# EXPLORING PRODUCT DIVERSIFICATION OPPORTUNITIES IN PAKISTAN FOR EXPORT GROWTH


*Submitted By*

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## CERTIFICATE

This is to certify that this thesis entitled: **"Exploring Product Diversification Opportunities in Pakistan for Export Growth"** submitted by **Mr. Abu Bakar Sadiq** is accepted in its present form by the School of Economics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in Master of Philosophy in Economics.

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## Author's Declaration

I Abu Bakar Sadiq hereby declare that "Exploring Product Diversification Opportunities In Pakistan For Export Growth" is the title of my MPhil thesis and has been done by myself. I have not been submitted this work previously for taking any degree from Pakistan Institute of Development Economics or anywhere else in the country/world.

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

Date: 27-12-2021

Signature of Student

Abu Bakar Sadiq

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# ABSTRACT

Diversification brings economic growth and more diversified production structure in any developing country. Pakistan is now committed to diversify its export growth and trying to address the issue in its trade policy. The purpose of this study is two-fold: attempting to decompose product exports and measure the significance of intensive, extensive, and new products towards the export growth. The study finds the long run association of GDP per capita and the three indices of export product diversification i.e., product diversification (Theil index), intensive margin and extensive margin. Furthermore, this study also done the current scenario of Pakistan's export and trade policy review. A qualitative aspect is covered by performing a survey from the experts selected from Ministry of Commerce, SDPI, PIDE, and NUST.

By selecting the top five exporting countries, the main objective was achieved by using the (Freund 2008) methodology while for the accomplishment of the second objective this study used ARDL Bound testing procedures on timeseries. Hence, the results obtained showed positive export growth for the overall period of 2009-2020, except for household products. The intensive margin contribution to the export growth was significant in case of 26, 84 and 85 divisions products. However, in the main subsector of textile (65 division) the contribution from the new products is large and more significant compared to other sub-sectors. The household appliances showed a negative export growth. The results of Bound test confirmed the positive and significant long run relationship among GDP per capita, product export diversification, extensive and intensive margins. The study recommends that government should focus on the diversification of their traditional and new product exports with investment and innovation. Moreover, attention to the innovation in textile & apparel sector is recommended. Sports industry, Medical & engineering equipment, and household appliance industry has potential and can be given boost through timely investment and strong policy formulation.



Key points: Product diversification, Export growth, Export margins, Investment, ARDL

# TABLE OF CONTENTS

# LIST OF TABLES



# LIST OF FIGURES

# LIST OF ABBREVIATIONS

| | |
|---|---|
| ARDL | Auto Regressive Distributive Lag Model |
| GMM | Generalize Method of Moments |
| OLS | Ordinary Least Square |
| SITC | Standard International Trade Classification |
| GDP | Gross Domestic Product |
| SAARC | South Asian Association For Regional Cooperation |
| ASEAN | Association Of Southeast Asian Nations |
| OECD | Organization Of Economic Cooperation And Development |
| WDI | World Development Indicator |
| GCI | Global Competitive Index |
| COVID-19 | Coronavirus Disease 2019 |
| ECI | Economic Complexity Index |
| POL | Petroleum, Oil and Lubricant |
| U.S. A | United States of America |
| U. K | United Kingdom |
| U.A. E | United Arab Emirates |
| R&D | Research and Development |
| EXIM Bank | Export-Import Bank |
| STPF | Strategic Trade Policy Framework |
| kWh | Kilowatt Per Hour |
| APTMA | All Pakistan Textile Mill-owners Association |

# CHAPTER 01

# INTRODUCTION

## 1.1 Introduction

Export diversification is important for higher economic growth. It is important for developing countries to keep diversifying their exports while for developed countries specialization is needed to compete internationally. Export diversification can be broadly divided into two types; product and market diversification. Product diversification of export has further two types; extensive margin and intensive margin. Since, both intensive and extensive margins can lead to country's export diversification/growth, the contribution of these margins to economic growth is debatable (Siddiqui 2018).

There are two possibilities to increase exports. The first one is to export new products, target new countries as export destination, or a combination of these two, which is known as extensive margin and the second possibility is to increase the existing products, and markets exports, which is known as the intensive margin. Although, Different studies define the extensive and intensive margins differently, but this study will focus on export growth due to new products being exported (extensive margin) and increasing existing products (intensive margin). Here the extensive margin is characterized as a measure of the increase of a set of exported products through the addition of new export products while the intensive margin is a measure of the increase in the set of existing goods that have already been exported in the earlier years. The policymakers often prefer extensive margin to boost the export growth and to prevent potential threats on the growth path from export prices or changes in the composition of global import demand.

This study has looked at how much of the increase in Pakistan's exports in the top five trade partner countries (USA, United Kingdom, Germany, China, and Afghanistan) to which Pakistan exported in 2019-20 can be linked to an increase in new product varieties and in existing exports goods. This study will follow the decomposition methodology of (Freund, 2008) for the analysis.

Moreover, this study has examined the relationship of export diversification, the intensive and extensive margins with the real GDP per capita for Pakistan. Unlike previous studies (Gozgor & Can, 2016; Jongwanich, 2020) that looked at cross-country analysis for such relationships, this study focuses on Pakistan by using timeseries data and estimation. Based on the results, this study has checked the relative importance of intensive and extensive margins to the export growth of Pakistan. The possible research questions are: Does Pakistan need a strategy for export product diversification? How successful have intensive and extensive margins been in influencing changes in Pakistan's exports? Which margin (intensive /extensive) is more significant to economic/export growth?

This study has tried to examine the relationship of product diversification with GDP in Pakistan. The study have decomposed the export growth into the extensive and intensive margins of product diversification by using the (Freund, 2008) decomposition methodology. The data at Rev 4, SITC 5-digit from 2008 -2020 have been taken from UN COMTRADE and tries to consider Pakistan’s exporting sub sector (textile and apparel, sports, medical instruments, and household appliances) as a case study. Furthermore, the study has concentrated on reviewing the products targeted for exportation by the current government in order to expedite and expand our exporting products.The contribution and relationship of intensive and extensive margins to the economic growth of Pakistan has empirically checked through the ARDL estimation technique.

The earlier findings: (Al-Marhubi, 2000; Hesse, 2009; Siddiqui, 2018) recorded a significant relation between the degree of diversification and economic growth for the low- and middle-income countries and while developed country show a negative relationship. Additionally, the studies : (Bernard et.al., 2009; Hummels & Klenow, 2005; Türkcan, 2014) find that in the case of developing countries the contribution of the extensive margin was significant to the export growth as compared to the intensive margin. We expect that the empirical findings in this study will be useful in the future for empirical and theoretical research, and also for policymakers in terms of possible implications. Moreover, the results in this paper will lead to a better understanding of the relationship of the export product diversification and the real GDP per capita of Pakistan and also find out the contribution of existing and new products to the export growth of Pakistan.

This study is important for all those researchers and policymakers who want to explore the importance of product diversification in Pakistan's economy as well as for the formulation of

trade policy. Moreover, Product diversification creates employment opportunities and also boost the country's exports. In this backdrop, this study is designed to address the product diversification in Pakistan, impact of intensive and extensive margin on export growth, and which margin out of these two is more significant to export growth?

## 1.2 Research gap

According to my knowledge, this is the first study to investigate the significance of Pakistan's intensive and extensive margins using the (Freund, 2008) decomposition approach for calculating extensive-intensive margins. A far more disaggregate data, and thus covering an unprecedentedly wide range of products (i.e., at the 5-digit level SITC Rev 4). Decomposition of the export growth of a country from one year to another year into three parts results "Intensive Margins", gives information about "Disappearing Goods" and identifies "New Goods". Extensive margin is the export of the new product while the intensive margin is the increase in the export of existing product. This decomposition will be very helpful for the policy formulation process. We expect that these new aspects of analysis of this study will not only enrich the existing literature but also provide a wider range of options for export policy strategy.

## 1.3 Research Questions:

By assessing the following questions, this study would be able to identify the key sources of export growth at the product level. Our study questions are: Does Pakistan need a strategy for export product diversification? What is the impact of intensive and extensive margin on economic/export growth? Which margin out of these two is more significant to economic/export growth? How these margins lead us to make a good policy for future product exports and diversification?

## 1.4 Objectives of The Study:

This study aims to explore the product export diversification and to find the relationship among economic growth, intensive margin, and extensive margin. Further, the study will also review the main product exports targeted by the current government. To specify the objectives as:

- To explore product export diversification that as; intensive and extensive margins and contribution of new products to export growth in various sectors.
- To explore the relationship among economic growth and the export product diversification indicators i.e., extensive, intensive margins and Theil index.

The rest of the study is organized as follows: chapter 2 presents theoretical background and literature review, chapter 3 explains trade scenario, chapter 4 is about trade policy review, chapter 5 elucidates data, methodology and the empirical model, chapter 6 presents results and interpretation while chapter 7 is about conclusion and recommendations.

# CHAPTER (02)

## Theoretical Background and Literature Review:

The concept of specialization and diversification are the two different phenomena. In case of the former, it was favored by the traditional economists like Adam Smith (1776) and David Ricardo (1817). They have the notion that countries which have a comparative advantage in producing the commodities should specialize in these commodities, while Heckscher and Ohlin coined the concept of factor intensity, more factor intensity more specialization.

However, modern trade theories diverted attention from specialization towards diversification. For the more economic growth ,it is mandatory that country diversify herself in terms of their exports. Prebicsh (1950) and Singer (1950) presented that the exports of developing countries consist mainly of primary goods, while they import mostly manufacturing goods, as a result they are facing the problem of terms of trade deterioration. The instability in export remained due to variations in prices of primary products relative to those of manufactured products. To stabilize their term of trade and prices in the international market for their export, the developing countries must go for export diversification. Diversification of export will help them to come out by relying on primary goods. By exporting more diversified goods, they will get rid of deterioration in terms of trade, instability in exporting products and will mitigate the uncertainty of commodities. Moreover, the intensive and extensive margins of export also received appreciation due to some work done on this side.

To avoid the risk of export price volatility, policymakers often prefer an extensive margin for export growth. Armington's (1969) model asserted that producing and exporting the same export good, i.e., intensive margin, causes the country's exports to rise. In contrast, the Krugman model (1981) assumes that export growth can result from the exports of the new variety, i.e., extensive margin. Moreover, the Melitz model (2003) goes one step further by introducing the concept of heterogeneous firms and asserting that exports should only be allowed for the productive firms. The concept of extensive margin is also depicted in the Melitz model. In near past, there has been a significant body of literature analyzing the contributions of export margins and relating it with different economic variables. Brenton et al.(2007) also studied the performance of export of a few developing countries and found that the impact of extensive margin on export growth is relatively poor, as is extensive margin in goods. Hummels & Klenow (2005) examined a cross-countries and concluded that changes in exports between

big and small countries are primarily due to the extensive margin. In this framework, the growth in export take place from the extensive margin if the share of a country's exported goods is rising in world's exports. On a country basis, the Chinese export growth was decomposed into margins by (Freund, 2008) and (Bingzhan, 2011). In fact, we see that literature has increased and has been evolved in tandem with methodological discussions. The analysis has been carried out using various methods for calculating margins and alternative dimensions, which could explain the changing/contradicting results. One approach is to explicitly decompose export growth into existing, new and disappearing products, where the increment of existing goods is as intensive margin while the others is defined as extensive margin as used by (Freund, 2008).

It is important to see clear picture of product groups before going on decomposition of groups. A worth mentioning study (Khan & Afzal, 2016) , who studied Pakistan's orientation in the product space and assess the sophistication of Pakistan's exports. Their findings show that Pakistan is not located in the densely populated area of the product space. As compared to India, Pakistan is more diversified in term of her export varieties during 2000-2013. Furthermore, Wadho & Chaudhry (2019) also examined Pakistan's textile and apparel sectors. They have presented a good indication of the Product clusters in Punjab. They also conducted a survey of the two textile and apparel firms. The study results show that younger and more innovative firms grow faster than older firms on average. They pointed out that the majority of firms' growth is probably to be static, while a few numbers of firms showing growth. They also said that from Pakistan's point of view, older and larger firms were over incentivized, but these firms did not indicate any substantial increase in the growth of new goods and in innovation. Small and innovative businesses should be prioritized by policymakers for long-term economic progress.

Ahmed & Hamid (2014) investigated the extent of product diversification of Pakistan's export using the data from 1972 to 2012, to find the structural change in export both across the industries and within the industry. The findings reveal that the top exporting industries of Pakistan, in terms of export share, appear as the most traditional based on traditionality index ranking. The results show two critical factors for the export sector to assume structural change and become more variant in the future. The first one is more liberal trade policies, and the second one is the ability of the economy to expand in the future.

Another important study by Helpman et al. (2008) used the Melitz model to decompose export data for 158 countries and for a period of 1970 and 1997. They concluded that in most countries'

trade growth is due to intensive margins. On the other hand, Amurgo-pacheco & Pierola (2008) examined export data from 24 countries from 1990 to 2005. They concentrated on patterns of diversification in developing countries. Findings of his study reveal that intensive margin contributed about 86 percent to the total export growth while contribution from extensive margin was 14 percent.

Likewise, the structure of China's export was examined by (Freund, 2008) during 1992 to 2005. The results stated that the structure of China's exports has drastically changed. It has moved from simple agriculture and apparel to a more technical manufacturing product. The analysis of growth of export patterns of China shows that most of its export growth was in existing varieties (the intensive margin) rather than in new varieties (the extensive margin). In contrast to this, Bernard et al. (2009) studied a disaggregated US trade growth at the firm level from 1992 to 2000. They found that new exporting firms and new products had a considerable impact on export growth. As a result, their finding supports the importance of an extensive margin.

On the other hand, Bingzhan (2011) studied trade of China's export with 140 partners in 2001 and 2007. The export growth was decomposed into extensive margin, price, and quantity margins. But unlike other studies, he found that the growth in China's export is mainly driven by quantity growth. Furthermore, Noureen et al. (2014) examined the relationship of macroeconomic variables with the export diversification and also the trend of export diversification in SAARC and ASEAN regions for the period of 1986 to 2012. Using fixed effect model, the study found an increasing trend of export diversification after 1990s in the selected countries of SAARC region while this trend had a fluctuating effect for the ASEAN region countries. Moreover, the study found a significant association between export diversification and other macroeconomic variables.

Similarly, Türkcan (2014) examined the growth of Turkey's export for the period of 1998-2013, and decomposed export growth into quantity and price components and also into extensive, and intensive margins. By using the count and share approach for export decomposition, he found that a vital role has played by the extensive margin in the growth of Turkey`s export. Similarly in another interesting study, the role of extensive and intensive margin in Kazakhstan's export growth was investigated by (Otamurodov et al., (2016). The results of the Share method (the measurement of the share of exports relative to world exports)

of decomposition revealed that intensive margin played an significant role in Kazakhstan's export growth.

The comparative significance of extensive and intensive margins in export growth have much debated in the empirical economic literature. Some studies favor the importance of the extensive margin, for example, (Hummels & Klenow, 2005) who claim that 62 percent of export growth in larger economies is because of extensive margin, while others see the importance of the intensive margin such as (Freund, 2008) study, show that growth of China's export was due to a significant increase in exports of existing products. These debates are still on going. The trade impact of increased exports changes the assumptions regarding consumer welfare benefits.

The importance of product export diversification to economic growth in empirical models has remained an important concern of researchers and policymakers. As Akbar et al. (2000) used the Granger causality test (Bi-variate and Tri-variate) to test the export-growth relationship. They concluded that exports of Pakistan were concentrated in primary and semi-manufactured goods for most of the period and find that export does not lead to growth, but growth causes exports and export diversification enhanced the growth performance of Pakistan (case of between 1979-1987) relative to period with a rigid exports mix (case of between 1973-78 & 1988-98). Likewise, an important study by Siddiqui (2018) used the ARDL model to estimate the relationship between export diversification (both product and market) and economic growth of Pakistan for the period of 1972-2015. By using separate models for the relationship between market and GDP growth and for commodity diversification and GDP growth. The results of these two models show a significant relationship of commodity diversification with GDP growth, while no relation between market diversification and GDP growth.

Furthermore, Mubeen & Ahmad (2016) also used ARDL Bound testing procedure to find the long run relationship of export diversification index, and geographic concentration index with other variables for the period 1980 to 2015. The findings show that the degree of trade diversification is positively affected by world domestic product per capita and foreign direct investment. While the geographic concentration of exports increases the product concentration in exports, means lowering the diversification of exports.

Furthermore, Agosin (2007) used ordinary least square (OLS) regression to find that the economies who did not innovate by themselves but add new activities to the production and

export basket. He concluded that diversification of export is vital for the economic growth, and found that the impact of investment on diversification is significant. Moreover, if an economy is more diversified then there will be more profitable investment opportunities.

The relative significance of extensive and intensive margins, in the context of the changes in Turkey's economy in the EU-15 market against their competitors in this market, has studied by (Ekmen & Erlat, 2013), which showed that the growth of exports was from the intensive margin rather than the extensive margin. They concluded that Turkey performed well in exporting new products, especially in the research-intensive sector.

Time to time the literature keep highlighting the concept of economic growth in developing, middle income and developed countries. Many studies were done focusing on export diversification and economic growth. Hesse (2009) studied the empirical relationship of export diversification and economic growth from 1961 to 2000, for 99 countries. The system GMM estimator was used for the the estimation of a dynamic panel model of growth. He found a potentially nonlinear effect of export diversification on growth which showed that diversification of export is better for developing countries while the more developed nations perform better with export specialization.

Another study by Al-Marhubi (2000) focused on the relationship between growth and export diversification. His study was based on a cross-country sample of 91 countries for the period 1961- 88. From empirical evidence of his study, he concluded that export diversification is associated with faster growth. On similar grounds, Devkota (2004) studied the reasons beyond the export instability of Nepal but based data on Time-series from 1975 to 1998 to examined whether the commodity and geographic concentration index of Nepal's exports, as well as instabilities in agriculture and non-agriculture GDP, cause export instability. A simple OLS regression analysis was used to estimate the model's parameters. The findings reveal a direct relation between product, geographic concentration (low diversification), and export instability.

A recent study by Jongwanich (2020) studied empirically the relationship of export diversification, margins, and economic growth at the industrial level for the period 2002-16. He used the panel data system GMM model for estimation and took countries at the different economic development stages, i.e., "The low-, the lower middle income, the upper middle income, the non-OECD high income, and the OECD member high income countries". The

results show that export diversification promotes growth (only in some key industries). The intensive margin played a pivotal role in growth. However, the role of extensive margin in economic growth was limited.

Likewise, Gozgor & Can (2016) investigated the effects of product diversification on the real GDP per capita for 158 countries. The results revealed that intensive margin of product diversification of export was significant for increasing the real GDP per capita of low and middle-income countries.

In addition, Iyoboyi (2019) studied the export diversification in Nigeria. He used ARDL Bound testing procedure to find the long-run relationship among the macroeconomic variables and export diversification. The results obtained show that the real GDP and diversification have the negative and significant relation with each other as well for the intensive margin. Thus, real GDP promote diversification rather than concentration.

It is concluded from the review of the related literature that different studies have defined the extensive and intensive margins differently and used different method to quantify them. The main point is to assess the degree of the contribution of the new and old products to the export growth of a country overtime. As this study has done from Pakistan's perspective for a traditional products group and has taken five major countries where Pakistan's large share of products is exported (e.g., USA, United Kingdom, China, Germany, and Afghanistan) during 2019-20. The new product groups are covered in policy review as the government has taken new initiatives. With this related literature, firstly this study has chosen to apply the (Freund, 2008) index. This index decomposes the export growth of a country overtime rather than cross country comparison. Secondly, to check the long run relationship of export margins with the economic growth, this study has followed the work of (Iyoboyi, 2019) as he has used three separate models to find the relationship of intensive, extensive margins and product diversification index with the other macroeconomic variables. Following Iyoboyi (2019), this study tries to find the relationship of economic growth with extensive and intensive margins for Pakistan using ARDL estimation technique. An important contribution of this study is the results which are showing the export growth in existing products (the intensive margin) and appearing of new products (the extensive margin) while keeping track of disappearing products. The quantitative side of this study is followed by a qualitative part, at the end, to bring in the views of policy makers.

# CHAPTER (03)

# Current Trade Scenario of Pakistan

Pakistan's export sector is not doing well according to its potential. According to (World Bank, 2020) “Pakistan’s export performance has been weak in comparison to its competitors”. Furthermore, Southern Asia's overall exports of goods and services rose by 165 percent between 2005 and 2017, Thailand's by 136 percent, and Vietnam's by 519 percent. Pakistan's exports, on the other hand, increased by just 50 percent, from USD 19.1 billion to USD 28.7 billion. According to Ahmed, et al. (2015) that the country’s share of world exports has remained weak over the past three decades. This reflects the country’s inability to expand exports faster than world trade. The problems of the fluctuation in our export sector were numerous: energy shortage at a local level, contraction of the world market, overvaluation of currency, low prices of goods internationally, and the problem of competitiveness.

## 3.1 Export performance of Pakistan, India, and Bangladesh during 2005-2020

The performance of Pakistan’s export compared to India and Bangladesh (constant 2010 US $ Billion) for the last 15-years can be depicted from the Table 3. 1.

***Table 3. 1:*** Export Performance of Pakistan, India & Bangladesh

| Year | Pakistan | India | Bangladesh |
|---|---|---|---|
| **Share in world export (%) 2005** | 0.192 | 2.148 | 0.115 |
| **2005** | 20.113 | 225.657 | 12.052 |
| **2006** | 22.103 | 271.677 | 15.123 |
| **2007** | 22.436 | 287.615 | 17.085 |
| **2008** | 21.415 | 330.119 | 18.295 |
| **2009** | 20.695 | 314.161 | 18.300 |
| **2010** | 23.946 | 375.353 | 18.472 |
| **2011** | 24.514 | 433.507 | 23.892 |
| **2012** | 20.837 | 463.010 | 26.886 |
| **2013** | 23.667 | 499.089 | 27.545 |
| **2014** | 23.316 | 507.960 | 28.427 |
| **2015** | 21.837 | 479.275 | 27.623 |
| **2016** | 21.487 | 503.164 | 28.230 |
| **2017** | 21.349 | 526.132 | 27.568 |
| **2018** | 24.056 | 591.091 | 29.798 |
| **2019** | 27.543 | 571.552 | 33.057 |
| **2020** | 27.979 | 525.353 | 27.693 |
| **Share in world export (%)2020** | 0.159 | 2.988 | 0.157 |

Source; own calculation based on WDI Data

In the above, Table 3. 1, export data has been taken from the world bank database in US dollar ( converted into $Billion). Similarly, the world total export data also taken from the WDI and the share of Pakistan, Bangladesh and India in world total export has been calculated for the years 2005 and 2020.

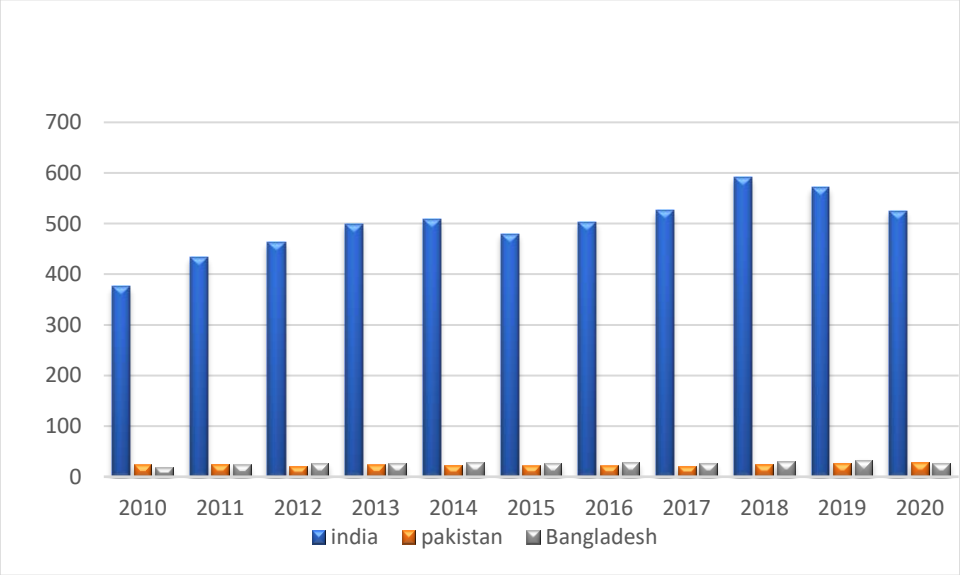



***Figure 3.1:*** Exports of Pakistan, Bangladesh, India

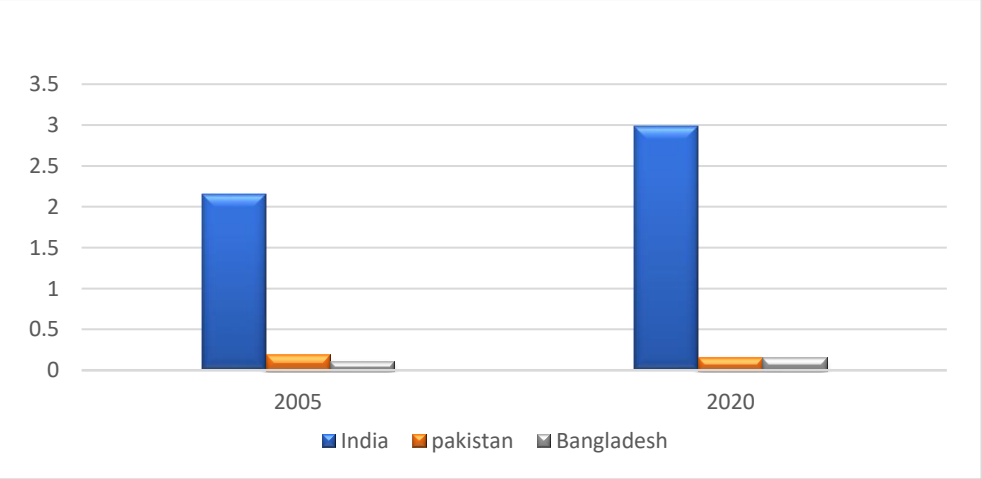



***Figure 3.2:*** Global Share of Exports(%)

Looking into the export performance for the period from 2005 to 2020, India took the lead, and its export increased (value term) from $225.6572 billion in 2005 to $525.35billion in 2020, while the Pakistan export increased from $20.113billion in 2005 to $27.979 billion in 2020 and Bangladesh from $12.0524 billion in 2005 to $27.693 billion in 2020 as shown in Table 3. 1. While in percentage terms the export of India increased 133% in a dampening manner from 2005 to 2020. The same is the case of Bangladesh where her export increased about 130%, but the case of Pakistan's export is different, it increased at a slow pace of about 39% for the same period. The share of India's exports in world total exports increased from 2.14% to 3% and Bangladesh's export share also increased from 0.114% to 0.16% in 2005 and 2020, respectively. While Pakistan exports share in world total exports decreased from 0.19% to 0.16% for the same years (Figure 3.2).

Notwithstanding, the effect of COVID-19 as depicted from the above Table 3. 1, for the year 2020, Where it affects the exports of Bangladesh and India more than that of Pakistan. For the last two years, the exports of India dropped from $571.55billion to $525.35billion, while Bangladesh's exports dropped from $33.057billion to $27.69billion for the same period. In the case of Pakistan's export, it has slightly increased from $27.54billion to $27.97billion for the same years.

Furthermore, on competitiveness grounds Pakistan is behind India and Bangladesh. According to the Global Competitive Index (GCI) ranking report 2019, Pakistan ranked at $110^{th}$ position out of 140 positions while Bangladesh at $105^{th}$ and India at $68^{th}$ ranking positions. Both India and Bangladesh performed better in terms of competitiveness as compared to Pakistan.

## 3.2 Current Initiatives:

During 2019, the govt realized the fact about exports and economic growth conditions of the economy and taken several measures to soar the exports and economic growth through policy and structural adjustment programs. Several steps taken by the government are market-determined flexible exchange rate, PM's export package extension for three years, reimbursement to the exporter and industrialists, tariff rationalization on inputs, and an export refinancing scheme. There was an increase in exports, in terms of diversification in both

(products and markets), before the COVID-19. According to the economic survey of Pakistan 2019-20, during July-March FY2020, the current account deficit decreased to 1.1% of GDP from 3.7% of GDP last year due to declines in the trade deficit.

### 3.3 Product Export Diversification:

Economic growth occurred as a result of diversification into new goods that are more complex. Research by the economic complexity shows that countries should diversify themselves by producing close substitutes goods or goods which possess similar characteristics to expand the existing capabilities.

Product complexity means the amount of diversity of know-how required to produce a good. Pakistan ranked as the 99th most complex country in the Economic Complexity Index (ECI). Now, Pakistan becomes less complicated compared to a decade earlier, deteriorating 20 points in the ECI ranking. Despite the increasing level of diversification of the export product, the deterioration occurred as the country has diversified into lower complexity products.

According to a report by the economic complexity 2018, Pakistan added 21 new goods since 2003 which contributed Dollars two in income per capita in 2018. However, Pakistan has sufficiently diversified into new products but its contribution to the income growth was minimal.

Export diversification, in terms of a product, has been increased, especially in medical Instruments and surgical products, which showed a growth of 8.3 percent during July-March FY2020. While in terms of market diversification, the Ministry of Commerce (Pakistan) started an effort to seek new destinations in African countries, so because of that, exports were increased 10% for Africa till July-Feb 2020 (Economic Survey of Pakistan 2019-20).

Due to the market-determined exchange rate resulted in a sharp decline in the value of our currency, and electricity to the textile sector at lower rates has increased the competitiveness of the Pakistani exports relative to its competitors in the world market. Moreover, federal bureau of revenue accelerated refunds claims of majors exporting sectors, which will enable the exporters to export more. During 2019-20, the commodities such as rice, readymade garment, and knitwear were the top contributors to the total export growth, with higher quantum offsetting the lower price effects. On the other side, exports of the petroleum, oil and

lubricant group, cement, chemicals, and tanned leather were the majors that contributed in the overall growth.

***Table 3. 2:*** Structure of Export

| **Particulars** | ***July - June 2019 - 20** | | **July - June 2018 - 19** | | **% Change In July - June 2019-20** | |
|---|---|---|---|---|---|---|
| | Quantity | Value ($) | Quantity | Value ($) | Quantity | Value ($%) |
| Textile Group | | 12,526,534 | | 13,327,727 | | -6.01 |
| Raw cotton | 12,776 | 17,002 | 12,992 | 20,396 | -1.66 | -16.64 |
| Cotton yarn | 412,553 | 984,903 | 433,978 | 1,125,419 | -4.94 | -12.49 |
| Cotton cloth | 2,327,808 | 1,829,895 | 2,827,064 | 2,101,763 | -17.66 | -12.94 |
| Cotton carded or combed | 66 | 63 | 31911,975 | 253 | -79.31 | -75.10 |
| Yarn other than cotton yarn | 10,367 | 25,778 | | 33,836 | -13.43 | -23.81 |
| Knitwear | 105,777 | 2,794,360 | 117,673 | 2,899,827 | -10.11 | -3.64 |
| Bed wear | 405,244 | 2,150,836 | 414,845 | 2,261,784 | -2.31 | -4.91 |
| Towels | 172,937 | 711,265 | 190,855 | 786,120 | -9.39 | -9.52 |
| Tents, canvas & tarpaulin | 448,714 | 2,552,294 | 55,665 | 2,653,340 | -10.07 | -3.81 |
| Readymade garments | | 590,502 | | 679,971 | - | -13.16 |
| Art, silk & synthetic textile | | 456,396 | | 385,511 | - | 18.39 |
| Made-up articles (excl.towels bedwear.) | | 3,036,021 | | 3,361,621 | - | -9.69 |
| other textile materials | 1,448 | 54,211 | 1,561 | 67,197 | -7.24 | -19.33 |
| Other manufactures group | | 262,370 | | 308,552 | - | -14.97 |
| Carpets, rugs & mats | | 12,526,534 | | 13,327,727 | | -6.01 |
| Sports goods | 12,776 | 17,002 | 12,992 | 20,396 | -1.66 | -16.64 |
| Footwear | 13,939 | 125,938 | 13,162 | 122,433 | 5.90 | 2.86 |

| Particulars | *July - June 2019 - 20 | | July - June 2018 - 19 | | % Change In July - June 2019-20 | |
|---|---|---|---|---|---|---|
| Surgical goods & medical instruments | | 355,602 | | 388,362 | - | -8.44 |
| Cutlery | | 82,638 | | 91,205 | - | -9.39 |
| Engineering goods | | 172,662 | | 172,742 | | -0.05 |
| Pharmaceutical | 15,327 | 210,298 | 13,963 | 211,696 | 9.77 | -0.66 |
| Cement | 7,103,373 | 259,441 | 6,411,359 | 271,728 | 10.79 | -4.52 |
| Guar and guar products | 28,172 | 36,936 | 22,806 | 35,181 | 23.53 | 4.99 |
| ***=Provisional, Value= U.S dollars in thousand** | | | | | | |

Source: Pakistan Bureau of Statistics

The annual data on exports has been taken from the Economic Survey of Pakistan 2020-21 shown in the Table 3. 2. The data have been divided into different groups. It is clearly shown that among the groups, textile sector showed higher growth in terms of export as compared to other groups. It is also observed that among the textile group, some products show significant growth, for example, Raw cotton, Knitwear, Bed wear and Ready-made garments, while others show negative growth. Same as the case with other groups, where some products show growth while others declined as compared to the last year.

The exports of Pakistan are highly concentrated (less diversified) in a few products and markets, curtailing the export growth of the country. According to the Economic Survey of Pakistan 2020-21, the share of cotton and cotton manufactures, leather, and rice in the total exports of Pakistan, is 70.4% during 2019-2020. Among these three, the cotton and cotton manufacture account for 56.6% to the total exports of Pakistan. The contribution of these three goods in 2018-2019 was 69.1%, while in 2017- 2018, it was 73.6% (same period) (see

**Table 3. 3**).

***Table 3. 3:*** Pakistan's Major Exports

| **Commodity** | **2013-14** | **2014-15** | **2015-16** | **2016-17** | **2017-18** | **2018-19** | **2019-2020** |
|---|---|---|---|---|---|---|---|
| **Cotton Manufactures** | 53.1 | 54.5 | 55 | 56.5 | 61.7 | 56.4 | 56.6 |
| **Leather**** | 5.1 | 4.8 | 4.9 | 4.1 | 4.2 | 3.7 | 3.6 |
| **Rice** | 7.6 | 8.5 | 8.8 | 8.8 | 7.7 | 9 | 10.2 |
| **Sub-Total of Three Items** | 65.8 | 67.8 | 68.7 | 69.4 | 73.6 | 69.1 | 70.4 |
| **Other items** | 34.2 | 32.2 | 31.3 | 30.6 | 26.4 | 30.9 | 29.6 |
| **Total** | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| ****Leather & Leather Manufactured, all values are in %.** | | | | | | | |

Source: Pakistan Bureau of Statistics

### 3.4 Major Markets for Pakistan's Exports:

While the major markets for Pakistani exports are USA, China, Afghanistan, U.K, Germany, U.A.E, Bangladesh, Italy, Spain, and France (see Table 3. 4). Our exports are largely concentrated to these markets and hence less diversified. Efforts are required to seek new markets for Pakistani products because our exports have huge potential to boost up economy by seeking new destinations. The government is seeking an opportunity in terms of market diversification, as the Ministry of Commerce has started an effort to search new markets in African countries.

***Table 3. 4:*** Major Export Markets of Pakistan

| **Country** | **2016-17** | | **2017-18** | | **2018-19** | | **2019-20** | |
|---|---|---|---|---|---|---|---|---|
| | Rs* | % Share | Rs* | % Share | Rs* | % Share | Rs* | % Share |
| **USA** | 361.1 | 16.9 | 400.4 | 15.7 | 532.8 | 17 | 585.4 | 17.4 |
| **China** | 153.8 | 7.2 | 185.7 | 7.3 | 259.6 | 8.3 | 349.7 | 10.4 |
| **Afghan** | 133.1 | 6.2 | 165.2 | 6.5 | 176.4 | 5.6 | 134.3 | 4.0 |
| **United Kingdom** | 163.1 | 7.6 | 186.7 | 7.3 | 226.8 | 7.3 | 239.6 | 7.1 |
| **Germany** | 125.1 | 5.9 | 146.7 | 5.7 | 173.4 | 5.5 | 199.0 | 5.9 |
| **U.A. E** | 83 | 3.9 | 104 | 4.1 | 125.8 | 4 | 178.9 | 5.3 |
| **Bangladesh** | 65.4 | 3.1 | 81 | 3.2 | 101.8 | 3.3 | 102.6 | 3.0 |
| **Italy** | 68.6 | 3.2 | 84.5 | 3.3 | 107.4 | 3.4 | 115.0 | 3.4 |
| **Spain** | 85.5 | 4 | 104.5 | 4.1 | 126.5 | 4 | 130.3 | 3.9 |
| **France** | 38.8 | 1.8 | 45.5 | 1.8 | 53.9 | 1.7 | 57.7 | 1.7 |
| **All Other** | 860.7 | 40.3 | 1050.8 | 41.1 | 1243.8 | 39.8 | 1277.3 | 37.9 |
| **Total** | 2138.2 | 100 | 2555 | 100 | 3128.2 | 100 | 3369.8 | 100 |

Source: Pakistan Bureau of Statistics, (p=provisional), Rs Billion, % Share.

## 3.5 Impact of COVID-19

The Coronavirus disease commonly known as COVID-19 appeared for the first time in China at the end of 2019, it engulfed the whole world in a few days. Covid-19 affects every aspect of life and brings myriad challenges for the economy, health, and businesses of the world, etc. Moreover, the pandemic captivated the world leaders to concentrate on how to slow down the pace of the pandemic and salvages the economy from further collapses.

The government of Pakistan worked with diligence to curb the devastating effects of the corona- disease but due to the untenable position of Pakistan's economy specifically the external sector, it affected the economy badly. According to the Economic Survey of Pakistan 2020-21, during the early phase of the pandemic about 20.70 million people were unable to retain their jobs or to work. However, later on, this gap decreased to 3.0 million people. Moreover, in July-April 2021, the trade deficit widened up to 21.3% compared to the same period of the last year.

The covid-19 outbreak has a profound impact on the export sector of Pakistan, created hurdles to the government's measures to increase the exports. Due to the demand and supply shocks all over the world, Pakistan’s exporters are unable to fulfill the existing demand while demand in

the external market also decreased. Pakistan’s overall exports showed a decreasing trend during the second quarter of 2020.

Pakistan's export industry inadequacy is also evident in its failure to diversify its export scope. Exports are centered on less sophisticated and lower-value-added goods, and they are not diversified. Myriad of problems were facing Pakistan’s exports to diversify, a few of them are anomalies in the incentive structure, poor institutions, minimal R&D investment, and inadequate productivity and skilled manpower. Textile products accounted for 56% of merchandise export value in the year 2019, while food items contributed for 19%, showing a lack of export diversification. Consequently, Pakistan is more sensitive to external shocks that might jeopardize the long-term economic growth as mentioned by the studies of International Monetary Fund and the World Bank.

Although the government has taken a prompt and comprehensive set of measures which thwarted the economy from further devastating. But it needs a careful policy decisions and attention of the government personnel to combat the menaces of the virus and to salvage the economy because the aftershock of covid-19 is intractable.

# CHAPTER 04

# Trade Policy Review

Trade among different countries can be managed as per the rules and regulations established by these countries. Every country has its trade policy, which is created by state officials/policy makers and is based on what they perceive is advisable for their country. Trade policies are designed to promote and facilitate trade with the rest of the world in an organized manner, based on goals and objectives set by their partners. Import and export tariffs, quotas, and other trade regulations are possible tools to regulate and manage the trade with each other. Some countries, with the help of their trade policies, safeguard their local industries, compete in the international markets, and produce more goods and services.

## 4.1 Pakistan's Trade Policy

To cope with the problems related to export and import, Pakistan's commerce ministry releases trade policies, 3-years strategic trade policy frameworks, and other documents related to the regulation of trade on regular basis. The purpose of trade policy is to boost our export, mitigate the trade deficit resulting from the export-import imbalances, and achieve sustainable economic growth.

During the 1950s, the import substitution policy was an important policy at that time, thereby protecting the industrialization of Pakistan. The balance of payment crises was handled through key policy tools such as restrictions on imports and other non-tariff barriers. Due to the Korean war in 1952, which created BOP crises and hence the demand for goods raised worldwide (Naoman,1992).

In the 1960s, the restrictions on imports and overvalued currency were maintained by the government. Moreover, the government launched an export bonus program in order to give some benefit to the manufactured exports, specific incentives were given to high exporting industries, import liberalizing policy, and retained the official nominal exchange rate constant, were some of the measurements taken by the government during the 1960s. With time it was realized that opening up the economy and adopting liberalized trade regime would speed up the growth process.

## 4.2 The 1970s

This decade is so-called the gateway that liberalizes the economy of Pakistan. To pave the way for liberalization, the government took measures such as huge devaluation, terminated export bonus program, and the restrictive licensing program. According to the economic survey of Pakistan (1971-72), the whole regime of trade was restructured, the duties were reduced, and free licenses were awarded on simple registration. The liberalization regime was proved as a good initiative as it opened some new avenues of trade and investment.

## 4.3 The 1980s

To continue the process of trade liberalization in the country, the government took some additional measures. The main steps taken were the negative import system and reduction in non-tariff barriers in the import regime. From the export perspective, the government implemented a flexible exchange rate system. The focus of the government to boost exports of the country was reflected from the new trade policy in June 1987. According to the new trade policy 1987, the steps taken in the new trade policy to promote exports were allowing the export of rice and cotton to the private sector, the liberalization of imports of some raw materials of the export industries, the formation of credit facility especially for exporters at the State Bank of Pakistan (SBP), and the insertion of a performance factor in the distribution of textile export quotas. Additionally, the government established Export Processing Zones Authority (EPZA). The sole purpose was to regulate and operate the export processing zones in Pakistan.

## 4.4 The 1990s

Since 1988, due to the previous government's struggle for trade liberalization and export promotion, consequently, approximately all non-tariff restrictions have been replaced with tariffs, about a 180 percent drop in the level of the maximum tariff during 1986-98. In 1993, the Tariff reform committee recommended two options for measuring the maximum tariff rate: decreasing the exports-bias by establishing a maximum tariff rate of 35% for the majority of goods, with a few exclusions (chemical and engineering), and putting the maximum rate at 50% for all products except automobiles.

To cut down the anti-export bias and to promote export, the government retained the flexible exchange rate policy. The Pakistani rupee plummeted by about 58 percent against the US dollar during 1990-1997. In this regard, several other measures were also taken which include duty drawback scheme, export finance arrangement, and export credit guarantee program, temporary import scheme, reimbursement to sales tax (Khan and Mehmood, 1996).

## 4.5 The 2000s

Another phase of trade liberalization was initiated during the 2000s. The focus of trade policy during 2000-01 was on market-oriented measures such as mitigation of the government intervention, removal of structural impediments. Moreover, reduction in import duties, reduction of maximum tariff rate to 25 percent, improvement in the export infrastructure, diversification of export base which causes the export earning to increase and value addition in goods and services, liberalization of the import regime to increase competition in the economy.

Additional measures were taken as restrictions on almost all products were removed, Minimum Export Prices were withdrawn. Moreover, withdrawal of export duties and registration (of exporters) requirement ("WTO report on the trade policies and practices of Pakistan").

In spite of all these steps the trade policies failed to address supply side constraints and there was no proper implementation of structural and systematic reforms which didn't let Pakistan diversify in terms of products as well as in markets. At several stages it was felt that policy reform environment was not very conducive due to structural impediments and lack of good governance.

### 4.5.1 Strategic Trade Policy Framework (2012-2015):

The objective of STPF (2012-2015) was to enhance the competitiveness of Pakistani firms to export a more sophisticated and diversified goods. Exploring new markets always remained a priority of government. Strengthening of product development training institutes was also in focus to get skilled human resource. Fresh investment was encouraged in Leather, Engineering, Horticulture, Processed Food, Marble & Granite, Sports Goods and Computer related services. Mark-up rate support of 1.5% on Export Finance Scheme (EFS) was given to facilitate the

running capital. A markup reduction of 1.5 points from the existing rates (at that time) was provided to sectors like fish and fish preparation, processed foods, meat and meat preparations, sports goods, footwear, leather products, surgical goods, cutlery, onyx products, pharmaceuticals, electric fans, transport equipment and electrical machinery. Export finance scheme was for a few targeted export sectors, Establishment of Export-Import Bank (EXIM Bank) to soar exports and bring them into competition with regional competitors such as India and Bangladesh, promotion of service sector through institutional arrangements, increase in regional trade especially trade with China, Iran, and Afghanistan, formation of Special Economic Zones to mobilize new investment in export-oriented industry.

Export of products from Gwadar Special Economic Zone (GSEZ) to other countries and the tariff area were (the rules and procedures) notified by the federal government.

Performance-Based Facility was available to direct exporters, and they were allowed a revolving cash credit limit equivalent to half of their total value of goods exported in the previous year.

A "Scheme for Long Term Financing for the Export Oriented Projects (LTF-EOP)" would permit the eligible financial institutions to make sure the funding facilities to the export-oriented units.

The Pakistan Export Finance Guarantee agency (PEFG) was established to provide a comprehensive range of export trade finance guarantees, including both pre-shipment and post-shipment, to exporters.

Furthermore, incentives, free movement of capital, no limit for investment, imports of machinery were exempted from duty along with equipment, and material, zero sales tax on electricity and gas bills, were all possible strategies of the government for the years 2012 to 2015.

### 4.5.2 Strategic Trade Policy Framework 2015-2018:

The aim of the STPF 2015-18 was to achieve the target of the annual export up to US$ 35 billion, to increase export competitiveness, and to transform the economy from 'factor-driven to 'efficiency/ innovation-driven economy. Moreover, all tax refunds payment be made

instantly, and the creation of the Pharmaceutical & Cosmetics Export Promotion Council and Rice Development & Export Promotion Council was also part of STPF 2015-18.

The main pillars identified were product sophistication and diversification, Market diversification, development and strengthen the institutions, and facilitate trade. At that time high export potential sectors were Leather, pharmaceutical, fisheries and surgical instruments. Some incentives were given to them such as grant up to a maximum of Rs. 5.0 million for specified plant and machinery or specified items to improve product design and encourage innovation in export sectors of leather, pharmaceutical and fisheries. In surgical sector establishment of "Common Facility Centre" was announced.

From a market diversification perspective, the government adopted, the strategy for Africa, the Commonwealth of Independent States (CIS), and Latin America. The new markets were to be explored through research, exhibitions and delegations, and linkages through the initiatives of the Export-Import Bank (EXIM Bank).

The Ministry of Commerce worked to achieve shared prosperity through better connectivity and transit trade through; "Resolution of outstanding issues in Afghanistan Pakistan Transit Trade Agreement (APTTTA), negotiation and early conclusion of Afghanistan, Pakistan, and Tajikistan Transit Trade Agreement (APTTTA), reactivation of Quadrilateral Transit Trade Agreement (QTTA) among Pakistan, China, Kyrgyz Republic, and Kazakhstan, taking the institutional lead on the formulation of a Pakistan-Afghanistan-Central Asia regional economic integration framework through a Regional Trade Office, established at the Ministry of Commerce".

The strategy to expedite the export in short term, the following product categories and countries was focused: Basmati rice, horticulture, meat, and meat products and jewellery while possible targeted destinations were Iran, Afghanistan, China, and European Union.

According to the economic survey of Pakistan, the exports of Pakistan are concentrated and even stagnated in a few goods and markets, which is the main cause of lowering the export earnings. Efforts are needed to protect the economy against the dependency on a few markets and goods. To explore a new destination for export the government of Pakistan is taking measures from time to time, but at times the country failed to work according to its potential.

Time to time various strategic trade policies were also implemented but the desired results were not found because of lack of monitoring and evaluation, lack of coordination, dependence on

primary and intermediate goods, lesser development of value chain, low storage and marketing capacity.

### 4.5.3 Look Africa Policy:

On realizing the shortcomings of previous policies, now the government wants to focus on diversification by broadening the arena. Recently, Efforts are being made by the government to unveil the opportunities in the ASEAN and Asian regions and the "look Africa policy" initiative by the ministry of commerce was a much-appreciated step. As rightly pointed out in the economic survey of Pakistan that trade ties with the African countries will be fruitful in helping Pakistan to combat poverty, boost economic growth, and the creation of jobs opportunities for the young population.

Nevertheless, this initiative also has some hindrances and problems like scale, marketing and transportation cost will be high for primary and intermediate goods trade. Pakistan wants to exchange goods under this policy to ensure transfer of knowledge and value addition. Both sides are involved to make trading possible, accelerate growth process and diversification needs. Market diversification and product sophistication can be achieved if trade needs of both sides are carefully watched.

### 4.5.4 Recent Developments:

One of the aims of the STPF is to attain export diversification in goods other than the traditional ones. The exports of new goods especially the engineering, and pharmaceuticals sectors will be promoted. As the ministry of trade issued a statement that Pakistan is speeding up its efforts to diversify its exports into high-quality and globally competitive engineering products. Recent STPF is in stages of finalization.

According to the export policy order-2020, It is permissible, solely on a contract basis, the export and re-import locally produced or imported machinery to carry out works granted to construction, engineering, and electrical firms. Moreover, the units operating in Export Processing Zones may export products both outside and inside the tariff zone per the rules and regulations of the Customs Export Processing Zones Rules, 1981.

According to the Dawn reports the Textile Policy (2009-14) and (2014-19) aimed at enhancing exports to $25bn and $26bn, respectively. Moreover, the sources on (January 7th, 2021) reported the government aims to enhance the production and exportation of value-added textile products, in this regards a "Textile and Apparel Policy 2020-25" will be launched. In accordance with this policy financial subsidies and low utility rates will be given to the textile and apparel industry. Moreover, to ensure the power supply to the export sector, the government has suggested a subsidy of Rs200 billion under this policy. The power will be delivered at a rate of 9 cents per kWh. Similarly, to supply gas to the industry at a discounted rate, Rs150 billion would be set aside.

The duty drawback rates for electric fans have been revised from 4.39% to 1.7% after a decade to enhance the local production and exports of the electric fans. Moreover, to promote export, govt has given the tax-free facility to Gwadar port. (Trade Development Authority of Pakistan, 2020).

According to the annual analytical report on external trade statistics of Pakistan (2019-20), the export-led growth strategy was the main focus of the government. The main steps taken were the market will decide the exchange rate, 3-years extension in prime minister's export package, refund to exporters and industrialists, and export refinancing scheme.

In a nutshell, it is not new that Pakistan's exports are highly concentrated in a few goods and markets. Since independence, it has been deemed as a consistent problem of Pakistan's economy, as evident from the different economic surveys of Pakistan the items in which Pakistan's exports are concentrated, at least from a decade, are cotton manufactures, leather, and rice. The contribution to total export from these three categories of goods is ranging from 60% to 70%. Moreover, from the market diversification perspective, Pakistan's export is concentrated in almost ten countries, to which about more than 50% exports are taking place. The current government is focusing on diversification of exports away from the traditional sectors to new sectors. It is understood that the higher concentration (lesser diversification) of product and market-creating problems to the economy. Because lack of diversification causes lower export earning, it leads to low or stagnant export growth. Moreover, no new jobs were created in this regard and country is unable to compete well according to new latest world trends. Consequently, trade deficit will remain the same or more adversely increase. It will hinder the export growth and an export-growth-led strategy may not be achieved.

### 4.5.5 Historical Evidence of Pakistan Export

The historical evidence of Pakistan's export diversification shows that the diversification of exports is near to stagnant as compared to the regional countries. The majority of exports is limited to a few products. According to Ahmed et al. (2014), the level of concentration of product exports was high during the 1990s, but the trend towards diversification increased during 2003. Moreover, only 15 products constituted about 90% of Pakistan’s exports for the year 2008, while these product numbers increased to 17 during 2012.

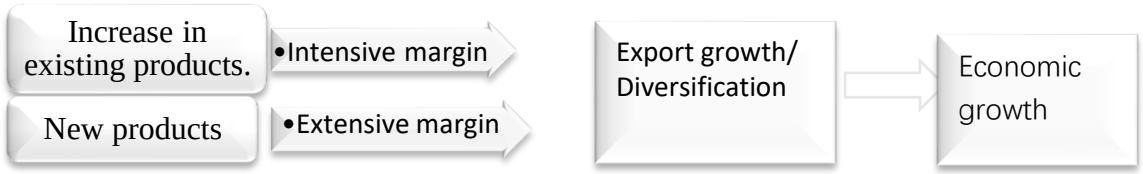
The export base of Pakistan is narrow and depends on a few categories of products like textiles and clothing, leather, rice, and sports goods. This is evident from the fact that cotton manufacturing's share of the total export was 53.49 percent during 2013-2014 (National Tariff Commission, Govt of Pakistan, 2015). Another evident of the lower diversification of Pakistan’s exports is that during 2015–2020, textiles contributed 56.23% of Pakistan’s product exports and the export value dropped during 2011–2019 to -0.25% on average from an annual average growth of 7.1% during 2004–2011 (State Bank of Pakistan,2020). This dependency on a few products for export or the lower product diversification of Pakistan is responsible for its lower export growth. Thus, Pakistan needs to broaden its product as well as market export base in order to achieve sustainable growth in exports.

# CHAPTER (05)

# DATA AND METHODOLGY

## 5.1 Conceptual Framework:

The discussion about the importance of export diversification in economic growth is important. The concept of specialization is more dominated as compared to diversification in traditional trade theories. According to Adam Smith and David Ricardo, countries should specialize in commodities where they have a comparative advantage, whereas Heckscher Ohlin theory, introduces the concept of factor intensity, reveals that countries should specialize in commodities where factor intensity exists. However, modern trade theories give heed toward export diversification for the economic growth of the country. Recent studies have highlighted the role of export diversification in economic growth. The research of Imbs & Wacziarg (2003) as well as Catod et al. (2011), revealed that there is a positive relationship between export diversification and economic growth in the early stages of a country's development, but that this effect reverses as the country grows. More a country is richer, the more it will favor specialization rather than diversification.




Furthermore, the extensive and intensive margins resulted in export growth/diversification. In addition to this it is debatable how important these margins are contributing for economic growth.

## 5.2 Data and Data Sources:

The Pakistan's product exports data is divided into five groups: textile, sports, surgical, carpet and leather. However, the study has considered (for decomposition) main products and those targeted by the current government as: Textile manufacturer goods and other manufacturer

goods including Sports Goods, Home appliances, Medical Instruments & Engineering goods. For model estimation the data of all product exports (1-digit SITC Rev4[1]) are taken.

For the decomposition process, the data used in this analysis covers the period 2008 to 2020 while for the time series model estimation time period has covered the years 1980 to 2019 (as the data for intensive and extensive margins is available up to 2014) So, the study has interpolated the data for the remaining years) and used secondary and annual frequency data. The data on export diversification is available at the UN Comtrade and IMF database. Data on all other variables such as human capital level, terms of trade, FDI inflow and GDP per capita at constant 2005 prices are collected from WDI. As for the product export policy review, the study has used different sources like published papers, Pakistan Economic Survey (various issues), newspaper articles, APTMA, and other government sources.

### 5.3 Decomposition Methodology:

The study has analysed the role of extensive and intensive margins in export growth of Pakistan. First, the study decomposes the export growth of Pakistan into contribution of margins i.e., extensive and intensive margins, following (Freund, 2008)'s methodology (equation (5.1). In this method the extensive and intensive margins of a country depend only on the value of its own exports and the shares in the import market is not considered in this method. Hence the decomposition of (Freund, 2008) is useful for analysing the export growth of a country over time rather than cross country comparison. Freund (2008) decomposed the export growth of a country from one year to another year into three parts that as:

- "The Increase in export growth due to the growth in products that were exported in both years (Intensive Margins)".
- "The decrease in the export growth due to products exported in the base year but no longer exported in the final year (disappearing goods)".
- "The Increase in export growth due to the export of new products (New Goods)".

[1] SITC give more meaningful results in product data

Extensive margin is the export of the new product while the intensive margin is the increase in the export of existing product. Formally, extensive (EM) and intensive (IM) margins of a country can be formulated as.

$$\frac{\sum_j x_{t,j} - \sum_j x_{t-1,j}}{\sum_j x_{t-1,j}} = \frac{\sum_{j \epsilon I\, t} x_{t,j} - \sum_{j \epsilon I} x_{t-1,j}}{\sum_j x_{t-1,j}} + \frac{\sum_{j \epsilon I_t^N} x_{t,j}}{\sum_j x_{t-1,j}} - \frac{\sum_{j \epsilon I_t^D{}^D} x_{t-1,j}}{\sum_j x_{t-1,j}} \quad (5.1)$$

(Export Growth) (Intensive margin) (Extensive margin)

Extensive margin defined by (Freund, 2008) as the difference of "the New Goods component and the Disappearing Goods component."

Whereas $I^N_t$ is the goods exported by the country in the current year t but not exported in the previous year t-1 (new products); $I^D_t$ is the goods exported in the previous year t-1 but not exported in the current year t (disappearing products); I is the products exported in both the years (current and previous); $X_{t,j}$ ,$X_{t-1,j}$ are the values of the exports of "product j" in the current year t and the previous year t-1, respectively.

## 5.4 Empirical Model and Estimation Procedure:

Since different studies have used cross-country and cross-firm analysis, but this study has used time series data for the analysis. Furthermore, this study focuses on the relationship of three product diversification indexes (the Theil index, the extensive margin, and the intense margin) with the Pakistan's real GDP per capita. Following the method of (Gözgör & Can, 2017; Iyoboyi, 2019) equations (5. *2*, (5. *3*) & (5. *4* ) has used.

### 5.4.1 Econometric models:

$$NEXPDIVt = \alpha + \beta\, lnGDPt + \theta\, logSShoolt + \rho lnTOTt + \gamma FDIt + \varepsilon t \quad (5.\ 2)$$

$$NEMt = \alpha + \beta\, lnGDPt + \theta\, logSShoolt + \rho lnTOTt + \gamma FDIt + \varepsilon t \quad (5.\ 3)$$

$$NIMt = \alpha + \beta\, lnGDPt + \theta\, logSShoolt + \rho lnTOTt + \gamma FDIt + \varepsilon t \qquad (5.4)$$

Where lnGDP is the GDP per capita, NIM is the inverse of intensive margin, NEM is the inverse of extensive margin, lnTOT is the natural log of Terms of Trade, and FDI is the foreign direct investment (net inflow), Exp div is the export diversification (Theil index), logSSchool is the secondary school enrolments and εt is the error term while t is the time trend in the data series.

The study used ARDL Bound testing procedure to find the long run relationship of product diversification (intensive and extensive margins) and economic growth of Pakistan.

# CHAPTER 06

# RESULTS AND INTERPRTAION

This chapter decomposes the products groups and applies empirical timeseries model after applying suitable tests. Decomposition has enabled this study to assess the disappearing and new products in Textile, Sports, Medical instruments, household appliances and engineering products. On the other hand, the timeseries model enables the study to find long run relationship among intensive margin, extensive margin, Thiel index, and GDP along with other macro variables for Pakistan.

## 6.1 Freund (2008) technique of decomposition

This section uses (Freund 2008) technique to find the decomposition of Pakistan's export growth and to know about the share of new, extensive, and intensive margins in the export growth along with the disappearing goods. The study selected five major countries (USA, United Kingdom, China, Germany, and Afghanistan) which Pakistan exported during 2019-20, and a few sectors such that textile sector (division 26,65,84 and 85), sports goods (division 89), household goods (division 77) and some medical and engineering products (division 74,77 and 87). The year wise results are given. This study has analyzed each division on yearly basis and explain the result as below.

### 6.1.1 Export Growth from Extensive and Intensive Margins (Freund, 2008)

This methodology, to determine the extensive and intensive margins of export growth of a country, should not be mixed with other methods like (Feenstra 1994)'s. According to Freund, (2008)'s methodology, the determining of country's extensive and intensive margins of export growth is based on its own exports rather than the import market share. It is an effective technique of decomposition to find the country's export growth over time rather than to compare and contrast different countries with each other.

Product-wise export growth of Pakistan is shown in the below tables from 2009 to 2020 and the share of export growth is accredited to the intensive and extensive margins for the textile sector, sports goods, household, and some medical and engineering products. These tables

depict a year-by-year comparison, while the last row of the same table reveals the values for the selected variables for the overall period from 2009 to 2020.

***Table 6. 1:*** Division26 Textile Products(5-digit)

| | | Share of export growth from | | | |
|---|---|---|---|---|---|
| **Year** | **Ex growth (%)** | **Int** | **Ext** | **New** | **Disap** |
| 2009 | 33.790 | 0.328 | 0.009 | 0.030 | 0.021 |
| 2010 | -14.440 | -0.069 | -0.076 | 0.007 | 0.083 |
| 2011 | 38.250 | 0.388 | -0.006 | 0.013 | 0.019 |
| 2012 | 57.020 | 0.575 | -0.005 | 0.001 | 0.006 |
| 2013 | -01.550 | -0.010 | -0.005 | 0.003 | 0.009 |
| 2014 | 01.750 | 0.008 | 0.010 | 0.010 | 0.000 |
| 2015 | -24.270 | -0.241 | -0.002 | 0.000 | 0.002 |
| 2016 | -13.210 | -0.132 | 0.000 | 0.001 | 0.002 |
| 2017 | -23.100 | -0.233 | 0.002 | 0.003 | 0.001 |
| 2018 | 03.840 | 0.044 | -0.006 | 0.001 | 0.007 |
| 2019 | 29.380 | 0.295 | -0.001 | 0.000 | 0.001 |
| 2020 | 61.540 | 0.764 | -0.148 | 0.005 | 0.153 |
| **2009-2020** | **1.041** | **1.107** | **-0.066** | **0.001** | **0.067** |

Source: author's own calculation based on UN COMTRADE data.

The Table 6. 1 demonstrates that Pakistan's export growth rate is 33.79% for the textile goods under division 26 (the data is divided into many divisions by the UN COMTRADE). Analyzing the intensive and extensive margins, the former contributed 32% while the share of latter margin to the export growth, in this specific textile goods, is less than 1% during 2009. As shown in the table that important contributor towards export growth is the intensive margin. For the year 2010, the export growth shows a negative trend and decreased by 14%, then increase for the next years, 2011,2012 by 38% and 57% growth, respectively. The growth rate decreases for the next three years and then increased. The years 2019 and 2020 show the highest growth rate of 29.38% and 61.54 %, respectively.

While presenting the export growth rate for the overall period 2009-2020, it is shown in the Table 6. 1, that the export growth rate increased more than double, up to 104% for the year 2020. The contribution to the export growth was totally from the intensive margins, while the extensive margin contributed to the export growth negatively. The new goods accounted for 0.1% while disappearing goods accounted for 6.7%, which decreases the export growth. It is

reflected from the last row of the table that the large proportion of export growth is from intensive margin for the whole period 2009-2020. So, it is concluded that intensive margin is the main source for the export growth in the textile products under division 26.

***Table 6. 2*** **:** Division 65 Textile Products(5-digit)

| | | Share of export growth from | | | |
|---|---|---|---|---|---|
| **Year** | **Ex growth (%)** | **Int** | **Ext** | **New** | **Disap** |
| 2009 | 04.660 | 0.046 | 0.001 | 0.002 | 0.001 |
| 2010 | 26.020 | 0.260 | 0.000 | 0.000 | 0.000 |
| 2011 | 69.430 | 0.176 | 0.518 | 0.519 | 0.001 |
| 2012 | 11.990 | 0.120 | 0.000 | 0.000 | 0.000 |
| 2013 | 07.740 | 0.077 | 0.000 | 0.001 | 0.000 |
| 2014 | -05.550 | -0.056 | 0.000 | 0.000 | 0.000 |
| 2015 | -07.170 | -0.072 | 0.000 | 0.000 | 0.000 |
| 2016 | -10.030 | -0.100 | 0.000 | 0.000 | 0.000 |
| 2017 | 0.010 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2018 | 0.920 | 0.009 | 0.000 | 0.000 | 0.000 |
| 2019 | -0.350 | -0.004 | 0.001 | 0.001 | 0.000 |
| 2020 | -05.850 | -0.057 | -0.001 | 0.000 | 0.002 |
| **2009-2020** | **0.924** | **0.200** | **0.925** | **0.724** | **0.001** |

Source: author's own calculation based on UN COMTRADE data.

The Table 6. 2 shows Pakistan's export growth rate in year 2009 is 4.66% for the textile goods under division 65(the data is divided into many divisions by the UN COMTRADE). Considering the extensive and intensive margins, the intensive margins contributed 26.03%, while the share of extensive margin to the export growth, in this particular textile goods, is less than 1% during 2009. As shown in the table that intensive margin played a vital role in contributing towards the export growth. For the year 2011, the export growth shows the highest growth of 69.43% and then decreases for the next two years. While the growth rate of export shows a negative trend up to 2020, where its growth is -5.85%. This negative growth of export is attributed both to the extensive and intensive margins, which contributed negatively. The most affected products division by the corona virus is division 65 textile products which is depicted from the negative growth during 2019 and 2020.

While presenting the growth rate for the period 2009-2020, it is evident from the Table 6. 2, that the growth rate increased up to 92.40% for the year 2020. The contribution to the export

growth was mainly from extensive margins, in which new goods contribute up to 72%, while the intensive margin contributed to the export growth about 20%. While disappearing goods accounted for a very minute amount of 0.03%. It is reflected from the last row of the table that the large proportion of export growth is from the extensive margin or new goods, for the whole period 2009-2020. So, it concluded that extensive margin is the vital source for the export growth in the textile products under division 65. These results are correspondence with the (Wahab & Jalil, 2017) for textile and apparel.

***Table 6. 3:*** Division 84, and 85 Textile Products(5-digit)

| | | Share of export growth from | | | |
|---|---|---|---|---|---|
| **Year** | **Ex growth (%)** | **Int** | **Ext** | **New** | **Disap** |
| 2009 | -13.280 | -0.133 | 0.000 | 0.000 | 0.000 |
| 2010 | 20.790 | 0.208 | 0.000 | 0.000 | 0.000 |
| 2011 | 11.660 | 0.117 | 0.000 | 0.000 | 0.000 |
| 2012 | -11.060 | -0.111 | 0.000 | 0.000 | 0.000 |
| 2013 | 03.770 | 0.038 | 0.000 | 0.000 | 0.000 |
| 2014 | 13.630 | 0.136 | 0.000 | 0.000 | 0.000 |
| 2015 | -7.220 | -0.072 | 0.000 | 0.000 | 0.000 |
| 2016 | 11.140 | 0.111 | 0.001 | 0.001 | 0.000 |
| 2017 | 17.040 | 0.170 | 0.000 | 0.000 | 0.000 |
| 2018 | 07.990 | 0.080 | 0.000 | 0.000 | 0.000 |
| 2019 | 03.300 | 0.033 | 0.000 | 0.000 | 0.000 |
| 2020 | -24.240 | 0.055 | -0.297 | 0.000 | 0.297 |
| **2009-2020** | **0.443** | **0.935** | **-0.492** | **0.002** | **0.494** |

Source: author's own calculation based on UN COMTRADE data.

It is clear from the Table 6. 3 that export growth rate of Pakistan is negative for the textile goods under divisions 84 and 85 combined for the year 2009 (the data is divided into many divisions by the UN COMTRADE). Considering the intensive and extensive margins, both show a negative share in the export growth, -13% and -0.009% respectively, in this particular textile goods during the year 2009. As shown in the table that approximately all negative growth of export was due to the intensive margin. For the year 2010, the export growth shows a positive trend and increased by 20.79%. The years 2012, 2015 and 2020 show a negative growth of export, and the rest years show positive growth. The highest negative growth rate

was seen for the year 2020 (-24.24%), this negative growth was attributed to the extensive margins or from the disappearing goods.

While presenting the growth rate for the period 2009 to 2020, it is shown in the Table 6. 3 that the growth rate increased 44.25% for this particular period. The contribution to the export growth was totally from the intensive margins, while the extensive margin contributed negatively to the export growth. The new goods accounted for 0.20% while disappearing goods accounted for 49.4%, which decreased the export growth drastically for the whole period between 2009 to 2020. It is reflected from the last row of the table that the large proportion of export growth is from intensive margin for the period 2009-2020. So, it is concluded that intensive margin is the vital source for the export growth in the textile products under divisions 84 and 85. Moreover, Pakistan's exports are much concentrated in textile and apparel shows that Pakistan is exporting the existing products (intensive margin) and a minute amount of new goods are added to the export basket (Taleghani et al., 2013).

***Table 6. 4:*** Division 89 Sports Products(5-digit)

| | | Share of export growth from | | | |
|---|---|---|---|---|---|
| **Year** | **Ex growth (%)** | **Int** | **Ext** | **New** | **Disap** |
| 2009 | -14.280 | -0.143 | 0.000 | 0.000 | 0.000 |
| 2010 | 22.880 | 0.229 | 0.000 | 0.000 | 0.000 |
| 2011 | 4.950 | 0.050 | 0.000 | 0.000 | 0.000 |
| 2012 | 1.640 | 0.016 | 0.000 | 0.000 | 0.000 |
| 2013 | -1.090 | -0.011 | 0.000 | 0.000 | 0.000 |
| 2014 | 14.650 | 0.146 | 0.000 | 0.000 | 0.000 |
| 2015 | 6.710 | 0.067 | 0.000 | 0.000 | 0.000 |
| 2016 | -10.830 | -0.108 | 0.000 | 0.000 | 0.000 |
| 2017 | -2.660 | -0.027 | 0.000 | 0.000 | 0.000 |
| 2018 | 15.490 | 0.155 | 0.000 | 0.000 | 0.000 |
| 2019 | -8.410 | -0.084 | 0.000 | 0.000 | 0.000 |
| 2020 | -25.630 | -0.256 | 0.000 | 0.000 | 0.000 |
| **2009-2020** | **0.083** | **0.083** | **0.000** | **0.000** | **0.000** |

Source: author's own calculation based on UN COMTRADE data.

The Table 6. 4 illustrates that Pakistan's export growth rate is negative (-14.28%) for the sports goods under division 89 for the year 2009 (the data is divided into many divisions by the UN COMTRADE). Considering the intensive and extensive margins, the former contributed negatively, which is depicted in the export growth, while the latter's share to the export growth, in these specific sports goods, is nil for the year 2009. The highest export growth was reported during the year 2010, while the year 2020 shows the highest negative growth of -25.63%. This

negative growth was recorded due to the negative contribution from the intensive margin to the export growth.

While presenting the growth rate for the period 2009-2020, it is evident from the Table 6. 4 that the growth rate increased up to 8.3%. The contribution to the export growth was totally from the intensive margins while the extensive margin, new goods, and disappearing contribution was nil. As depicted from the last row of the table, the large proportion of export growth is from intensive margin for the whole period 2009-2020. So, it is concluded that intensive margin is the vital source for the export growth in the sports goods under division 89. (Kazmi, September 2, 2019) reported that the export of sports goods declined during 2016-17, because the prices in the international market were not favorable. Adding to this he said that the export of sports goods increased during the 2018, because of the innovation driven by the football making company and also because of the FIFA world cup 2018. Recently, the energy crisis has badly affected the capacity and overall export growth of the sport industry (Ahamad et al.,2010). Another thing in sport goods is that it has not added new products to its basket of export. The trade development authority of Pakistan, Ministry of Commerce also reported a decline in Pakistan's total export of sports good to the world during a period from 2015 to 2019. The major reason is lack of research and policy initiatives for sports in Pakistan and also Pakistan's underdevelopment in the sports sector is responsible for the decline and fluctuations in expenditure in this sector (Hussain et al, 2011).

***Table 6. 5:*** Division 77 Household Products(5-digit)

| | | Share of export growth from | | | |
|---|---|---|---|---|---|
| **Year** | **Ex growth (%)** | **Int** | **Ext** | **New** | **Disap** |
| 2009 | 30.300 | 0.301 | 0.002 | 0.002 | 0.000 |
| 2010 | 37.410 | 0.373 | 0.001 | 0.002 | 0.001 |
| 2011 | 45.730 | 0.453 | 0.005 | 0.005 | 0.001 |
| 2012 | -05.500 | -0.054 | -0.001 | 0.001 | 0.001 |
| 2013 | 74.790 | 0.751 | -0.003 | 0.000 | 0.003 |
| 2014 | 02.910 | 0.029 | 0.000 | 0.000 | 0.000 |
| 2015 | -78.910 | -0.789 | 0.000 | 0.000 | 0.000 |
| 2016 | -47.680 | -0.475 | -0.001 | 0.001 | 0.002 |
| 2017 | -18.190 | -0.190 | 0.008 | 0.009 | 0.001 |
| 2018 | -05.260 | -0.051 | -0.002 | 0.000 | 0.002 |
| 2019 | -18.440 | -0.186 | 0.001 | 0.003 | 0.002 |
| 2020 | 08.000 | 0.078 | 0.002 | 0.006 | 0.004 |
| **2009-2020** | **-0.744** | **-0.742** | **-0.002** | **0.000** | **0.002** |

Source: author's own calculation based on UN COMTRADE data.

It is evident from the Table 6. 5 that Pakistan's export growth rate is 30.30% for the household goods under division 77 for the year 2009, (the data is divided into many divisions by the UN COMTRADE). Considering the extensive and intensive margins, the intensive margins contributed 33.01%, while the share of extensive margin to the export growth, in this particular household goods, is less than 1% during the year 2009, so the intensive margin is the vital contributor towards the export growth. The highest export growth is recorded for the year 2013 is 74%, while the highest negative export growth is for the year 2015, which is -78.9%. The growth rate for the last year 2020 decreases, shown the export growth rate only 8% in household items.

While presenting the growth rate for the period 2009-2020, it is evident from the Table 6. 5 that the growth rate is decreased to a negative level of 74.17%. This negative export growth for the whole period is due to the negative contribution from the intensive margins. No new goods were added for the whole period. It is concluded that intensive margin is the decelerator factor for the export growth in the household products under division 77.

***Table 6. 6:*** Division 74,77,87 Med & Eng. Products(5-digit)

| | | Share of export growth from | | | |
|---|---|---|---|---|---|
| **Year** | **Ex growth (%)** | **Int** | **Ext** | **New** | **Disap** |
| 2009 | -07.440 | -0.082 | 0.007 | 0.008 | 0.000 |
| 2010 | -05.230 | -0.053 | 0.001 | 0.002 | 0.001 |
| 2011 | 30.200 | 0.305 | -0.003 | 0.001 | 0.004 |
| 2012 | 05.830 | 0.055 | 0.003 | 0.005 | 0.002 |
| 2013 | 09.030 | 0.089 | 0.001 | 0.003 | 0.002 |
| 2014 | 07.910 | 0.079 | 0.000 | 0.001 | 0.001 |
| 2015 | -01.520 | -0.015 | 0.000 | 0.001 | 0.001 |
| 2016 | -01.110 | -0.011 | 0.000 | 0.001 | 0.001 |
| 2017 | 02.320 | 0.024 | -0.001 | 0.000 | 0.001 |
| 2018 | 08.700 | 0.069 | 0.018 | 0.018 | 0.000 |
| 2019 | 09.480 | 0.111 | -0.016 | 0.000 | 0.017 |
| 2020 | -11.460 | -0.116 | 0.001 | 0.002 | 0.001 |
| **2009-2020** | **0.613** | **0.612** | **0.001** | **0.003** | **0.002** |

Source: author's own calculation based on UN COMTRADE data.

As depicted from the Table 6. 6 that Pakistan's export shows negative growth of (-)7.4% for the medical and engineering goods under divisions 74,77 and 87 for the year 2009 (the data is divided into many divisions by the UN COMTRADE). Considering the share of extensive and intensive margins, the intensive margins contributed negatively while the share of extensive margin to the export growth, in these particular goods, is about 0.72% during 2009. It is observed that extensive margin is contributed positively towards export growth which is coming exclusively from the new goods added for export. The highest growth recorded for the year 2011, while the year 2020 shown negative growth (highest negative).

While presenting the growth rate for the period 2009-2020, it is evident from the Table 6. 6 that the growth rate increased up to 61.3%. The contribution to the export growth was exclusively from the intensive margins, while a minute amount of contribution to export growth was seen from the extensive margin. The new goods contribution was 0.31% while disappearing goods accounted for 0.19%, which retarded the export growth. The last row of the table shows that the large proportion of export growth is from intensive margin for the whole period 2009-2020. So, it is concluded that intensive margin is the vital source for the export growth in the medical and engineering products under divisions 74,77 and 87. These results are in line with the study of (Hamrick & Bamber,2019). For medical equipment, they said that Pakistan medical equipment are more concentrated in a few markets. Another study by Ahamad et al. (2010) clarified that Pakistan did not grow her export of engineering goods which should be the priority for policymaker to give due attention to engineering products exports.

### 6.1.2 Reasons Behind the Ups And Downs of Pakistan's Exports (Textiles, Sports, and Household Items) From 2009-2020

The global financial crisis of 2008–09 has considerably inflicted the world's supply of exports. Due to decreasing demand in the world market, export products of textiles and household items of Pakistan also witnessed a negative growth during 2010.

From 2011 onwards, oil prices were on an increasing trend, and it affected the balance of trade. Deterioration in terms of trade along with the surge in oil prices has a severe repercussion on the value of exports, particularly cotton and textiles. Due to this, the value remains comparatively lower, although the number of export products has increased. According to the

economic survey of Pakistan 2016-17, the reason behind the decline in our sports goods exports was the non-favourable prices for our export products in the foreign market. Due to which sports goods (football) decreased during 2015-16.

The main reason behind the decrease in our export of textile and sports goods during 2014, 2015, 2016 and 2017 was the overvaluation of the rupee against the dollar. The exchange rate volatility has negatively affected the volume of Pakistan's exports, especially textile products. The other regional competitors in these markets depreciated their currencies against the dollar: Sri Lanka (14.4%), India (9%), and Bangladesh (4%) and benefited from the lower value of their exports in the foreign market, while Pakistan maintained its currency stable and overvalued in this period. As a result, the export product prices were higher and hence their export growth was negative, particularly in textile and sports products (Ahmed et al. 2017).

Certain measures taken by the government in 2017, such as ensuring LNG and lowering interest rates, have positively impacted the textile and sports goods industries, as well as household products, which are expected to grow in 2018.But during the last quarter of 2019 and the whole 2020 year, the export sector faced a severe brunt due to lockdowns all over the world. The export of the textile sector under division 26 only shows positive growth while other goods such as sports goods and engineering goods show negative growth. Despite the COVID-19, the positive growth is attributed to its consistent demand in the foreign market.

Another reason behind the stagnant growth in our textile exports during 2015 and 2016 is the lower demand from the USA, which is a big market for Pakistan textile products. However, their demand increased for the next year, and hence our export of textiles showed positive growth. Moreover, the unit price of Pakistan is higher as compared to its competitors in the regional market. The unit prices of China, Bangladesh, and Vietnam decreased during 2015, 2016 and 2017, while Pakistan's unit prices have increased during this period (Shahan Arshad 2018).

China, one of the biggest markets for Pakistan's cotton exports, has decreased its importing policy during 2014, which hurt Pakistan's cotton exports in value terms. Furthermore, the EU is also a big market for our exports, particularly of textile products. In 2014, the EU gave us a GSP+ status due to which our exports to the market increased. However, due to the crisis in the EU countries during 2015 and 2016, our export of textiles to these markets also decreased.

Another reason that decreased our export products to this market is that the EU currency depreciated against the dollar during 2015 and 2016. But the overall export volume in 2020 as compared to 2009 has increased manifold.

If the above findings by (Freund, 2008) technique are combined together for the aforementioned products divisions, it is inferred from the results that the performance of the intensive and extensive margins along with new and disappearing goods has been fluctuating. At some time, they show a very good performance by intensive margin and show low export growth for the other year, same is the case for extensive margin, new and disappearing goods. However, in most of the subsector the intensive margin played an important role to increase the export growth. It indicates that exporting existing products as well as adding new products to the export basket while seeking new destinations for the export products is critical for Pakistan since the contribution of these products in export growth is significant. This motivates us to explore and look for the growth dynamics by adopting timeseries model in the following section 6.2.

## 6.2 Time Series Model:

Looking into the literature of trade and export diversification (Iyoboyi, 2019; Noureen et al., 2014), the terms of trade, foreign direct investment, gross domestic product per capita, secondary school enrolment as a proxy for human capital are the important variables to be a part of the model where the relationship between export diversification and real GDP per capita is also important which the earlier studies have focused on (Al-Marhubi, 2000; Hesse, 2009; Siddiqui, 2018).

Another aim of this study (mentioned earlier) is to find the relationship of export diversification (Theil index), intensive and extensive margins with the real GDP per capita of Pakistan while considering other important variables, i.e., the terms of trade, foreign direct investment, and secondary school enrolment. The study used three separate equations (5. 2), (5. 3) and (5. 4 ).

The presence of time trends in the series causes the problem of non-stationarity in the time series data. The regression results of non-stationary data will give spurious results. Consequently, the results obtained from such regression are not valid as well as not explainable.

Stationarity of timeseries ensure validity of results, when all the variables are stationary then such ordinary least square (OLS) regression results will be valid and explainable. To resolve the problem of non-stationarity in time series data, this study used the ADF test to check the stationarity of the series. The general form of ADF is as below:

$$\Delta Yt = \alpha + \beta t + \delta Xt{-}1 + \Sigma \emptyset \Delta Xt{-}1pi{=}1 + \varepsilon t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 5.5$$

Ho: δ=0 means a unit root problem and time-series data is non-stationary.

Ha: δ<0 Time series data is stationary.

Reject Ho, when the ADF critical value is lesser than the ADF calculated value. It means, accepting the alternative hypothesis that there is no problem of stationarity in the series, vice versa. Due to the mixed order of integration I(0) and I(1), this study uses the ARDL test and for the cointegration, the bound test is performed. Irrespective of the order of integration in the series and to check the long-run equilibrium relationship among the variables, this study used the ARDL bound.

### 6.2.1 ADF, Unit Root Tests

On checking each variable for stationarity through unit root test, the following results were extracted as shown in the

Table 6. **7**. All variables are stationary at first level(I(1)) except FDI, which is stationary at level(I(0)).

***Table 6. 7:*** Stationarity of Variables

| Variables | At I (0) | 1ST Difference | Remarks |
|---|---|---|---|
| lnGDP | | Yes | I (1) |
| NIM | | Yes | I (1) |
| NEM | | Yes | I (1) |
| NEXPDIV | | Yes | I (1) |
| lnTOT | | Yes | I (1) |
| logSShool | | yes | I (1) |
| FDI | Yes | | I (0) |

Source: based on test results in EViews

The mixed results, I (0) and I (1) of stationarity of the variables led us to apply ARDL test for the model estimation.

To check whether there is cointegration in the models or not after running the ARDL test. This study runs the Bound test. The results obtained from the Bound test will be based on the F-stat value and the upper and lower bound value. If the value of F-stat is greater than the upper bound(I(1)) then we will reject the null hypothesis of "no cointegration in the model" and will accept the alternative hypothesis "cointegration in the model". In the case of this study, it has run three models separately. The results obtained from the bound test were; for Model 1, the F-statistic value of the bound test is 5.869, by comparing this value with the upper bound value I(1), which is 3.49 at five percent level of significance and 4.37 at one percent level of significance, clearly shows that F-statistic value is greater than the upper bound value at 5% as well at 1% as shown in the Table 6. 8. So, reject the null hypothesis of "no co-integration in Model 1" and accept the alternative hypothesis. Hence, it is concluded that the Model 1 possesses co-integration. Similarly, Model 2 and Model 3 shown in the Table 6. 9 and Table 6. 10, rejects the null hypothesis, accept the alternative and hence the Model 2 and Model 3 also show cointegration relationship. The results of Bound test for each model are tabulated below.

### 6.2.2 Bound Test for Model-1

***Table 6. 8* :** Cointegration Bound Test

| **F-Bound test** | | | **Null hypothesis: No levels relationship** | |
|---|---|---|---|---|
| **Test statistic** | value | Significance | I(0) | I(1) |
| **F-statistic** | 5.869 | 1% | 3.29 | 4.37 |
| **k** | 4 | 5% | 2.56 | 3.49 |

### 6.2.3 Bound Test for Model-2

***Table 6. 9:*** Cointegration Bound Test

| **F-Bound test** | | | **Null hypothesis: No levels relationship** | |
|---|---|---|---|---|
| **Test statistic** | value | Significance | I(0) | I(1) |
| **F-statistic** | 4.169 | 10% | 2.2 | 3.09 |
| **k** | 4 | 5% | 2.56 | 3.49 |

### 6.2.4 Bound Test for Model-3

***Table 6. 10****:* Cointegration Bound Test

| **F-Bound test** | | | **Null hypothesis: No levels relationship** | |
|---|---|---|---|---|
| **Test statistic** | value | Significance | I(0) | I(1) |
| **F-statistic** | 7.716 | 1% | 3.29 | 4.37 |
| **k** | 4 | 5% | 2.56 | 3.49 |

From the above tables (Table 6. 8, Table 6. 9 and Table 6. 10) it is clear that there exist cointegration in all the three models. After the presence of co-integration in the models, this proceeds to estimate the results for long run relationship as below.

### 6.2.5 Long-Run Relationship for Model-M1

***Table 6. 11*** **:** Long Run Relationship For Selected Model ARDL (1, 2, 0, 2, 1)

| Dependent variable: D(NEXPDIV). | | | |
|---|---|---|---|
| **Variable** | coefficient | t-statistic | p-value |
| **LOGSSHOOL** | -0.313327*** | -6.752447 | 0.0000 |
| **LNTOT** | 0.005723 | 0.424796 | 0.6744 |
| **LNGDP** | 0.078068*** | 4.623384 | 0.0001 |
| **FDI** | -0.003352 | -1.565418 | 0.1291 |

*******For 1% significance

### 6.2.6 Long-Run Relationship for Model-M2

***Table 6. 12*****:** Long Run Relationship For Selected Model ARDL (4, 4, 4, 2, 4)

| Dependent variable: D(NEM). | | | |
|---|---|---|---|
| **Variable** | coefficient | t-statistic | p-value |
| **LOGSSHOOL** | -5.338231* | -1.844184 | 0.0881 |
| **LNTOT** | 4.085980* | 1.790652 | 0.0967 |
| **LNGDP** | 4.045607* | 1.953269 | 0.0727 |
| **FDI** | 0.279510* | 1.824094 | 0.0912 |

*For 10% significance

### 6.2.7 Long-Run Relationship for Model-M3

***Table 6. 13:*** Long Run Relationship For Selected Model ARDL (2, 2, 0, 2, 2)

| Dependent variable: D(NIM). | | | |
|---|---|---|---|
| **Variable** | coefficient | t-statistic | p-value |
| **LOGSSHOOL** | -0.551017*** | -6.114554 | 0.0000 |
| **LNTOT** | -0.003801 | -0.160012 | 0.8742 |
| **LNGDP** | 0.096888** | 3.259747 | 0.0032 |
| **FDI** | -0.002112 | -0.520747 | 0.6071 |

*******For 1% significance, **for 5% significance

The results of long-run equilibrium are tabulated as above in Table 6. 11, Table 6. 12 and Table 6. 13. This study focuses on the relationship of three variables, export diversification index, intensive and extensive margins (NEXPDIV, NIN, NEM), with the real GDP per capita level. The findings show that the log of real GDP per capita level has significant relationship with all three variables (NEXPDIV, NIN, NEM). The respective probability values are less than 0.05 or 5%, and hence these variables have a significant relation the real GDP per capita.

It is worth noted that the lower value for all three variables (Theil index, Intensive and Extensive margins) is considered to be higher product diversification of export (IMF database). From the Table 6. 11, Table 6. 12 and Table 6. 13, it is clear that the variables (NEXPDIV, NIN, NEM) are in inverse form. This mean that it represents diversification not concentration from the above results it could be extracted that more the GDP per capita growth more will be the export product diversification. This result is in line with the (Noureen & Mahmood, 2014). The intensive margin (NIM) and extensive margin (NEM) have also positive and significant relation with GDP per capita. Comparing the coefficient values of the intensive and extensive margins, in case of intensive margin (NIM) the one-unit change in GDP per capita will rise 0.0968 units of intensive margin, while one unit change in GDP per capita will rise 4.045607 units of extensive margin. Therefore, the relationship between extensive margin and GDP per capita of Pakistan is stronger as compared to the intensive margins in the long run.

## 6.3 Diagnostic Tests

The basic purpose of the diagnostic tests is to check the model for autocorrelation, heteroscedasticity, and model specification error. The findings of these tests are presented in Table 6. 14, which shows the series of residual from the ARDL model is homoscedastic and

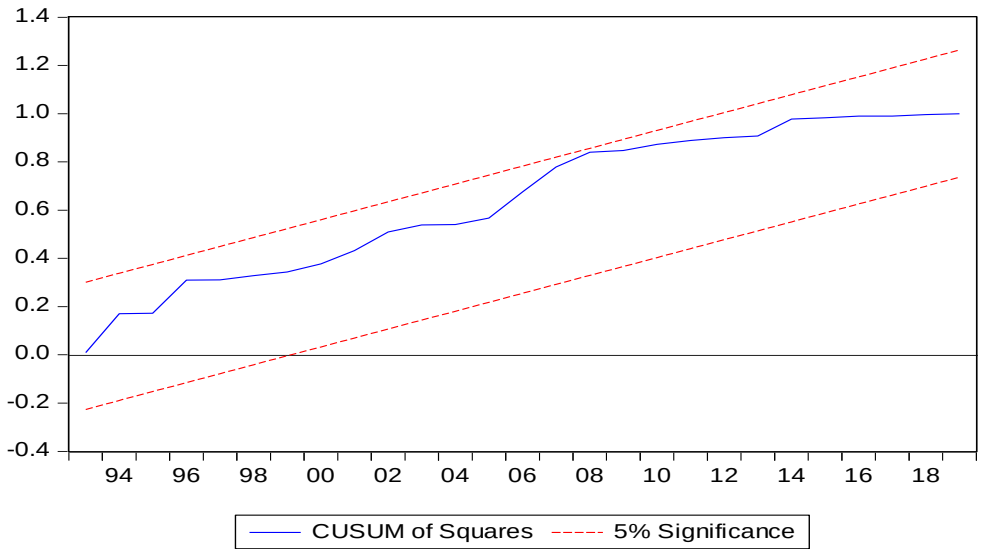
normally distributed. The stability of the models has been tested using CUM-Square test which show the models are stable.

***Table 6. 14:*** Diagnostic Tests

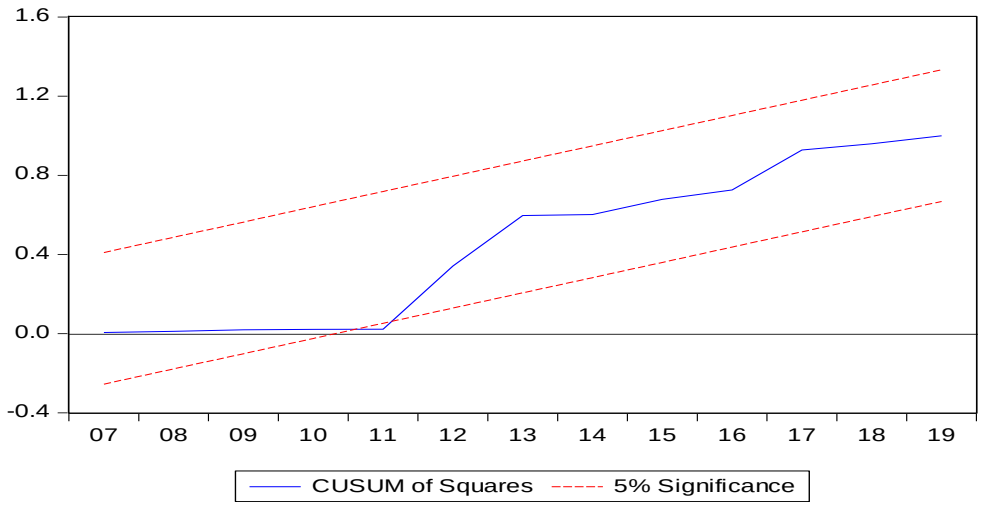
| Test | F-statistic | Prob F (i j) | R-square |
|---|---|---|---|
| **MODEL1 Autocorrelation test (Breusch-Godfrey Serial Correlation LM Test)** | F-stat =0.418263 | F (2,25) | 0.6627 |
| | R^2 =1.230351 | Prob. Chi-Square (2) | 0.5405 |
| **MODEL2** | F-stat=0.813753 | F (2,11) | 0.4682 |
| | R^2 =4.639886 | Prob. Chi-Square (2) | 0.0983 |
| **MODEL3** | F-stat=0.525449 | F (2,23) | 0.5982 |
| | R^2 =1.660401 | Prob. Chi-Square (2) | 0.4360 |

Source: own calculation based on Eveiws09 file.

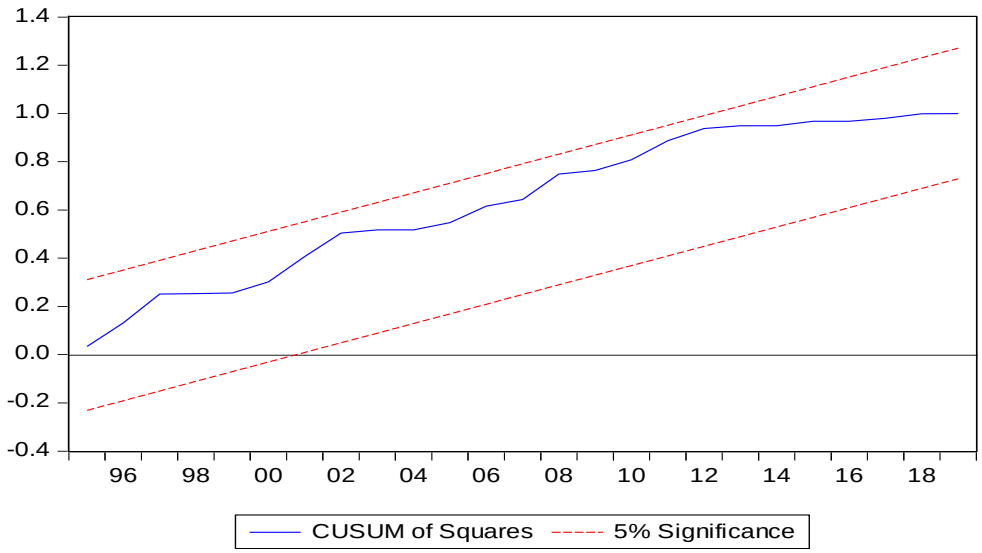
### 6.3.1 CUSUM-Square Test for Model-M1



### 6.3.2 CUSUM-Square Test for Model-M2




### 6.3.3 CUSUM-Square Test for Model-M3




## 6.4 Short-Run Estimates

The existence of cointegration in the model led this study to estimates the long run relationship among the variable, after the cointegration in the model it is mandatory to check the short run dynamics in the model. By using ECM test this study also estimated the short run dynamics for the long run equilibrium.

### 6.4.1 Short Run Estimates for Model-M1

***Table 6. 15*:** Short Run Estimates For The Selected Model ARDL (1, 2, 0, 2, 1)

| **Dependent Variable: D(NEXPDIV)** | | | |
|---|---|---|---|
| **Variables** | Coefficient | t-statistic | P-value |
| **D (LOGSSHOOL)** | -0.098173** | -2.317353 | 0.0283 |
| **D (LOGSSHOOL (-1))** | 0.157649*** | 3.617692 | 0.0012 |
| **D(LNGDP)** | 0.005903 | 0.487992 | 0.6295 |
| **D (LNGDP (-1))** | -0.032431** | -2.179443 | 0.0382 |
| **D(FDI)** | -0.006128** | -2.695744 | 0.0119 |
| **CointEq (-1) *** | -0.788910 | -6.460175 | 0.0000 |
| **R-squared 0.601** | **Durbin-Watson stat 1.974** | | **Adjusted R-squared 0.538** |

Significance at 1% indicated by ***, significance at 5% indicated by **

### 6.4.2 Short Run Estimates for Model-M2

***Table 6. 16:*** Short Run Estimates For The Selected Model ARDL (4, 4, 4, 2, 4)

| **Dependent Variable: D(NIM)** | | | |
|---|---|---|---|
| **Variables** | Coefficient | t-statistic | P-value |
| **D (NEM (-1))** | -0.151504 | -1.106383 | 0.2886 |
| **D (NEM (-2))** | 0.079584 | 0.562634 | 0.5833 |
| **D (NEM (-3))** | -0.196945 | -1.534836 | 0.1488 |
| **D(LOGSSHOOL)** | -0.695106 | -1.376006 | 0.1921 |
| **D (LOGSSHOOL (-1))** | 0.823242 | 1.503832 | 0.1565 |
| **D (LOGSSHOOL (-2))** | 1.554251** | 2.919558 | 0.0120 |
| **D (LOGSSHOOL (-3))** | 2.518620*** | 4.052236 | 0.0014 |
| **D(LNTOT)** | 1.061073*** | 4.751972 | 0.0004 |
| **D (LNTOT (-1))** | -0.721165*** | -3.966412 | 0.0016 |
| **D (LNTOT (-2))** | -1.105953*** | -4.901123 | 0.0003 |
| **D (LNTOT (-3))** | -1.161635*** | -5.106269 | 0.0002 |
| **D(LNGDP)** | 0.959989*** | 4.031914 | 0.0014 |
| **D (LNGDP (-1))** | 0.334568** | 1.901433 | 0.0796 |
| **D(FDI)** | 0.070615** | 1.943784 | 0.0739 |
| **D (FDI (-1))** | -0.084128** | -2.216851 | 0.0451 |
| **D (FDI (-2))** | -0.184474*** | -4.850468 | 0.0003 |
| **D (FDI (-3))** | -0.097468** | -2.598109 | 0.0221 |
| **CointEq (-1) *** | -0.444582 | -5.884845 | 0.0001 |
| **R-squared 0.783** | **Durbin-Watson stat 2.129** | | **Adjusted R-squared 0.578** |

Significance at 1% indicated by ***, significance at 5% indicated by **

### 6.4.3 Short Run Estimates for Model-M3

***Table 6. 17*:** Short Run Estimates For The Selected Model ARDL (2, 2, 0, 2, 2)

| **Dependent Variable: D(NEM)** | | | |
|---|---|---|---|
| **Variables** | Coefficient | t-statistic | P-value |
| **D (NIM (-1))** | -0.222304** | -2.109713 | 0.0451 |
| **D(LOGSSHOOL)** | -0.149742** | -2.642471 | 0.0140 |
| **D (LOGSSHOOL (-1))** | 0.287981*** | 4.471647 | 0.0001 |
| **D(LNGDP)** | -0.003730 | -0.214455 | 0.8319 |
| **D (LNGDP (-1))** | -0.028574 | -1.481121 | 0.1511 |
| **D(FDI)** | -0.005976* | -1.801572 | 0.0837 |
| **D (FDI (-1))** | -0.004965 | -1.543260 | 0.1353 |
| **CointEq (-1) *** | -0.637996 | -7.453540 | 0.0000 |
| **R-squared 0.706262** | **Durbin-Watson stat 2.133** | | **Adjusted R-squared 0.637723** |

It is reflected from the Table 6. 15, Table 6. 16 and Table 6. 17 that the value of the lag of the Error Correction term (CointEq (-1) *) in all the three models is both negative and significant as needed, which indicates the stability of the long-run equilibrium relationship among the variables. This shows that the due to long-run relationship it will converge the data series after a disruption occurred in the data. As given in the table above, the coefficient value of lag of Error Correction term (CointEq (-1) *) in Model-1(Table 6. 15), Model-2 (Table 6. 16), and Model-3 (Table 6. 17) is -0.789, -0.445 and -0.638 respectively which shows that any shock occurred during the short run then variables will converge to their long-run equilibrium. The convergence speed towards long-run equilibrium is about 78%,44% and 63% in M-1 (Table 6. 15),, M-2 (Table 6. 16), and M-3 (Table 6. 17) respectively.

## Survey Results

### 6.5 Survey Methodology

#### 6.5.1 Questionnaire Development, Pretesting & Sample Selection:

On the basis of the empirical work done on product diversification, a questionnaire was developed to carry on some interviews. The questionnaire was tested through a pilot survey and then it was refined. The Key respondents were mainly targeted from Ministry of Commerce, Senior Economists at PIDE, SDPI and NUST. The sample is carefully selected

with keeping in view that all respondents should be those who ever worked on Product Diversification. Initially respondents were contacted by phone and email. Questionnaire was sent to them followed by personal visits.

Survey results have shown important findings given in the following section.

### 6.5.2 Export diversification as priority in national or regional export development strategy:

Majority of the respondents responded that export diversification is a priority in our national and regional export development strategies. However, a minor percentage didn't think it a priority.

### 6.5.3 Constraints to export diversification identified in your national (or regional) export development strategy:

Respondents came up with different views about identification of constraints. Majority of the respondents envisaged that high input costs, high tariffs on imports, high cost of doing business, limited services capacity, limited standards compliance, low levels of training and skills, and poor international competitiveness are the possible constraints to export diversification as well as making them less competitive in the world market.

To see the issue in depth, respondents were asked about other constraints to export diversification as identified in national (or regional) development strategy. Surprisingly they came up with more constraints identifying the complications in export development strategy. The responses are ranked as: no regional or global integration, higher tax compliance; complex documentation; tight conditions by regulators, absence of corporate culture, lacks political will, non-competitive energy prices, and lack of government support.

The analysis of the above part shows consistency with the quantitative part of this study. As the study identifies there are lesser product diversification opportunities for new products hence the above problems show constraints in export diversification.

### 6.5.4 Future support for export diversification:

The results motivated this study to explore the sector(s) where future support for export diversification be most required. About 90 percent respondents believe that Agriculture and

Industry are the two sectors which need the future support for export diversification. While 10 percent believe that forestry should be supported for future export diversification.

Looking ahead, the sector(s) that have shown more export diversification in Pakistan. According to the survey results, most respondents believe that the sectors which are going to be more diversified in case of Pakistan are agriculture, services, and industry. These sectors have potential but performing at slow pace in terms of product export diversification. If they are given facilitation by the government these sectors are expected to diversify.

### 6.5.5 Current government initiatives for product Diversification (from policy perspective):

Current government from policy perspective is trying to facilitate exporters through tax incentives by reducing indirect taxation and moving towards ease of doing business. Further government also is trying to strengthen the value chain network for product diversification. Moreover, reduced customs duty on some raw materials; devalued local currency and made some progress on export processing zones. Long term financing facility, regional competitive energy tariff, easy finance and seeking new markets.

The responses shows that Government of Pakistan has tried to take possible initiatives but still some strong policy is required. Government is also working on the most recent strategic policy framework which is expected in near future.

### 6.5.6 Strategy required for product export diversification:

The respondents came up with the strategic options required for product export diversification. The options discussed are very important and included: tariff reforms; new FTAs and joining regional trade agreements, need for more Business to Business(B2B) and Business to Corporate (B2C) integration (for product export diversification), identification of comparative advantage, uniqueness, innovative and indigenous design, address the constraints.

One interesting response was that there wouldn't be a single strategy to gain more product diversification. It would be a mix of erosion of multiple bottlenecks that hinder the way of diversification. They can be in terms of high cost of inputs, low technology, low skill level of work force, infrastructure bottlenecks, and many others.

### 6.5.7 Views on the new target product groups suggested by current government to explore new opportunities. (Home appliances & engineering goods (Microwave ovens etc.)

***Table 6. 18:*** Views On Exploring New Opportunities

| Number | Views |
|---|---|
| 1 | This is doable provided government allows import of components free of duties and other taxes. |
| 2 | Though government has suggested new product groups such as (home appliances, ovens etc). There is need for B2B integration. This will not only add value to the product but will also help in integration. |
| 3 | Need govt policy that how govt can handle the constraints. |
| 4 | Good will save dollars, but question that quality would be according to international standard or not, and also local good must be way cheaper. |

### 6.5.8 Products in which Pakistan has diversified:

Pakistan has not shown significant improvement in term of diversification of its exports over the years. However, whatever minimal diversification we have attained is in low end goods or primary products with less technological sophistication, These products are low VAD goods under food as well as textile category.

Due to current government targets the following products have shown some diversification: Textile, services, IT, agriculture products, Cotton fabrics and sports items, Horticulture, Tractors. This was a response of majority, while one of the respondents said that we have moved from conventional product manufacturing to new ones e.g., during Covid-19 leather industry in Karachi moved from their conventional products to masks and PPEs and added value to the system.

### 6.5.9 Recommendations for product expansion/diversification (what strategy/policy needed in Pakistan).

All recommendations were valuable and are listed as follows:

I. Tariff rationalization; subsidies for new products; exploring new markets, reducing cost of trading across the borders.
II. For product expansion/diversification there is need for more coordination between firms in the same industry. This is required besides easy regulations, relaxation in tax compliance and incentivizing the industry.
III. Develop a corporate culture and international market exposure.
IV. Address underlines constrains to export diversification.
V. First, target a market then product differentiation would help.

**Policy recommendation for sustenance of disappearing goods from export list:**

Product diversification is important for export growth and disappearing goods from export list is worrisome. Policy recommendations for sustenance of disappearing goods from export list of Pakistan is very important for this study and respondents gave valuable responses which may contribute to protecting disappearing goods.

In order to sustain the export of those goods which are in declining trend, we need to cater to the domestic as well as external factors responsible for their decline.

I. If those are low Value-Added Goods (VAD) and a structural transformation and advancement in technological sophistication has led to their decline, then it's not an issue. However, if high export earning goods, semi manufactured or High VAD goods are being affected, then we need to address the factors that are causing their decline.
II. Undertake research to find out why they disappeared from export list and then addressing the underlying reasons.
III. Release of regulatory burden and more incentivization will help them sustainability along with managing cost of manufacturing.
IV. Develop product brand.
V. Meet international standard, do value addition, and differentiate your products.

There was another very interesting point given by a respondent was “It may be natural; the product has no economic activity and people don’t want those items anymore”. This gives us food for thought and motivation to explore reasons for disappearing products and no economic activity in case of that product. This can be a further topic of research for anyone who wants to initiate research on disappearing products from export list and the factors behind.

# CHAPTER (07)

## Conclusion and Policy Recommendations

This study has two-fold aim of attempting to assess the product export diversification in Pakistan. Firstly, a decomposition analysis is applied for specific products while evaluating the significance of intensive, extensive, and new products towards the export growth. Secondly, the aim is to find the long run relationship between GDP per capita and the three indices of export product diversification i.e., product diversification (Theil index), intensive margin and extensive margin.

To achieve the first objective, the study used data from 2009-2020 and the (Freund, 2008) methodology to measure the intensive and extensive margins for the selected divisions of goods for few selected sectors like textile sector (division 26,65,84 and 85), sports goods (division 89), household goods (division 77) and some medical and engineering products (division 74,77 and 87) were considered. Five major countries UK, USA, China, Afghanistan, and Germany were included in analysis, based on the greater share of exports of Pakistan with these countries during 2019-20. Hence, except household products group all other divisions showed positive export growth for the overall period of 2009-2020. The contribution to export of textile sector, as an average, is due to the intensive margin. The intensive margin contributed about 101% to the export growth in case of 26 division products, while in case of divisions 84 & 85, the intensive margin contributed about 93 percent. However, in the main subsector of textile (65 division) the contribution from the new products is 72% which is more significant compared to other sub-sectors. The overall period 2009-2020, the household showed negative export growth of about -74%. For sports goods and medical and engineering goods the export growth was from the intensive margin. Findings of the study shows that Pakistan is relying on the intensive margin for the exportation and little quantum of new goods is added to the export basket for the period 2009 to 2020 to the above-mentioned countries.

The second aim of this study is to check the long run relationship of product export diversification (Thiel Index) along with the extensive and intensive margins with the GDP per capita and other macroeconomic variables; term of trade index, FDI, and secondary school enrolment as a proxy for human capital of Pakistan using time series data for 1980-2019. The long run relationship among the variables uses three separate models. The study used ARDL bound test to find the long-run relationship. The results confirmed the existence of long run

relationship among product export diversification, extensive, intensive margins and GDP per capita. The Error Correction Model (ECM) shows that error correction term is significant and has the correct negative sign. The coefficient indicates any disturbance or shock occurred in the short run will be automatically corrected/adjusted in the long run. The product export diversification has a significant long run relationship with the GDP per capita level.

## Policy Recommendations

The findings of this study suggest that in long run Pakistan must go for diversification of its export products as it has a positive and significant relationship with the economic growth. Policy makers must concentrate on export product because our exports to other countries are shallow and need product diversification. Research is also a missing element in sectors other than textile.

I. The country is still relying on the old traditional products for the exportation to specific countries. The country needs to opt new export promotion policies, need more investment in product diversification, investment in new products in order to boost the export growth. Currently Pakistan is not successfully adding new products into the export product basket except in textile sector. So, exploring some new sectors and product diversification in those new sectors is recommended. As the old traditional sectors have already developed value chains, hence it is recommended to facilitate sports goods cluster, medical and engineering products cluster,

II. The sports industry of Pakistan is neglected domestically while foreign companies take advantage of them. It has been observed that in the world sports events the demand for the sports good increases and focus on FIFA world cup 2022 is important to reap the opportunity (as during the FIFA world cup 2018, our export of sport goods increased). Pakistan's sports industry needs attention of policy makers, Research and development, innovation, investment in the existing cluster is recommendable. Firms should be supported and encouraged to innovate and add new sports products in the export basket. Although FIFA world cup 2022 and other such events are providing one time opportunity but as Pakistan has comparative advantage in sports goods so the opportunities should not to be missed.

III. The quality of our goods for these markets is not consistent, and there is a weak or lack of quality check and balance system at the local level. The government should focus on this issue to ensure quality.

IV. The government must ensure a consistent power supply to the exporting sector at a lower cost. Because our export sector cannot fulfil the timely demand of the foreign markets due to a shortage of power supply, Due to stringent competition in the regional markets, Pakistan is facing higher costs and an inconsistent supply of power in its export sector.

V. The export of home appliances, medical & engineering goods need massive investment and boost in exports. It seems household goods are not providing a very good picture and losing its potential. A strong need of trained human capital and facilitation through investment is required to boost exports.

VI. Installation of advanced technology along with investment in human capital and skill development in each particular product group is recommended. Role of Export processing zones need to be enhanced and policy oriented.

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