-March 2020. Pakistani exporters were afflicted by order cancellation, price modifications that have been interrupted, closure of retail outlets all over the globe, part suspensions of major ports, as well as other problems. These factors produced a significant demand side shock, which was made worse by supply side disruptions brought on by lockdowns in Pakistan. However, the government's proactive stance and the execution of clever lockdown measures assisted in the exports' recovery to respectable levels in May and June 2020. To assist exporters and make sure that exports, which were initially anticipated to total about \$20 billion in FY 19-20, rebounded and exceeded \$21.4 billion, MOC and TDAP cooperated closely alongside NCOG (Government of Pakistan, 2020).

#### **3.5. Steps by MOC to Mitigate issues related to COVID-19**

Ministry of Commerce MOC's proactive strategy made sure that exporters received the best possible business facilitation during the difficult times to overcome the detrimental effects of the Covid 19 pandemic. A total of Rs. 47.5 billion in Drawback on Local Taxes and Levies (DLTL) reimbursements were given to the textile and non-textile industries to help with liquidity. Industries with confirmed consignments were allowed to continue operating notwithstanding lockdowns. To prevent the spread of the pandemic, MOCC made sure that companies were open gradually while working closely with provincial governments. Only those industries with

confirmed consignments were first permitted to operate; afterwards, specific standards and SOPs were devised to open the entire industry. Top exporters and chambers were regularly consulted for necessary feedback, which was then appropriately incorporated into initiatives as needed (Government of Pakistan, 2020).

The business and financial representatives abroad were given below: - on how to work with the business sector and exports to offer its most should do. Additionally, they are urged to speak with concerned importers in their own countries if order cancellations were feared. MOCC worked closely with interested parties to resolve Afghan Transit Trade and bilateral concerns. A draught stimulus package for the government of Pakistan was developed by MOC in collaboration with the ministry of finance to safeguard the economy and provide job security, particularly for SMEs and MSMEs. To combat COVID 19, loan deferrals and restructuring were made available, along with subsidized funding for the construction of hospitals and subsidized loans for businesses who refused to lay off any employees. This programme preserved numerous jobs that could have been lost because of pandemic lockdowns (Government of Pakistan, 2020).

### **3.6. Performance in Imports**

In the developing world, imports are a key predictor and driver of economic progress. They also make it easier to allocate resources effectively through specialization. Through international value chains, imports contribute much-needed value, which creates jobs and boosts exports. Import increase has been associated over time with growth in Pakistan's gross domestic product and capital formation. Lower investment and GDP growth have also been correlated with lower imports, and vice versa. However, as Pakistan's exports have lagged, higher imports have caused balance of payments concerns. It is significant to point out that the growth rate of Pakistan's import has lagged that of its rivals throughout time, preventing Pakistan from joining the global value

chains that make up 70% of global commerce. It is significant to note that imported goods of oil and energy account for most of all imports (29%) while the vast bulk of the remaining imported goods are made up of imports of transitional goods and materials (20%), capital and transportation equipment (22 percent of total import value), chemicals (16 percent), and food items (10 percent) (Government of Pakistan, 2020).

Surprisingly, only 3% of the overall import value is made up of purchases of consumer items. This kind of split has been the most typical over the last ten years. From 2012 to FY2015–16, Pakistan's imports were stable at between \$45 and \$46 billion, although in the two following years (2016–18), they increased by US\$ 16 billion to US\$ 61 billion. This same primary causes of this rise were (a) asset imports of machinery under the China-Pakistan Economic Corridor (CPEC), raw materials, and intermediate products, (b) a 12 percent growth in refined petroleum consumption in the country of a 19 percent price fall, and (c) a rise in consumer spending on consumer products overall (c).

The rationalization of exchange rates, which made imports more expensive, the decrease in one-time imports of capital goods related to CPEC, the tightening of regulatory controls on luxury imports, and the compression of demand because of slow GDP growth were the main reasons for the decline in imports in 2018–19 to \$55 billion. In 2019–20, imports totaled \$44.5 billion, continuing the phase of import compression. The Covid-19 epidemic also contributed to import restrictions and decreased petroleum product costs (Government of Pakistan, 2020).

Desiccated coconut, MDF boards, betel leaves, tea in bulk, textile goods, industrial and medical gloves, crepe and sheet rubber, cartons, boxes, and bags, copra, coconut oil, woven textiles, animal feed, and so on are the primary exports from Sri Lanka to Pakistan. Portland cement,

pharmaceuticals, potatoes, woven textiles, pipes and tubes, bed table kitchen toilet linen, rice, denim fabric, fish, and other commodities are major imports from Pakistan to Sri Lanka.

This significant rise in bilateral commerce, particularly following the implementation of the Free Trade Agreement, indicates the opportunities for both nations to extend current two-way trade. Bilateral investment between the two nations is quite little. Today, Pakistani investors are working on a few projects in Sri Lanka in fields such as chemicals, rubber, plastic, apparel manufacturing, leather goods, food, and beverages, and so on. While the business community in Pakistan and Sri Lanka is increasingly interested in taking advantage of growing prospects in many areas, there is a need for the business community to collaborate more closely to capitalize on this potential.

### **3.7. The Framework of Agreement**

The government of Pakistan's Islamic Republic and Sri Lanka's Democratic Socialist Republic given that a necessary condition for advancing their processes of economic development is the growth of their domestic markets through commercial collaboration keeping in mind the desire to promote bilateral trade in goods and services. Recognizing that the expansion of bilateral and global commerce will be aided by the gradual removal of trade barriers through a free trade agreement ("The Agreement"), the parties have decided as follows (Government of Pakistan, 2020).

#### **3.7.1. Article I: Objectives**

Within this Agreement's objectives are:

- 1) To encourage the smooth progress of economic relations among Sri Lanka and Pakistan by boosting exchange of goods and services.
- 2) To offer fair, fair market circumstances for Pakistani and Sri Lankan trade in goods.

- 3) To create a positive difference on the efficient growth and globalization of trade by eliminating barriers to the trade of goods and services.

### **3.7.2. Article II: Definitions**

In accordance with the Terms:

- 1) By "taxes," we include the fundamental custom levies listed inside the national schedule of the Parties To the contract.
- 2) "Para-tariffs" refer the border charges and fees, apart from "tariff barriers," on international business transactions that have a protectionist measures impact and are only imposed on import, but do not indirect taxes and fees levy in the same way on similar domestic goods. Imported fees connected with certain services offered are not regarded as desde measures.
- 3) By "quasi obstacles," we include any policies, rules, or practices that restrict imports or materially obstruct trade between the Parties To the contract but are not "tariffs" or "para-tariffs".
- 4) "Products" mean all products including in the manufactures form and commodities in the raw, semi-processed and processed forms.
- 5) "Preference Consideration" refers to any benefit or concession given by a Contracting Party under this Article in exchange for the removal of duties just on exchange of goods.
- 6) The Parties to ensure mentioned in Article XI is alluded to as "The Commission."
- 7) "Serious Injury" means considerable damages in terms of profits, production, or employment that are sustainable in the near future for domestic producers of the same or equivalent items as a result of a big increase in preferred imports. For part of the analysis of the effect just on domestic industry, other relevant economic factors and indicators that have an impact on the state of that company's domestic sector should be evaluated.

- 8) "Threat of Major Injury" refers to a circumstance where a significant rise of favored importation is of a kind that would plainly cause great injury to domestic goods, even if such harm has not yet occurred. A finding of a severe threat of harm must be supported by facts, not by speculative speculation, remote possibilities, or mere allegations.
- 9) "Essential conditions" refers to the occurrence of an exceptional event in which numerous preferred imports are creating or posing a threat of creating "severe injury" that is difficult to correct and necessitates prompt action.

### **3.7.3. Article III: Elimination of Tariffs**

- 1) Barrier that are Para- or Quasi
- 2) In accordance with the terms of Annexes A with B, which will be an integrated component of this Agreement, the Parties To a contract hereby agree to establish a Free Trade Area to facilitate the free movement of products and services between their original countries.
- 3) Other than those imposed in accordance with Article IV of this Agreement, all Contracting Parties additionally concur to abolish all quasi barriers or any analogous restrictions on the movement of goods and services as of the date the Agreement comes into force.
- 4) The Parties To a contract further concur that they will not unilaterally establish new para-tariffs or increase any existing para-tariffs, if any, without prior agreement.
- 5) The Contracting Parties shall give due consideration to the reciprocal concept in carrying out this Agreement.

## CHAPTER 4

### RESEARCH METHODOLOGY

The primary model, the statistical techniques used, such as the unit root test (Augmented Dickey-Fuller test), the Johansen cointegration, as well as a brief description of the variables as well as its sources, all were provided in this chapter.

#### **4.1. Theoretical Framework:**

The barter was undoubtedly the first method of exchanging goods, but mercantilism was the first theory of global trade to emerge some three hundred years ago. The theory's guiding principle was indeed the economic revolution, which was the shift from regional to economic systems, from capitalism to socialism, and from local to global commerce. It also covered the shift from a feudalistic framework to a capitalist one. During in the 16th to 18th centuries, large trading nations largely used to use this method. This was based on the argument that country's wealth should be preserved and protected and which is only possible by only increasing the export level by earning expensive metals. It superseded the previous feudalistic built organizations mainly Western Europe based such as France, Holland, UK, Spain, Belgium, and Portugal where monarchies used to control the economic activities.

The policy by monarchies was to export to mostly those countries which are ere controlled by them. The growth of international trade was aided by the rise of geographic discoveries. The rise of global economies was aided by the promotion of international trade, which also contributed to the prosperous flow of precious metal. The state used to exercise a vast control over the economic life mainly through the trading national companies. Similarly, the production was also regulated via securing the high value commodities at lowest prices which were also provided access to



foreign markets. The mercantilist view stated that the wealth is scarce in nature and a country should try to collect maximum wealth through export. This tendency to focus more on exports rather than imports to get maximum gold or other precious metals in exchange was the core objective of mercantilist view of trade.

The mercantilist view became a severe obstacle for the sustainable economic progress. The next school of thought about international trade was of absolute advantage given by Adam Smith in 1776. Since the mercantilist view of trade favored producers only, therefore, the Smith's view of international trade stated that international trade is profitable only if a country can export goods and can also import from it in return. The hypothesis paved the way for commodity trade on any market. According to Adam Smith's approach, one country must concentrate in producing an item in which it has a clear price advantage, while another nation must focus on producing a different product. To trade freely, both trade nations should have a significant advantage in their manufacturing. The model stated that there are limited resources available which limits the production capacity and if a country wants to increase the production of a commodity, then it must give up the production of another commodity.

Following the absolute advantage hypothesis, Ricardo introduced a slightly different interpretation of comparative advantage to Smith's notion of commerce in the 19th century. Rodrigo contends that two nations can engage in commerce even when one of them has a competitive edge in producing both the concerned goods. If country A has advantage in producing two commodities as compared to other country, then A can still trade with country B. In this situation, country they should create the item that it does have a greater absolute advantage in production than every good. On the other hand, country B should start producing that good in which it has lesser comparative disadvantage. Ricardo's idea of trade helped in the expansion of international trade as compared

to barter, mercantilist, and absolute advantage idea of trade. The expansion of trade under Ricardo motivated the discussion of factors such as differences in the productivity of existing labor along with the available technology.

Using the base provided by Ricardo, Heckscher and Ohlin in 1933 presented a trade model based on identical production function. H-O model removed the variations in the available technology but introduced variations in the capital endowments and endogenous variations in the labor productivity. With variations in capital endowment, the basic question of why countries trade was efficiently answered. The H-O model assumed that two countries trade because of differences between the relative abundance of capital and labor. The model contained two countries, two factors of production and two commodities. The model had variable proportions of factors of production where the more developed country was always having a high capital to labor ratio as compared to developing countries where capital to labor ratio would be low. With these characteristics, H-O model stated that countries having more capital produce capital intensive products and a labor-intensive country produce labor intensive products.

Consumers exhibit a desire for diversity under the imperfect substitute model, according to (Helpman, 1989), where each firm produces a good that is an imperfect substitute for another and has monopoly power in its own product. Customers enhance their utility through greater variety rather than greater quantity when the number of consumers or the size of the domestic economy increases. International trade has the same result by giving consumers more opportunities to choose from a wider variety of goods. To expand the variety of accessible consumer options, commerce between two countries is greater if they have similar preferences and technologies.

## 4.2. Research Strategy for Input Output Model

Input-output data are frequently included in the sectoral-disaggregated national economic accounts tables. Input-output tables identify and delineate financial flows between industries (inter-industry spending flows), consumers, and providers of production inputs. They provide a picture of the flows of services and goods produced and consumed in the nation over the course of a single year. In most cases, these tables can serve as a base for an economic model where total output is influenced by exogenous ultimate demand (Miller, 2009).

This study's theoretical underpinnings include the input-output model of world trade and the Pakistan-Sri Lanka free trade agreement. Due to its widespread use in global trade, the input-output model was used for the study. It demonstrates that trade volume between two countries is inversely correlated with their relative income levels (GDP).

As a rule, Leontief has the following relationship:

$$X = (I - A)^{-1} \cdot Y \quad (4.1)$$

Where X is a vector of output, I is a matrix of identities, A is a matrix of direct input coefficients, and Y is a matrix of ultimate demand.

The matrix A in a bilateral input-output system has the following submatrices:

$$A = \begin{bmatrix} A_{pp} & A_{ps} \\ A_{sp} & A_{ss} \end{bmatrix} \quad (4.2)$$

Where:

$A_{pp}$  is a coefficient matrix of Pakistan's intermediate input using its own goods;

$A_{ps}$  is a coefficient matrix of Sri Lanka's intermediate input employing goods from Pakistan;

$A_{sp}$  is a coefficient matrix of Pakistan's intermediate input employing goods from Sri Lanka;

$A_{ss}$  is a coefficient matrix of Sri Lanka's intermediate input employing its own products;

Sri Lanka's gross domestic product ( $X_p$ ) and Pakistan's gross domestic product ( $X$ ) were separated ( $X_s$ )

$$X = \begin{bmatrix} X_p \\ X_s \end{bmatrix} \quad (4.3)$$

Final demand matrix is expressed:

$$Y = \begin{bmatrix} Y_{pp} & Y_{ps} \\ Y_{sp} & Y_{ss} \end{bmatrix} \quad (4.4)$$

**Table 4.1: The bilateral input-output system between Pakistan and Sri Lanka**

		Intermediate input		Final demand		Gross output
		Pakistan	Sri Lanka	Pakistan	Sri Lanka	
<b>Intermediate consumption</b>	<b>Pakistan</b>	$X_{pp}$	$X_{ps}$	$Y_{pp}$	$Y_{ps}$	$X_p$
	<b>Sri lanka</b>	$X_{sp}$	$X_{ss}$	$Y_{sp}$	$Y_{ss}$	$X_s$
<b>Rest of the world (ROW)</b>		$MP_p$	$MP_s$	$MY_p$	$MY_s$	
<b>Value added</b>		$VA_p$	$VA_s$			
<b>Gross input</b>		$X_p$	$X_s$			

Where:

- The following abbreviations stand for the following terms:
- $X_{pp}$ : Intermediate input of Pakistan used Pakistan products;
- $X_{ps}$ : Intermediate input of Sri Lanka used Pakistan products;
- $X_{sp}$ : Intermediate input of Pakistan used Sri Lanka products;
- $X_{ss}$ : Intermediate input of Sri Lanka used Sri Lanka products;
- $Y_{pp}$ : Final demand of Pakistan used themselves products;
- $Y_{ps}$ : Final demand of Sri Lanka used Pakistan products;
- $Y_{sp}$ : Products of Sri Lanka for Final demand of Pakistan;
- $MP_p$ : Import from the rest of the world (ROW) for Pakistan's intermediate input;

- MPs: Import from the rest of the world (ROW) for Sri Lanka's intermediate input;
- MYp: Import from the rest of the world (ROW) for Pakistan's final demand;
- MYs: Import from rest of the world (ROW) for final demand of Sri Lanka;

VAp, VAs, Xp và Xs are vectors of value added and gross output of Pakistan and Sri Lanka corresponding.

**Where:**

The final demand matrix for Pakistan's domestic products is Ypp, while the final demand matrix for Sri Lanka's domestic products is Yps, and the final demand matrix for Pakistan's domestic products is Ysp; Yss is Sri Lanka's final demand matrix for homegrown goods.

Substitute:

$$B = (I - A) - 1 = \begin{bmatrix} B_{pp} & B_{ps} \\ B_{sp} & B_{ss} \end{bmatrix} \quad (4.5)$$

Leontief basic relationship has the form:

$$X = B.Y \quad \text{-----} \quad \text{Equation 4.6}$$

According to the Leontief inverse vector sub-matrix known as Bij, one unit of change in the output of one industrial sector may cause a mixture of directly and indirectly changes in those other sectors.

$$X = \begin{bmatrix} X_p \\ X_s \end{bmatrix} Y = \begin{bmatrix} B_w \cdot Y_{pp} + B_{ps} \cdot Y_{sp} & B_{ps} \cdot Y_{ss} + B_{pp} \cdot Y_{ps} \\ B_{sp} \cdot Y_{pp} + B_{ss} \cdot Y_{ps} & B_{sp} \cdot Y_{ss} + B_{sp} \cdot Y_{ps} \end{bmatrix} \quad (4.7)$$

The connection (7) makes it evident that Pakistan and Sri Lanka's output values differ by:

$$X_p = B_{pp} \cdot Y_{pp} + B_{ps} \cdot Y_{sp} + B_{ps} Y_{ss} + B_{pp} Y_{ps} \quad (4.8)$$

$$X_s = B_{sp} \cdot Y_{pp} + B_{ss} \cdot Y_{sp} + B_{ss} \cdot Y_{ss} + B_{sp} \cdot Y_{ps} \quad (4.9)$$

The relationship mentioned above demonstrates that ultimate domestic demand and (ii) production requirements of another country both contribute to a country's production value. This spread makes sense when nation A purchases country B's goods to create a demand that ultimately stimulates country B's production. Country B uses from country A for its necessities; (iii) country B uses from country A in the process of a country production, causing a mediated stimulation that creates the nation's output to be overturned; and (iv) as soon as country B uses its very own domestic manufacturing, it results in changes in country B's own production. Country A's production is impacted when country B uses its goods to pay for input prices.

The matrix progeny should be seen as a measure of the actual output caused by the effect of one unit of real output and water production for those other countries.

#### 4.2.1. Multiplier effects:

It Measures the production change caused by one unit of final domestic demand:

$$(I - A_{VV}) - I, (I - A_{CC}) - I$$

#### 4.2.2. Spillover effects:

Measure the demand for a country's output when there is a change in the final demand of another country: Bsp and Bps.

The added value of each country is measured:

$$(VR, VS) = (vr,ps).X = (vr,ps).$$

$$\begin{bmatrix} X_{pp} & X_{ps} \\ X_{sp} & X_{ss} \end{bmatrix}$$

With:

$$X_{pp} = B_{pp}.Y_{pp} + B_{ps}.Y_{sp} \quad (4.10)$$

$$X_{ps} = B_{ps}Y_{ss} + B_{pp}Y_{ps} \quad (4.11)$$

$$X_{pp} + X_{ps} = X_p$$

$$X_{sp} = B_{sp}.Y_{pp} + B_{ss}.Y_{sp} \quad (4.12)$$

$$X_{ss} = B_{ss}.Y_{ss} + B_{sp}.Y_{ps} \quad (4.13)$$

$$X_s = X_{sp} + X_{ss}$$

At that time period the added value of each of nation was explained and measured:

$$V_p = V_p.X_{pp} + V_p.X_{ps} \quad (4.14)$$

$$V_s = V_s.X_{ss} + V_s.X_{sp} \quad (4.15)$$

Relations (14) and (15) allow analysis of bilateral trade flows spread to the added value of each country.

### 4.3. Conceptual Framework for Econometric Technique

A conceptual framework comprises one or more formal theories, either entirely or partially, along with other concepts and information from the literature. It is used to show how these ideas are related to the research issue and how they will be connected to one another. The trade balance is an important component of a country's gross domestic product (GDP) calculation. When there is a trade surplus, GDP increases because domestic producers sell more goods and services abroad than domestic consumers buy from foreign producers. Openness is a crucial enabler of growth, the creation of jobs, and the alleviation of poverty. Trade provides domestic enterprises with new market opportunities, increased productivity, and competition-driven innovation. The relationship between the exchange rate and trade balance can be seen in the supply and demand of foreign currency. These exchange rates are influenced by currency demand, which is dictated by commerce. Co-integration is used to look at the long-term relationship between Independent and Dependent Variables. To evaluate the long-term relationship between Pakistani and Sri Lankan exports and trade flows, multiple linear regression models, correlation, and the co-integration test

have also been used. We chose commerce as the dependent variable and imports, exports, per-capita textile GDP, and exchange rates as the independent variables.

**Figure 4.1: Conceptual Framework**



#### 4.4. Research Design

The econometric model is enhanced with the variables listed below, which have an impact on the two countries' bilateral commerce.

#### Equation:

$$Trade_t = \alpha_0 + \beta_1 GTI_t + \beta_2 PCGDP_t + \beta_3 E_t + \beta_4 EX_t + \beta_5 I_t + \beta_6 F_t + \beta_7 T_t + \epsilon_t \quad (4.16)$$

Where is

- $Trade_t$  = Trade (percentage of GDP)
- $\beta_1 GTI_t$  = Global Terrorism Index
- $\beta_2 PCGDP_t$  = GDP per capita (current US\$)
- $\beta_3 E_t$  = Exports of goods and services (Percentage of GDP)
- $\beta_4 EX_t$  = Official exchange rate (LCU per US\$, period average)



- $\beta_5 I_t$  = Imports of goods and services (Percentage of GDP)
- $\beta_6 F_t$  = Food production index (2014-2016 = 100)
- $\beta_7 T_t$  = Textiles and clothing (percentage of value added in the manufacturing)

The study looks at import and export trends as well as the benefits and drawbacks of certain Pakistani and Sri Lankan commodities and services using the trade complementarity index and revealed comparative advantage.

#### 4.5. Trade complementarity index (CI)

The export and import patterns of two trading nations are compared using an overlapping index to determine if they are equivalent or not. The CI can be formulated algebraically as follows:

$$CI(W, I) = \frac{[\sum_k^n x_k^p x_k^w]}{\sqrt{[\sum_{k=1}^n (x_k^p)^2]} \sqrt{\sum_{k=1}^n (x_k^w)^2}} \quad (4.17)$$

Depending on the coverability between Sri Lanka and Pakistan and Pakistan and Sri Lanka, the coefficient of complementarity index may range from zero to one. A larger CI value indicates a greater level of complementarity between Pakistani exports and Sri Lankan imports, or the opposite.

#### 4.6. Revealed Comparative Advantage

The concept of RCA, which is based on Ricardian trade theory, is used to assess the benefits and drawbacks of a trading nation in relation to a certain group of goods or services. A trade nation is said to be "revealed" in a certain good or service if  $RCA > 1$ . The higher the value of RCA for a given good, the stronger the nation's export position.

Formula:

$$RCA_{Ai} = \frac{\frac{X_{Ai}}{\sum_{j \in P} X_{Aj}}}{\frac{X_{wi}}{\sum_{j \in P} X_{wj}}} \geq 1 \quad 37$$

(4. 18)

Where,

$P$  is the set of all products (with  $i \in P$ ),

$X_{Ai}$  is the country A' Pakistan exports of product  $i$ ,

$X_{wi}$  is the world's exports of product  $i$ ,

$\sum_{j \in P} X_{Aj}$  is the country A' Pakistan s total exports (of all products  $j$  in  $P$ ), and

$\sum_{j \in P} X_{wj}$  is the world's total exports (of all products  $j$  in  $P$ ).

#### 4.7. Units of data Collection:

**Table 4.2: Variables and Source of data**

<b>Variables</b>	<b>Unit Measuring</b>	<b>Source of Data</b>
Trade	Trade is the sum of all services and goods exports expressed as a % of GDP (GDP).	World Bank
Exports	Products and services exported (percent of GDP)	World Bank
GDP Per capita	By dividing the gross domestic output by the midseason census, the GDP per capita is determined.	World Bank
Imports	Imports of all services and goods (Percentage of GDP)	World Bank
Official exchange rate	Rate of official exchange (LCU per US\$, average over a period)	World Bank
Terrorism Index	Since 1970, more than 200000 domestic and international terrorist attacks have been recorded by the Global Terrorism Database (GTD).	Global Terrorism Database (GTD)
Food production index	Food production index (2014-2016 = 100)	World Bank

#### **4.8. Methods of Data Collection**

The data are collected from different data collection units to address this methodology. The reason and explanation of each of them are given below.

#### **4.9. Dependent variable**

##### **4.9.1. Trade**

The dependent variable is the level of trade in commodities and services between two nations. It represents the total of the two partners' exports and imports (in value terms).

#### **4.10. Independent variables**

##### **4.10.1. Per Capita GDP (PCGDP)**

The gross domestic product is determined by dividing the midyear population by 100. The total gross value contributed by all producers who are citizens of the country is used to calculate GDP, including any applicable product taxes and any unrecognized subsidies. It is calculated without account for the degradation, exhaustion, and devaluation of produced goods or of natural resources. The World Bank's public finance data as well as the OECD's public finance data files from 2022 both employ the 2015 steady dollar).

#### **4.10.2. Official exchange rate (LCU per US\$, period average)**

The exchange rate determined by public governments, or the rate established in the marketplace for exchange that is recognized by law is referred to as the "official exchange rate." Based on monthly average (domestic currency units relative to the US dollar), it is calculated as an average annual (International Monetary Fund, International Financial Statistics 2022).

#### **4.10.3. Exports of all goods and services (Percentage of GDP)**

Exports of goods and services indicate the total value of all products and market services provided to the rest of the world. These include the cost of commodities, freight, security, travel, royalties, and license fees, as well as the cost of other services in the related industries of administration, finance, technology, communications, and construction, among others. Employee remuneration, investment income (formerly known as factor services), and welfare spending are all excluded (according to World Bank and OECD National Accounts Data Files for 2022).

#### **4.10.4. Imports of all services and goods (Percentage of GDP)**

Import represents the entire value of all products and market services imported into the country. These include the cost of commodities, freight, security, travel, royalties, and license fees, as well as the cost of many other services in related businesses such as government, banking, technology, communications, and construction. They omit employee remuneration, investment income (formerly known as component services), and transfer payments.

#### **4.10.5. Terrorism Index**

This index provides a comprehensive analysis of the main global patterns and trends in terrorism during the preceding 14 years. The research ranks the effects of terrorism on 163 countries, representing 99.7 percent of the total population of the world. According to the Organization for

Economic cooperation (2022), the indicators include the number of terrorist assaults, prisoner takings, deaths, and injuries).

#### **4.10.6. Food production index (2014-2016 = 100)**

This index comprises crops that are thought to be nutritious and that provide nutrients. Tea and coffee weren't included since, while having palatable, they have little nutritional value (Food and Agriculture Organization, electronic files and website 2022).

#### **4.10.7. Textile and clothing (percentage of value added in manufacturing)**

In manufacturing the value added is equal to the total global production less the cost of a intermediate production inputs for businesses classified under Asylum seeker major division D. According to the Economic Cooperation and Development Group's World Yearbook of Industry Statistics 2022, ISIC divisions 17–19 belong to textiles and clothing).

### **4.11. Sampling**

The secondary data (Panel data) from 1988 to 2020 was collected to find the yearly trade between the two trading partners.

### **4.12. Econometrics Analysis**

#### **4.12.1. Unit Root Test**

Before moving on to the next step, it is crucial to assess the data's stationarity and non-stationarity. While non-stationary data exhibits variations across time, stationary data do not exhibit variations in statistical features. To prevent the issue of spurious regression, run several tests on the panel data to determine whether it is stationary or non-stationary.

#### **4.12.2. Augmented Dickey Fuller Test (ADF)**

The Augmented Dickey Fuller Test (ADF) is a unit root test for stationarity. If you use unit roots in your time series analysis, you may get surprising results. The Augmented Dickey-Fuller test can be used with serial correlation. The ADF test is more powerful than the Dickey-Fuller test and can handle more complicated models.

#### **4.13.3. Long term relationship (Johansen Cointegration Test):**

The two fundamental variants of Johansen's testing are traces and maximal eigen tests. When using the tracing test to check for serial correlation in a collection, we set  $K_0$  to 0 to see if the null hypothesis would be accepted. If it is rejected, we can assume there is a cointegration connection in the sample.

## CHAPTER 5

### INPUT-OUTPUT AND ECONOMETRIC MODEL

#### 5.1. Introduction

Governments can utilize input-output models to assess businesses and make educated policy decisions by combining the significance of outputs and inputs. The impacts of direct impact, indirect impact, and induced impact also are investigated via input-output models. Comparing the economic parameters of Pakistan and Sri Lanka, it is evident that Pakistan exported \$361 million to Sri Lanka in 2020. Most Pakistan's imports to Sri Lanka are cement (\$94.1 million), heavy woven cotton (\$53.6 million), and packaged medicines (\$31.1 million) (World Bank 2020).

#### 5.2. Pakistan-Sri Lanka Free Trade Agreement (PSFTA)

The Pakistan-Sri Lanka Free Trade Agreement (PSFTA) became effective on June 12, 2005. Trade has significantly improved after the Agreement went into effect. Pakistan kept its last phasing-out promise in March 2009, allowing Sri Lanka access to the duty-free market for more than 4500 items. In November 2010, all the requirements of phrasing out were also completed by Sri Lanka (Government of Sri Lanka 2019).

Sri Lanka's exports to Pakistan increased by 30.8 percent during the same time in 2011, going from US\$26 million in January through May 2010 to US\$34 million. From January through May of 2011, exports of goods such as natural rubber, vegetables, desiccated coconut, MDF boards, natural graphite, dried leguminous vegetables, copra, woven fabric, etc. greatly outpaced those during the same period in 2010. However, from January to May of 2011, exports of various products fell as compared to the same time in 2010; these products included oilcake and other solid wastes, sewing thread made of synthetic staple fibers, tea, nutmeg, pepper, rubber strips, coconut

oil and its fractions, etc. Numerous new products entered the Pakistani market once the PSFTA was implemented. In contrast to the 2,166 PSFTA Certificates of Origin issued during the same time in 2010, 2,352 PSFTA Certificates of Origin were issued between January and May 2011 (Government of Sri Lanka 2019).

In July 2011, Islamabad will play host to the Joint Economic Commission's 10th session between Sri Lanka and Pakistan. In this regard, the two nations met before the Joint Economic Commission (Pre-JEC) in March 2011 in Colombo. To improve the environment for commerce between the two nations, all parties agreed during the pre-JEC meeting to consider implementation concerns under the PSFTA during the Session 10th of the JEC (Government of Sri Lanka 2019).

Both nations were obliged to have done away with tariffs by 2010 on all products aside from those that were on their respective no-concession lists or those that were subject to Tariff Rate Quotas. The following list demonstrates that both nations produced and exported the same commodities and services. The entire number of items (1237) identified by both countries with lines of a sensitive list that cannot be traded without duty-free or non-tariff obstacles is clearly displayed in Table 5.1 below. Pakistan's list of sensitive goods includes commodities like products of paper, dairy products, tea, rubber and plastic products, footwear, pottery, textiles, and clothing. For revenue-generating purposes, Sri Lanka has been placed on a negative list of goods that include paper products, footwear, ceramics, rubber goods, agricultural goods, metal goods, motor vehicles, and parts. Sri Lanka and Pakistan appear to be on the same unfavorable list, with 56 percent and 44 percent, respectively (Government of Sri Lanka 2019).

Table 5.1 below demonstrates that Sri Lanka benefits from both tax concessions and tariff quotas. For instance, Sri Lanka is free to export 10,000 MT of tea to Pakistan each year. Otherwise, the



Most Favorable Nation's (MFN) tariff rate will apply to exports of more than 10,000 MT. The table also stated that Sri Lanka might export betel leaves with a 20 percent margin of preference (MOP). Prior to revision, Sri Lanka may have exported 1200 MT of betel annually under a tariff-rate quota. Three million pieces of clothing were reportedly exported from Sri Lanka inside 21 tariff ranks, offering a 35% margin of preference (MOP), but only for up to 200,000 pieces each tariff line (Government of Sri Lanka 2019).

Additionally, Pakistan has given Sri Lanka five lines of ceramic goods at 20% of the MFN applicable rates as part of the margin of preference. Betel leaf exports from Sri Lanka to Pakistan are permitted with a MOP of 20% of the MFN applicable rate. Additionally, Sri Lanka exports eleven tariff lines of herbal cosmetic products that are eligible for a 50% MOP on the MFN rate, which is commendable. Sri Lanka granted Pakistan a tariff rate allotment for 6,000 MT of basmati rice, which will get zero tariffs annually. In the case of potatoes, 1,000 MT can be exported duty-free to Sri Lanka (Government of Sri Lanka 2019).

**Table 2.1: Exports of Sri Lanka to Pakistan under PSFTA (2018 and 2019) - Value \$ Mn**

<b>Product Description</b>	<b>2018</b>	<b>2019</b>
Leaves (of betel)	16.52	18.88
Copra	1.23	5.07
Fiberboard of medium density (MDF): Of thickness more than 9mm: Other	4.72	4.74
Coconut: In the inner shell	0.24	4.71
Natural rubber	1.97	2.15
Other textile labels	0.58	1.82
Bags and sacks, having base width of 40 cm or more	0.52	1.76
Other: Other Aluminum	2.79	1.63
Gloves, mittens, and mitts: Surgical	1.18	1.63
Trailers and semi-trailers: ---Not more than five years old	-	1.55
Coconuts: Desiccated: Other	2.54	1.34
Other lead-acid accumulators	0.89	1.09
residues Of Leguminous plants	0.89	0.98
Of refined copper: the cross section of max exceeds 6 mm	-	0.94
Of coconut (coir): Molded goods that is use in horticulture	0.99	0.77
Brassieres	0.99	0.65
Nutmeg: Neither crushed nor ground: Other:	0.57	0.63
Other: having density is exceeding 0.8g/cm	0.57	0.51
Coir yarn	0.55	0.5
Other	13.09	8.68
Total exports under PSFTA	50.83	60.77
Total exports	75.94	81.53
% PSFTA exports	67	75

Source: Trade Map/ Sri Lanka Custom, Government of Sri Lanka 2019

**Table 5.2: Exports of Pakistan to Sri Lanka in Million (USD) in 2021**

<b>Pakistan Exports to Sri Lanka in Million (USD)</b>	<b>Value</b>
Cotton	84.31
Salt, Sulphur, earth, stone, plaster, lime and cement	70.9
Edible vegetables and certain roots and tubers	49.84
Knitted or crocheted fabric	28.78
Pharmaceutical products	27.48
Manmade staple fibers	13.49
Plastics	10.62
Cereals	10.50
Other made textile articles, sets, worn clothing	9.95
Articles of apparel, knit or crocheted	5.37
Glass and glassware	4.56
Edible fruits, nuts, peel of citrus fruit, melons	4.34
Articles of iron or steel	3.53
Inorganic chemicals, precious metal compound, isotope	3.36
Manmade filaments	2.97
Iron and steel	2.66
Oil seed, oleagic fruits, grain, seed, fruits	1.87
Coffee, tea, mate and spices	1.31
Raw hides and skins (other than furskins) and leather	1.26
Residues, wastes of food industry, animal fodder	1.11
Other goods	10.27
<b>Total</b>	<b>348.48</b>

Source: Ministry of Commerce of Pakistan, Department of Commerce, Sri Lanka

**Table 5.3: Exports of Sri Lanka under PSFTA- Yearly basis (January to June 2019 & 2020)**

<b>Product Description</b>	<b>Jan-June 2019</b>	<b>Jan-June 2020</b>	<b>Change (%)</b>	<b>Share in Jan-June 2020 (%)</b>
Betel Leaves	8.03	8	-0.37	33.48
Natural rubber of other forms: smoked sheets: R.S.S.1	1.29	1.84	42.92	7.7
Coconut: In the inner shell	1.95	1.79	-8.53	7.48
Medium density fiberboard (MDF): Of a thickness exceeding 9 mm	1.95	1.42	-27.12	5.96
Copra	2.31	1.33	-42.12	5.59
Gloves, mittens, and mitts of vulcanized rubber: surgical	1.04	0.97	-6.91	4.06
Tamarind	0.03	0.86	2,553.20	3.59
Crepe rubber: Brown	1.17	0.72	-38.37	3.01
bags and Sacks, having a base width of 40 cm or more	1.06	0.49	-53.91	2.04
Bran, sharps, and other residues,	0.43	0.46	5.13	1.91
Other	10.42	6.02	-42.23	25.18
<b>Total</b>	<b>29.68</b>	<b>23.89</b>	<b>-19.49</b>	<b>100</b>

Source: Ministry of Commerce of Pakistan, Department of Commerce, Sri Lanka

**Table 5.4: Trade effects on GDP of Pakistan and Sri Lanka (Multiplier effects)**

	<b>Multiplier effects Coeff (P value)</b>	<b>ARCH Coeff (P value)</b>	<b>Spillover Effect Coeff (P value)</b>
<b>Sri Lanka</b>	1.89E+09*** (0.0000)	8.310670** (0.0457)	0.608726* (0.0743)
<b>Pakistan</b>	1.48E+10*** (0.0008)	7.769022** (0.0555)	1.276940*** (0.0002)

Source: Ministry of Commerce of Pakistan, Department of Commerce, Sri Lanka

In economics, the multiplier effect describes how greater expenditure leads to increasing national revenue. Furthermore, it means that capital investment, whether public or private, has a cascading effect on a country's economic health. The multiplier's value is determined by the proportion of GDP invested in the domestic sector. In this study, Sri Lanka trade has a very significant influence on GDP with a prob value of 0.000, whereas Pakistan trade has a highly significant effect on GDP with a prob value of 0.0008. Both nations' GDPs are affected by trade at 1%, implying that multipliers are present in the data. When an environmental activity increases the prevalence of one or more environmentally friendly behaviors, this is known as a positive spillover effect. Its prevalence lessens the harmful effects. In this study first we have checked ARCH effect and data showing that both countries have ARCH effect and then researcher check GARCH, so both countries have spillover effect, Pakistan at 1% significant and Sri Lanka at 10% significant (Government of Sri Lanka 2019).

**Table 5.5: The bilateral input – output system between Pakistan and Sri Lanka**

	Pakistan				Sri Lanka			
	Final Consumption Expenditure	Gross capital formation	Export	Average of final demand	Final Consumption Expenditure	Gross capital formation	Export	Average of final demand
Pakistan	12.8%	15.33%	10.12%	11.46%	N/A	N/A	1%	N/A
Sri Lanka	N/A	N/A	12%	N/A	10.4%	25.24%	23%	14%
Gross output	100	100	100	100	100	100	100	100

Source: Ministry of Commerce of Pakistan, Department of Commerce, Sri Lanka

In general, Sri Lanka is less impacted by the final demand of Pakistan's gross domestic product. Particularly, the ultimate demand of Pakistan-induced output from Sri Lanka is larger than the final demand of Sri Lanka-induced output from Pakistan. Table 5.5 demonstrates how the end demand and production of other countries influence the value added of each nation. Since Sri Lanka's GDP growth is a fictitious accomplishment that is seriously deceptive, the country's economic structure is a matter worth considering. Due to Sri Lanka's lack of sufficient supporting items, the analysis demonstrates that GDP growth only benefits other countries, not just Pakistan's partners but also practically all other nations with which Sri Lanka has trading links. Even in Sri Lanka, relatively little of the domestically grown vegetables, coconuts, and labor costs are used in production (Government of Sri Lanka 2019).

### **5.3. Pakistan Sri Lanka Free Trade Agreement Analysis**

According to the pertinent sections of the General Agreement on Tariffs and Trade (GATT), 1994, the PSFTA's Article 1 clearly specifies the agreement's goals. The PSFTA's primary goals are to

increase bilateral trade between the two nations, provide comparative advantages over goods from other nations, encourage the growth of trade in goods and services, foster harmonious economic relations between Pakistan and Sri Lanka, ensure fair competition and trade-friendly conditions, and boost trade-related activities between Pakistan and Sri Lanka, In order to g) best support the removal of trade restrictions for goods and services, h) encourage peaceful growth, and I increase bilateral and global trade activities. The deal gave Sri Lanka's and Pakistan's leading exporters advantageous concessions. Due to this, the trade volume has increased by about twofold, from US\$ 212 million in 2005 to US\$ 460 million in 2018 (Government of Sri Lanka 2019).

The PSFTA explicitly acknowledges the imbalances between the two nations, and negotiations with Sri Lanka were concluded on a condition that was less than reciprocal. In comparison to Pakistan's 206 products, Sri Lanka only provided 102 items after the FTA on a duty-free basis. The FTA's conditions were extensive and gave Pakistan's and Sri Lanka's main export goods 100% right away concession (Government of Sri Lanka 2019).

The no concession list of Sri Lanka sped up to 697 items before being reduced to 607 items at the 6-digit level in April 2013. The no concession list of Pakistan sped up to 540 items at the 6-digit level. A commitment-free obligation rate sharing (TRQ) on tea products as well as a second TRQ at a 35 percent edge of tilt on the Most Favored Nation (MFN) rate on a variety of garment products were also forfeited by Pakistan to Sri Lanka. In response, Sri Lanka gave Pakistan a TRQ on potatoes and long-grain Basmati rice without any obligations (Government of Sri Lanka 2019).

#### **5.4. Pakistan Sri Lanka Trade Complementarity Index**

An empirical method for measuring the degree to which trade partners' export and import specializations complement one another in terms of global commerce is the trade complementarity index. The index is zero when neither country imports nor exports any goods, nor it is 100 when

the shares of both countries' imports and exports are exactly equal (Government of Sri Lanka 2019).

**Table 5.6: Sri Lanka Trade complementarity index with Pakistan**

<b>Year</b>	<b>Sri Lanka TCI with Pakistan</b>
2003	51.48
2004	54.2
2005	50.14
2006	47.4
2007	49.13
2008	48.48
2009	48.27
2010	38.95
2011	52.48
2012	53.33
2013	51.67
2014	38.83
2015	41.26
2016	39.08
2017	41.48
2018	55.07
2019	39.22
2020	39.83

Source: Author's own calculations from ITC/Trade Map data

According to table 5.6 above, there is only a partial match between Pakistan's import demand and Sri Lanka's export supply. The indicator, which ranges from 38.83 to 55.07 for the years 2003 to 2018, suggests that Sri Lankan and Pakistani trade complementarities have continued to be only partially matched. The more closely the index approaches 100, the better able Sri Lanka is to meet Pakistan's import demand with its exports. The Sri Lanka-Pakistan trade complementarity score has consistently and modestly grown between 2003 and 2018, indicating that the two countries' trade profiles have been improving over the previous years. However, the complementarity between both nations have been decreased after that.



## 5.6. Revealed Comparative Advantage

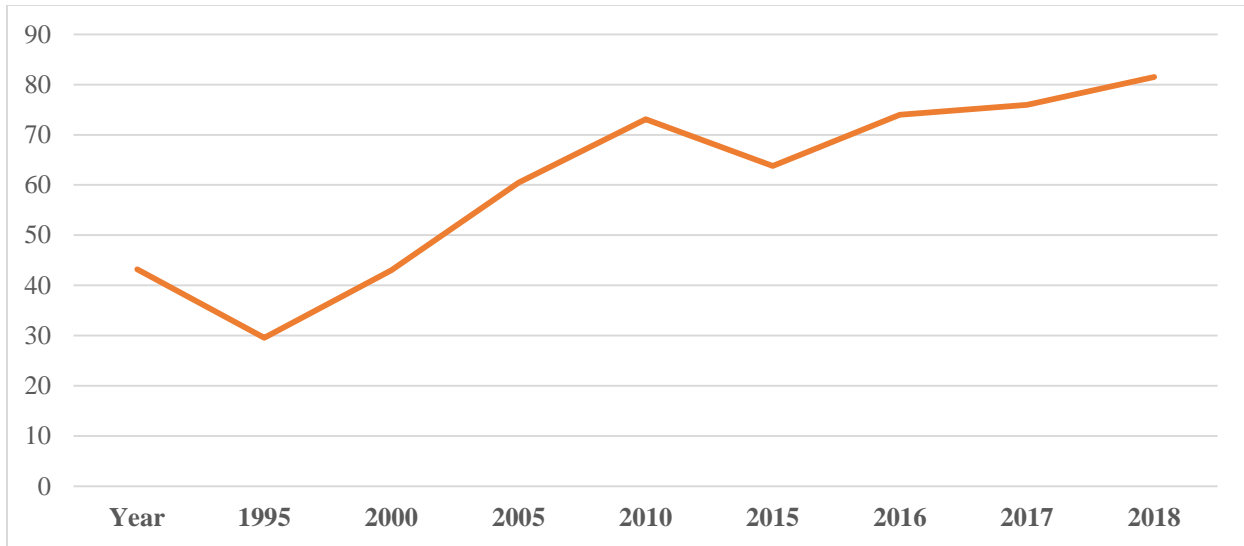
How well certain countries have fared in comparison to one another in trade for specific items is connected to the concept of disclosed comparative advantage (Balassa, 1965 and 1977). The pattern of commodity trade is said to "show comparative advantage" of the trading nations by displaying differences between nations in relative costs as well as non-price components. According to Balassa (1965), the indicator of relative export performance by nation and industry/commodity is the ratio of a country's share of exports of a certain commodity to its share of total global exports. The following formula is used to determine the Sri Lankan product index:

**Table 5.7: Revealed Comparative Advantage of Pakistan and Sri Lanka (1995 to 2019)**

**Value in USD Mn**

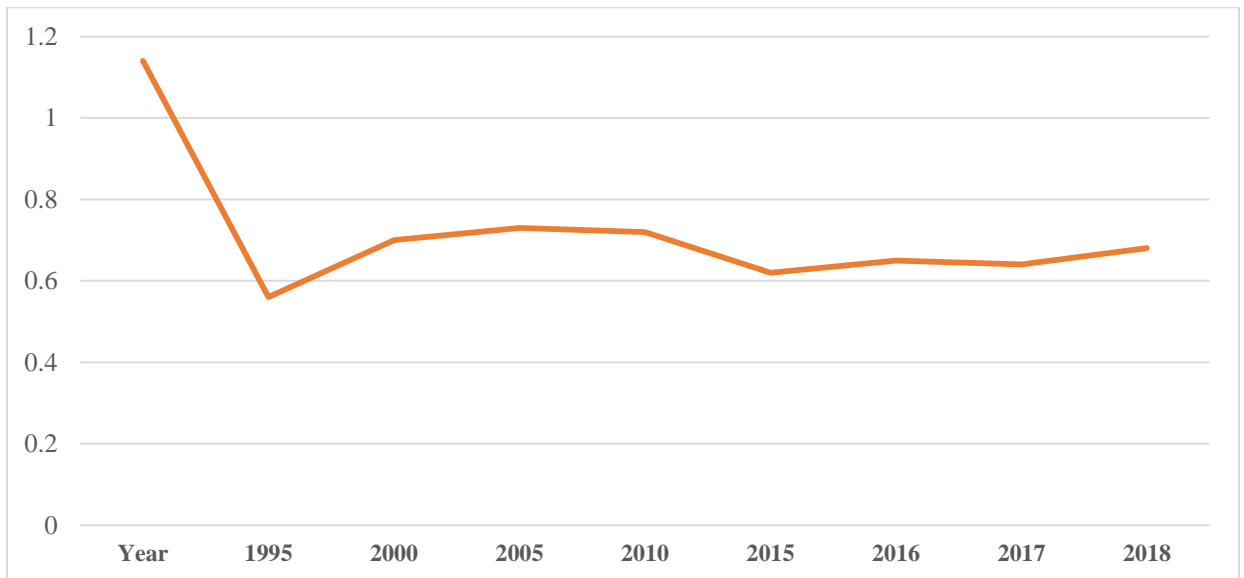
Year	Sri Lankan Export to Pakistan	Share of the total Sri Lankan export to the world	Imports of Sri Lanka from Pakistan	Total Bilateral Trade	Trade Balance
1995	43.20	1.14	52.40	95.60	-9.20
2000	29.59	0.56	68.61	98.20	-39.03
2005	43.02	0.70	115.56	158.58	-72.54
2010	60.45	0.73	282.11	342.57	-221.66
2015	73.10	0.72	297.41	342.57	-224.31
2016	63.80	0.62	304.33	368.13	-240.53
2017	74.01	0.65	350.11	424.12	-276.10
2018	75.94	0.64	428.55	504.49	-352.61
2019	81.53	0.68	369.78	451.31	-288.25

Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka



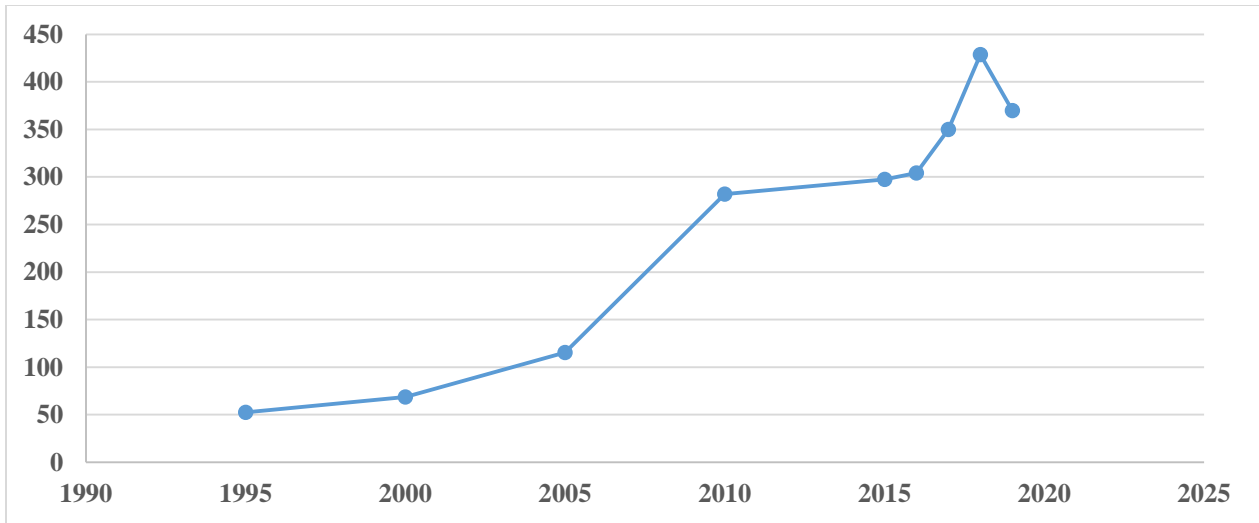
**Figure 5.1: Sri Lanka's Export to Pakistan**

*Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka*



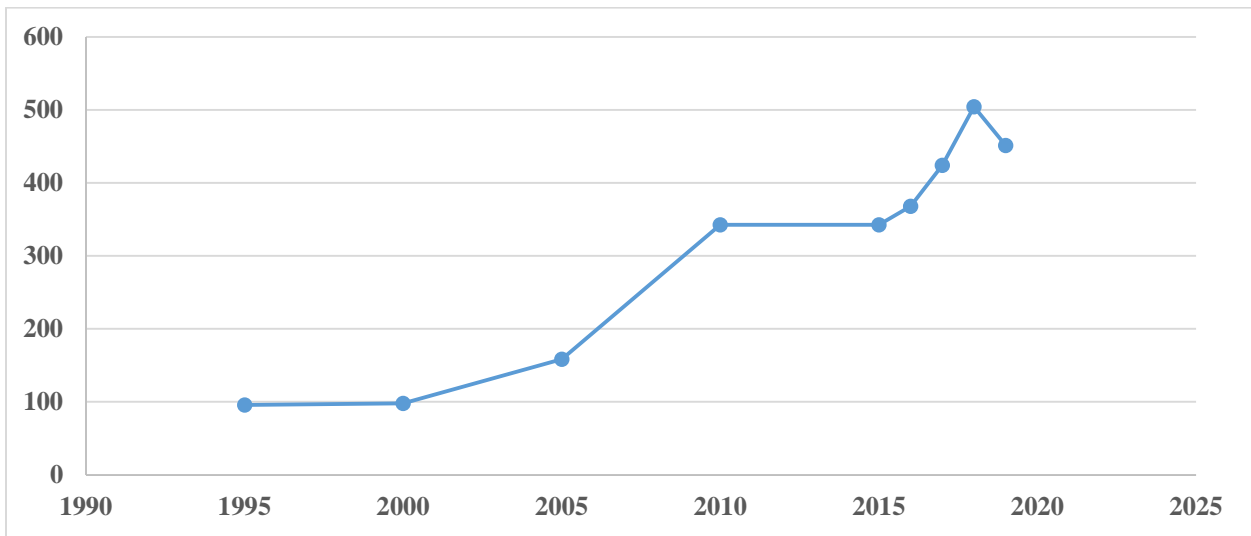
**Figure 5.2: Share of total Sri Lankan exports to the world.**

*Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka*



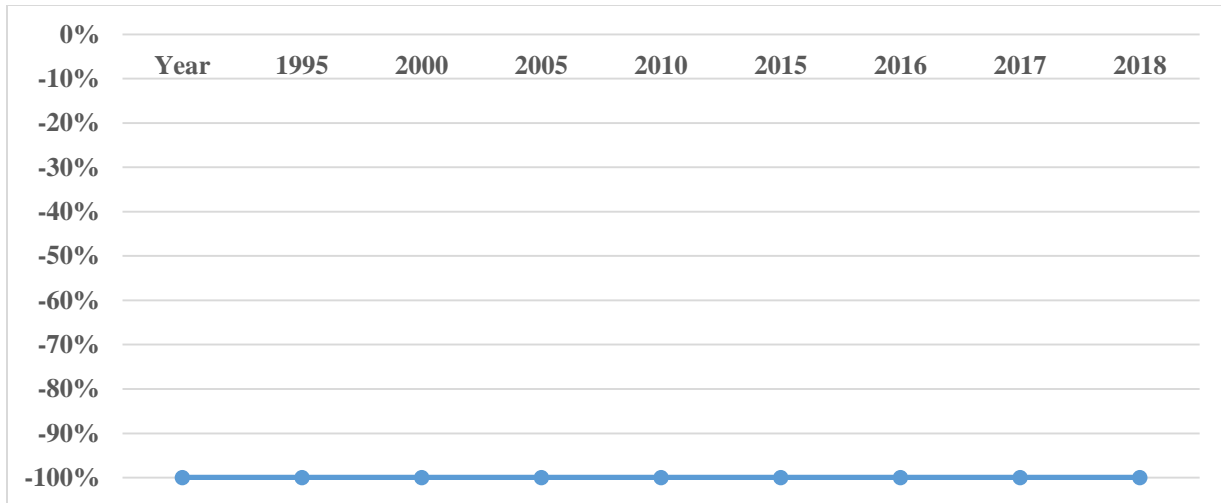
**Figure 5.3: Imports of Sri Lanka from Pakistan**

*Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka*



**Figure 5.4: Total Bilateral Trade**

*Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka*



**Figure 5.5: Trade Balance**

*Source: Sri Lanka Customs/ Trade Map, Government of Sri Lanka*

### **5.7. Estimation of Johansen Cointegration**

This section applies data analysis to chosen data from Pakistan and Sri Lanka to get results that are then thoroughly interpreted. First, the study uses descriptive statistics to provide a summary or overview of the data; second, a correlation test is used to see how closely associated different variables are; and third, Granger Causality is used to determine whether a causative relationship can be predicted. Granger causality states that if a signal X 1 variable "Granger-causes" (or "G-causes") a signal X 2 variable, then previous values of X 1 should have information that aids in predicting X 2 variable in addition to that provided by previous values of X 2 variable alone. In the current inquiry, a model or method was chosen using the time series Unit Root Test on a Prob 0.05 basis. The Johansen cointegration Model estimation method is utilized if the variables are stationary at the initial difference (1). The empirical research in this paper is built on a series of standard Johansen cointegration tests and fully modified ordinary least squares (FMOLS) estimators.

### 5.7.1. Descriptive Statistics

Indicate the number of observations (N) and the summary statistics for each variable that will be used in an empirical analysis (Mean, Median, Maximum, Minimum, and Standard Deviation). For each of the variables in this data collection, there are 63 observations. Total number of 2 countries, Sri Lanka and Pakistan, for which data were collected, totaling 33 years of annual observations from 1988 to 2020.

**Table 5.8: Descriptive Statistics**

<b>Variables</b>	<b>Mean</b>	<b>Median</b>	<b>Max</b>	<b>Mini</b>	<b>Std. Dev.</b>	<b>Obs</b>
<b>Pakistan</b>						
Trade	32.33	32.90	38.49	25.30	3.79	32
Exchange Rate	63.98	59.61	150.03	18	33.64	32
Exports	13.69	13.91	17.27	8.25	2.41	32
Food	74.70	69.22	121.68	40.42	22.98	32
GDP Per Capita	793.39	643.60	1482.21	371.67	376.77	32
Imports	18.63	19.38	23.21	13.243	2.588	32
Terrorism Index	471.62	172	2215	0.000	604.31	32
Textiles And Clothing	6.015	0.000	33.329	0.000	11.67	32
<b>Sri Lanka</b>						
Trade	66.86	68.60	88.63	46.36	12.83	31
Exchange Rate	90.21	96.52	162.4	31.80	37.99	31
Exports	28.97	30.12	39.01	19.55	6.45	31
Food	75.19	69.69	105.70	56.20	14.82	31
GDP Per Capita	1717.91	982.19	4077.04	408.45	1323.72	31
Imports	37.88	39.49	49.62	26.81	6.53	31
Terrorism Index	82.77	37	510	0.00	111.44	31
Textiles And Clothing	26.86	31.30	47.64	0.00	11.44	31

*Source: Author Self Analysis*

The descriptive data for the dependent variable of the study, trade, are shown in Table 5.8. Trade (percent of GDP) has a mean value of 32.33 and a standard deviation of 3.79. Exchange rate, expressed as the official exchange rate (LCU per US\$, period average), serves as the study's independent variable. Its standard deviation was 33.64 and its average value was 63.98. Exports,

Food, GDP Per Capita, Imports, and Terrorism Index were considered as independent variables despite the rest of the variables' indications. The average of exports is 13.69, with a standard deviation of 2.41; the average of food production is 74.70; the average of GDP per capita is 793.39; the average of imports is 18.63; and the average of the terrorism index is 82.77; a standard deviation of 111.44. Finally, the textile mean value was 6.01 with a standard deviation of 11.67.

### **5.7.2. Correlation**

A correlation analysis was suggested in the literature to check the multicollinearity among the variables under examination. Multicollinearity originally refers to a situation in which two or more than six independent variables are highly linearly related in a Multiple Regression Model (Fully Modified OLS (FMOLS)). Such an analysis measures to what degree the two regressors move together. The Pearson Correlation Coefficient (PCC) sign test on the nature of the relationship, whereas its coefficients calculate the strength of the relationship between the correlations between the pairs. Results of the Pearson Correlation Test Coefficient are reported in the following.

**Table 5.9: Correlation in Variables**

<b>Pakistan Variables</b>	<b>Trade</b>	<b>Exchange Rate</b>	<b>Exports</b>	<b>Food</b>	<b>GDP Per Capita</b>	<b>Imports</b>	<b>Terrorism Index</b>	<b>Textiles &amp; Clothing</b>
Trade	1.00							
Exchange Rate	0.57	1.00						
Exports	0.74	-0.83	1.00					
Food	0.53	0.98	-0.83	1.00				
GDP Per Capita	0.49	0.93	-0.85	0.97	1.00			
Imports	0.78	-0.06	0.15	0.00	0.07	1.00		
Terrorism Index	-0.15	0.60	-0.41	0.61	0.70	0.17	1.00	
Textiles & Clothing	0.25	-0.44	0.26	-0.48	-0.42	0.12	-0.32	1.00
<b>Sri Lanka variables</b>	<b>Trade</b>	<b>Exchange Rate</b>	<b>Exports</b>	<b>Food</b>	<b>GDP Per Capita</b>	<b>Imports</b>	<b>Terrorism Index</b>	<b>Textiles &amp; Clothing</b>
Trade	1.00							
Exchange Rate	0.66	1.00						
Exports	0.99	-0.62	1.00					
Food	0.77	0.89	-0.75	1.00				
GDP Per Capita	0.84	0.90	-0.82	0.94	1.00			
Imports	0.99	-0.67	0.95	-0.76	-0.83	1.00		
Terrorism Index	-0.15	-0.53	0.10	-0.50	-0.46	0.19	1.00	
Textiles & Clothing	-0.33	0.13	-0.36	0.30	0.34	-0.28	-0.06	1.00

*Source: Author Self Analysis*

*If the value is close to 1, the relationship is perfect: when one variable is increased, the other variable tends to increase (if it is positive) or to decrease (if it is negative) (if it is negative). High degree: if the value of the coefficient is between 0.50 and 1, it is considered a strong link.*

The analysis of the correlation matrix clearly shows that Exchange Rate, Exports, GDP Per Capita and Imports and textile are positively correlated, and Terrorism Index are negatively correlated with trade for Pakistan, while for Sri Lanka Trade, Exchange Rate, Exports, GDP Per Capita and Imports are positively correlated, and Terrorism Index and textile are negatively correlated with trade.

### **5.7.3. Unit Root Test**

Table 5.10 following provides an overview of the results of the time series unit root test. The results demonstrate that the variables taken into account in this analysis are a mixture of stationary I(0) and non-stationary I(1) regressors. Time series data must be stationary to produce accurate results and prevent erroneous regression analysis since non-stationary data makes forecasting challenging. The table below displays how each variable is affected by the E-views used in the Augmented Dickey-Fuller unit root test.



**Table 5.10: Unit Root Test (Augmented Dickey-Fuller)**

Pakistan Variable	Level		1st Difference		Decision
	Statistic	Prob	Statistic	Prob	
<b>Trade</b>	-2.510	0.321	-5.550***	0.000	I(1)
<b>Exchange Rate</b>	2.602	1.000	-4.506***	0.006	I(1)
<b>Exports</b>	-3.071	0.130	-4.830***	0.000	I(1)
<b>Food</b>	0.828	0.999	-2.446**	0.048	I(1)
<b>GDP Per Capita</b>	-1.944	0.607	-3.762**	0.032	I(1)
<b>Imports</b>	-2.437	0.354	-5.778***	0.000	I(1)
<b>Terrorism Index</b>	-2.389	0.377	-3.662**	0.040	I(1)
<b>Textiles &amp; Clothing</b>	-3.740	0.136	-9.316***	0.000	I(1)

Sri Lanka Variable	Level		1st Difference		Decision
	Statistic	Prob	Statistic	Prob	
<b>Trade</b>	-2.116	0.517	-4.792***	0.002	I(1)
<b>Exchange Rate</b>	-0.657	0.967	-5.454***	0.000	I(1)
<b>Exports</b>	-2.098	0.526	-4.195***	0.012	I(1)
<b>Food</b>	-1.496	0.807	-8.762***	0.000	I(1)
<b>GDP Per Capita</b>	-2.841	0.194	-2.960**	0.058	I(1)
<b>Imports</b>	-2.369	0.387	-5.426***	0.000	I(1)
<b>Terrorism Index</b>	-6.583	0.100	-7.122***	0.000	I(1)
<b>Textiles &amp; Clothing</b>	-2.178	0.484	-4.393***	0.007	I(1)

*“The \*\*\*, \*\*, and \* asterisks indicate the level of significance at 1%, 5%, and 10% respectively”.*

*Source: Author Self Analysis*

It is crucial to distinguish and retest stationarity since this indicates that the time series data properties (mean, variance, and autocorrelation) are not constant. The findings demonstrate that the properties of the time series Data are now constant at the first difference. The study proposed

order one integrated, and that finding demonstrates the high likelihood of a long-run relationship between trade and Exchange Rate, Exports, Food, GDP Per Capita, Imports, and Terrorism Index. The likelihood of these variables being cointegrated is also high.

#### **5.7.4. Johansen Cointegration Test**

The long-run connection analysis of cointegration has attracted a lot of interest in the recent time series research. This chapter of the study describes how to use E-views tools to estimate associations using time series data and the Johansen cointegration test. The study considers different types of residuals based Fully Modified OLS (FMOLS) estimators (Pedroni, 2000, 2001) that produce estimates of the coefficient with probability distributions that are asymptotically unbiased.

**Table 3.11: Johansen Cointegration Test**

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.152494	5.888112***	15.49471	0.0087
At most 1	0.024185	0.758937*	3.841466	0.0837
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None	0.152494	5.129175**	14.26460	0.0254
At most 1	0.024185	0.758937*	3.841466	0.0837

*“The \*\*\*, \*\*, and \* asterisks indicate the level of significance at 1%, 5%, and 10% respectively”.*

*Source: Author Self Analysis*

Table 5.11 shows that the variables are cointegrated, Johansen cointegration test developed by is used to test empirically whether there is cointegration. The results of the Johansen cointegration test for Pakistan and Sri Lanka show that are significant.

### **5.7.5. Regression**

This study utilizes Johansen Cointegration model of regression: fully modified OLS (FMOLS). The results are displayed in table 5.12 below. The findings demonstrate the very high explanatory power of all three models for Pakistan and Sri Lanka, with more than 100 percent of the variance of the dependent variable being explained by the independent variables. R-squared and modified R-square provide evidence for this. This study describes the techniques E-Views employs to calculate and analyze the cointegrating relationships of a single equation. Fully Modified OLS (Hansen, B. E. 1992, Saikkonen 1992, Stock and Watson 1993) is one of three fully efficient estimating techniques discussed, along with other cointegrating test techniques.

**Table 5.12: Cointegration Regression FMOLS**

<b>Trade (Dependent Variable)</b>	<b>Pakistan</b>	<b>Sri Lanka</b>
<b>Independent Variables</b>	<b>Coeff/ (Prob)</b>	<b>Coeff/ (Prob)</b>
<b>Exchange Rate</b>	6.75E-15*** (0.0108)	2.51E-15*** (0.0000)
<b>Exports</b>	1.000000*** (0.0000)	1.000000*** (0.0000)
<b>Food</b>	3.21E-14*** (0.0000)	4.24E-14*** (0.0000)
<b>GDP Per Capita</b>	1.88E-15*** (0.0000)	3.97E-16*** (0.0000)
<b>Imports</b>	1.000000*** (0.0000)	1.000000*** (0.0000)
<b>Terrorism Index</b>	-2.63E-16*** (0.0000)	-1.73E-16** (0.0198)
<b>Textile</b>	-2.76E-15* (0.0986)	-4.60E-15*** (0.0000)
<b>R-squared</b>	1.000000	1.000000
<b>Adjusted R-squared</b>	1.000000	1.000000
<b>Long-run variance</b>	6.95E-27	8.78E-28

*“The \*\*\*, \*\*, and \* asterisks indicate the level of significance at 1%, 5%, and 10% respectively”.*

*Source: Author Self Analysis*

The sign of a linear regression coefficient indicates whether the association between each independent variable and the dependent variable is positive or negative. A positive coefficient shows that when the value of the independent variable grows, so does the mean of the dependent variable. The Pakistani currency rate has a big and positive impact on commerce, whereas the Sri Lankan exchange rate has also a significant impact on trade. According to the study's findings, the exchange rate has a negative but negligible influence on Pakistan's exports, but global income has a positive and considerable impact on exports (Ahmed K. Q., 2017). Pakistan and Sri Lanka export heavily and have a beneficial impact on commerce. According to the research findings, inflation has a beneficial influence on the trade balance in the short run. In the long run, the exchange rate

and the Gross Domestic Product have a negative impact on Sri Lanka's trade balance (Thahara, 2021).

Sri Lanka food items significantly and positively effect on the trade, also Pakistan food items have significantly effect on the trade. Results indicate that in addition to the main export agriculture commodities such as tea, there might be other emerging agri-food products with a high potential to grow in Sri Lanka. Identifying such products and potential export markets would be important for the expansion of international trade in new arenas (Dissanayaka, 2021). GDP Per Capita significantly and positively effect on the trade.

The Sri Lanka Terrorism Index has a considerable and negative influence on commerce, also the Pakistan Terrorism Index has a significant but negative effect on trade. Terrorism has a statistically substantial unfavorable association with economic growth, according to the research. Terrorism has the potential to generate instability and devastate recreational areas. There is a need to tackle the issue of terrorism to improve the capabilities of other economic indicators that contribute to Pakistan's growth (Saleem, 2020).

#### **5.7.6. Discussion of the results**

The study's key findings reveal that GDP per capita, imports, and the terrorism index all have a strong beneficial effect on commerce. In the two models for Sri Lanka and Pakistan in the FMOLS regression, the exchange rate has a significant and positive influence on trade. Another research looks at the impact of the real exchange rate, local income, and foreign income on the balance of bilateral trade between Vietnam and her 16 trading partners from 1999 to 2012. Using the most modern panel co-integration approach, this study investigates the long-term relationship between the real exchange rate and bilateral trade. All tests reject the null hypothesis of no co-integration,

indicating that there is a long-term link between the trade balance, real exchange rate, domestic income, and foreign income in the case of Vietnam. According to the results of both panel FMOLS and DOLS estimates, the real exchange rate and domestic income have a negative influence on the trade balance in general, whereas foreign income has a positive impact on the trade balance. Statistics back up each variable's projected sign. One of the original study's political repercussions is the possibility of economic reform that improves China's trade balance rather than long-term currency collapse (Phan, 2015).

According to FMOLS regressions, exports have a significant and positive influence on commerce in both nations. The findings demonstrated a direct and positive relationship between trade openness and human capital, with trade liberalization having a negative effect on economic growth in Southern Asia but a favorable effect in West Asia. While FDI has a considerable negative impact on GDP per capita (GDPPC) in West Asia, total population (TPOP) has a negative impact on GDPPC in both Western and Southern Asia. Additionally, human capital has a favorable and significant effect on trade openness in both panels. Contrary to popular belief, labor force participation (LFP) has a detrimental influence on trade openness in Western Asia while having a major beneficial impact in Southern Asia. In Western Asia, trade openness and economic growth are causally related in both ways, but only in one direction in Southern Asia. Furthermore, it demonstrates the one-way link that exists between economic growth and human capital in both areas (Amna Intisar, 2020)

Food has a significant and favorable impact on commerce in the FMOLS regression. The (Mujahid, The World Economy) study investigates whether these international and regional trade organizations foster increased food trade and global food freedom. In the empirical analysis, the gravity model of international commerce is applied. The model was built using a large panel of

data and aimed to solve a variety of estimating issues, such as endogeneity, zero trade values, and multilateral trade resistances. According to the statistics, the WTO and RTAs have both aided international commerce, but not food trade. Only RTAs have enhanced food commerce among member nations, according to evidence. Despite the opinion that the WTO has a detrimental influence on agricultural trade, developing countries benefit from it more than affluent countries.

In the FMOLS regression, GDP per capita has a significant and positive influence on trade. (Durkin Jr, 2000) investigate the link between disparities in per capita GDP and bilateral interindustry trade shares. This conclusion is supported by data, even though the correlation is positive in fixed-effect regressions but negative in Regressors. This might be owing to the prevalence of vertically differentiated commerce. The article begins by distinguishing between vertically and horizontally diversified trade, and only in the regressions on vertically differentiated trade shares does it find a positive and significant link between GDP per capita disparities and trade shares. Furthermore, it is shown that the degree of income distribution overlap affects solely the proportion of vertically differentiated trade.

Trade in both countries is strongly and favorably influenced by imports. FMOLS (Santos-Paulino, 2015) analyses the effects of the removal of tariff and nontariff barriers on the imports of 22 specific developing nations using dynamic panel data approaches. It is found that relative pricing and domestic income are significant predictors of import growth. Additionally, the results demonstrate that import tariffs reduce import growth, however the impact differs depending on the country's trade policy regime and the region. The results also show that removing trade policy distortions significantly and favorably impacts import growth. Finally, it is found that trade policy liberalization results in higher income and price elasticities.

When FMOLS regressions are run, the terrorism index considerably and favorably affects trade in both countries. examines the effects of persistent terrorist activity on stock prices of various businesses listed on the Karachi Stock Exchange (KSE) using the recently constructed terrorism impact factor index with lingering effect (TIFL) and monthly time series data from 2002 (January) to 2011 (December). According to (Dwyer, 2015), there is a long-term relationship between the stock price and terrorism. Normalized cointegration vectors are used to analyze how terrorism affects stock price. Results show that repeated terrorist acts have a highly variable impact on stock prices across sectors, both favorably and unfavorably, and they also imply that the market is still aware of them.



## CHAPTER 6

### QUALITATIVE FINDINGS

Sri Lanka, China, and Malaysia have all signed free trade agreements with Pakistan. Pakistan, along with Iran, Mauritius, and Indonesia, is a member of the South Asian Organization for Regional Cooperation (SAARC) and has favorable commercial links with all of them. Pakistan and the United States have had a bilateral tax agreement in existence since 1959. According to the response from the Ministry of Commerce and Trade, the goal of the free trade agreement is to assist remove both bigger and minor obstacles. Pakistan has inked free trade agreements with Sri Lanka, Malaysia, and China to stimulate investment and government procurement, which has considerably enhanced the country's trade growth.

This chapter highlights the information gathered by qualitative aspects on free trade agreement of Sri Lanka and Pakistan.

#### **6.1. The benefits of free trade agreements**

In Pakistan and Sri Lanka, free trade agreements give both major and small business sectors the possibility to profit from greater trade and investment, which in turn spurs economic activity and job creation in those nations. Free trade agreements can eliminate hidden trade obstacles that would otherwise block the flow of products and services, boost investment, and improve legislation controlling things like intellectual property, e-commerce, and public procurement in addition to decreasing and removing tariffs.

The responder asserts that free trade agreements have benefits for promoting investment competitiveness, lack of monopolies, and affordable goods and services. Pakistan is a member of Iran, Indonesia, and Mauritania's regional corporations and preferential trade agreements for South

Asia. The importing nation offers preferential treatment and duty exemptions, and as a result, exercises control by inspecting.

FTAs have proven to be one of the most successful methods for increasing exporters' access to foreign markets. In the fields of commerce, investment, service provision, trade facilitation, as well as in economic and technological cooperation, the countries that are FTA partners give each other preferential treatment. FTAs give exporters preferential treatment and simpler access to markets. They gain from cost savings in addition to reciprocal recognition agreements, customs procedures that promote commerce, the repeal of burdensome legislation, and the abolition or reduction of customs duties. FTAs improve access to the market for a variety of professional and commercial services for service providers. Additionally, FTAs offer more predictable terms for investment in the FTA partner countries as well as simpler access for businesspeople (Karmakar, 2005).

The Doha Round's stagnation, the hazy future of the Multilateral Trading System (MTS), and liberalization, according to the Trade Economist response, have given momentum to bilateral and regional trading agreements. FTAs offer a good opportunity for like-minded nations to interact with one another for the negotiation of more liberalized trade regulations as there has been no breakthrough at the global level (WTO). These bilateral and regional trade agreements currently account for nearly two thirds of all trade worldwide. FTAs can encourage regional integration as well (i.e., ASEAN, NAFTA). With additional regional deregulation through FTAs, intraregional commerce in Asia has risen dramatically, especially in the production of parts and components.

**Among the benefits which can be derived from the FTAs are:**

- Provide access to cheaper imported goods from FTA partner nations that can be input data for partners' exports.

- Accommodate and improve long-run market access chances for goods and services; Strengthen position as an alluring location for foreign direct investment.
- Encourage capacity building through economic and technical cooperation activities.
- Increase the efficiency and competitive nature of industry sectors thru the greater competition and economy of scale.

The trade economist's response states that exporters can enter a competitive market. Cheaper access to capital, intermediate, and raw materials can improve the competitiveness of domestic industries, especially those that are export oriented. FTAs can also assist Pakistani businesses in realizing economies of scale and cutting expenses. An FTA will enable producers to benefit from a wider client base and, thus, produce at a lower average cost on all sales by expanding the market. Cooperation between national customs that can ease commerce and lower barriers (i.e., electronic data exchange under Pakistan China FTA). FTAs can promote regional economic cooperation (e.g., ASEAN, NAFTA). FTAs can promote harmonization of standards (MRA etc.). Efficiency driven benefits including better allocation of resources as relatively inefficient domestic production contracts in favor of production in partner countries leading to consumer welfare and better allocation of resources to other industries in domestic sectors.

## **6.2. Pak-Sri Lanka Free Trade Agreement**

Goals, definitions, removal of tariffs, para tariffs, and non-tariff barriers, rules of origin, safeguards, clash resolution, amendments, and annexes are just a few of the issues covered in the treaty's provisions. These two countries held additional rounds of bilateral negotiations after the deal was signed, and in December 2004 they were eventually able to reach an agreement on the pact's annexes. Then, in February 2005, the Truman administration exchanged diplomatic messages. A tax concession, according to the responder from the ministry of commerce, eliminates

the tariff charge that would otherwise be required for a particular commodity under the tariff. Sri Lanka has two bilateral trade agreements with India and Pakistan in addition to regional accords like SAFTA, APTA, and GSTP.

The trade expert who responded said there has been a considerable increase in FTAs since 2000. Asia is leading the world in free trade agreements. Since 2000, the number of FTAs involving at least one Asian economy has grown by an average of 15 per year. Numerous Pakistan's rivals are negotiating FTAs and improved market access with cooperating nations. Pakistan's exports will be at a disadvantage to rivals if it does not obtain similar market access. Pakistan can advance in a stronger integration of its economy with significant export markets thanks to bilateral and regional agreements. Numerous advantages may be realized:

- a) Better and competitive market access for exporters
- b) Better access to raw materials for value added production.
- c) Increased consumer welfare in terms of better priced products and
- d) Increased bilateral cooperation in trade facilitation, mutual recognition, and investments.

### **6.3. Conclusion**

Sri Lanka will export \$87.9 million to Pakistan in 2020. Other vegetable goods (\$18.5 million), rubber (\$10.3 million), and scrap vessels (\$6.75 million) are among Sri Lanka's top exports to Pakistan. Sri Lanka's exports to Pakistan have increased at a 5.17 percent annual rate over the last 21 years, from \$30.5 million in 1999 to \$87.9 million in 2020 (Sutradhar, 2020).

Pakistan sold \$361 million to Sri Lanka in 2020. Pakistan's top three exports to Sri Lanka were cement (\$94.1 million), heavy, pure woven cotton (\$53.6 million), and packaged pharmaceuticals (\$31.1 million). Pakistan's exports to Sri Lanka have climbed at an average annual rate of 7.01

percent over the last 21 years, from \$87.1 million in 1999 to \$361 million in 2020 (Sutradhar, 2020).

According to the response, among Sri Lanka's significant exports to Pakistan include desiccated coconut, MDF boards, betel leaves, bulk tea, textile products, surgical and industrial gloves, crepe and sheet rubber, boxes and bags, copra, coconut oil, woven textiles, and so on. Among the biggest imports from Pakistan to Sri Lanka are Portland cement, pharmaceuticals, potatoes, woven textiles, pipes and tubes, bedside tables, kitchenware, toiletries, rice, denim fabric, fish, and other commodities. Sri Lanka was placed 83 in total exports (\$11.3 billion) and 82 in the economic complexity index (ECI -0.51). In the same year, Pakistan was placed 65 in total exports (\$25.5 billion) and 93 in the Economic Complexity Index (Sutradhar, 2020).

The rules of origin are the criteria used to determine the nation of origin of a product. The rules of origin determine when a product can be traded under favorable circumstances under an FTA. This is done to ensure that third-country goods do not profit from the FTA concession. Rules of Origin normally include four key needs.

- Wholly Obtained (mainly for Agri products)
- Value addition (i.e. 30% to 40%)
- Change in Tariff Classification
- Specific process

The general criteria that Pakistan has negotiated in its FTAs with China, Malaysia and Sri Lanka is 40% value addition. However, Pakistan is also complying with product specific rules of origin under the GSP+ preference given by the European Union.

## CHAPTER 7

### CONCLUSIONS AND RECOMMENDATIONS

Our paper developed an input-output model and Johansen cointegration analysis that links the south Asian countries Pakistan and Sri Lanka with the primary goals of determining trade barriers and evaluating potential trade gains from the Pakistan-Sri Lanka free trade agreement, assessing the Pakistan-Sri Lanka long-term trade relationship under the assigned FTA, and comparing the estimates of trade complementarity index and revealed comparative advantage.

Instead of attempting to compile export flows, export trade flows were rationalized based on computed import flows on the assumption that imports from one partner country are roughly equivalent to exports from the other partner country. The precision and correctness of the underlying data, as well as the techniques employed in our study, have a significant impact on the dependability and quality of our findings. The calculated national input coefficients are assumed by the input-output table to be steady throughout time. Two different assumptions are implied by this stability assumption. The national technical coefficients are first considered to be steady. Two, it is also anticipated that the bilateral trade coefficients will remain stable.

While the second assumption is distinct in that there aren't any compelling theoretical justifications for the stability of inter-regional trade coefficients, particularly over the long run, the first assumption is shared by all input-output tables. As a result, even while the output-input table may be a helpful tool in anticipating the short-run reaction route of the economies of both countries, any predictive use of the table over longer time periods will need to take into account any unpredictability in trading patterns. As a result, it is crucial to update trade patterns in the short term. Our intra-national comparison analysis showed that Sri Lanka's economy is still in its early

stages of development because its estimated total volume of economic transactions is less than Pakistan's total supply.

The trade complementarity index in 2003, 2013 and 2018 shows that there was some complementarity between Pakistan and Sri Lanka but after that it shows decline that is 39.22 and 39.83 in 2019 and 2020 respectively. There are many hurdles which do not allow the traders to gain full potential from PSFTA.

The Easter Bombings on April 21(2019) and COVID-19 affected the Sri Lanka economy due to which they started different tricks to reduce import burden and protect its domestic industry. Pakistani exporters face the issues of non-tariff barriers after the implementation of import substitution policy and increase number of local taxes on the imported products like cement and oranges by Sri Lanka to protect its domestic industry.

The clearance and certification times of products are also time taken which results in the reduction of benefits from PSFTA. The increased number of transportation cost and less availability of shipping containers hinder the path of better trade.

Pakistan also finds it difficult to export most of the pharmaceutical products due to the absence of WHO certification. Other competitors like China and India have taken the market in Sri Lanka for most pharmaceutical products. Sri Lankan exporters also face difficulties in trading with Pakistan.

The exports of Pakistan are mainly product specific for which they have imposed specific quota. For instance, they allow only 6000 metric ton of rice per year to Sri Lanka due to which they import rice from other competitive countries to meet its rice requirement. Also, tea is the major export of Sri Lanka, but the taste of people has changed from Sri Lankan tea to Kenya tea which reduced the trade. Moreover, Lack of diversification of Pakistan's exports as Pakistan's market is

concentrated on textile market i.e., producing 60% exports from textile. On the other hand, Sri Lanka is also a textile producing country. So, assuming that they will import value added textile is just an assumption. Maybe they will import some but in very limited amount. In home appliances steel and iron and electronics the export of Pakistan is increasing but it a very low face. Moreover, it is less competitive.

### **7.1. Recommendations**

To increase trade and gain benefits from PSFTA it is recommended to resolve the issue of non-tariff barriers immediately. There is also a need of awareness and full coordination between the traders. Also, we should diversify our export baskets. Emerging sectors like footwear, plastic industry and chemical sectors can be enhanced by providing proper attention. As we know that Pakistan is an agrarian economy therefore proper training should be given to farmers to produce good quality of agriculture products.



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## Appendix A: Qualitative Data Questionnaire

### Ministry of Commerce | Government of Pakistan

This questionnaire is aimed at collecting information about Ministry of Commerce | Government of Pakistan. It is a part of the research for MPhil program at Pakistan Institute of Development Economics to study the Trade between Pakistan and Sri Lanka under their assigned free trade agreement. If there is any part irrelevant to you then leave it blank. The personal information in the questionnaire will be treated with extreme confidentiality. Your participation in the questionnaire will be highly appreciated.

Your Name \_\_\_\_\_

Your position \_\_\_\_\_

Your qualification \_\_\_\_\_

1) Why are FTAs important?

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2) Why are FTAs relevant for trade in Pakistan?

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3) What are the advantages of FTAs?

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4) Which are the significant FTAs entered into by Pakistan?

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5) What are Rules of Origin (RoO)? What are the general criteria applied for arriving at the RoO?

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6) How can exporters maximize FTA benefits?

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7) How can importers maximize FTA benefits?

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8) Why must parties claiming benefits under FTAs be audit-ready?

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9) Where can one find tariff concessions available in Pakistan FTAs?

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10) Does Pakistan have free trade agreement?

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11) How many free trade agreements does Sri Lanka have?

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12) What does Pakistan import from Sri Lanka?

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13) What does Sri Lanka import from Pakistan?

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14) What is the current trade policy of Pakistan for Sri Lanka?

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**Thanks for your valuable time**