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Trade Policy Measures and Their Impact on Global Value Chains (GVCs): An Evidence from Selected South Asian Economies

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Abstract: This paper analyzes the impact of Trade policy on Value Chains measured through value added content in the form of intermediates. Panel data model is applied on dataset ranging from the time period 1994-2017 for selected South Asian economies. Data for policy variables is extracted from UN Commodity Trade Database (UN COMTRADE), World Development Indicators (WDI) while for non-policy variables is taken from World Governance Indicators (WGI). Findings show that trade policy variable i.e. tariff tax on primary intermediate products affects significantly negative to the trade of intermediates which predicts that these tariffs restrict connectivity through value chains.

Key words: Trade Policy, Value Chains, FDI, Logistic Index, Integration, Corruption.

1. Introduction

Interactions through integration among economies is growing in recent decades. Due to advanced technology, reduce costs of transportation, more open economies and information & communication revolution production process of a final product are fragmented across national economies. Production of parts and components has been unbundled. So, intermediate goods before final assembling cross borders many times and then sold as a final product. Activities as design, processing, marketing, product shipment, sale activities and a lot more to produce a final product called value chains. So, Global Value Chain (GVC) includes all these sequential activities to produce a final product or simply include trade in intermediate goods and services involving more than one country (UNCTAD, 2013). "The value chain includes all the activities that firms and companies perform to make a final product. This includes activities such as innovative work (R&D), outline, creation, advertising, circulation and sale services. The activities that includes value chain could be within a firm or among different firms" (Gereffi & Stark, 2016).

GVC plays a key role in increased connectivity between countries and the activity of producing commodities in order to take part in value chain across the border. Value chain activities include intermediate inputs and raw

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material and new values chains are evolving between developing countries for improving their economies and connectivity among nations. Connectivity among trading countries reduces the trade costs to reap benefits from involving in these chains globally. (Pomfret & Sourdin, 2014). Before Porter's model Hopkins & Wallerstien (1977) gave the idea of 'Commodity chains'. The basic idea was tracing out possible sets of inputs and changes that gave us "ultimate consumables" (Miroudot & De Backer, 2013). The idea was presented by Michael Porter in 1985. In 2000 a new terminology "Global value Chain" was introduced analyzing trade as value added chain (Gereffi, Humphrey, Kaplinsky, & Sturgeon, 2001). Global value chain trade is increasing much more faster than final goods trade, which exhibits that focusing more on specialization and fragmentation are the main features of integration (Feenstra, 1998; Yeats, 1999; Hummels, Ishii & Yi, 2001).Before 1980's countries only trade of final products, after that trading intermediate products was initiated. As per the estimates of (UNCTAD, 2013), World trade includes 60% of Global value chain trade which includes trade in intermediates.

1.1: Determinants of GVC

Factors both policy and non-policy influence integration in GVC. Factors such as distance between trading partners, size of the market, as well as factors such as trade openness, foreign direct investment, tariffs and logistics are key factors to determine GVC. GVC engagement has effects on determinants as technology, human capital and institutions. Further, technology and knowledge transfers were affected by GVC in two ways (World trade report, 2014). Firstly, knowledge transfers in the exchange of goods. Secondly, technology transfers if foreign firms invest in the domestic economy. Taxes on international trade play an important role. As more taxes brings less trade between trading partners and vice versa. More taxes on trade or tariffs impede engagement in GVC. Liberalization of trade in services could be helpful to facilitate engagement in GVC. Domestic policy factors also effect GVC engagement as, deregulation and law enforcement. Higher trade costs were associated with fewer chances to engage in international trade and GVC. Expansion of GVC in the last two decades was associated with reduce trade costs (Moïsé, & Le Bris, 2013). Regional trade agreements (RTAs) are also drivers of GVC. RTAs are helpful in expanding exports in value chains. Preferential trade agreements

(PTAs) along with tariff incentives and infrastructure related costs also determine GVC participation (Bhattacharya & Moazzem, 2013).

1.2: Trade policies of South Asian Region

India has the largest economy among its regional trading partners. India performs well in value added as well as other indicators to development mentioned below in this study. India doesn't have a fixed trade policy with Bangladesh, an economy with relatively low GDP and growth rate. So, can import and export goods from India. Poor governance and infrastructure of some countries has affected regional cooperation among these countries. This region lags behind other regions when we talk about performance in exports. There is continuous decrease in exports of this region (Athukorala, 2011). In 2014, South Asia has export growth close to almost zero[1].Trade policies of South Asian economies should address the issues of political disturbances, macroeconomic instability, more focus on agriculture sector, and quality of exports, energy shortages, more growth and foreign direct investment. Despite differences in geographical locations of South Asian economies their trade policies tend to effect in similar ways as:

- South Asian economies have restrictive trade policies so have poor performance in international trade. (Bandara, Jayatillak & Mcgillivray, 1998)
- Interventionist policies have worse effects on the Agriculture, Manufacturing and livestock sectors as these policies are implemented heavily against these sectors. Also, exchange rate overvaluation as a result of manufacturing protections hurts primary export industries. (World Bank report, 2004)
- The countries are among the least open of the world economies and trade liberalization programs have been flow in south Asian economies. Trade structure among the south Asian economies is not facilitating the enhancements in regional trade. (Pitigala, 2005)
- The region lags behind other regions when we talk about integration in trade. (Taneja, 2006)
- There is continuous decrease in exports of this region (Athukorala, 2011)

1.3: Objective

[1] World Bank Report, 2014

- To investigate relationship between Trade policy measures and Trade value addition content for selected South Asian nations.

1.4: Hypotheses

The alternative hypotheses are as follows:

H_1 : There exists a significant relationship between trade policy factors and Trade in intermediates.

2: Literature Review

Global value chain literature has focused on various dimensions of GVC. The huge amount of literature on GVC make up many arguments about the role of trade policy factors and non-policy factors determine participation in value chains. The studies include developing as well as developed countries which offers a broader analysis of value chains. These studies help in understanding whether domestic or foreign factors are important when we talk about participation in value chains.

Blanchard et al., (2017) analyzed the impact of trade policy indicators on value added content, emerging a new approach of value added associated with GVC. The study examined data of 14 countries for the period of1995-2009 of value addition and other determinants. Value added data was collected from World Input Output Database (WIOD). Data of tariffs and other variables were collected from World Development Indicators (WDI). Findings of the study reveal that GVC affect trade policies in many perspectives and were important in shaping trade policies. The study also shows negative correlation between tariffs and participation in value chains. It concluded with that more participation in GVC will reduce the tariff rates.

Slany (2016) examined the role of trade policies affecting regional value chains (RVCs) in Africa. Literature stated that trade cost play a significant role in engagement of RVCs. Hypothesis to be tested stated the effect of trade policy measures on participation in regional value chains and whether these factors facilitate value chains trade or not. He analyzed panel data of 37 African countries from 2006-2012. The study make use of input-output tables collected from United Nations Conference on Trade and Development (UNCTAD) database to analyze factors affecting RVCs in Africa. The authors suggested different factors for driving GVC and RVCs participation.

Pomfret and Sourdin (2014) analyzed the factors which were helpful for economies in GVC engagement. The study identified the regions non

participation in value chains along with the factors responsible for this non-participation. The study exhibits that the costs of doing business were very high in these economies and the governments were not taking measures to minimize the costs. They also identified other barriers of non-participation in value chains.

Brunner (2013) tried to find out the role of GVC in development of South Asian economies. Methodology includes product studies. Analyzing a product by tracing value added and non-value added content at each stage of production. The paper also analyses issues related to trade and development of these economies. It concludes that engaging in GVC leads to more development and prosperity. Also, South Asian economies should improve their infrastructure and logistics along with investment in GVC.

Boileau and sydor (2011) analyzed factors effecting engagement in GVC and the blockades to their engagements focusing on firms of Canada. Findings reveal that services trade rose faster than goods trade. Analysis was done by using survey data from innovation and business strategies (SIBS) and then contrasting the results of Canadian firms with European Union (EU). The results identified some pull factors to attract value chain activities were low costs, access to new markets and access to skills while push factors include taxes were of less important.

Dedrick et al., (2010) attempted to answer the question of who get benefited from innovations in GVC by analyzing specific products of different industries. Methodology includes value chain analysis of respective products by looking at value gained by supplier. They demonstrated a method for estimating the value gained by companies in the supply chains. Face difficulty in the quest to find data of related variables. Firm level gross profits data were taken from annual reports. Market power can be captured through gross margins. Costs were obtained by looking at financial reports of companies. Results were analyzed from perspective of 'Profiting from innovation' model. Products were assembled in China but Chinese firms could not get a lot from value chains. Taiwan was the major supplier so got most of the value added content.

Gereffi et al., (2005) focused on changing nature for GVC structure. They developed a design for better understanding of GVC structure. The article analyzed three variables describing how Global value chain was governed; complexity of transactions, codifying transactions and capabilities in supply chains. Typology of governance structure includes hierarchy,

captive, relational, modular and market. Case studies of bicycle, apparel, and horticulture and electronics industry briefly explain the nature of governance structure. Governance structures were not static.

Humphrey and Schmitz (2002) investigated the effect of GVC participation on improvement of industrial clusters. Their investigation surrounds these questions; how GVC participation affects industrial clusters? And the extent of domestic improvement or upgrading strategies where producers work in GVC? They emphasized for improvement of clusters the role of inter-firm collaboration and domestic institutes were very important. They argued that for value chains upgrading play an important role as the world becomes more competitive. For this governance can play a vital role in upgrading. They discussed types of upgrading. The affect can vary depends upon assembling of value chains as well as on the type of upgrading. The paper stated that these clusters were interjected in value chains in distinct ways and the outcome can be in favor of improvement of domestic efforts or cannot be.

3: Theoretical Background:

Jones and kierzkowski, (1990) presented initial theory of fragmentation followed by trade in intermediate commodities (Feenstra & Hanson 1996b, Campa & Goldberg, 1997 and Yeats 1998). All this leads to unbundling (Baldwin, 2006) and trade in tasks (Grossman & Rossi-hansberg, 2008a). Framework of contract theory which was associated with sociologists approach to GVC (Antras & Helpman, 2004).

3.1 First Unbundling

Trade across borders begins to increase in the start of 19^{th} century, with improved transport system, increasing trade beyond boundaries of nations. The economies of scale from mass logistics further lowers transport costs. Decrease in trade costs brings more trade volume of intermediate goods (Shiozawa, 2007).So, consumption and production points were unbundled, and goods travelled around the world searching for higher profits. International trade results in increased customers and enhanced production.

3.2 Second Unbundling

Improved technology in the late 1980's further enhanced international trade. High speed communication and networks along with internet, it becomes easier, time saving and cheap to coordinate production units in different locations. The technological unbundling of production activities

has accelerated. With some segments relocated across borders to exploit the cost differentials of production factors in various countries. The key to high productivity was trade in tasks which includes specialization in specific tasks to increase competition. So, partition of workers brings together in various stages because different tasks must be performed together to produce a homogenous product.

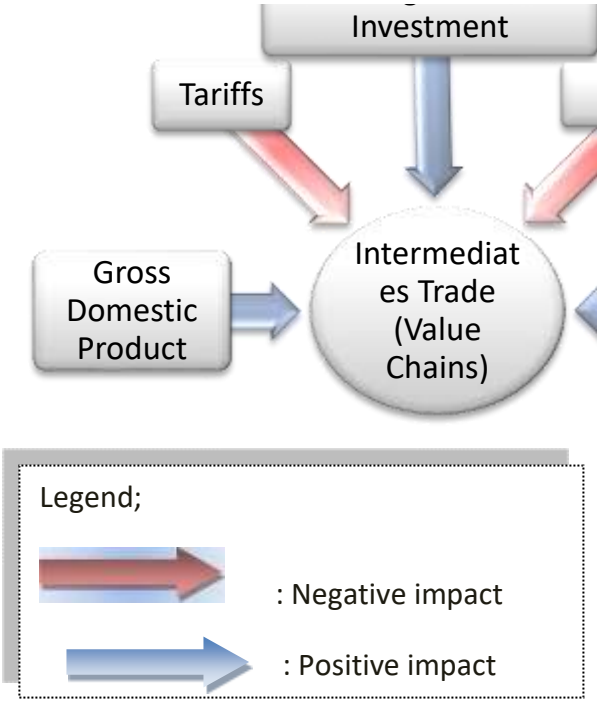
3.3 Intra Industry Trade

A country trading similar kind of goods and services with other nations called intra industry trade. For example, USA exports computer to Italy and then imports computers from china. The concept of intra industry trade was developed by Peter Verdoorn and Bela Balassa in their study on increased trade flows among European Union economies. After that Grubel and Lyold (1975) gave attention to the idea of intra industry trade and developed an index used to measure it. Index ranges from 0 to 1, called Grubel Lyold (GL) index. The more the index close to 1 indicating higher intra industry trade while when approaching 0 indicates lesser intra industry trade. Researches exhibit high GL index for more open economies. (OECD, 2002)

3.4 New Trade Theory and New New Trade Theory

New trade theory introduced by Krugman in 1970's and 80's gave attention to increasing return to scale rather than constant returns and network effects. According to new trade theory firms could achieve dominancy when they enter earlier in the market because of economies of scale. So, few firms compete in the market leading to monopolistic competition. Helpman and Krugman further generalized new trade theory in 1985.New New Trade Theory (NNTT) stresses on the importance of intermediate goods in world trade. Theory emphasis the growing importance of firms rather than sectors in the same industry of the same economy. NNTT assumed monopolistic competition and increasing returns to scale in the market.

Figure 1: Schematic Framework for impact incidence of variables



Source: Author's own conceptualization

In figure 1, schematic expression of policy variables with the trade in intermediates is given. The blue shaded arrows represent positive impact of variables while the red shaded arrow shows negative impact on the value added content trade as deduced from the past literature. Tariffs on intermediate products and trade costs have negative impacts on their trade shown by Slany, (2016). Logistics performance variable is used here for the control of business environment positively affects trade value as in existing literature (Slany, 2016 and Kowalski, 2015). Foreign direct investment and GDP positively affect trade value (Kowalski, 2015).

4: Data and Research Methodology

This study examines the effect of policy as well as non-policy variables on trade value acquired by economies by engaging in GVC. As literature proved that participation of countries in value chains bring value this was

affected by policy as well as non-policy factors. More participation in GVC brings more value to the economy so trade value also influenced by these factors.

4.1 Data Collection

The data is collected for selected South Asian economies for the time period of 1994-2019. Data includes policy as well as non-policy factors. Data for trade value is taken from UN COMTRADE Statistics database for SITC revision 3 including all commodities. Data of tariffs on intermediate goods and other variables as trade costs and FDI is collected from World Development Indicators (WDI). Government Effectiveness, Rule of law, Control of corruption and Political stability were taken from World Governance Indicators (WGI). Gross domestic product (GDP), logistics performance index and bound rate data are collected from World Development Indicators (WDI). Panel Data methodology including descriptive analysis of variables and analysis of ordinary least square, random effect and fixed effect models has been used applied.

4.2 Model Estimates

In order to analyze the role of trade policy factors and non-policy factors the following model is estimated. Considering that the model have linear unobseved effects model for i observations and T time periods:

$$\boldsymbol{LnTva_{it} = \alpha_i + \beta_1 lnTariffs_{it} + \beta_2 lnFDI_{it} + \beta_3 lnTrdcost_{it} + \beta_4 lnLogind_{it} + \beta_5 lnGDP_{it} + \varepsilon_{it}}$$

For, i=1,…….N and t=1,……..T

Where, Tva_{it} is the dependent variable defined as trade value acquired by economies when engaged in GVC. It is defined as trade value of re-exports and re-imports is derived as the average of the trade value in all commodities of SITC revision 3. Values are in current U.S. dollars.

$Tariffs_{it}$ represents taxes imposed on intermediates is policy variable taken for the analysis. Simple mean applied tariff is the unweighted average of effectively applied rates for intermediate products subject to tariffs calculated for all traded goods. Data are classified using the Harmonized System of trade at the six- or eight-digit level. Tariff line data were matched to Standard International Trade Classification (SITC) revision 3 codes to define commodity groups. Effectively applied tariff rates at the six- and eight-digit product level are averaged for products in each commodity group. When the effectively applied rate is unavailable, the most favored nation rate is used instead. To the extent possible, specific rates have been

converted to their ad valorem equivalent rates and have been included in the calculation of simple mean tariffs. Primary products are commodities classified in SITC revision 3 sections 0-3 plus division 68 (nonferrous metals).

$GDP_{it}$is the gross domestic product or output of South Asian economies taken as a non-policy factor affecting GVC of country *i* in time period *t*. Current GDP is gross domestic product which represents the sum of all the output produced by all residents in the economy plus any product taxes and minus any subsidies not included in the value of the products.. Data are in current US dollars. While FDI_{it} is net foreign direct investment on primary products of country *i* in time period *t*. It includes direct investment by the foreigners, taken in current US dollars for the study.

$Trdcost_{it}$are the cost imposed on trade of intermediates in coutry *i* at time period *t*. While cost of trade is the border compliance which captures the time and cost associated with compliance with the economy's customs regulations and with regulations relating to other inspections that are mandatory in order for the shipment to cross the economy's border, as well as the time and cost for handling that takes place at its port or border. The time and cost for this segment include time and cost for customs clearance and inspection procedures conducted by other government agencies.

While $logind_{it}$ is the logistics performance and communication and technology of country *i* in time period *t*. Logistics Performance Index (LPI) indicates performance of a country by calculating average of six key dimensions. These include efficiency of transport system, quality of transport related infrastructure, and shipping of goods, quality of logistic services, to track consignments and on time delivery of goods. The index has value ranges from 1 to 5; highest value indicates better performance in logistics. The measure shows how goods are efficiently and easily traded, having positive effect on trade value according to literature.

4.2.1. Descriptive Analysis

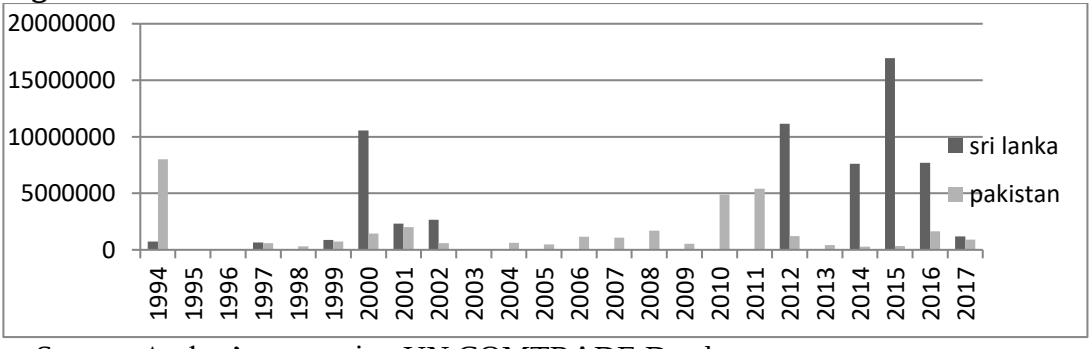
Descriptive analysis includes analyzing the trend and behavior of variables under descriptive analysis for selected South Asian economies. Data is taken from world Development Indicators (WDI), World Governance Indicators (WGI) and from United Nations Commodities Trade Statistics (UN COMTRDADE) database for the time period 1994-2017, data for some of the variables is for 1996-2017. India is the largest economy in

South Asian region while Nepal is the smallest. Remaining economies include Pakistan, Afghanistan, Maldives, and Nepal lies in between these two. India is the largest exporter among the region, Pakistan is second largest and Nepal is the smallest exporter.

4.2.2 Intermediates Trade (Trade Values Content)

Intermediates Trade is measured through the variable titled Trade values collected from Standard International Trade Classification (SITC) revision 3 codes which is composed of re-exports and re-imports of primary products (intermediates referring to the variable GVC)). Both the economies (Pakistan and Srilanka) have trade in intermediates within the region with India, Bangladesh, Maldives, Afghanistan and Nepal. All the re-imports and re-exports data of primary products is averaged to get a single value in each year and reported in current US dollars. Figure 2 exhibits Sri Lanka is performing better than Pakistan in trade value acquired by the economies by engaging in value chains. But in some years Pakistan is performing better.

Figure 2: Intermediates Trade

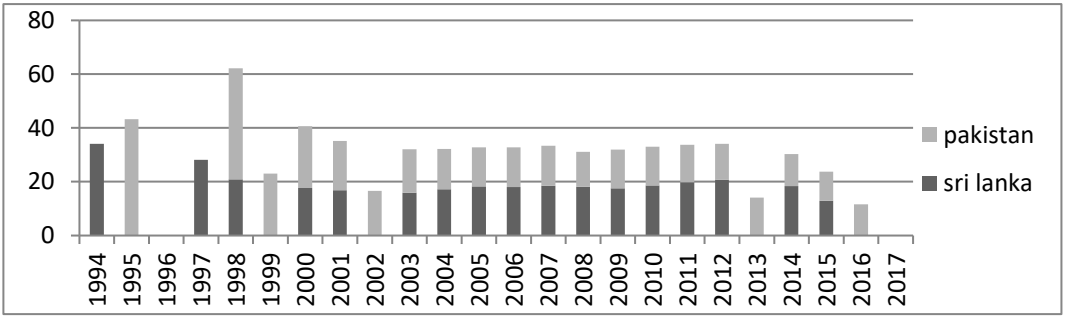


Source: Author's own using UN COMTRADE Database

4.2.3: Tariffs (Primary Products)

Simple mean applied tariff is the unweighted average of effectively applied rates for intermediate products subject to tariffs calculated for all traded goods. Tariff line data were matched to Standard International Trade Classification (SITC) revision 3 codes to define commodity groups. Primary products are commodities classified in SITC revision 3 sections. Simple mean tariffs on primary products are higher for Pakistan in almost year chosen for the analysis. Sri Lanka is having fewer tariffs on trade of primary products encouraging more trade and investment.

Figure 3: Tariffs on Primary Products

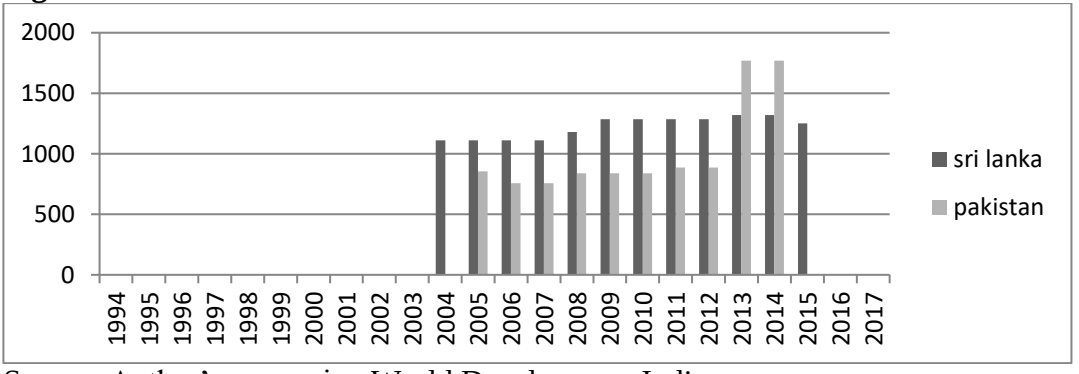


Source: World Development Indicators

4.2.4: Trade Costs

These are border compliance costs which measures the time and cost associated with cross border activities (inspection costs, shipment costs and time and costs associated with handling, clearance costs is also included). Data is in current US dollars. In 2013 and 2014 trade costs are higher for Pakistan than for Sri Lanka. In all other years when the data is available for trade costs, the costs are higher for Sri Lanka rather than Pakistan. For the recent year's trade costs data is not available.

Figure 4: Trade Costs

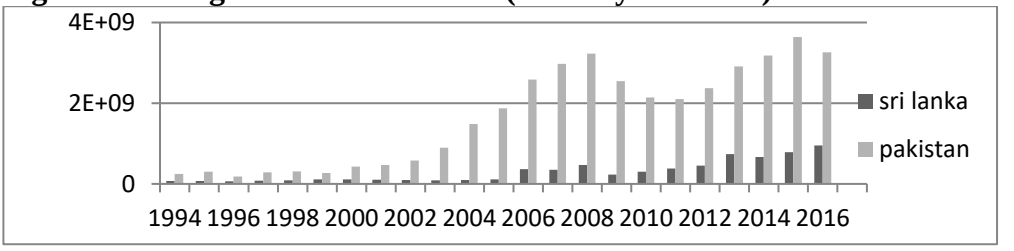


Source: Author's own using World Development Indicators

4.2.5: Foreign Direct Investment

It includes investment from Primary Products by foreign and domestic residents along with liabilities and asset transfers; it is net FDI by residents and non-residents. Data is in current US dollars. Sri Lanka is having lesser FDI on primary products than Pakistan, as the country involves less in primary products trade. Throughout the time period Pakistan is doing well in FDI on primary products.

Figure 5: Foreign Direct Investment (Primary Products)

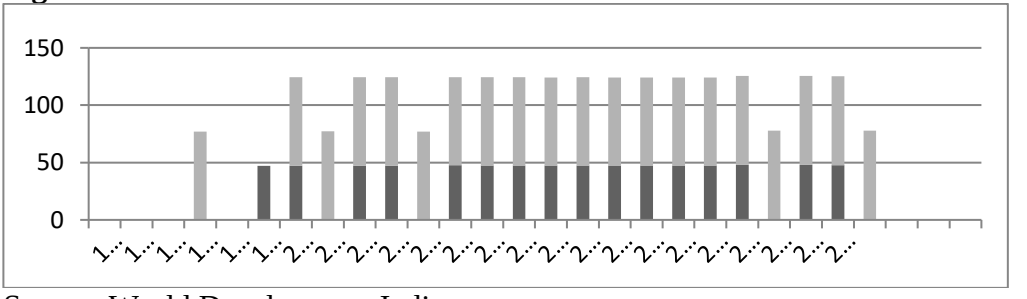


Source: World Development Indicators

4.2.6: Bound Rate (Primary Products)

The maximum rate of a tariff a country can impose on a commodity by the imported country, each country chooses a maximum rate of tariff on certain commodities. The rate varies across countries and commodities and they are not allowed to increase the bound rate they have imposed. So, the permissible level of tariffs a country can impose is known as bound rate. Light shaded bars indicates bound rate of Pakistan while dark shaded for Sri Lanka. Figure 6 exhibits higher bound rate for Pakistan than for Sri Lanka. So, Pakistan is having higher bound rate of tariff on commodities, involving less in international trade.

Figure 6: Bound Rate

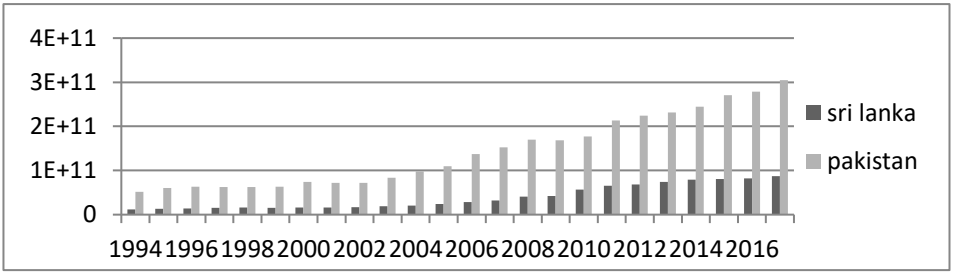


Source: World Development Indicators

4.2.7: Gross Domestic Product

Gross domestic product (GDP) is the total output by the producers of the economy including taxes and excluding the subsidies. While measuring GDP depletion of natural resources and depreciation in assets are not excluded. In the figure 7 given below Pakistan's GDP is higher than Sri Lanka in all the years chosen for the analysis. So, output by the producers in Pakistan is much higher than Sri Lanka.

Figure 7: Gross Domestic Product

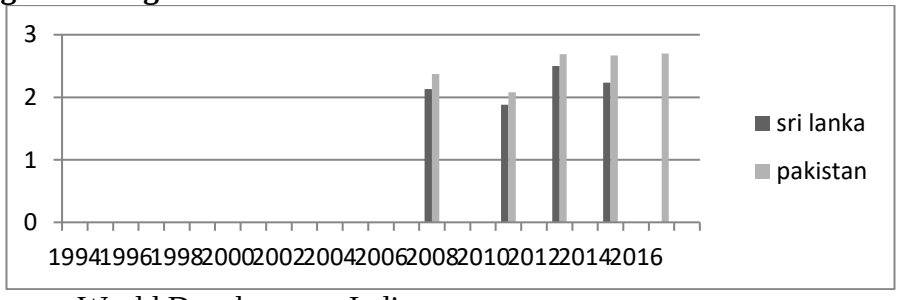


Source: World Development Indicators

4.2.8: Logistics Performance Index

Logistics performance index (LPI) evaluates quality of trade and other infrastructure, index ranges from 1 to 5. Countries attain a value of 1 have poor trade quality and transport related infrastructure while a value of 5 shows best performance in trade and infrastructure quality. Index is measured through surveys which evaluate eight markets; the markets are chosen based on the most important export and import markets of the respondent's country, random selection, and, for landlocked countries, neighboring countries that connect them with international markets. Values for LPI are missing for most of the time period. Data on LPI is available from 2008 and onwards exhibiting LPI values for both of the selected South Asian economies. Both the countries are having LPI values not more than 3. Pakistan is performing somehow well than Sri Lanka.

Figure 8: Logistics Performance Index



Source: World Development Indicators

5: Extended Analysis

It includes graphical analysis of different regions by looking at trade value of regions. The analysis shows trends in trade value and free trade agreements for different time period of 2011-2017.

5.1: Total Intermediates Trade

South Asian economies were unable to integrate regionally and around the globe. South Asia involve lesser in trade as well as GVC when compared to other regions of the globe. Although, the region has ability to integrate in international trade, investment and production (Tewari, 2008). Reasons for least integration of South Asian region are (Ahmed &Ghani, 2007)

- Poor connectivity
- Cross border conflicts
- Security concerns

Table 1: South Asia Total Intermediates Trade (million $) comparison with Sub Regions

Years	Total Intermediates Trade (South Asia)	Total Intermediates Trade (East Asia And Pacific)	Total Intermediates Trade (Middle East Asia And North Africa)
2012	41054.80	2952285.97	601151.97
2013	43214.75	3053416.05	608762.63
2014	50731.37	3059010.94	599918.93
2015	47111.48	2892754.33	530553.23
2016	46751.57	2768509.83	514971.24

Source: Asian Regional Integration Centre (ARIC) Database

It can be seen from the Table above that South Asia is not doing well in intermediates trade compared to sub regions. As East Asia and South East Asia are doing well in total trade in intermediates. I have compared total intermediates trade of these three regions for recent time periods. Data shows least total intermediate trade by South Asian region.

5.2: Quality of Port Infrastructure

The Quality of Port Infrastructure represents a country's port services, data ranges from 1(poor services of ports) to 7(excellent services of ports). South Asian region lags behind other regions in quality of port infrastructure, showing poor performance among other regions of the globe.

Table 2 South Asia Quality of Port Infrastructure (QoI) comparison with Sub Regions

Years	QoI (South Asia)	QoI (East Asia and Pacific)	QoI (Middle East Asia and North Africa)
2012	3.86	4.65	4.53
2013	3.55	4.43	4.48
2014	3.43	4.36	4.36
2015	3.25	4.41	4.51
2016	3.26	4.41	4.52
2017	3.38	4.44	4.43

Source: World Development Indicators

5.3: Logistics Performance Index

Logistics performance index (LPI) evaluates quality of trade and other infrastructure, index range from 1 to 5. Countries attain a value of 1 have poor trade quality and transport related infrastructure while a value of 5 shows best performance in trade and infrastructure quality.

Table 3 South Asia Logistics Performance Index (LPI) comparison with Sub Regions

Years	LPI (South Asia)	LPI (East Asia and Pacific)	LPI (Middle East Asia and North Africa)
2012	2.38	3.03	2.88
2014	2.33	3.15	2.78
2016	2.44	3.01	2.89

Source: World Development Indicators

It can be seen from the table above that South Asia is not doing well in Logistics Performance Index compared to sub regions. The South Asian region ranks low in comparison to East Asia and competitor countries in Middle East Asia and North Africa (Ahmed, Suleri and Javed, 2015).

5.4: Free Trade Agreements

No such initiatives were taken before 1990's which can help the region to integrate more in trade. After that several attempts were made by South Asian Association for Regional Cooperation (SAARC) which can help South Asia to boost integration. Agreements include South Asian Preferential Trade Agreements (SAPTA), South Asia Free Trade

Agreement (SAFTA) and SAARC Agreement on Trade in Services (SATIS).

Table 4: Free Trade Agreements 2016

Country	Framework Agreement signed	Negotiations Signed	Signed but Not implemented	Signed and Implemented	Total Agreements
Afghanistan	0	0	0	2	2
Bangladesh	0	2	1	3	6
India	1	14	0	12	26
Maldives	0	1	3	1	5
Pakistan	0	6	2	9	17

Source: Asian Regional Integration Centre (ARIC) Database

South Asia could participate more in trade across the region by reducing tariff rates among trading partners of the region. Along with improvement in infrastructure, trade facilitation services such as shipment services and port services are also important. Pakistan, Sri Lanka, India and Bangladesh can participate in GVC by reducing barriers to trade.

6. Results and Discussions

The section of the study interprets and describes the detail discussion about the obtained results and significance of the variables. Below is given the detailed descriptive and empirical analysis.

5: Unit Root Test

Levin–Lin–Chu test, Harris–Tzavalistest, Im–Pesaran–Shin test, and Fisher-type tests all have been applied to check the stationarity of the variables. Im–Pesaran–Shin and Fisher-type tests are commonly used for unbalanced panel datasets. Unit root includes both cross sections and time trends in the model of the data-generating process in the panel data.

Table 5: Unit Root Test Results

Variables	Order of integration
Ln-tariffs	2nd difference
Ln-fdi	2nd difference
Ln-trdcost	1st difference
Ln-gdp	2nd difference

Ln-logind	1st difference
Ln-tariffs	1st Difference

Source: Author's own calculations

6.1 Ordinary Least Square (OLS) Regression

To evaluate this panel data study of South Asian economies first of all applied the Ordinary Least Square (OLS) regression for obtaining the initial results of the study. Evaluating the coefficients of the variables, for the impact incidence we obtain the estimates of the respective variables over the Trade value in the South Asian countries (Sri Lanka and Pakistan). Table 6 given below shows the results of OLS regression.

Table 6: OLS Results

	OLS Model		Fixed Effect Model		Random Effect Model	
Variables	**Coefficients**	**Probability**	**Coefficients**	**Probability**	**Coefficients**	**Probability**
Ln-tariffs	-6.664721	0.780	-2.98813	0.882	-6.664721	0.780
Ln-fdi	1.677434	0.254	.8059417	0.737	1.677434	0.254
Ln-trdcost	-1.471941	0.284	-1.45532	0.357	-1.471941	0.284
Ln-gdp	.5265125	0.785	5.265144	0.925	.5265125	0.785
Ln-logind	1.452651	0.506	.2288147	0.351	1.452651	0.506

Source: Author's own calculations

6.2: Fixed Effects

Least square dummy variables (LSDV) allow in explaining fixed effects more efficiently. The model has a benefit as it controls all the time invariant variables that cannot be included in the model or omitted so the coefficients of fixed effects are not biased. In fixed effect model, the effects of regressors captured by differences in countries. LSDV allows to add dummies for each country hence controlling for unobserved heterogeneity. Each dummy represents their respective countries by capturing their effect.

6.3: Random effects

Random effects say error term is not correlated with the Regressors. It allows using time invariant variables in the model. The difference between fixed and random effect is whether the unobserved individual effects include errors that are correlated with the Regressors in the model (Green, 2008).

6.4: Estimation Hausman Test

To decide between fixed or random affects Hausman test is used where the null hypothesis states that Regressors are not correlated with error term or random effects. Below is given the Table showing the results using this test.

Table 7: Hausman Test Results

Variables	Fixed(A)	Random(B)	Difference (A-B)
Ln-tariffs	-2.9881	-6.6647	2.7616
Ln-fdi	.8059	1.6774	.8604
Ln-trdcost	-1.4553	-1.4719	.4193
Ln-gdp	5.2651	.5265	1.2239
Ln-logind	.2288	1.4526	5.7623

Source: Author's own calculations

Prob>chi2 = 0.962

When we calculate Hausman test our results of chi squire test is above 5 % so we accept null hypothesis and reject the alternative hypothesis. It means that according to chi –sq statistic our results are above 5% in Hausman test then we must use the random effect model for results. As we seen above the probability of chi squire is insignificant so according to the chi squire statistic we will use random effects.

6.5: Breusch Pagan Lagrange Multiplier Test

This test allows choosing between random effects and pooled OLS regression. The null hypothesis is that there are no significant differences across economies chosen for the analysis.

Variance (U) = 0

Prob > chibar2 = 1.0000

The results here indicate that we reject the null hypothesis conclude that random effects are appropriate for the analysis. There is evidence of significant differences across countries, therefore no need to interpret simple OLS model.

6.6: Robustness Check

Robustness check allows us to correct our results which are not appropriate if their exist effects of variables not captured in the study. It gives us the best results of regression analysis.

Table 8: Robustness Results

Variables	Coefficients	Probability

Ln-tariffs	-6.6647	0.000
Ln-fdi	1.6774	0.000
Ln-trdcost	-1.4719	0.000
Ln-gdp	.52651	0.000
Ln-logind	1.4584	0.000

Source: Author's own calculations

In the literature it has been argued that tariffs and non- tariff barriers to trade are very high restricting RVCs. Cross border activities involve high cost of trading in value chains because itermediates are crossing borders many times, resulting in highprice of final products and services and lower RVCs. The results prove a negative correlation between trade value and tariffs. Tariffs on intermediate inputs and goods are significantly negative that is also proven in literature (Blanchard, 2017 & Slany, 2016). One percent decrease in avergae tariffs bring much more increase in trade value. Based on above results and interpretations it is concluded that tariffs have negative effect on trade value, which act as a barrier to value chains. Results indicate that lower tariff rates can bring more trade value, so engagement of a country in RVCs is improved.

All the control variables choosen for the study are having positive impact on trade value except trade costs. Acting as barrier to trade, trade costs on intermediate goods shows negative and significant impact on trade value (Slany, 2016).

FDI is having positive impact over trade value, and the coefficient is significant. The impact incidence is showing theoretically proven in the literature (Kowalski, 2015). FDI is linked with openness to trade as more openness brings more FDI in the economy, so higher levels of FDI brings more trade value leading to enhanced trade. Gross Domestic Product (GDP) is observed to be having a positive and significant impact over Trade value (TVA). The results are also theoretically and empirically proven in the literature (Slany, 2016).

While logistics performance index is used as a control variable is having positive and significant impact on trade value attained when both the economies involve in Regional value chains (RVCs).

7: Conclusion

South Asian economies are not performing well in international trade and Global value chain when compared with other regions of the globe.

Regional value chains (RVCs) could become a step towards GVC but performance of value chains within the region is not impressive. Although GVC and RVC trade is rising but its still less than other regions as South East Asia and pacific and Middle East and North Africa. Regional as well as trade with other economies face many trade barriers along the value chains. In the literature it has been argued that tariffs and non- tariff barriers to trade are very high restricting RVCs trade and so GVC. Cross border activities involve high cost of trading in value chains because itermediates are crossing borders many times, resulting in highprice of final products and services and lower RVCs and GVC. Based on above results and interpretations it is concluded that tariffs have negative effect on trade value, which act as a barrier to internation trade and value chains. Also, the results indicate border inefficiencies and poor infrasture for the selected economies of South Asia. I find empirical evidence for enhacement in trade value with a reduction in tariff rates. Results indicate that lower tariff rates can bring more trade value, so engagement of a country in RVCs is improved. Furthermore, at national level many factors affect trade and participation in value chains. Performamance of governance indicators is worse in almost all countries of of South Asia. South Asia is relying on poor infrastructure and political instablility, which has effects on RVCs. Productivity of domestic firms and quality of traded goods and inputs are also important, both are lower in South Asian region. Also, logistics perfromance is not well in whole of the region restricting trade.

8: Policy Recommendations

Based on results and conclusion folowing policy recommendation are made:

- South Asian region should make efforts to regional integration, it would be helpful in adding value in the economy through international trade and GVC.
- Removel or reduction of tariffs and non-tariff barrirers is necessary, as these barriers restrict RVCs trade and hence GVC.
- Along with regional integration trading activities with all other nations should be enhanced by engaging more in trade of parts and components and trade of other goods and services.
- Relaxation in trade policy and industrial policies should be made to enhance trade activities across border.

- Efforts to eliminate barriers to international trade along with improvements in trade facilitation services, logistics performance and cross border in efficiencies.
- Along with all these imprvements better law and order situation, regulaory quality, effectiveness of government and all other indicators of governanace are compulsory for international trade and development.

References:

Adhikari, K. B., Regmi, P. P., Gautam, D. M., Thapa, R. B., & Joshi, G. R. (2017). Value Chain Analysis of ORTHODOX TEA: Evidence from Ilam district of Nepal. *Journal of Agriculture and Forestry University*, *1*, 61.

Aggarwal, S. (2017). Smile curve and its linkages with Global value chain. *Journal of Economics Bibliography*, *4*(3), 278-286.

Aghion, P., Bloom, N., Blundell, R., Griffith, R., &Howitt, P. (2005). Competition and innovation: An inverted-U relationship. *The Quarterly Journal of Economics*, *120*(2), 701-728.

Ahmed, S., &Ghani, E. (2007).Growth and regional integration. *South Asia Growth and Regional Integration*.

Ahmed, V., Suleri, A. Q., & Javed, A. (2015). Strengthening South Asia Value Chain: Prospects and Challenges. *South Asia Economic Journal*, *16*(2_suppl), 55S-74S.

Antras, P., &Helpman, E. (2004).Global sourcing. *Journal of political Economy*, *112*(3), 552-580.

Anukoonwattaka, W. (2011). Driving forces of Asian international production networks: A brief history and theoretical perspectives,[in:] W. Anukoonwattaka, M. Mikic. *India: A New Player in Asian Production Networks? Studies in Trade and Investment*.

Appelbaum, R. P., &Gereffi, G. (1994).Power and profits in the apparel commodity chain. *Global production: the apparel industry in the Pacific Rim*, 42-62.

Athukorala, P. C. (2011). Production networks and trade patterns in East Asia: Regionalization or globalization? *Asian Economic Papers*, *10*(1), 65-95.

Baldwin, J. R., & Yan, B. (2014). *Global value chain and the productivity of Canadian manufacturing firms*.Statistics Canada.

Baldwin, R. (2006). Globalisation: the great unbundling (s). *Economic Council of Finland*, *20*(3), 5-47.

Baldwin, R. (2011). *Trade and industrialization after globalization's 2nd unbundling: How building and joining a supply chain are different and why it matters* (No. w17716). National Bureau of Economic Research.

Barton, J. H., Goldstein, J. L., Josling, T. E., & Steinberg, R. H. (2008). *The Evolution of the Trade Regime: Politics, Law, and Economics of the GATT and the WTO*. Princeton University Press.

Bernard, A. B., Jensen, J. B., & Lawrence, R. Z. (1995). Exporters, jobs, and wages in US manufacturing: 1976-1987. *Brookings papers on economic activity. Microeconomics*, 67-119.

Bhattacharya, D., &Moazzem, K. G. (2013). *Least Developed Countries (LDCs) in the Global Value Chain (GVC): Trends, Determinants and Challenges*, Centre for Policy Dialogue (CPD), (104).

Blanchard, E. J., Bown, C. P., & Johnson, R. C. (2017).Global value chain and Trade Policy.

Blaug, M. (1997). *Economic theory in retrospect*.Cambridge university press.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics*, *87*(1), 115-143.

Blundell, R., Griffith, R., & Van Reenen, J. (1999).Market share, market value and innovation in a panel of British manufacturing firms. *The Review of Economic Studies*, *66*(3), 529-554.

Boileau, D. and Sydor, A. 2011.Global value chain in Canada. In Sydor, A. (Ed.), *Global value chain: Impacts and Implications*, Trade Policy Research, Department of Foreign Affairs and International Trade, Canada: Ottawa.157-178.

Brander, J. A., & Spencer, B. J. (1984). Export subsidies and international market share rivalry.

Brander, J., &Krugman, P. (1983).A 'reciprocal dumping'model of international trade. *Journal of international economics*, *15*(3-4), 313-321.

Brooks, D. H., &Ferrarini, B. (2014). Vertical gravity.*Journal of Asian Economics*, *31*, 1-9.

Brunner, H. P. (2013). Can Global value chain Effectively Serve Regional Economic Development in Asia?

Corden, W. M., &Neary, J. P. (1982). Booming sector and de-industrialization in a small open economy. *The economic journal*, *92*(368), 825-848.

Das, J., Tanger, S., & Kennedy, P. L. (2016). Effect of Regulatory Quality on Wood Pulp Imports by India. In *2016 Annual Meeting, February 6-9, 2016, San Antonio, Texas* (No. 230097).Southern Agricultural Economics Association.

Dedrick, J., Kraemer, K. L., & Linden, G. (2010). Who profits from innovation in Global value chain?a study of the iPod and notebook PCs. *Industrial and corporate change*, *19*(1), 81-116.

Dickerson, K. G. (1999). *Textiles and apparel in the global economy*.Prentice Hall.

Escaith, H., Inomata, S., &Miroudot, S. (2018). Evolution of production networks in the Asia–Pacific region: A vision in value-added and employment dimensions.

ESCAP, U. (2013). Asia-Pacific Trade and Investment Report.

Feenstra, R. C. (1998). Integration of trade and disintegration of production in the global economy. *Journal of economic Perspectives*, *12*(4), 31-50.

Feenstra, R. C., & Hanson, G. H. (1996). *Globalization, outsourcing, and wage inequality* (No. w5424). National Bureau of Economic Research.

Feenstra, R. C., & Hanson, G. H. (1997). Foreign direct investment and relative wages: Evidence from Mexico's maquiladoras. *Journal of international economics*, *42*(3-4), 371-393.

Francois, J., Manchin, M., &Tomberger, P. (2013). *Services linkages and the value added content of trade*. The World Bank.

Gereffi, G. (2006). *The new offshoring of jobs and global development*.International labor organization.

Gereffi, G. (2014). A global value chain perspective on Industrial policy and development in Emerging markets.*Duke Journal of Comparative & International Law*.*24*(3), 433-458.

Gereffi, G., & Fernandez-Stark, K. (2016). Global value chain analysis: a primer.

Gereffi, G., &Korzeniewicz, M. (Eds.).(1994). *Commodity chains and global capitalism* (149).ABC-CLIO.

Gereffi, G., Humphrey, J., & Sturgeon, T. (2005).The governance of Global value chain. *Review of international political economy*, *12*(1), 78-104.

Gereffi, G., Humphrey, J., Kaplinsky, R., & Sturgeon*, T. J. (2001). Introduction: Globalisation, value chains and development. *IDS bulletin*, *32*(3), 1-8.

Gibbon, P., Bair, J., & Ponte, S. (2008). Governing Global value chain: an introduction. *Economy and Society*, *37*(3), 315-338.

Grubel, H. Lyold. (1975). P.].(1975), Intra-Industry Trade. *The Theory and Measurement of International Trade in Differentiated Products, Bristol*.

Helpman, E., &Krugman, P. R. (1985). *Market structure and foreign trade: Increasing returns, imperfect competition, and the international economy*. MIT press.

Hopkins, T. K., &Wallerstein, I. (1977).Patterns of development of the modern world-system. *Review (FernandBraudel Center)*, 111-145.

Hummels, D., Ishii, J., & Yi, K. M. (2001).The nature and growth of vertical specialization in world trade. *Journal of international Economics*, *54*(1), 75-96.

Humphrey, J., & Schmitz, H. (2002). How does insertion in Global value chain affect upgrading in industrial clusters? *Regional studies*, *36*(9), 1017-1027.

Inomata, S. (2017). Analytical frameworks for Global value chain: An overview.

Jones, R. W. (2008). Heckscher–Ohlin trade theory.In *The New Palgrave Dictionary of Economics* (pp. 1-13). Palgrave Macmillan, London

Jones, R. kierzkowski, H. (1990):"The Role of Services in Production and International Trade: A Theoretical Framework". *The Political Economy of International Trade, Basil Blackwell, Oxford*.*Journal of economic Geography*, *8*(5), 699-725.

Kaplinsky, R., & Morris, M. (2008). Do the Asian drivers undermine export-oriented industrialization in SSA? *World Development*, *36*(2), 254-273.

Kowalski, P., Gonzalez, J. L., Ragoussis, A., &Ugarte, C. (2015).Participation of developing countries in Global value chain.

Kravis, I. B. (1956)."Availability" and Other Influences on the Commodity Composition of Trade. *Journal of Political Economy*, *64*(2), 143-155.

Krugman, P. (1984). Import protection as export promotion: International competition in the presence of oligopoly and economies of scale. *Monopolistic competition and international trade*, 180-93.

Krugman, P. R. (1979). Increasing returns, monopolistic competition, and international trade. *Journal of international Economics*, *9*(4), 469-479.

Krugman, P. R. (1985). Increasing returns and the theory of international trade.

Linder, S. B. (1961). *An essay on trade and transformation* (pp. 82-109). Stockholm: Almqvist&Wiksell.

Low, P. (2013). The role of services in Global value chain. *Fung Global Institute, June*.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*, *71*(6), 1695-1725

Menkhoff, T. (1992).Chinese Non-Contractual Business Relations and Social Structure-the Singapore Case. *International Quarterly for Asian Studies*, *23*(1/2), 261.

Miroudot& De Backer, 2013.Mapping Global value chain. OECD trade policy papers. 2013.No.159, (159)

Moïsé, E., & Le Bris, F. (2013). Trade Costs-What Have We Learned?

Mudambi, R. (2008). Location, control and innovation in knowledge-intensive industries

Pomfret, R., &Sourdin, P. (2014).Global Value-Chains and Connectivity in Developing Asia-With Application to the Central and West Asian Region.ADB working paper, *142*

Porter, M. (1985).The value chain. *The Value Chain and Competitive advantage: creating and sustaining superior performance*.

Posner, M. V. (1961). International trade and technical change. *Oxford economic papers*, *13*(3), 323-341.

Rasiah, R., &Nazeer, N. (2016).Comparing Industrialization in Pakistan and the East Asian Economies.*The Lahore Journal of Economics*, *21*, 167.

Ricardo, D. (1891). *Principles of political economy and taxation*. G. Bell.

Rodrik, D., Subramanian, A., &Trebbi, F. (2004). Institutions rule: the primacy of institutions over geography and integration in economic development. *Journal of economic growth*, *9*(2), 131-165.

Roodman, David. "How to do xtabond2: An introduction to difference and system GMM in Stata." (2006).

Rudassa, W., Azene, D., (2018). Global Value Chain Evolution, Feature and Significance: Literature Review. Journal of social sciences, 20(2):137-150

Ruffin, R. (2002). David Ricardo's discovery of comparative advantage. *History of political economy*, *34*(4), 727-748.

Sahoo, P. (2006). Foreign direct investment in South Asia: Policy, trends, impact and determinants.

Sen, K. (2014). Global Production Networks and Economic Corridors: Can They Be Drivers for South Asia's Growth and Regional Integration?

Shin, N., Kraemer, K. L., &Dedrick, J. (2012). Value capture in the global electronics industry: Empirical evidence for the "smiling curve" concept. *Industry and Innovation*, *19*(2), 89-107.

Shiozawa, Y. (2007). A New Construction of Ricardian Trade Theory—A Many-country, Many-commodity Case with Intermediate Goods and Choice of Production Techniques—. *Evolutionary and Institutional Economics Review*, *3*(2), 141-187.

Slany, A. (2016). The Role of Trade Policies in Strengthening Regional Value Chains in Africa.

Smith, A. (1937). The wealth of nations [1776].

Shih, S. (1992). Empowering technology—making your life easier. *Acer's Report, Acer's, New Taipei*.

Stolper, W. F., & Samuelson, P. A. (1941).Protection and real wages. *The Review of Economic Studies*, *9*(1), 58-73.

Storper, M., Chen, Y. C., & De Paolis, F. (2002).Trade and the location of industries in the OECD and European Union. *Journal of Economic Geography*, *2*(1), 73-107.

Sturgeon, T. J. (2006).Conceptualizing integrative trade: the Global value chain framework. *Trade policy research*, *6*, 35.

Sydor, A. (2011). *Global value chain: Impacts and Implications*. Minister of Public Works and Government Services.

Tewari, M. (2008). *Deepening intraregional trade and investment in South Asia: The case of the textiles and clothing industry* (No. 213).Working Paper.

Timmer, M. P., Erumban, A. A., Los, B., Stehrer, R., & de Vries, G. J. (2014).Slicing up Global value chain. *Journal of Economic Perspectives*, *28*(2), 99-118.

Trade, A. P. (2015).Investment Report 2015. *Turning the Tide: Towards Inclusive Trade and Investment*.

UNCTAD, G. V. C. (2013). Investment and Trade for Development. *World investment report*.

Vernon, R. (1966). International investment and international trade in the product cycle. *V Quarterly Journal of Economics*, *190*, 207.

Wang, X. (2013). The determinants of textile and apparel export performance in Asian countries.

Williamson, O. E. (1975). Markets and hierarchies. *New York*, *2630*.

World Trade Organization.(2014). *World trade report 2014*.World Trade Organization.

Yeats, A. J. (1999). *Just how big is global production sharing?*The World Bank

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Exploring the Potentials of Pakistani Exports in Chinese Economy: A New Approach Based on the Calculation of Extensive and Intensive Margins

*Anabia Maham

Abstract: This study attempts to explore that whether Pakistan should follow Export Intensification or Export Diversification policy for increasing its trade share in Chinese market. By employing the dataset for the period 2003-2015 the study initially computes the trade intensity index to observe the intensity of Pakistan-China bilateral trade relations and afterwards it evaluates the export growth of Pakistani products by calculating extensive and intensive export margins based on the methodology followed by Hummels & Klenow, (2005). Disaggregated trade data at HS six digit level has been extracted for two categories i.e. top most and bottom least products being exported by Pakistan to China. The findings indicate that in case of top most products exported by Pakistan to China, Pakistan is following the policy of export intensification, and the export penetration index shows that the share of Pakistani products in Chinese market is increasing by 15% per annum while on the other side in case of products which are least exported, Pakistan is following the policy of export diversification with the growth rate of exports 5% per annum. These findings helps in asserting this fact that export intensification can be more effective in increasing share of Pakistan's exports in Chinese market instead of export diversification.

Key Words: Trade Policy, Chinese Economy, Exports, Penetration, Diversification, Intensification, Trade Margins, Trade Intensity Index, Growth.

1: Introduction

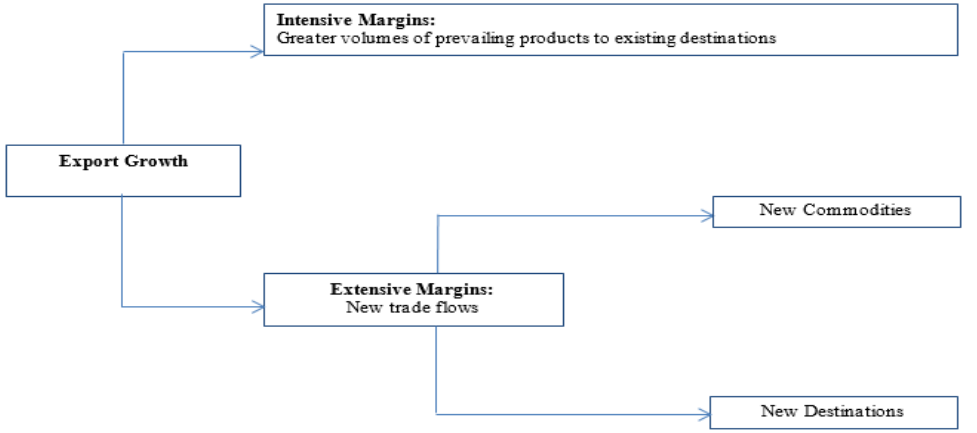
Trade expansions can be associated with: a) Enlarged varieties of tradable goods b) Expanded volumes of traditional goods c) Improved quality of traded goods d) Intensified efficiency of exporting firms. Traditional trade theories (the Ricardian model and the Hecksher-Ohlin model) highlighted the gains from specialization in exports by emphasizing the role of productivity and factor endowments which determine a country's comparative advantage.

In 1980s, various economists, among others,(Helpman & Krugman, 1985) established a "New Trade Theory" which included consumers' preference for product varieties and increasing returns to scale. This new theory

describes how increasing returns to scale and product differentiation lead to intra-industry trade emphasizing the importance of product diversification. More recently, research done by some economists, particularly (Melitz, 2003) has directed to a "New New Trade Theory" which focuses on the role of heterogeneous firms in international trade. According to this theory globalization and trade liberalization lead to shifts of production from inefficient firms to efficient firms within an industry. There is now a large empirical literature on trade flows that directly or indirectly explores the relevance of the above theories. One aspect of the empirical research has analyzed the outcomes of trade liberalization on firm productivity and product diversification among others, specifically by the authors Baldwin & Gu, (2003, 2004). Another aspect of the empirical literature has examined the extensive and intensive margins of trade like the research conducted by the authors Andrew, (2009); Hummels & Klenow, (2005).

Study of intensive and extensive trade margins develops the understanding of trade patterns and the comparative efficiency with which economies distribute resources. Before moving further let us clearly define these two terms; Extensive Margins and Intensive Margins. The extensive margin is defined as growth of trade resultant to an increase in the number of product varieties while the intensive margin is measured as growth of trade due to an increase in existing bilateral trading relationship (Figure 1). This study aims to explore the possibilities of beneficial trade between Pakistan and China by using this new approach of margins product wise just to know that in which case Pakistan should use the policy of intensive margins and where Pakistan can have more chances to enhance its exports by introducing product diversification to the same destination.

Figure 1: Disintegration of export growth – a structure for determining trade competitiveness



Source: Author's own compilation

1.1 Objectives of the study:

The research will contribute to literature in a number of ways.

- First, it will provide a comparative perspective to check the relative significance of both margins in the economy of China which has already become a successful exporter.

- Secondly, it will contribute in the calculation of extensive and intensive margins of Pakistan exports in the market of China by employing the methodology of (Hummels & Klenow, 2005) taking top most and bottom least products exported by Pakistan to China.

1.2 The China-Pakistan Strategic Relationship

Here in this section there is a brief history of Pak-China trade relations. China and Pakistan signed the border demarcation agreement in 1963. Since then, the relationship between the two nations has steadily grown in strength. The Sino-Pak relationship has been become stronger since the year 2000. Trade between Pakistan and China in 2003 was $697 million which has been increased to $12 billion in 2015, while the exports of Pakistan to China have increased from $260 million in 2003 to $2 billion in 2015. On the other hand, the exports of China to Pakistan have been increased from $957 million in 2003 to $11 billion in 2015. The following

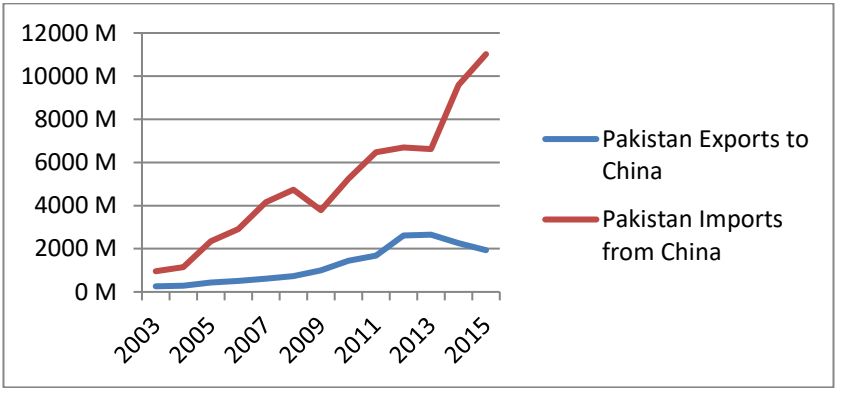
Table and figure demonstrate Pakistan exports to and imports from China from 2003 – 2015.

Table 1: Pakistan Exports to and Imports from China

Year	Pakistan Exports to China US$ Million	Pakistan Imports from China US$ Million
2003	260 M	957 M
2004	287 M	1140 M
2005	436 M	2349 M
2006	507 M	2915 M
2007	614 M	4164 M
2008	727 M	4738 M
2009	998 M	3780 M
2010	1436 M	5248 M
2011	1679 M	6471 M
2012	2620 M	6688 M
2013	2652 M	6626 M
2014	2253 M	9588 M
2015	1935 M	11019 M

Source: UNCOMTRADE Database

Table 1 has also been shown graphically in figure given below. Two trend lines are depicting the pattern of Pakistan's trade with china, blue line showing exports from Pakistan to the Chinese economy and red line is reporting the story of other side of coin i.e. how much Pakistan is importing from china. And the situation is quite clear that our exports are very much low than imports.



Source: UNCOMTRADE Database

Figure 1. Pakistan Exports to and Imports from China

Exports of a country grow because of two margins. Exports rise because of exporting new products to new markets or existing products to new markets or new products to existing markets, which is called extensive margin. On the other hand, exports can grow because of exporting more products to existing firms, which is considered as intensive margin.

2: Literature Review

The empirical literature on this relationship between export margins and export performance is quite thin however the summary of recent available research works is given below just to highlight the importance of idea developed under this study.

Del Rosal (2019) examined the relationship between export diversification and export performance using the dataset for Spain and its partner nations. The main finding of the study was a positive relationship between these two variables. However by employing export demand function, disentangling product and geographical diversity are considered to be important factors when focusing on the issue of export diversification.

Fan et al. (2018) utilized disaggregated trade data on China's imports from the United States of America and progressive rates between Chinese Yuan (CNY) and US Dollar (USD) on the non-deliverable exchange market. They showed that the impact of current exchange rate on import is different from the impact of future exchange rate on import. That is, due to increase in spot exchange rate, both the extensive and intensive margins of imports will be expanded. On the other hand, due to increase in future exchange rate

the extensive margin rather than the intensive margins of imports will be expanded.

Aldan et al. (2016) investigated the effect of extensive margin on Turkish export growth between 1995 and 2013, in contrast with other countries. Turkey enlarged its extensive margin contrasted to other less developed countries successfully. The extension of the extensive margin is still short as of 2013 contrasted to the other countries. They examined that Turkey still has significant chances to enlarge its exports through extensive margin particularly in products.

Naknoi (2015) utilized quarterly data of US bilateral trade with 99 countries. The work provided new confirmation that over the business cycle, the extensive margins of trade vary. They displayed that the extensive margin of exports to US and the extensive margin of imports from the US are better instable than the output of almost all trading partners.

Feenstra et al. (2014) studied the link among export variety and trade facilitation. They studied trade facilitation utilizing port efficiency. By utilizing port efficiency, they studied trade facilitation. They formed that port efficiency is significantly affected by the extensive margin on the other hand bilateral import tariff influenced negatively by the extensive margin of export. They examined that positive effect is established when inspecting trade between countries without communal land borders, or between OECD member countries and Non-OECD countries. They further clarified that results are not as strong when looking at within-OECD trade, or focusing on bilateral trade in the intensive margin.

Reis et al. (2013) observed that parallel to many other countries, Pakistan put up an excessive absorption of exports in the hands of large exporters. Less product modernization & experimentation and a low capability of the Pakistani export sector to join new higher growth sector is due to the dominance of few exporters which leads to depressed extensive margin contribution to export growth.

Debaere et al. (2010) considered the effect of emending tariffs on the variety of commodities countries export to the United States, with disaggregate tariff data. Their analysis with country and good outcomes clarified tariffs incline to have a statistically significant but minor impact: at best 5% of the rising extensive margin for 1989-1999 and 12% for 1996-

2006 is described by tariff cut, which recommend that the extensive margin has not expanded the effect of tariffs on trade flows to such a level that the comparatively reasonable tariff cutback since world war II can describe the intense growth of world trade.

Amurgo-Pacheco (2008) analyzed geographic and product heterogeneousness patterns by utilizing highly disaggregated trade data. By taking the group of Less Developed Countries (LDC's) from the period 1990-2005, the analysis demonstrated that across nations, the gravity equations fits the observed differences in heterogeneousness. The study presents that export at the intensive margin account for the most significant proportion of overall trade growth. At the extensive margin, geographic diversification is more significant than product heterogeneousness, especially for emerging countries. Taking part in free trade concurrences, thereby diminishing trade costs, and trading with countries in the North are also initiated to have reversed effects on export heterogeneousness for emerging countries.

Hummels and Klenow (2005) used 1995 trade data for multiple countries in various product categories and analyzed the extent to which huge economies export large volumes of each commodity (the intensive margin), export a large set of commodities (the extensive margin), and export high quality goods. They found that the extensive margin comprises of 62 percent of the greater exports of huge economies, prosperous countries export more units of high prices consistent with better quality to a given market.

Now after reviewing the past literature, this study attempts to calculate the export and import margins for Pakistan in case of Chinese market for the first time. The following section

3: Methodology and Data Sources

By following the methodology introduced by Hummels and Klenow in 2005, the export structure from the given country j (Pakistan) is examined to a destination country m (China). Supposing that in the market of destination country m, country j compares with the 'rest of the world' (k) the extensive margin equals the exports of country k to m in Ijm relative to the exports of country k to m in all I categories.

$$EM_{jm} = \frac{\sum_{i \in I_{jm}} p_{kmi} X_{kmi}}{\sum_{i \in I} p_{kmi} X_{kmi}}$$

This is a cross-exporter analogue of Feenstra's novel varieties adjustment to an import price index. Ijm is the set of observable sets in which country j has positive exports to m, i.e., xjmi > 0. (In our empirical application, the I categories will be 5,224 six-digit U.N. HS product codes.) Reference country k has positive exports to m in all I sets (in our empirical application, k will be rest of the world).

Where:
EM = Extensive margins of export
P = Price of the relevant product
X = Quantity of export
j = refers to the exporting country
m = refers to destination country
k = refers to the rest of the world

The range of extensive margin is from 0 to 1. The interpretation of the value of extensive margin can be as how much of the exports by a country, in our case Pakistan to China can be described by export varieties.

Whereas, intensive margin of export is given by

$$IM_{jm} = \frac{\sum_{i \in I_{jm}} p_{jmi} X_{jmi}}{\sum_{i \in I_{jm}} p_{kmi} X_{kmi}}$$

Where:
IM= Intensive margins of exports

IMjm equivalents j's nominal exports relative to k's nominal exports in those categories in which j exports to m (Ijm).

The ratio of country j to country k exports to m equals the product of the two margins. This will give us export penetration index.

$$S = \frac{\sum_{i \in Ij} p_{jmi} X_{jmi}}{\sum_{i \in I} p_{kmi} X_{kmi}} = IM_{jm} EM_{jm}$$

S = Export penetration of country j relative to k

This might be observed that the *depth* of a country's export shows its intensive margin, while the *breadth* of a country's export shows the extensive margin. To calculate extensive and intensive margins of exports, we utilized highly disaggregated trade data at the HS 6-digit level from UN-COMTRADE database attained through World Integrated Trade Solution (WITS). The UN-COMTRADE database comprises of broad information regarding trade value and number of export relations. We utilized data on exports from 2003-2015 reported by Pakistan and 'rest of the world'. Here exports with 'rest of the world' show the summation of exports from 2003-2015 conveyed by all nations (eliminating country j).

4: Measuring Trade Intensity Indices

Before moving towards comparison between Pakistan's extensive and intensive margins of exports by taking top most and bottom least products exported to China, trade intensity index has been constructed to examine the intensity of Pakistan – China bilateral trade relations. The trade intensity index shows whether an exporter exports more, as a percentage, to a partner than the world does on average. It is calculated as the exports of country i to country j relative to its total exports divided by the world's exports to country *j* relative to the world's total exports.

$$\textbf{Numerically}: 100 * \left[\frac{\frac{xijk}{Xik}}{\frac{xwjk}{Xwk}}\right]$$

Here X is total exports from i of product k, *x* is the value of exports of product *k* from origin country *i* to destination *j*, and *w* shows the world as origin. The range of trade intensity index lies between 0 to + ∞. If the value of TII (Trade Intensity Index) is more than 100, it indicates a relationship for the trade partner is more intense than the world average.

Table 2: Pakistan Trade Intensity Index with China

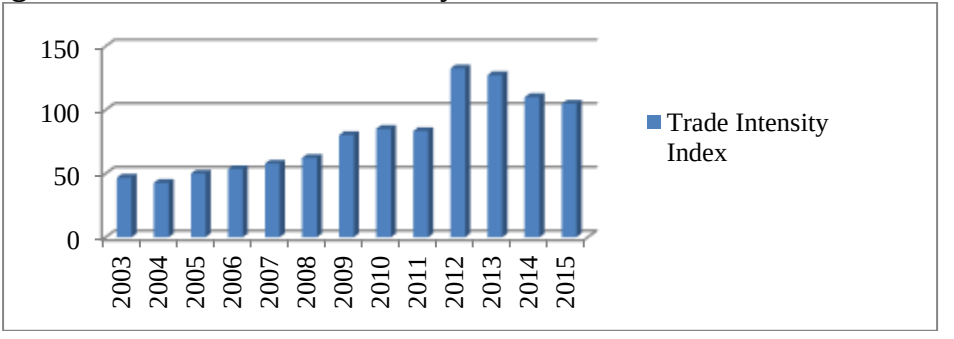
Year	Trade Intensity Index
2003	46.75%
2004	42.65%

2005	49.95%
2006	53.5%
2007	57.8%
2008	62.3%
2009	80.3%
2010	85.08%
2011	83.39%
2012	132.67%
2013	127.26%
2014	110.05%
2015	104.85%

Source: Author's own calculation using UN COMTRADE Database

The Table 2 shows the current bilateral trade value displays that the trading history of Pak-China has started improving since 2012 but before this it was not as strong as it should be for the better economic health of the nation. economic relations.

Figure 2: Pakistan Trade Intensity Index with China



Source: Authors's own using UN COMTRADE Database

The same has been depicted in figure 2 which is reporting clearly that Pakistan's trade intensity with respect to China has increased significantly over the years, which may be observed from the fact that trade intensity index has increased from 46.75% during 2003 to 104.85% during 2015.

The results from calculated indices show that Pakistan has a huge potential in trade with China.

4.3: Decomposition of Results for Pakistan

This section examines the Pakistan's intensive and extensive margins of exports in the market of China with reference to the Rest of the World, European Union, the United States of America and Japan. Here IMP= Intensive margin of Pakistan exports with respect to the rest of the world, EMP= Extensive margin of Pakistan exports with respect to the rest of the world, Sp= The share of Pakistan in Chinese market with respect to the rest of the world, r= Average annual growth rates calculated by applying semi – logarithmic regressions.

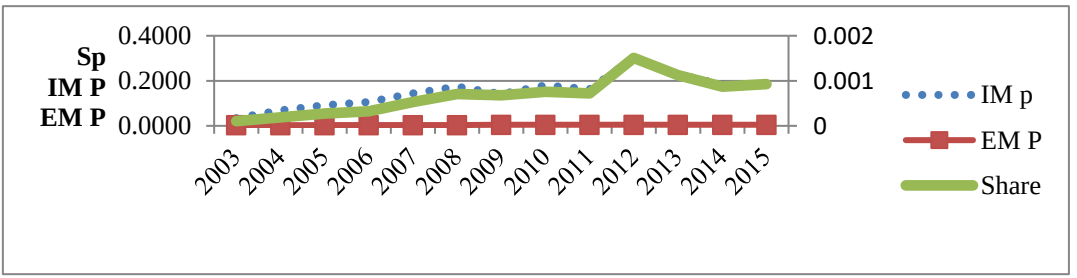
Table 3: Intensive And Extensive Margins of Pakistan in Chinese Market with Reference to the rest of the world (Taking Pakistan top most products exported to China)

	Pakistan top most products exported to China		
Year	**Intensive Margins**	**Extensive Margins**	**Export Penetration (Share)**
2003	0.0340	0.0031	0.00010
2004	0.0692	0.0028	0.00019
2005	0.0917	0.0029	0.00027
2006	0.1054	0.0031	0.00032
2007	0.1439	0.0037	0.00053
2008	0.1743	0.0041	0.00071
2009	0.1416	0.0048	0.00068
2010	0.1800	0.0042	0.00076
2011	0.1629	0.0044	0.00072
2012	0.3014	0.0050	0.00151
2013	0.2292	0.0049	0.00112
2014	0.1823	0.0048	0.00087
2015	0.1862	0.0050	0.00093
r (Growth Rate)	**0.1123**	**0.0371**	**0.15184**
r%	**11%**	**4%**	**15%**

Source: Computed from data available from the UNCOMTRADE and WITS.

Table 3 describes the intensive margin (IM), the extensive margin (EM) and export penetration rate (S) computed for the period 2003-15 for Pakistan top most products exported to China. The export penetration rate of Pakistan risen from 0.00010 in 2003 to 0.00093 in 2015 with reference to the rest of the world registered a growth rate of 15% per annum. The relative significance of both margins can be computed by decomposing export penetration rate into intensive margin and extensive margin. The breadth of Pakistan's market presence changed much over the years, shown in the values of EM which improved from 3% in 2003 to 19% in 2015 with an average annual growth rate of 11%. The increase in Pakistan's intensive margin can be interpreted as a reflection of Pakistan's yield of competitiveness with reference to the Rest of the world. In contrast, the breadth of Pakistan's market existence did not change a lot which can be observed from the values of EM which improved from 0.0031 in 2003 to 0.0050 in 2015 registering the growth rate of 4% per annum. The value of EM can be interpreted as; only 0.0031 of the exports by Pakistan to China can be explained by export varieties.

Figure 3: Evolution of Pakistan's Export Margins, 2003 – 2015 (In Case of Pakistan Top Most Products Exported to China)



Source: Author's own by using UN COMTRADE Database

The analysis is presented graphically in the figure 3. It may be summed up that Pakistan is following the policy of export intensification in

the case of top most products exported by Pakistan to China and its share in Chinese market is increasing.

Table 4: Intensive And Extensive Margins of Pakistan in Chinese Market /with Reference to the rest of the world (Taking Pakistan bottom least products exported to China)

	Pakistan bottom least products exported to China		
Year	**Intensive Margins**	**Extensive Margins**	**Export Penetration (Share)**
2003	0.0002	0.0243	0.000005
2004	0.0003	0.0230	0.000006
2005	0.0001	0.0266	0.000002
2006	0.0001	0.0244	0.000002
2007	0.0001	0.0144	0.000002
2008	0.0003	0.0139	0.000004
2009	0.0003	0.0156	0.000005
2010	0.0002	0.0124	0.000003
2011	0.0002	0.0132	0.000003
2012	0.0002	0.0160	0.000003
2013	0.0001	0.0176	0.000001
2014	0.0001	0.0194	0.000002
2015	0.0000	0.0207	0.000000
r (Growth Rate)	**-0.0139**	**-0.0276**	**-0.069580**
r%	**-1%**	**-3%**	**-5%**

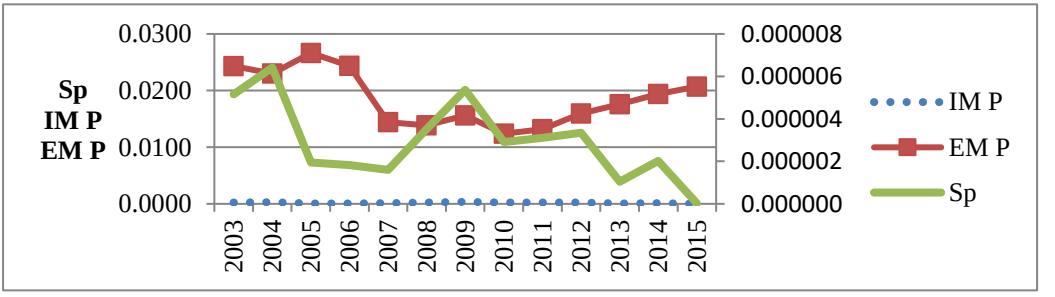
Source: Author's own source using datasets of UNCOMTRADE and WITS**.**

Notes: IMP= Intensive margin of Pakistan exports with respect to the rest of the world, EMP= Extensive margin of Pakistan exports with respect to the rest of the world, Sp= The share of Pakistan in Chinese market with respect to the rest of the world, r= Average annual growth rates calculated by applying semi – logarithmic regressions.

Table 4 shows the export penetration rate of Pakistan declined at the rate of 5% from 2003-15, with reference to the Rest of the world. The ***depth*** of Pakistan's market presence decreased significantly as indicated in the values of Intensive Margin which decreased from 0.0002 in 2003 to 0 in

2015, with an average annual declining growth rate of 1%. In contrast, the ***breadth*** of Pakistan's market presence also decreased significantly as displayed in the values of Extensive Margin that decreased from 0.0243 in 2003 to 0.0207 in 2015, registering an average annual declining growth rate of 3%.

Figure 4: Evolution of Pakistan's Export Margins, 2003 – 2015 (In Case of Pakistan Bottom Least Products Exported to China)



Source: Author's own source using dataset of UNCOMTRADE**.**

The analysis is presented graphically in the figure 4. It can be observed that Pakistan is following the policy of export intensification in case of bottom least products exported by Pakistan to China and its share in the market of China is declining.

5: Conclusion and Recommendation

The study finds that:

- In case of Pakistan's top most products being exported to China, the calculations showed that Pakistan is following policy of ***export intensification***, and the export penetration index shows that the dividend of Pakistan's exports in Chinese market is increasing by 15% per annum.
- In case of Pakistan's bottom least products which are exported to China, Pakistan is following the policy of export diversification, and the export penetration index shows that the dividend of Pakistan in Chinese market is declining by 7% per annum.

The analysis proposes that Pakistan can attain utmost benefits by implementing strategies directed to accelerate export growth at the intensive margin in Chinese market.

References:

Aldan, A., & Çulha, O. Y. (2016). The role of the extensive margin in export of Turkey: A comparative analysis. Central Bank Review, 16(2), 59-64.

Andrew B. Bernard, J. B. J., Stephen J. Redding and Peter K. Schott. (2009). The Margins of US Trade. *CEP Discussion Paper No 906*, 1-13.

Baldwin, J. R., & Gu, W. (2003). Export-market participation and productivity performance in Canadian manufacturing. *Canadian Journal of Economics/Revue canadienne d'économique, 36*(3), 634-657.

Baldwin, J. R., & Gu, W. (2004). Trade liberalization: Export-market participation, productivity growth, and innovation. *Oxford Review of Economic Policy, 20*(3), 372-392.

Baier, S. L., Bergstrand, J. H., & Feng, M. (2014). Economic integration agreements and the margins of international trade. Journal of International Economics, 93(2), 339-350.

Bista, R., & Tomasik, R. (2017). Time Zone Effect and the Margins of Exports. The World Economy, 40(6), 1053-1067.

De Nardis, S., Pappalardo, C., & Vicarelli, C. (2008). The Euro adoption's impact on extensive and intensive margins of trade: the Italian case. Istituto di Studi e Analisis Economica Working Paper(101).

Del Rosal, I. (2019). Export Diversification and Export Performance by Destination Country. Bulletin of Economic Research, 71(1), 58-74.

Fan, H., Li, Y. A., & Zhao, C. C. (2018). Margins of imports, forward-looking firms, and exchange rate movements. Journal of International Money and Finance, 81, 185-202.

Helpman, E., & Krugman, P. R. (1985). *Market structure and foreign trade: Increasing returns, imperfect competition, and the international economy*: MIT press.

Hummels, D., & Klenow, P. J. (2005). The Variety and Quality of a Nation's Exports. *American Economic Review, 95*(3), 704-723. doi:doi: 10.1257/0002828054201396

Lee, H.-y., & Kim, C.-S. (2012). The impact of trade facilitation on the extensive and intensive margins of trade: An application for developing countries.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica, 71*(6), 1695-1725.

Reis, J. G., & Taglioni, D. (2013). Determinants of export growth at the extensive and intensive margins: evidence from product and firm-level data for Pakistan.

Naknoi, K. (2015). Exchange rate volatility and fluctuations in the extensive margin of trade. *Journal of Economic Dynamics and Control, 52*, 322-339.

Feenstra, R. C., & Ma, H. (2014). Trade facilitation and the extensive margin of exports. *The Japanese Economic Review, 65*(2), 158-177.

Reis, J. G., & Taglioni, D. (2013). *Determinants of export growth at the extensive and intensive margins: evidence from product and firm-level data for Pakistan*: The World Bank.

Debaere, P., & Mostashari, S. (2010). Do tariffs matter for the extensive margin of international trade? An empirical analysis. *Journal of International Economics, 81*(2), 163-169.

Amurgo-Pacheco, A., & Pierola, M. D. (2008). *Patterns of export diversification in developing countries: intensive and extensive margins*: The World Bank.

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Do good governance and Terrorism Distract economic growth? An Evidence from Pakistan

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Abstract: Current study endeavors to examine the effect of terrorism and good governance on economic growth of Pakistan. Quantitative approach has been used and secondary data is collected for the period of 2002-2016. Multiple linear regression is used for the empirical analysis with the help of EVIEWS7 software. This study exposes that good governance indicators containing control of corruption, rule of law and voice and accountability have insignificant impact on GDP. Results may differ by increasing the sample size. Results of the study disclose that number of terrorist attacks have significant and negative impact on GDP%. Terrorist outbreaks have negative impact on the growth of economy. So Government should take proactive measures to switch terrorism. To the greatest of my familiarity, this is the main study which intention is to test the impact of good governance as well as terrorism on economic growth (GDP) in the context of developing country like Pakistan.

Keywords: Terrorism, GDP, Corruption, Rule of Law

Introduction:

Certainly, the nature of governance assumes a pivotal role to encourage a situation for sustainable advancement as well as poverty mitigation particularly for the emerging nations. International Monetary Fund (IMF) communicates its opinion regarding connection among good governances well as economic development, that, "promoting good governance in all its aspects, including ensuring the rule of law improving the efficiency and accountability of the public sector, and tackling corruption can make economies prospers" (IMF, 1997). Economic Growth can be achieved by good governance by generating rigorous business setting. Good governance lessens incidents of bad policy as well as enhances policy execution. According to Kofi Annan "good governance was perhaps the single most important factor in eradicating poverty and promoting development"(UN, 1998).

Keefer (2018) noted that no particular definition for the term "governance" exists. Normally, the term "governance" refers as the way of governing state, association, etc. According to United Nations Development Program (1997) "the exercise of economic, political, and administrative authority to

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manage a country's affairs at all levels. It comprises of mechanisms, processes, and institutions, through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences". UNDP (2005) stated "that rampant corruption has the major distributional implications on growth, equity and poverty as well. Corruption causes social disintegration and distorts economic systems; it entails discrimination, injustice and disregard for human self-respect; it imperils the stability of democratic institutions, discriminates in the delivery of government services and therefore violates the rights of the people and the poor in particular. Corruption is considered a failure of institutions, in particular those in charge of investigation, prosecution and enforcement". World Bank (2006) indicated that "Bad governance is associated with corruption, distortion of government budgets, inequitable growth, social exclusion, and lack of trust in authorities". As stated by Besancon (2003), effective performance as well efficient working of government machinery is the outcome of good governance. Bardhan (1997) has stated that corruption, inside conflicts, and over centralization exists in different parts of world. Environment of corruption as well falsifications in economic policy effects from weak governance (i.e. no respect for human rights, corruption, rarity of transparency and ineffectual public administration). The capability of state to execute its roles will be destabilized, if weak governance remains to persist (Abed and Davoodi, 2000).For effective performance of state, good governance is required there. The existence of immense corruption, lack of accountability, poor law and order conditions etc certify the poor governance in a country. The dissimilarity among good in addition bad governance is no discipline to realize. Good governance is legitimacy, responsibility as well as transparent administrative system and rule of law, while bad governance is related to policy making contrasting the rule of law and biased legal system. Gross domestic Product is related to economic growth of a country and this concept is very common since decades, as it is good indicator that is being used to know about the economic health of any country. This notion is being examined with the help of different tools and methods along with diverse dimensions. "**Economic growth** is an increase in the capacity of an **economy** to produce goods and services, compared from one period of

time to another". Critical goal of every nation is to improve the rapidity of Economic Growth in order to reach economic prosperity. Terrorist sets on making adequate damage of general public, this damage might be in wording of human as well as economic misfortunes. The two sorts of misfortunes uncover the government's failure to secure nation's resources, in this manner causing a misfortune in the government legality as well as confidence of citizens. Terrorism, through various channels, conceivably influences economic growth as well as these attacks increases insecurity that averts foreign direct investment as well as bonds investments (Abadie and Gardeazabal, 2003, 2008; Enders and Sandler, 1996).Voice and accountability can significantly improve GDP of a country because when everyone is accountable for his/her actions the economy will significantly grow. When rule of law as well as mechanism to control the corruption prevails, it improves economic growth likewise. Everyone in a state follows rules this will help to switch corruption and terrorism equally. When law and order situations are not followed then terrorism and corruption are welcomed by lowering economic growth. Terrorism and GDP goes inversely. Terrorism generates massive damage to the society that ultimately effects the growth of a country.

Three dimensions of good governance are used in this study as per worldwide Governance indicators (WGI) that may include:

- **Voice and Accountability:** It captures that to what extent residents of one state are capable of partaking in the selection of Government. It also refers to freedom of association as well as expression. (WBI)
- **Rule of Law:** It captures that to which extent government as well as citizens know about the law and they follow it.
- **Control of Corruption:** It captures insights that to what degree public authority is being used for private advantage, it also counts petty as well as outstanding practices of the corruption.

1.1: Objectives:

Current study aims to examine the link among governance and economic growth in perspective of Pakistan by also considering terrorism for the period of 2007-2017. Current research aims to concentrate on only three measures of Good Governance according to World Governance Indicators (WGI) that includes "voice and accountability, rule of law and mechanism to control corruption". Overall perception is that, good Economic Growth as well as Governance will certainly be the outputs as if the "Voice and

Accountability, Rule of Law and mechanisms for Control of Corruption" exists. And poor growth of an economy will definitely be the output if terrorism subsists.

1.2: Hypothesis:

H1: Voice and accountability has significant effect on Economic Growth.
H2: Rule of law has significant effect on Economic Growth.
H3: Control of corruption has significant effect on Economic Growth.
H4: Terrorism has significant effect on Economic Growth.

2: Literature review:

Good governance is very much important to raise economic growth of the country. If the state is accountable for its actions there will be no frauds and it will helpful to improve the GDP of that country. In the existence of good governance, the rule of laws will also be followed and corruption can be controlled in a sophisticated manner. According to some research studies governance is positively associated with economic growth and according to some other studies, governance is negatively related to economic growth. Empirical study by Kaufmann, Kraay, and Zoido-Lobatón (1999)who **s**tudied the impact of governance on economic outcomes on 160 countries, the results of their study show that good governance have a great impact on economic outcomes.

Another study of Kaufmann and Kraay (2002) for the period 2000/01 on 175 countries showed that quality of governance and per capita income are positively correlated. Huynh and Jacho-Chavez (2009) by using non-parametric test, in their study stated that significant relationship exist between governance and growth. The results of the study show that only 3 "voice and accountability, political stability and rule of law" out of six governance indicators have a significant influence on economic growth. Cebula and Foley (2011) conducted their study on OECD countries for the period of 2003-2006 to test that how quality government regulation affects per capita real GDP, they used PLS and panel data estimation for testing the hypothesis. The findings show the significant positive association among good regulatory quality as well as economic growth.

Emara and Jhonsa (2014) test interrelationship among governance as well as per capita income of 197 countries by using "Two-Stage Least Square

method". According to them, there is positive as well as significant causation effect of governance on per capita income as well as there is also significant and strong causation effect of per capita income on the excellence of governance. Chauvet and Collier (2004) states that countries with poor quality governance enjoy about 2.3% less GDP per year as compare to other emerging countries. The quality of governance is represented by "rule of law, political freedom and stability as well as civil liberties and human rights". Henry et al. (1985) in his study, test the linkamong voice and accountability as well as economic growth. He tested the hypothesis by using correlation model. Results of his study showed positive and significant association among the variables voice and accountability as well as economic growth.

Oraya et al. (2016) conducted the study on east Africa Community to test the relationship among governance as well as economic growth for the period of 1999-2013 by using OLS and Random effect model, results of his study revealed that only "political stability, quality regulatory and control of corruption" were significant. There is negative association among political stability, quality regulation and economic growth and positive association among control corruption and economic growth. In Kenya and Uganda, Voice and accountability effect economic growth significantly.in Kenya as well Tanzania there's significant effect of quality of regulation on the other hand effect of rule of law was significant merely in Kenya.

Rule of law, is key feature to expand growth of country. Not only establishment of rules but execution of rules is more important.

Corruption does not have positive effect on growth. More corruption lowers the growth of economy. Ahlin and Pang (2008) conduct his research on 71 countries and found that corruption and economic growth and negatively related.

Ehrlich and Lui (1999) plusMeon and Sekkat (2005**)** according to them corruption negatively effects "business development, economic growth, local and foreign investment and public expenditures". The course of economic development is harmed by Corruption. Mauro (1995) conducted his research on 67 countries of the world and examined that corruption and economic growth indices are negatively associated.

Bandyopadhyay and Younas (2013) they test the relationship amongst terrorism and the aptitude of developing state to fascinate foreign investment. According to them, terrorism makes the financiers unsafe

because they are not sure about getting the returns against their investments in future time, investors don't feel safe and they opt for other countries which are free from terrorism in order to make their investments safer.

Ak et al. (2015) test the link amongst economic growth in addition terrorism. Their study illustrates that there is reverse connection amongst terrorism plus economic growth.

3: Data and Methodology:

Secondary data from Pakistan has been collected for the period of 2002-2016 from different sources. GDP data for Pakistan has been taken from the given website (https://countryeconomy.com/gdp/pakistan). Data for three governance indicators is extracted from World Governance Indicators (WGI).Terrorism data is collected from Corruption Perception Index (CPI). Dependent variable is economic growth its proxy is GDP growth rate. Independent variable is good governance and terrorism proxies for good governance are control of corruption, voice and accountability as well as rule of law and proxy for Terrorism is no of terrorist incidents. Multiple linear regression is done by using the software EVIEWS 7.

Model:

$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon$

$gdp = \beta_0 + CC\beta_1 + RL\beta_2 + VA\beta_3 + TA\beta_4 + \varepsilon$

Dependent variable:

Y= gdp = Annual GDP Growth Rate (%)

Independent variables:

CC = Control of corruption

RL = Rule of law

VA = Voice and accountability

TA = No of terrorist incidents

ε = Error term

β_0= Constant

β_1, β_2, β_3 and $\beta_4$are coefficients

Results and Discussion:

According to the descriptive statistics, it is observed that total no of observations are 15.Mean score for GDP is 4.49. No of terrorist attacks have highest mean score that is 40.13the maximum is 144 and minimum value is 8.0. Among other independent variables control of corruption has

lowest mean score that is 18.14 the maximum value is 25.75 and minimum is 13.17. Mean scores for rule of law and voice and accountability are 22.48 and 23.15, congruently. For GDP, control of corruption, rule of law, voice and accountability and no of terrorist attacks skewness is positive meaning that values are on left side.

Multiple linear regression analysis is used to display the link between dependent and independent variables. Dependent variable is annual GDP rate and independent variables are control of corruption, rule of law, no of terrorist incidents and voice and accountability. From 2002 to 2016 total number of observations collected from Pakistan is 15. R^2 defines that 41.7% independent variables explain the variable of interest.

Table 1 shows that, control of corruption has -0.125 impact on economic growth it means that by increasing one unit of control of corruption Annual GDP rate will be decreased by 0.125. Results about the relationship between control of corruption and GDP are insignificant as the p.value is 0.44 which is greater than 5%. Meaning that, there is no impact of control of corruption on Economic Growth in the context of Pakistan because of small sample size. H3 is rejected.

Table 2: Regression analysis:

Dependent Variable: GDP

Variables	**Coefficients**	**P-Values**
CC	-0.1254	0.4461
RL	0.0179	0.0535
VA	-0.1468	0.5723
TA	-0.0340	0.0429
C	11.1320	0.0234
R-Squared	**0.4173**	

Among rule of law and economic growth, slope coefficient is 0.017 which means by increasing one unit of rule of law GDP will increase by 0.017.Standard error is 0.300, by correcting standard error results may turn out to be different. P.value of rule of law is 0.95 which is 95% and it is greater than 5% it does not have any impact on dependent variable GDP. Results may be insignificant because of less no of observations.H2 is rejected.

Voice and accountability has -0.146 impacts on GDP which demonstrates that by increasing one unit of voice and accountability GDP will decreased

by 0.146. Probability value of voice and accountability is also greater than 5% that is 0.57, results are insignificant. There is no relationship between voice and accountability and economic growth. H1 is also rejected.

And if the no of terrorist attacks are increased by one unit, GDP will be decreased by 0.034. Our results show that only number of terrorist attacks has a significant impact on annual GDP rate as the p.value is 0.04 which is less than 5% so number of terrorist attacks is statistically significant and our hypothesis H4 is accepted. It means that more no of terrorist attacks will have negative impact on economic growth. Other independent variables are insignificant. Only H4 is accepted all other hypothesis are rejected.

Conclusion:

Growth paradigm continues to change. The most recent popular expression 'good governance' has persevered for over 10 years. Existing literature maintains requirement for good governance and no terrorism with the aim to improve economic growth of a state. Terrorist outbreaks have a harmful impact on the progress of a nation.in present research, three of governance indicators succeeding from "world governance indicators "alongside with terrorism are being used to illuminate dependent variable "economic growth". In literature, numerous researchers have patterned the influence oneconomic growth by governance indicators but present research intended to check the effect of governance indicators as well as terrorism on GDP of Pakistan, which is not found in literature to the best of my knowledge.

Empirical outcomes help us to catch that no of terrorist attacks have a significant negative impact on Economic Growth during. Our results validates that terrorism is dangerous for the health of economy. It reduces the economic growth of Pakistan. This Result is consistent with **Ak et al. (2015)** that there is reverse connection among terrorism and Economic Growth.

Centered on empirical results of our study, we find that control of corruption, rule of law, and voice and accountability have insignificant impact on Economic Growth during the period of 2002- 2016. Otherwise speaking, control of corruption and rule of law do not play major role to influence economic growth of Pakistan during the specific time. Hypothesis that was framed for voice and accountability, rule of law and control of

corruption are rejected.This is because in Pakistan there was not a proper mechanism to control corruption rules were not followed properly and people were not accountable for their actions and everything was covered by taking loans and printing more notes, just by having a poor management and window dressing.

Overall, according to our study governance indicators have no impact on economic growth of Pakistan during nominated phase. Limitation of our study is that, sample size is very small that is only 15 observations by intensifying the sample size results will be different and we researcher will find a positive relationship between governance indicators and economic growth. Upcoming research may also consider more indicators of governance and terrorism to test the healthiness of the extant findings. As well as impact of good governance indicators and terrorism should also be checked on different proxies of economic growth.

References:

Abadie, A., &Gardeazabal, J. (2003). The Economic Costs of Conflict: A Case Study of the Basque Country. *American Economic Review*, *93*(1), 113-132. doi: 10.1257/000282803321455188

Abed, M. G. T., &Davoodi, M. H. R. (2000).*Corruption, structural reforms, and economic performance in the transition economies*: International Monetary Fund.

Ahlin, C., & Pang, J. (2008). Are financial development and corruption control substitutes in promoting growth?. *Journal Of Development Economics*, *86*(2), 414-433. doi: 10.1016/j.jdeveco.2007.07.002

Ak, M. Z., Aydın, M. K., &Dindar, M. (2015). TerörileBüyümeArasındakiİlişki: LiteratürİncelemesiBilgiSosyalBilimlerDergisi(1), 1-16.

Bandyopadhyay, S., Sandler, T., &Younas, J. (2013).Foreign direct investment, aid, and terrorism.*Oxford Economic Papers, 66*(1), 25-50.

Bardhan, P. K. (1997). *role of governance in economic development*: Development Centre of the Organisation for Economic Cooperation and Development.

Besancon, M. (2003). Good governance rankings. *The art of Measurement.World Peace Foundation.WPF Reports, 36*.

Camdessus, M. (1997).*Good governance: the IMF's role*: International Monetary Fund.

Cebula, R., & Foley, M. (2011).A Panel Data Study of the Effects of Economic Freedom, Regulatory Quality, and Taxation on the Growth Rate of Per Capita Real GDP.

Chauvet, L., & Collier, P. (2004). Development effectiveness in fragile states: spillovers and turnarounds. *Centre for the Study of African Economies, Department of Economics, Oxford University*.

Chappell, H. W., &Keech, W. R. (1985).A new view of political accountability for economic performance.*American Political Science Review, 79*(1), 10-27.

Ehrlich, I., &Lui, F. T. (1999).Bureaucratic corruption and endogenous economic growth.*Journal of Political Economy, 107*(S6), S270-S293.

Emara, N., &Jhonsa, E. (2014). Governance and economic growth: interpretations for MENA countries. *Topics in Middle Eastern and North African Economies, 16*.

Emirullah, M. A. C. The role of governance in economic development: Evidence from some selected countries in Asia and the Pacific. *International Journal of Social Economics, 41*(12), 1265-1278.

Keefer, P. (2018). Governance.

Kraay, A., Zoido-Lobaton, P., & Kaufmann, D. (1999).*Governance matters*: The World Bank.

Kraay, A., & Kaufmann, D. (2002).*Growth without governance*: The World Bank.

Mauro, P. (1995). Corruption and growth.*The quarterly journal of economics, 110*(3), 681-712.

Orayo, J. A., &Mose, G. N. (2016).A Comparative Study on Contribution of Governance on Economic Growth in the East African Community Countries.*International Journal of Regional Development, 3*(2), 89.

UNDP. (2005). Institutional Arrangements to Combat Corruption: A Comparative Study.

United Nations (1998), "Annual report of the secretary-general on the work of the organization", August 27, available at: www.un.org/Docs/SG/Report98/ch2.htm

United Nations Development Programme (UNDP) (1997), Governance for Sustainable Human Development, UNDP, New York, NY.

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Exploring the Factors Affecting the Quality of Life (QoL) of Nurses Operating in District Headquarter Hospitals (DHQs)

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Abstract: Nurses are considered as key players in providing healthcare facilities. The purpose of this study was to find out the quality of life of nurses in DHQ hospital of Gujranwala city. The questionnaire was used to collect data from 100 nurses. A convenient sampling technique was used. The study of Literature review has suggested eight dimensions affecting the quality of life including factors relating to socio-demographic, work-related, availability of physical facilities, work-life, work design, work context, work world, and economic wellbeing. Different items were used to measure these eight dimensions. For analysis, descriptive statistics were performed. After descriptive analysis, the Partial Least Square structure equation modeling technique (PLS) was applied. Common factor analysis and confirmatory factor analysis were performed. The items having poor outer loadings were dropped. Results showed that physical facilities, work-life, work world, and economic wellbeing has a positive and significant impact on Quality of life among Nurses. The study recommends that Quality of life of nurses can be improved with better working conditions, sufficient staffing at night duty and supporting nursing in maintain work/house balance. Organizations and administrators should focus on these factors to improve the QOL of nurses in the hospital.

Keywords: Nurses, QOL, Socio-demographic, work related, physical facilities, work life, work design, work context, work world, economic wellbeing

1. Introduction

Healthcare sector has a great impact on the economy of any country. Health care providers comprises of hospitals, nursing homes and clinics not only provide health facilities to its masses but also can provide jobs and increase employment opportunities to health workers in the country. It contributes positively by increasing the standard of living of the people within a country. Health care sector is very imperative for the economy as more healthy labor force will contribute in a more productive manner. From the point of view of economic growth, businesses and organizations also check the whether the local labor force is productive or not before investing into a certain location (Patry et al., 2010). Pakistan is spending 2.75 percent of

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its GDP on health care sector while India spends 3.65 percent of its GDP and America is spending 16.58 percent of its GDP on health sector during 2016 (World Bank, 2019).

Health care providers play important role in providing quality health care to the people. The health workforce comprises of doctors, midwives, nurses and paramedics. Health worker's own job satisfaction and quality of life are considered important for better provision of health. The world health report (2019) reported 4.3 million shortage of doctors, nurses and supporting staff. Due to this crucial shortage world health assembly passed a resolution to use the strategies to increase the contribution of health professionals (World Bank, 2019).

Nurses work as the frontline of the healthcare sector as they provide 24 hours services to the patients. Nursing is seen as the women's profession because it demands care for disable and sick. As the care taker of family and house and children, the traditional role of women, nursing seems only as women career. Although men are also adopting nursing as profession but they are very few in numbers. As 90 percent of workforce related to nursing are female (Cogin and Fish, 2009). For the assurance of quality healthcare, it is crucial to work for better quality of life of nurses as they have to work round the clock and deal with patients directly, they may be exposed to many problems.

1.1: History of Nursing:

Nursing arose as an occupation in in late 19th century. Before that no training and education was needed for nursing. Nurses were badly paid and their overall image in society was not as acceptable. Nightingale set up the first nurse's training school in 19th century at St. Thomas's hospital, this became the foundation of more nursing programs in the Western world. Nightingale improved the standard of nursing by adopting certain rules and reduced the death rate in her ward during Crimean war (Hemani, 1996)

Before partition there were more non-Muslim nurses than Muslims. As then there was no trend for Muslim women to go out and work, also nursing was not considered as a noble profession.

In 1947, when Pakistan became independent, the bulk of non-Muslim nurses moved to India and British nurses also left the country, leaving Pakistan with the hand full of nurses. These nurses had to take care of large

number of refuges. Among those who were injured in riots in their areas and many of them were ill with chronic diseases. It was not easy to fill this gap in a day or even in a year. After Independence, there were three legislative acts formed in 1949, 1952 and 1973 respectively.

Table 1.1 Summary of Nursing Legislature Acts

year	Act	Reason for change
1949	Central Nursing Council Act 1949	For the establishing a uniform standard of training and certificates throughout the country for nurses.
1952	Pakistan Nursing Council Act 1952	Changes were needed as professionals was evolving
1973	Pakistan Nursing Council Act 1973	Since great deal of achievements have been made, it was time to revise the act for examination board, curriculum, licensing and registration of nurses

Source: (Hemani, 1996)

For filling this chronical gap of nurses, administrative leaders plead Pakistani women to come out and save the lives of their brothers and sisters. There was a good answer for that call as hundreds of ladies left their colleges and homes to work for their nation. These women were trained to serve as nurses. At that time in 1952 two grades of nurses were approved; a general nurse and assistance nurse. The criteria for admission in nursing was age should not be less than 17 years and that preference was given to unmarried, widowed and childless women. And men were not allowed to take the nursing assistance course, but they could take up general nursing after they had passed matriculation.

Over the last two decades education of nursing in Pakistan has evolved so much. It has evolved from three years diploma to four-year degree program. Firstly, Agha Khan University has started post BSC degree in 1988 for diploma nurses and four-year degree for fresh candidates in 1977 (Huda and Alisbinati, 2015). Now Pakistan Nursing Council (PNC) as regulatory body for nurses in Pakistan has envied minimum qualification for nurses is BScN. The purpose of imposition of this rule to improve the standard of nursing in Pakistan as BScN is minimum qualification for practice in numerous countries of the world. The purpose of this transformation leads to more skillful and knowledgeable nurses.

1.2: Need of Nurses in Pakistan:

Pakistan is a rapidly growing country in terms of population, according to recent census population of Pakistan is accorded as 212,215,030 million. Pakistan is on 5th number in most populous countries in this world. This means that Pakistan have abundant human resources. Men and women ratio in population is almost same where men form 51 percent while women form 49 percent of the total population. But only 21.9 percent women participate in labor force suggesting that mostly women in Pakistan prefer to stay at home. (World Bank, 2019).

In case of developing country like Pakistan characterized with low literacy rate, women are considered as low status profession, therefore any profession associated with women is considered as low status. As caring have been ascribed as female role, since most of the practitioners are women explaining low status of profession. This is why the matter of fact that among most of the violence and harassment facing professions, nursing is the found to one in Sweden (Arnetz and Arnetz, 2000), in Australia (Cogin and Fish, 2009) and in Canada (Rippon, 2000). In Pakistan, place in the social order is found to be determined by respective economic condition (Qureshi et al, 2012). As from the start of nursing in Pakistan, females entering this profession usually belonged to lower middle class families, contributing towards the development of this image.

There is crude deficiency of nurses in Pakistan. As there are only 5.004 nurses available per 1000 persons. Over 60 percent of WHO Member States report to have less than 40 nursing and midwifery personnel per 10 000 population (about 25 percent report to have less than 10). In many countries midwives and nurses set up more than 50 percent of the national health workforce (WHO, 2019), expressing some serious need of consideration needed to focus not only the quantity but also the quality of health workforce (nurses) in Pakistan.

There are also very limited career opportunities for women. Some professions like doctors, teachers etc. these professions are considered honorable for women, with nursing not considered among acceptable profession (French et al, 1994), as they have to be in direct contact of Patients. Lack of respect of this profession may be the contributing factors in the downfall of nurses (Meleis 1980, Boyle 1989).

Nurses are the key players in health sector and mostly ignored class especially. There primary role is the wellbeing of the patients. To perform this duty well their quality of life should be better. In Pakistan only 5.008 nurses are available for 1000 people according to WHO. Nursing is a full-time profession as they have to take care of patients round the clock. They are exposed to many hazards in caring patients and offering their duties on very difficult schedules, there quality of life is affected. Study have been conducted to analyze the impact of different factors on QOL of nurses.

1.3: Objectives of the research

- To examine the impact of socio-demographic factors on QOL of nurses.
- To analyze the influence of Work-related characteristics on QOL of nurses.
- To investigate the influence of work content factors on QOL of Nurses.
- To examine impact of work design factors on QOL of Nurses.
- To examine the influence of work life/family life aspects among QOL of nurses.
- To examine the effect of work world determinants on QOL of nurses.
- To examine impact of economic wellbeing on QOL of nurses.
- To recommend some policy measures based on identified problems.

2. Literature Review

After 1948 when WHO considered Quality of life as physical social and mental wellbeing of a person, QOL issue gained more importance in practice and research. Since 1973, QOL was used as technique in clinical research. Quality of life measures the changes in the physical, social and mental health in order to evaluate the human and financial benefits and cost of new programs (Testa and Simonson, 1996). In 1971, American institute of research meeting was held in which several social scientists were invited. The board than decided to broaden the perspective for research in new directions. Then American Institute of Research (AIR) committee decided to take major effort in improving QL of Americans (Flanagan, 1978).

2.1 QOL and its' factors:

Yoon et al (1999) investigating job satisfaction and sleep pattern in Korean nurses. Job satisfaction and quality of life were dependent variables while circadian rhythm, work schedule, extroversion, and neurotics were

independent variables. Data collected through questionnaire from 85 rotating nurses and 70 nurses on fixed schedule. Step wise multiple regression analysis was performed. Study found the major difference between sleeping patterns of both shift schedules. The sleep pattern, job satisfaction and QL was found significantly poor in rotating schedule than in the day time group. The study suggested the personality characteristics as an important factor while coping with shift work.

Moradi et al (2014) studied "Quality of working life of nurses with its related factors" in Kashans'Hospitals (Iran) during 2012. Cross-sectional study was conducted by taking the sample of 200 nurses. Questionnaire used for the research was composed of two parts including demographic characteristics and Waltons' quality of work life index parameters. For statistical analysis one-way ANOVA and T test was used. Analysis showed that 60 percent Nurses were of moderate quality of life while 37 percent led unwanted and 2 percent had good quality life. Hospital type, educational level and experience of work showed significant relationship with QWL. The study recommended that there should be more focus on nurses' quality of work life and its affecting aspects as the study depicted moderate level of quality of work life of nurses.

Hegney et al (2015) aimed to explain professional quality of life of nurses by determining the negative trait of relative contribution and psychological resilience. 1743 nurses from aged care sectors and public and private sectors were investigated to meet the study objective. Survey consisted of questions regarding demographic data, trials of anxiety, stress, resilience, trait negative effects, depression and professional QOL. Data analysis were performed by IBM-SPSS. Inferential and Descriptive statistics tools were used including Welch, ANOVA and Chi-square tests. Bivariate correlations were performed to measure the relationships among variables. Results showed significant and positive relation among stress, anxiety, trait negative and burnout. Significant and negative relationship was found between all of the above-mentioned variables and CS (compassion satisfaction) and resilience. This study concluded resilience and CS are imperative variables in improving the professional quality life of nurses.

Loannou et al (2015) studied about employ job satisfaction and its relationship with quality life and health of nurses. In 2015, a cross sectional

survey was conducted from general hospitals. Sample size consisted of 508 nurses and nurses' assistants in Greece. Data collected through questionnaire consisted of job satisfaction scale and 36 items of demographic details and health survey. Results showed dissatisfaction of Greek nurses with their job. Health of the respondents resulted as average. The nurses who had higher job satisfaction level were found in good physical and mental health and their health-related quality of life was relatively higher. According to findings, suggestions were to improve work environment that would increase level of satisfaction and improved mental and physical health in nurses.

Silva and Guimarães (2016) conducted a study on Work-related stress and quality life especially related to nurses' health. Sample of 227 is chosen by convenience sampling technique. Data were collected through questionnaire designed in three parts comprising of Job strain scale, socio-demographic and item short form health survey. Simple multiple regression analysis and ANOVA was performed. High risk of demand at work is observed by 60.8 percent of respondents, high control on developed activity is 71.8 percent and low social support is 85.5 percent. Pain and vitality are observed as most damaged factors. Study concluded that most sample experienced the risk situation to stress and their quality life seemed damaged.

Zavala et al (2016) studied QL in work place for nursing staff at public health-cares. The study conducted for determining nurses' QL at work place in the city of Mexico, Hermosillo, Sonora. It was qualitative, correlational and comparative research. Sample size consisted of 345 nurses. For Analysis SPSS 15 was used. Kolmogorov-Smirnov test was used to check the normality of data. Medians were calculated by Mann-Whitney U test Kruskal-Wallis test. Results indicated Quality of life at work place at moderate level. The persons with permanent contracts are on higher QOL. Difference among the quality of life at work place is observed differently depending on the institution. Recommendations made were to deploy programs for the improvement in nursing staff and strategies and in work place satisfaction.

Hemanathan et al (2017) studied "Quality of work life among nurse in a Tertiary Care hospital" the objective of the study was to analyze the association between Quality life of work for nurses and socio-demographic factors in Narayan Medical College in India. It was a cross-sectional and

descriptive study. Sampling technique was nonprobability convenience sampling and selected sample size was of 100 nurses. In which frequency, percentage, mean and standard deviation also one-way ANOVA was used. Results indicated moderate quality life in 89 percent of nurses, high quality life in 11percent. Younger age group, education, living area and marital status have significance association with the quality of life of nurses. In association the work-related characteristics years of experience, number of overnight duties, working on off days and taking break on right time had significance relation with the working QOL of nurses.

Kelbiso et al (2017) investigated the QWL and its indicators among nurses working in Hawassa town public health facilities in South Ethiopia. A cross sectional study consisted on the sample size of about 253 nurses from nine health centers and two hospitals. A structured questionnaire was built for collecting data. SPSS 20 was used for data analysis. For identifying significant predictors of QWL, multinomial regression analysis was used. Results indicated work environment, working unit, monthly income and educational status were proved to be strong predictors explaining QWL of nurses. A significant portion of nurses were found dissatisfied by their QWL. Recommendations according to findings are that perception of nurses about their QWL can be changed if health care mangers consider the issue of work environment and other issues concerning QWL of nurses.

Perry et al (2017) examined the QOL of nurses and midwives in New South Wales, Australia and compare those values with general population. This was a cross sectional study conducted during the period of 2014-2015 by considering sample of 4592 Nurses and midwives through an ecteronic survey. Questionnaire included demographic characteristics and work/health related factors. To check the association with intent to leave multivariate and univariate logistic models were used. Results revealed lower mental scores and higher physical scores as compared to general population. Physical component score was observed decreasing with increasing age while mental wellbeing scored surge with increase in age. The chances of increase in “intention to leave” observed reduced with growing mental wellbeing. Policy makes and authorities should consider the results in composing new policies for nurse

Above stated literature suggested that Quality of life is explained mostly with reference of demographics, work-related characteristics and other aspects that lowers the performance and quality life of workers at work place. These studies measured the effect of variables separately by using descriptive statistics and regression analysis for measuring QOL.

On the basis of literature following model representing the variables affecting quality of life of nurses i.e. socio-demographic factors, Work related characteristics, physical facilities, work/family life, work design, work context, work world and economic wellbeing. Framework summarized the relationship between the endogenous variable which is Quality of life and exogenous variables comprising of socio-demographic factors, Work related characteristics, physical facilities, work/family life, work design, work context, work world and economic wellbeing.

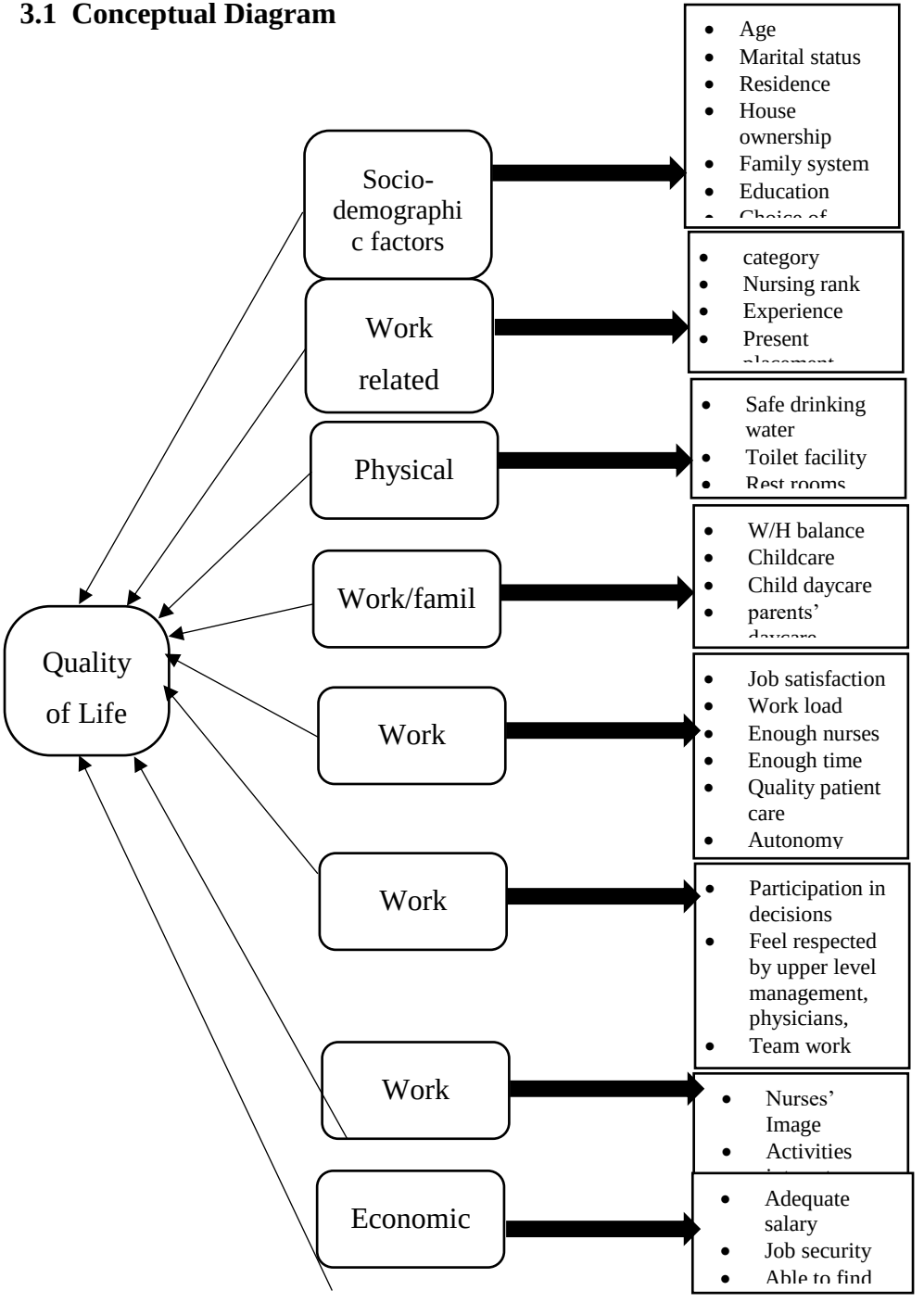
3. Theoretical Framework

3.1 Quality of life:

In General, QOL is the workers' insight about his/her life including social, economic and other work conditions. Quality life at work place is a wide multidimensional term which encompasses diverse models and approaches. QOL reflects a great amount of human and related to each other organizational dimensions (Rethinam and Ismail, 2007). Despite this complexity it can be inferred that the concept of QOL revolves around the wellbeing of employees and that its dimensions in general, including employee's satisfaction with physical and psychological factors related to work and daily life. The QWL in this sense, reflects the interaction between employees and work environment. The perception of quality of work life can be referred to as the favorableness or un-favorableness of a job environment for people (Davis, 1983).

Action for economic reforms (AER) have developed Quality of life index which was the derivative of UNDP's Capability poverty measure (CMP) popularized by human development report (Raya, 2001). There are many factors that affect the QOL of nurses with reference to Socio-demographic factors, Work related characteristics, Physical facilities, work/family life, work design, work context, work world, and economic wellbeing.

3.1 Conceptual Diagram



Source: Authors' formulation

4. Methodology

4.1 Sampling

Sampling means takes any portion from target population. In this study, sample of 100 registered nurses is investigated. Convenient sampling technique was used. Data was collected within 20 days. Sample size is determined through the following formula for the known population which is of 600 registered nurses in DHQ Gujranwala.

$$ss = \frac{z^2 \times (p) \times (1-p)}{c^2}$$

$$ss = \frac{1.96^2 \times (0.5) \times (0.5)}{0.1^2} = 96.04$$

Where

Z= z value (1.96 for 95% confidence level)

P= percentage picking a choice that is 0.5

C= confidence interval

Correction of finite population

$$new\ ss = \frac{ss}{1 + \frac{ss-1}{pop}}$$

$$new\ ss = \frac{96.04}{1 + \frac{96.04-1}{600}} = 84$$

Where

Pop= population

Minimum sample size must be equal to 84 so sample of 100 nurses was taken.

4.2 Questionnaire design and data collection:

Data was collected from our selected sample in DHQ from the city Gujranwala using questionnaire. Questionnaire was designed by keeping in mind the objectives of the study. And it was designed in local language for the convenience of the respondents. First portion consisted of information regarding socio demographics factors and work-related characteristics. Socio Demographic factors included age, education, marital status and family/ husband support in choosing the profession and their cooperation level. Work related characteristics consisted of income, average working hours, present shift and present placement. Other portion

consisted of physical facilities, work context, work world, work/ family life and economic wellbeing.

4.3 Research instruments and measurements:

Questionnaire was built to collect data from nurses about social demographic and work life of nurses working in DHQ Gujranwala. The QOL index was measured for further analysis. Index of each portion e.g., physical facilities, work life, work design, work context, work world and economic factors was calculated separately by using QOL index given below (Source: Yonk et al, 2017)

$$\frac{Observerd\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value}$$

After calculating each category by this formula QOL is calculated by simple averages. After calculating the QOL index, Partial structural equation modeling technique was applied and examined by two models: measurement model and structural model.

5. Findings and Results

5.1 Data Analysis

After calculating index, Descriptive analysis of data was performed with respect to different characteristics. PLS (partial structural equation model) was evaluated for regression analysis and hypothesis testing. This section presents the data analysis, discussion and interpretation of findings of this research. The basic purpose of this study is to find out the factors affecting the quality of life of nurse.

5.1.1 Composition of Work-related characteristics of nurses:

Table 5.1 shows the composition of experience according to day and night shifts. The table shows that maximum of the nurses on duty were having experience of till 10 years out of which in Day shift 51percent nurses were having less than five years of experience and 26 percent were having five to ten years' experience. While on the other hand 33percent of nurses in night shift were with the experience of less than 5 years and 39percent were having five to ten years' experience.

Table 5.1: Descriptive analysis regarding Work-related Characteristics of Nurses

Work-Related Characteristics	
Nursing Rank	**Rank**

Head Nurse	17
Staff	83
Experience	**Percent**
less than 5 years	42
5 to 10 Years	33
11 to 20 years	13
more than 20 years	12
Present placement	
Ward	58
ICU	15
HDU	5
Emergency	12
OT	10
Employment Status	
Permanent	96
Temporary	4
Monthly Income (PKR Rs)	
Less than 40,000Rs	5
40,000Rs to 50,000Rs	40
51,000Rs to 60,000Rs	40
more than 60,000Rs	15
Working hours	
less than 40 hours	11
41- 50 hours	89

The Table also indicates that the nurses with experience between 5 to 10 years were placed in night shift which is of 39 percent while nurses with less than 5 years of experience are usually placed in day shift 51 percent. The above table shows that out of the sample of 100 nurses, there were 17

head nurses and 83 percent were staff nurses. As far as teaching experience was concerned, 42 percent of nurses had less than five years of experience, while 33 percent had five to ten years of experience, 13 percent had eleven to twenty years of experience and 12 percent had more than twenty years of nursing experience. In terms of placement of duty, 58 percent nurses were placed in wards, 15 percent in Intensive care Units (ICU), 5 percent in High Dependency Unit (HDU) and 12 percent were placed in Emergency. Out of total 100 nurses, 96 percent were permanent and only 4 percent were temporary. 5 percent of the sample were receiving income less than 40,000Rs, 40 percent were receiving pay between 40,000 to 50,000Rs and 40 percent were those having income between 51,000 to 60,000Rs. Only 15 percent indicated that they were receiving more than 60,000Rs pay. 89 percent nurses indicated that they were working 41 to 50 hours a week while only 11 percent were working less than 40 hours a week.

5.1.2. Composition of Demographic characteristics of nurses:

Data shows that most of the nurses were of 20 to 39 years of age. 54 percent of nurses were from 20 to 29 age group and 22 percent were between 30 to 39 years of age. Only 9 percent were under 19 while 12 percent were between 40 to 49 years of age. Only 3 percent were above 50 years of age.

Table 5.2: Descriptive analysis regarding Demographic Characteristics of Nurses

Demographic characteristics	
Age	**Percent**
19 and under	9
20-29	54
30-39	22
40-49	12
50-59	3
Marital Status	
single	50
married	45
divorced	2

widowed	3
Residence	
urban	68
rural	32
House ownership	
rental	22
personal	78
Family System	
Nuclear system	54
Joint system	46
Education	
1 year Diploma	22
2 Year Diploma	32
BSC	41
MSC	5
Average	
Choice of Profession	4.15
Support of Family	4.28
Support of husband in job	4.29
Support of husband in house	4.13
Support of Husband in Expenditures	4.20

45 percent nurses were married, 50 percent were single while 2 percent divorced and 3 percent were widowed. 68 percent of the sample belonged to urban areas while 32 percent were from rural areas. 78 percent of nurses

having their own personal houses while 22 percent were living on rental houses. 54 percent of total sample was found in living in nuclear family system while 46percent was living in joint system. Data shows that there were 22 nurses with one-year diploma, 32 percent with two-year diploma, 41 percent with BSC placed while Nurses with MSC were only 5. A question asked about choice of profession by interest which respondent have to respond on Likert scale that whether they chose this profession with their own interest ranging from strongly disagree (1) to strongly agree (5) with the average of 4.15. While in terms of Family support, support of husband in job, and support of husband in household matters, the average 4.28, 4.29 and 4.13 respectively. Response in terms of Husband support in household expenditures was estimated about 4,20 on average.

5.1.3. Composition of Availability of Physical Facilities to nurses:

In this section respondents were asked about physical facilities provided them by the hospital. Moradi (2014) reported that nurses may be affected by the physical facilities as their study revealed direct relationship between type of hospital and QOL.

Table 5.3: Descriptive analysis regarding Availability of Physical Facilities to Nurses

Physical Facilities	Average
Safe drinking water	3.58
Toilet Facilities	3.01
Rest rooms facility	3.26
Sitting area facility	3.46
Dinning Space facility	3.31
Lockers facility	2.64

Satisfaction with safe drinking water and Toilet facility were estimated to be 3.58 and 3.01 respectively on average. As far as composition of Rest rooms are concerned, the satisfaction level was 3.26. Facilities of sitting area, dining area, and availability of lockers were rated as 3.46, 3.31 and 2.64 respectively.

5.1.4. Composition of Work/family life balance with reference to nurses:

Table 5.4 shows the composition of work/house balance estimated as 4.24 on average.

Table 5.4: Descriptive analysis regarding Work/family life balance with reference to nurses

Work/family life	Average
Work/house balance	4.24
Childcare facility	3.6
Daycare facility	3.76
Energy after work	3.52
Negative effects of rotating schedules	2.5
Daycare for elderly parents	4.09

Arrangement of childcare, child day care and daycare for elderly parents were rated as 3.6, 3.76 and 4.06 respectively. Regarding level of energy left after work and negative effects of rotating schedules results were, 3.52 and 2.5 respectively.

5.1.5. Composition of Work design Characteristics with reference to nurses:

Table 5.5 shows that 96 percent of our sample responded that they are satisfied with their job with the average of 4.43. Satisfaction with reference to work load was estimated to be 3.31. Regarding sufficient number of nurses and time availability, response of 3.7 and 4.16 respectively suggest that there is enough human resource and leisure time available.

Table 5.5: Descriptive analysis regarding Work Design with reference to nurses

Work design	Average
Job satisfaction	4.43
Work load satisfaction	3.31
Adequate number of nurses	3.7
leisure time	4.16
Quality patient care	4.47
Autonomy in patient care	3.85
Sufficient assistance	3.76
Interference in duty	2.89
Communication with nurse manager	4.14

Availability of adequate supervision	4.05

Results shows that almost all nurses were of the view that they can provide quality patient care within their work setting along with autonomy in patient care and sufficient assistance with an average response of 4.47, 3.85 and 3.76 respectively. *Score of interference in work and level* of communication with nurse manager are estimated as 2.89 and 4.14 respectively. Data shows composition of adequate supervision by head nurse as an average of 4.05.

5.1.6. Composition of Work context Characteristics with reference to nurses:

Table 5.6 shows that level of participation in decisions and respect revealed by higher management and Physicians with respect to nurses as depicted by 3.57, 3.9 and 4.08 respectively. As far as Communication with Physicians is concerned, it was estimated about 4.21 on average depicting that quality of patient care is highly related to good communication between physicians and staff nurses. They can make good decisions for quality patient care by collaboration.

Table 5.6: Descriptive analysis regarding Work Context Characteristics of nurses

Work context	Average
Participation in decision making	3.57
Feel respected by management	3.9
Feel respected by physicians	4.08
Level of communication with physicians	4.21
Team work	4.04
Sense of belonging	4.11
Personal safety	3.97
Secured environment	3.94
Adequate patient care supplies	3.76

Patient care requires team work and an average of 4.04 reported good teamwork in their setting. The need of belonging is considered as a basic human psychological need and lack of belongingness relate to stress and workplace dissatisfaction with an average result of 4.11. Level of personal safety was rated as 3.97 by 100 respondents. Provision of secure environment was estimated as 3.94. Results of 3.76 shows that hospital has provided adequate supplies for patient care.

5.1.7. Composition of Work world Characteristics with reference to nurses:

Table 5.7 shows composition of nurses' image within the society, which is being depicted by an average of 3.95.

Table 5.7: Descriptive analysis regarding Work Context Characteristics of nurses

Work world	Average
Nursing image	3.95
Interest in daily activities	3.68
Co-operative social relations	3.65
Impact on patient's lives	4.09

Nurses point of view regarding their interest in daily activity and nature of social relations is estimated as 3.68 and 3.65 respectively. Sense of responsibility and belonging towards the patients is being evident by an average of 4.09.

5.1.8. Composition of Economic well-being with reference to nurses:

Table 4.8 shows the satisfaction with adequate amount of salary with respect to nurses which is rated as 3.83 by respondents.

Table 5.8: Descriptive analysis regarding Economic Well-being of nurses

Economic well-being	Average
Adequate salary	3.83
Job security	4.02
Ability to find new job	3.25
Personal wealth	4.27
Living standard	4.33

Job security is evaluated as 4.02 and with reference to the search of new job, response was mostly neutral. Response of 4.27 suggests that their personal wealth has increased with current job, leading to an improvement in their standard of living.

5.2. Partial least square structural equation Modeling:

In PLS (partial structural equation modeling) technique two models are examined that are measurement model and structural model. In measurement model, two analyses are performed common factor analysis and confirmatory factor analysis. The detail of these analysis is given below.

5.2.1. Common factor Analysis:

Common factor analysis is the first step of measurement model. At this stage, all observed variables of study constructs are verified. For this purpose, outer loadings are checked of observed variables. Outer loadings show correlation of observed variables with their latent construct. Common factor analysis of study variables i.e. sociodemographic factors, work-related characteristics, physical facilities, work life, work design, work context, work world, economic wellbeing is as below. Some Items are dropped due to poor out loading which is less than 0.50 and the remaining constructs are presented in the table below:

Table: 5.9 Summary of Common Factor Analysis

Latent variables	Total Items	Items Retained	Outer Loading
Economic wellbeing	5	4	0.67 - 0.81
Physical facilities	6	6	0.50 - 0.87
Socio demographic factors	5	5	0.55 - 0.79
Work Context	9	8	0.61 - 0.87
Work World	4	4	0.54 - 0.79
Work design	8	8	0.60 - 0.74
Work life	6	5	0.59 - 0.81
Work related Characteristics	7	1	1

5.2.2. Confirmatory factor Analysis:

Confirmatory factor analysis (CFA) was examined on second step. Confirmatory factor analysis supports to examine internal consistency, convergent validity, and discriminatory validity of all latent variables. Confirmatory factor analysis is as follows.

Composite reliability is used to test internal consistency of research variables. Composite reliability results lie between 0.75 – 1.00 which shows

Table 5.11: Results of Discriminant Validity									
Constructs	**Eco**	**PF**	**QOL**	**SDF**	**WC**	**WW**	**WD**	**WL**	**WRC**
Economic wellbeing	**0.762**								
Physical facilities	0.630	**0.765**							
QOL	0.881	0.820	**1.000**						
Socio demographic factors	0.420	0.364	0.470	**0.712**					
Work Context	0.658	0.614	0.762	0.407	**0.742**				
Work World	0.628	0.632	0.771	0.355	0.684	**0.668**			
Work design	0.687	0.631	0.791	0.418	0.765	0.668	**0.681**		
Work life	0.511	0.517	0.641	0.482	0.673	0.501	0.670	**0.669**	
Work related Characteristics	-0.140	-0.091	-0.134	0.104	-0.144	-0.093	-0.009	-0.038	**1.000**

higher internal consistency as results are higher than 0.70. Average extracted variance (AVE) is used to test convergent validity. Value of AVE lie between 0.506-1.00 it shows higher convergent validity as results of AVE are above 0.50. Results of both are presented in the following table

Table 5.10 Results of Composite Reliability and Average Variance Extracted

Variable	**Composite Reliability**	**Average Variance Extracted (AVE)**
Economic wellbeing	0.847	0.581
Physical facilities	0.890	0.585
QOL	1.000	1.000
Socio demographic factors	0.834	0.506
Work Context	0.906	0.550
Work World	0.759	0.551
Work design	0.873	0.512
Work life	0.800	0.546
Work related Characteristics	1.000	1.000

5.2.3 Discriminant Validity:

Finally, discriminatory validity concerns with the degree of difference among measures of different constructs. To test the discriminatory validity, Fornell and Larcker (1981) method is employed. In this method AVE is

compared with correlation values of variables. Results showed that all the values in the diagonal are greater than square root (AVE).

5.3. Structural Model:

After through checkup of measurement model, structural model is tested for research Hypothesis. Structural model is presented in figure 4. Structural model is presenting mean score of all the latent variables. Out of which socio-demographic factors, work related characteristics, physical facilities, Work life, work design, work Context, Work World and Economic Wellbeing are exogenous variables while Quality of life is dependent variable.

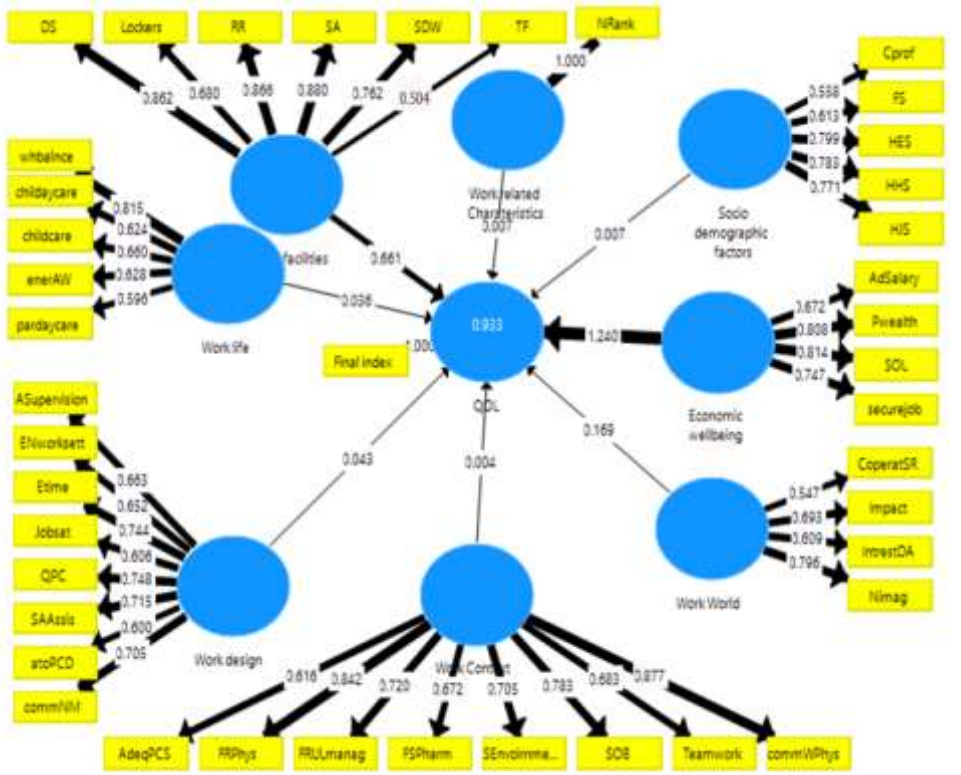
5.3.1. Hypothesis testing:

Finally, hypotheses are tested in structural model. Results of each hypothesis is presented in the Table below.

Table 5.12: Hypothesis Results

Hypothesis	Path	Path Co efficient	Standard Deviation	T-Statistics	P Values	Decision
H1	Socio demographic factors -> QOL	0.026	0.032	0.827	0.41	Rejected
H2	Work related Characteristics -> QOL	-0.023	0.034	0.666	0.50	Rejected
H3	Physical facilities -> QOL	0.305	0.053	5.785	0.00	Accepted
H4	Work life -> QOL	0.074	0.042	1.753	0.08	Accepted
H5	Work design -> QOL	0.099	0.062	1.598	0.11	Rejected
H6	Work Context -> QOL	0.028	0.054	0.531	0.59	Rejected
H7	Work World -> QOL	0.163	0.043	3.774	0.00	Accepted
H8	Economic wellbeing -> QOL	0.448	0.048	9.351	0.00	Accepted

Figure 5.1 Structural Model QOL



Source: Based on the output of Author's estimation.

6. Conclusions and Recommendations:

6.1 Conclusions:

The determination of this study was to find out the QOL of nurses in DHQ hospital Gujranwala. Study of Literature suggested eight dimensions that affect QOL including socio-demographic factors, work related characteristics, physical facilities, work life, work design, work context, work world and economic wellbeing. Each dimension was measured with the help of different items. For analysis descriptive analysis was performed. After descriptive analysis Partial Least Square structure equation modelling technique (PLS) was applied. Two analysis were performed common factor analysis and confirmatory factor analysis. The items having poor outer loadings were dropped. After dropping variables with poor outer loadings, CFA (common factor analysis was performed to check the internal

consistency of the model the results of composite reliability raged between 0.75 to 1.00 which showed the higher internal consistency of the model. After through checkup of measurement model, structural model was evaluated to test the research hypothesis. Results according to each dimension are discussed below:

Socio-demographic Variables:

Structural model test showed that socio-economic factors have no significant impact on QOL of nurses. Choice of profession, family support Husband support in expenditures, husband support in house chores and husband support in job were found important variables but doesn't provide enough evidences to accept the hypothesis.

Work related characteristics:

Hypothesis that work-related characteristics having significant impact on QOL of nurses is rejected. The results showed that nursing rank has no association with QOL of nurses. These results are also contrary to (Hemanathem et al,2017).

Physical facilities:

Results are similar to Moradi (2014) where significant positive association found between QOL and physical facilities i.e. safe drinking water, toilet facilities, rest rooms, sitting area, dinning space and locker facilities for the staff significantly contributing in QOL.

Work/family life:

Hypothesis of work life have significant and positive association with QOL. This means that if family/work life is improved it can also improve QOL of nurses.

Work design:

This dimension comprised of 10 items related to the work setting, work load etc. Hypothesis was rejected representing insignificant impact on QOL of Nurses in present study.

Work Context:

Work context consists of relation of nurses with their work conditions like patient care supplies, relations with physicians, staff members and upper management etc. our hypothesis that Work context have significant impact on QOL is rejected in current scenario.

Work World:

Hypothesis that work world has significant and positive effect on QOL of nurses is accepted. Descriptive study shows that nurses have interest in daily activities. Most of the nurses have cooperative social relationships. Study results are similar with Mozaffari et al (2015) concluding that social relationships improve job satisfaction and social wellbeing of the nurses.

Economic Wellbeing:

Economic wellbeing has significant and positive impact on the QOL of nurses. Nurses with more economic wellbeing have higher QOL (Yonk et al ,2017). Results showed the same economic wellbeing is found highly significant at β=1.240.

6.2 Recommendations:

In the light of above study and results some recommendation are given as follows.

- If there is improvement in social factors for example choice of profession, family support, husband support in job, husband support in house work and husband support in expenditures that will improve the quality of life of nurses.
- As the domain of physical facilities shown stronger impact on the quality of life of nurses it must give due importance to increase the quality of life of nurses. Results suggested the following recommendations.
- Hospital should improve its infrastructure i.e. dinning space, rest rooms, safe drinking water, and toilet facilities and sitting area for nurses.
- Dinning space must be good and should provide with quality food and better cafeterias.
- The results recommended that improvement in the following factors i.e., adequate supervision, enough time for performing duty well, job satisfaction, quality patient care, sufficient amount of assistance, autonomy in patient care and communication with nurse manager can improve the quality of life of nurses in the hospital. For this there must be effective management of shift work can improve QOL of nurses by working for the betterment and solving problems for the nurses.
- Management should supply adequate patient care supplies on time so nurses should perform their duty well.

- If nurses feel respected by physicians and upper level management, they feel sense of belonging to that place and their quality of life will improve.
- Hospital should adopt those policies that assure to nurses that they are safe and have adequate resources. As most of the nurses working on night time do not feel safe in their work environment.
- If nurses take interest in daily activities, they feel they have impact on the patients' lives and their positive image in society can improve their quality of life for both day and night shift nurses.
- Adequate salary, personal wealth, standard of living and job security if all these factors improve it may have positive and very strong impact on the quality of life of the nurses working both shifts.

References

Arnetz, J. E., & Arnetz, B. B. (2000). Implementation and evaluation of a practical intervention programme for dealing with violence towards health care workers. *Journal of advanced nursing*, *31*(3), 668-680.

Boyle, J. S. (1989). Professional nursing in Iraq. *Image: The Journal of Nursing Scholarship*, *21*(3), 168-171.

Cogin, J., & Fish, A. (2009). Sexual harassment–a touchy subject for nurses. *Journal of health organization and management*, *23*(4), 442-462.

Davis, L.E., 1983. Design of New Organizations. In: The Quality of Working Life and the 1980s. Kolodny, H. and H. Van Beinum (Eds.). Praeger, New York, ISBN: 9780030633423, pp: 65-86.

Flanagan, J. C. (1978). A research approach to improving our quality of life. *American psychologist*, *33*(2), 138.

Fornell, C., and Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. Journal of Marketing Research (18:1), pp. 39-50.

French, S. E., Watters, D., & Ralph Matthews, D. (1994). Nursing as a career choice for women in Pakistan. *Journal of Advanced Nursing*, *19*(1), 140-151.

Hegney, D. G., Rees, C. S., Eley, R., Osseiran-Moisson, R., & Francis, K. (2015). The contribution of individual psychological resilience in determining the professional quality of life of Australian nurses. *Frontiers in psychology*, *6*, 1613.

Hemanathan, R., Sreelekha, P. P., & Golda, M. (2017). Quality of work life among nurses in a Tertiary Care Hospital. *Health Care*, *5*(4), 555667.

Hemani, H. (1996). The history of nursing in Pakistan: a struggle for professional recognition.

Huda, S. U., & Alisbinati, A. S. A. (2015). Nursing Education in Pakistan: Challenges and Trends in Degree Program. *International Journal of Nursing Education*, *7*(4), 59-62.

Kelbiso, L., Belay, A., & Woldie, M. (2017). Determinants of quality of work life among nurses working in Hawassa town public health facilities, South Ethiopia: A Cross-Sectional Study. *Nursing research and practice*, *2017*.

Ioannou, P., Katsikavali, V., Galanis, P., Velonakis, E., Papadatou, D., & Sourtzi, P. (2015). Impact of job satisfaction on greek nurses' health-related quality of life. *Safety and health at work*, *6*(4), 324-328.

Meleis, A. I. (1980). A model for establishment of educational programmes in developing countries: the nursing paradoxes in Kuwait. *Journal of advanced nursing*, *5*(3), 285-300.

Moradi, T., Maghaminejad, F., & Azizi-Fini, I. (2014). Quality of working life of nurses and its related factors. *Nursing and midwifery studies*, *3*(2).

Mozaffari, N., Peyrovi, H., & Nayeri, N. D. (2015). The social well-being of nurses shows a thirst for a holistic support: A qualitative study. *International journal of qualitative studies on health and well-being*, *10*(1), 27749.

Patry, J., Morris, K., & Leatherman, J. (2010). The Importance of the Health Care Sector to the Economy of Scott County.

Perry, L., Xu, X., Duffield, C., Gallagher, R., Nicholls, R., & Sibbritt, D. (2017). Health, workforce characteristics, quality of life and intention to leave: The 'Fit for the Future'survey of Australian nurses and midwives. *Journal of advanced nursing*, *73*(11), 2745-2756.

Raya, R. R. (2001). An alternative measure of poverty and human capability. *Social Watch*.

Rethinam, G.S. and M. Ismail, 2007. Constructs of quality of work life: A perspective of information and technology professionals. Eur. J. Soc. Sci., 7: 58-70.

Rippon, T. J. (2000). Aggression and violence in health care professions. *Journal of advanced nursing*, *31*(2), 452-460.

Testa, M. A., & Simonson, D. C. (1996). Assessment of quality-of-life outcomes. *New England journal of medicine*, *334*(13), 835-840.

World Bank. "Population, total – Pakistan (Millions)." *World development Indicators.* The World Bank group, 2019, https://data.worldbank.org/indicator/SP.POP.TOTL?locations=PK. Accessed 09 Oct. 2019.

World Bank. "Labor force, female (% of total labor force) – Pakistan". *World Development Indicators.* The World Bank Group, 2019,

https://data.worldbank.org/indicator/SL.TLF.TOTL.FE.ZS?locations=PK. Accessed 09 Oct. 2019.

World Health Organization. "Density of nursing and midwifery personnel (total number per 10 000 population, latest available year)" Global Health Observatory (GHO) data. 2019, https://www.who.int/gho/health_workforce/nursing_midwifery_density/en/. Accessed 09 Oct. 2019.

Yonk, R. M., Smith, J. T., & Wardle, A. R. (2017). Building a quality of life index. *Quality of Life and Quality of Working Life*, 71.

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Future of Global Trade Governance: Impact of Export Promotion Agencies (EPAs) and Trade Facilitation Agreements (TFAs) on Economic Prosperity

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Abstract: In recent years the debate over the issue of International trade governance is getting intense. This has been visualized either rule-based governance (Global integration) or relation-based governance (Regional integration). However the latter is considered more flexible in ***adaptability*** as compared to the former. The present study hypothesizes that EPAs and Trade Facilitation Agreements (TFAs) have positive impact on economic prosperity of nations. The nature of the data is panel and has been collected for the time period 1990-2015. The sources of data are World Development Indicator (WDI), United Nation Trade and Development (UNCTAD) and Economic Freedom of the World (EFW). The data is comprised of four sub panel i.e. Latin American countries (LAC), Middle East & North Africa (MENA), European Economic Area (EEA), and Sub Saharan African Countries (SSA) including total of 128 nations. Mean Group, Pooled Mean Group and Difference Fixed Estimators techniques have been employed to analyze the dataset both from short run and long run perspective. Generally the finding reported that EPAs and TFAs have positive impact on economic growth of all sub panels i.e. LAC, MENA, SSA, and EEA. However the extent of the impact varied for developing and developed nations. Specifically the results showed that EPAs and TFAs are not efficiently working in case of SSA region as compared to others. Similarly for MENA region the factors like exchange rate, distance and time to trade didn't show significant impact on their economic growth. From the analysis it can be recommended that developing countries should increase their share of expenditures for EPAs and Trade Facilitation Agreement (TFAs) which can assist traders to shift their exports of informal traded goods to formal traded goods across regions by incentivizing them in various ways.
Keywords: Foreign Trade, Foreign Exchange, Regulations, Panel data, Economic Welfare, Uncertainty, Investment

1: Introduction:

G.S.Mill wrote in the last century that international trade is the engine of growth. This statement is truer today than it was during Mill's time. The transportation revolution has made it possible to widen the world markets. If a country tries to approach foreign markets, those markets are now accessible. The only thing needed is the right policy to facilitate exports to other markets and use those resources for economic development. Trade

facilitations and Export Promotion Agencies play an important role to faster export growth. Export is a major factor to increase economic growth. This study gives a snapshot view of trade facilitation Agreements and Export Promotion Agencies and examine what services they should provide to raise export and for economic welfare of developed and developing countries. Exports of goods and services involve uncertainties, EPAs and trade facilitation Agreements help in the removal of these uncertainties and make exports and trade more profitable for small and medium size entrepreneurs. TFAs made trade procedure more simplified, harmonized and modernized and these also extended to mean the improvement of transport facilitation, removal of government corruption, reduction of customs tariffs, and removal of inverted tariffs, resolution of non-tariff trade barriers, export marketing and export promotion. Many forces determine the international flow of goods and services, export promotion is one of the principal opportunities that government have to influence the volume and types of goods and services exports from their area of jurisdiction. In developing nations like MENA region, export promotion agencies working for Israel, Jorden, Oman, Egypt, West bank, Morocco, Lebanon, Syrian Arab Rep, Tunisia, Yemen and Algeria. EPAs have shown positive effects on the economic growth of these countries. EPAs provide basic information about markets and design effective policies for small and medium enterprises. Automation is very helpful to modernize custom procedure for export but it increase trade cost. Trade facilitations reduce such automation trade costs.

The Concept of EPAs is not new in LAC region. First import substitution policy adopted in 1950s. This aforementioned strategy has been adopted almost all Latin American Countries in 1970s. The establishment of this policy was totally public initiative. It provided tax incentive and credit packages to new exporters. But in 1980s it faced economic crises because it was highly bureaucratic and provided incentives to only public sector. So these policies failed in LAC region. To correct market failures these export promotion policies was reintroduce in LAC region. The export of LAC include fishery products, primary goods such as petroleum and natural gas these goods have low value and high prices in international market. Exporters of LAC face high cost to enter foreign markets. Export Promotion

Agencies provide market information and provide chance to survive in global market. In LAC region EPAs are working for Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominica Republic, Ecuador, EI Salvador, Grenada, Guatemala, Honduras, Mexico, Nicaragua, Jamaica, Panama, Paraguay, Peru, Puerto Rico, Trinidad & Tobago, Uruguay, Venezuela, RB and Dominica. In LAC region Export promotion have same organizational structure as tourism promotion. To implement WTO trade facilitation agreements in LAC region UNCTAD workshop held in Dominica Republic in 2014. In LAC region to implement trade facilitations financial assistance as much needed as technical assistance.

In EEA region Export Promotion is part of economic development plan. In EEA region EPAs promote overall export. In EEA region EPAs working for Albania, Armenia, Bangladesh, Cambodia, China, Czech Republic, Bulgaria, Estonia, Fiji, Hungary, Hong Kong, Latvia, Malaysia, Lithuania, Moldova, Slovak Rep, Thailand and Vietnam. EU is the world's largest international market of export and import and European market is very attractive for exporters all over the world. EU also remains largest export market for Sub- Saharan African countries. But there is difficulty to get information about laws and regulations of EU market. Export Promotion Agencies assist countries to get access to EU market. EFTA council negotiates with other international organization such as WTO, World Custom Organization and OECD to develop trade facilitation in EEA region.

SSA countries exports to EU market consist of raw material and primary products while manufactured goods exports to Africa. Most of the countries in SSA region consist of least developed countries. They face many non-tariff barriers to EU market. The exporters of SSA region are less competitive as compared to European exporters. Tariff rate of SSA market is very high and can be lower through Export Promotion Agencies. If SSA market lower tariff rates it could be manufactured export market for EU countries. In SSA region EPAs working for Burkina Faso, Botswana, Cote d' Ivoire, Ghana, Guyana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Niger, Senegal, Rwanda, Sierra Leone, South Africa, Tanzania, Uganda, Zambia. Gabon was the first who established EPA in 1964. EPAs provide credit facilitations and decrease custom fees to manufacture exporters. In SSA region EPAs are not effective for industrialization as in other regions. The implementation of Export

Promotion Agencies and Trade Facilitations has been very challenging for least developing and developing countries. They have lack of knowledge to understand their benefits for trade, export and economic growth. They have weak legal and institutional framework and don't have enough resources to finance them. The literature has revealed that benefits are greater than costs of implementation of TF and Export Promotion Agencies.

1.1: Hypothesis

H_1 = There exist strong relationship among EPAs, Trade Facilitations and economic growth.

2: Literature Review

The large number of national export promotion agencies has tripled over the last two decades. More countries have made them part of their national export strategy. Therefore, identifying a possible causal relationship between EPAs and economic growth has become a topic that has received significant attention in trade literature. The research studies have been arranged in chronological order such that oldest study comes first. This approach has been followed to see the chronological development of literature on export promotion agencies and trade facilitations. Given below is the review of studies that have examined the EPA's relationship with economic growth and trade facilitations.

Wilson et al. (2003) conducted to analyze the relation among trade flows, Trade Facilitations and GDP. Port efficiency, custom and regulatory environment and usage of internet are used as indicators to measures trade facilitations for Asia Pacific region. Tariff rate and distance are used for trade flows. The Gravity model is used to check the relationship between trade flows and Trade Facilitations. Moreover, it is concluded that improvement in the trade facilitations indicators and deduction in tariff rate and short distance from neighboring countries bring 4.3 % accretion in GDP.

Francis & Collins-Dodd (2004) examined the impact of Export Promotion Programs on the exports capacity of firms. A survey was conducted on 3500 Canadian high technology EME. They were asked about their exports strategies, performance and capacities to exports. Firms are also divided in different categories: i) exporters that are always ready to exports, ii) irregular exporters, iii) always engaged in exporting activities. It is

concluded that third type of exporters attain greater benefits from Government Export Promotion Programs as compared to others. Export Promotion Programs provide different services to exporters. These programs provide information about new export markets and motivate irregular exporters to export. The exporters that are already actively involved in exporting activities gain greater benefits from these programs. Export Promotion Programs assist active exporters to expand their export markets.

Lederman et al. (2006) identified that Export promotion agencies help exporters in market research and publications. They also provide technical assistance and firm level information. This article conducted a study to analyze the impact of EPAs, their strategies and activities on export success. The paper also examined the relationship between exports and EPAs budget. The data was extracted from the survey of 119 developed and developing countries. The survey gathered information about EPAs' strategies, resources and expenditures, activities and institutional structure. The results of Heckman estimation revealed that EPAs budget have positive effect on exports of development countries. But small budget increase exports of rich countries may not sufficient for the poor countries. The results also suggested that single EPAs works better than full privatized EPAs. Export promotion agencies have positive impact on exports of developing countries. There is also found heterogeneity across regions in institutional structure of agencies.

Zarzoso & Ramos (2008) identified the impact of trade facilitations at the sectoral level. This paper also examined the relationship between trade facilitation and trade volume in terms of exports. This paper focuses on trade procedures of export and import of goods that include time to trade and documents required to trade. The countries are classified into developed and developing countries and goods are classified into three parts i) differentiated goods ii) homogenous goods iii) reference price goods. The data was extracted from 167 importers and 13 exporters for the year 2000. The Gravity model was estimated by using OLS, Harvey model and PPML. The results showed positive impact of trade facilitations on both trading partners. The exports of developed countries easily affected from time to export and developing country exports easily affected from time to import. A reduction in time required to trade and transaction cost has positive

impact on trade flows. The differentiated goods more affected from time to trade than homogenous and reference price goods.

Caroline & Evdokia (2009) examined trade facilitation reforms. In Africa the shares of informal trade are estimated 43 % of GDP. Informal trade is conducted by small and medium firms that are officially unregistered and try to avoid from payment of charges and duties and consists of low quality consumers products. Weak law enforcement and high export and import duties lead to informal trade in these countries. This study also evaluated trade facilitation measures that transfer trade from formal to informal trade. This paper did not apply any econometric technique and results were extracted from the past work of OECD on trade facilitation and business survey in Africa. The results concluded that trade facilitation reforms will be more effective if it work collaboratively with the Government to eliminate trade transaction cost and to link informal trade with formal trade.

Person & Maria (2010) found a study to investigate trade facilitation effects on trade volume of different types of goods at extensive margin. There is always a fixed trade cost to enter in export market. Trade facilitation makes it possible for exporters to export in international market with low trade cost. The goods that are exported from developing to EU countries were taken as dependent variables in this paper. The results concluded that trade facilitations positively affect extensive margin when fixed trade cost will decrease it induce new firms to enter the export market. But it will not be more effective for intensive margin because existing firms are already facing this cost. The result also showed that if transaction cost decrease by 1 percent it will increase the export of differentiated goods by 0.7 percent and homogenous good by 0.4 percent. The reason behind that differentiated goods have low elasticity of substitution so these goods become more sensitive to trade barriers. On the other hand, homogenous goods have high elasticity of substitution and less sensitive to trade barriers.

Hayakawa et al. (2011 conducted a study on Japan and Korea. The main aim of this paper was to check the impact of JETRO (Japan External Trade Organization) and KOTRA (Korea Trade Investment Promotion Agency) on exports. The panel data of two countries was taken for the time period of 1980 to 2009. The results of Gravity model depicted positive impact of export promotion agencies on exports. Furthermore, results revealed that

export promotion agencies enhance exports of manufacturing goods and the low income countries' benefits are little more than high income countries.

Schminke & Biesebroeck (2012) conducted a research on Belgium export promotion agencies named as Brussels Invest & Export and Flanders Investment and Trade. The basic premise of this research was whether the thriving EPAs in Belgium are booming to ameliorate export performance. The databases were gathered from export promotion agencies and the National Bank of Belgium for the period of 2005 to2010. The difference-in- difference technique was applied by using two different lags of treatment and two distinct treatment specifications. The concise conclusion of the study was that the impacts of export promotion agencies revealed after one year. Export promotion agency assist firms to export more products in new markets so it would be advantageous for small firms.

Evdokia Moise (2013) evaluated the implementation cost of trade facilitation measures. The data was gathered from Burkina Faso, Colombia, Costa Rica, Dominican Republic, Kenya, Lao PDR, Malaysia, Mongolia, and Sierra Leone. These countries were in the process of introducing trade facilitation measures. The cost of implementation of trade facilitation covered the following areas: i) institutional changes ii) new regulation iii) training iv) infrastructure. The findings confirmed that cost of implementing the trade facilitation is smaller than the benefit gained from these measures. Equipment and infrastructure were more expensive than training cost. Different countries face different implementation cost due to different circumstances but capital expenditures remain between the range 3.5€ to 19€ million.

Marcio Cruzy (2014) analyzed how export promoting agencies promote new exporters. In the presence of externalities and asymmetric information EPAs become more feasible to gain from trade. This paper conducted a study on the Brazilian Trade and Investment Promotion Agency on firm's export. Apex-Brazil provided services to exporters by organizing trade fairs, arranging meetings of domestic sellers and foreign buyers and providing information of foreign markets. This paper also highlights the spillover effects and heterogeneous effect of Apex according to firm size. The data obtained from Apex covers the period of 2007-2010. The result of difference-in-difference technique revealed a positive impact of EPAs on new exporters. There was also evidence of positive significant heterogeneous and spillover effect on small and medium size firms.

Beverelli et al. (2015) evaluated the effects of WTO trade facilitation agreement on export diversification. WTO negotiates on trade facilitation agreements in December 2013 at Bali. This agreement has become an important part of WTO agreements and helpful in reducing trade cost. It also leads to trade growth and growth in GDP in WTO members. The paper identifies measures of extensive margin of trade as exports of new products and export to new destination. For the econometric estimation Hummels Klenow extensive margin was used for econometric estimation. Results concluded that export diversification effects are high for East Asian countries and Sub- Saharan Africa countries. The results also showed that Sub-Saharan Africa can increase export to new destination by 15.7 percent and 27.9 percent increase is possible in export of new products. While Latin America and Caribbean countries could increase 12.2 percent in products exported to new destination and 21.7 percent increase in export of new products. Implementation of WTO trade facilitation agreements showed positive effects on welfare of the economy.

Olarreaga, et al (2016) identified what kind of different activities of EPAs are more efficient to increase exports and GDP. They also examined the policy instruments of EPAs that produce high returns. For the empirical analysis the data was gathered from the World Bank and International Trade Centre for the time period of 2005 to 2014. The nature of the data was panel. Using fixed effects panel models they concluded that if 1 $ spend on EPAs it will produce 15$ on exports. The EPAs that focus on experienced exporters rather than new exporters have lower returns. Furthermore, it is concluded that EPAs that have more concerns for medium size firms improve returns. when shares of funding of Export Promotion Agencies coming from custom fees is already large, then further increase in shares lower returns. Moreover, it is concluded that if large share of expenditures spent on marketing activities then EPAs generate lower returns.

3: Importance of Export Promotion Agencies (EPAs)

The exchange of goods is a very important human activity all over world. In the ancient times people exchange goods for other goods because they have limited resources that were not enough to meet their all requirements. The same principal of transaction applied on international

trade. International trade has played a kind role in the development process of developing countries. Individual nations exports the surplus amount of goods for which they have comparative advantage. In the mid-20th century the pattern of trade was based on Adam Smith and Heckscher- Ohlin Samuelson theories of international trade. But now pattern of trade has modified because of market and commodity concentrations. These concentrations have changed because of fluctuations in market prices. Different countries face different cost of production so they have different prices of goods. It has been argued that for market stability countries should change trade portfolio through diversified export composition (Sannassee et al. 2014). Export diversification brings stability in exports earnings, it positively influenced economic growth. To perform this function, many developing and developed countries have been established export promotion agencies. For developing and developed countries exports growth is very important because it leads to increase in GDP (Ballasa, B. 1977; Sharma & panagiotidis, 2003). National exports are also a medium to raise employment level, produce foreign exchange for imports and raise government revenues through taxes. Therefore exports consider very important for economic welfare of a country. In the developing countries new exporters face many problems to introduce themselves in new markets. To support new exporter government introduce different programs. These programs support small and medium enterprises to survive in foreign markets. EPAs are very effective to ameliorate exports of a country. Export Promotion Agencies adopted different strategy to introduce firms into new markets as marketing of their products. EPAs also control some external factors that influence exports. These factors are variation in exchange rates, cost of import and fluctuations in prices. The main activities of Export Promotion Organizations are given below.

- EPA helps country to build its image in foreign market.
- EPAs find new markets for the products of exporters.
- It provides services for export growth such as provide training to exporters.
- It provides market facilitations to exporters through trade fairs.
- It conducted market surveys for the exporters.
- It provides foreign market information to exporters through publications and also provides on-line market information to exporters to encourage them to export.

- EPAs technically assist exporters to survive in foreign markets.
- It helps new exporters to overcome trade barriers.
- It improves the quality of regulatory environment.
- A number of documentations require to clear export through custom. EPAs relieve exporters from this time consuming procedures by improving logistic performance of country.

5: Importance of TFA for Developed and Developing Countries:

Literature reveals positive impact of trade facilitation agreements on trade and economic growth (Wilson et al. 2003). The relationship between trade facilitation and economic growth is very simple. The economic growth improves human well-being and the accession of economic growth depends on across border trade (Wilson et al. 2003). Trade facilitation lowers trade barriers and reduces cost associated with international trade process (Ujiie, 2006). The main focus of trade facilitation is on the simplification of exportation and importation process. In the developing countries tariff rates are one of the main constraints to export growth and intraregional trade. But the literature has revealed that tariff rates are not the main obstacle to growth (Taneja, 2004). There are also many other non-tariff barriers that hamper trade growth. These trade barriers are more severe in the developing countries than developed countries. The main issues and hurdles with respect to international trade as transportation cost, transaction cost and time cost are differ for the developed and developing countries. Transaction cost includes cost of enforcement negotiate, monetary exchange rate it transaction contract take place with other country and enforcement cost of finding quality and price of goods. Transportation cost includes air freights, cost of shipping goods from one region to another. Time costs also differ for developed and developing countries. If country has long distance from international market it requires more days to deliver goods from production points to consumption points. Landlocked countries have high transportation and time cost as compared to other countries. Trade facilitation reduces the complexity of trade procedure. Trade facilitation agreements covered a broad spectrum of activities. These activities are shown in a diagram.

- Trade facilitations reduce hidden bribery and corruption in trade procedures. Corruption in the custom process also increase entry cost. When big firms enter corrupted markets it affects their reputation. Trade facilitations design and govern custom procedure to eliminate hidden export barriers as corruption and bribe and lower export fees and irregular payments.
- Port efficiency measures quality of air ports and water ways. Air freights and freights of water ways increase transaction cost. Trade facilitations facilitate exporters to export across boarder with better transshipments facilities.
- Trade facilitations provide information about foreign markets. It also provides exporters internet facilities.
- Trade facilitation approach to regulation environment and strict regulatory standards.
- It reduce time and cost that are necessary for trading goods from one country to another country through improving transport infrastructure.
- Trade Facilitations have positive impact on the extensive margin of trade.

6: Variables and Data Sources:

The nature of the data is panel and has been collected from secondary resources. The data is obtained for the period 1990-2015. The sources of

data are World Development Indicator (WDI), United Nation Trade and Development (UNCTAD). Table 1 demonstrates full detail of the data set and its sources. GDP is treated as dependent variable whereas export, tariff rate, exchange rate, time to trade, distance, time spent dealing with requirements of government regulation, logistic performance index, and cost of business start- up procedures as independent variables. . The sum of time to export (days) and time to import (days) is used as a proxy for time to trade. The data set comprised of four regions. First one Latin American countries (LAC) that contains 25 countries developed and developing countries: Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, Ei Slavadore , Guatemala, Honduras,Grenda, Trinidad& Tobago, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Cuba, Uruguay, Venezuela, Haiti, Dominica Republic and Puerto Rico. Second is Middle East & North Africa (MENA) countries that contain 21 developing countries: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jorden, Kuwait, Libya, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Tunisia, Morocco, United Arab Emirates, West Bank & Ghaza, Yemen and Sudan. Third region is European Economic Area (EEA) having 36 developed and developing countries: Austria, Belgium, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Liechtenstein, Luxemburg, Norway, Netherland, Poland, Portugal, Romania, Slovak, Slovenia, Spain, Sweden, United Kingdom, Hong Kong, Malaysia, Montenegro, Thailand, Vietnam, Moldova, Turkey. And last but not the least he fourth region is Sub Saharan African Countries (SSA) having 46 developed and developing countries: Burundi, Benin, Chad, Botswana, Burkina Faso, Cameroon, Cabo Verdi, Central Africa, Comoros, Congo Dem, Rep, Cote d'Ivoire, Equatorial Guinea, Eritrea, Gabon, Gambia, Ghana , Guinea, Ethiopia, Guinea Bissau, Liberia, Lesotho, Malawi, Mauritius, Mozambique, Niger, Senegal, Rwanda, South Africa, Tanzania, Uganda, Zambia, Togo, South Sudan, Mali, Angola, Kenya, Sire- Leoni, Madagascar, Mauritania, Nigeria, Somalia, Seychelles, Sao Tome & Principe, Swaziland, Guyana, Congo Rep. The time span and the countries are taken on the accessibility of data.

6.1: Methodology: To check how export promotion agencies enhance economic growth with trade facilitation agreements, we used ARDL specification (Auto regressive Distributed Log Model). Following equation indicate the relationship between variables: The performance of Export Promotion Agencies is being measured by employing variables "exports", "cost of business start up procedure", "exchange rate" and "tariff rate".

$$\ln (GDP)_{i,t} = \beta_{o+} \ln \beta_1 EX + \ln\beta_2 TR + \ln\beta_3 ER + \ln\beta_4 TT + \ln\beta_5 D + \ln\beta_6 GR + \ln\beta_7 L + \ln\beta_8 C$$

=> EX denotes natural logarithm of exports of goods and services

=> TR denotes natural logarithm of tariff rates

=> ER denotes natural logarithm of exchange rate

=> TT denotes natural logarithm of time to trade

=> D denotes natural logarithm of distance

=> GR denotes natural logarithm of time spent dealing with requirements of Government regulations

=> L denotes the natural logarithm of logistic performance index

=> C denotes the natural logarithm of cost of business start- up procedure

This equation is estimated for MENA, LAC, SSA, EEA countries for the time period 1990 to 2015. Logistic performance index, Distance, time spent dealing with requirements of government regulation, exchange rate, tariff rate, cost of business start-up procedure, time to trade, export are used as indicators to check performance of EPAs and trade facilitations in MENA, LAC,SSA and EEA region

6.2: Empirical Analysis:

6.2.1: Pooled OLS

For the empirical analysis we first used log transformation technique to avoid the conflicting difference between values then applied OLS Pooled Regression for the correction of standard errors for serial correlation and to check the annual fluctuations of GDP due to the changings of all independent variables. The OLS regression provides

consistent and efficient estimates but it depends on the highest degree of homogeneity. OLS also implies that error variance, slope coefficients and individual specific effects are same and constant across observation as

$$\boldsymbol{\varepsilon = \sigma = o}$$

If OLS violates this assumption it means that there is a problem of heteroscedasticity. In the presence of unobserved heterogeneity OLS gives biased and inconsistent estimates. To check the problem of multicollinearity and heteroscedasticity we used ***estat*** stata command. The multicollinearity among the independent variables checked by using stata command "***estat vif***" (variance inflation factor). The value of ***vif*** should be 5 to 10, greater than 10 indicate multicollinearity problem. The stat command "***estat hettest***" run to check heteroscedasticity. The null hypothesis of this test is $\mathbf{H_O}$ = constant variance (homoscedasticity) and the alternative hypothesis is $\mathbf{H_1}$ = heteroscedasticity. To check serial correlation of independent variables we used **"Xtserial"** stata command. To solve the problem of heterogeneity we move from OLS to Fixed Effect and Random Effect models.

6.2.2. Fixed and Random Effects Model:

As regression equation is:

$$\mathbf{Y_{it} = \alpha_i + X_i Y_{it} + B_i X_{it} + \epsilon_{it}}$$

As equation shows heterogeneity of coefficients attach with variables. The slope coefficient $\boldsymbol{\alpha_i}$ and $\boldsymbol{\beta_i}$ are assumed restricted and uncorrelated with the independent variable. But under fixed effect there is no slope coefficient cross sectional variation. Fixed effect model based on the assumption that individual specific effects correlated with the explanatory variables and random effect model based on the assumption that individual specific effects are uncorrelated with explanatory variables. The selection between fixed and random effect model is made through hausman test. In the null hypothesis of hausman test random effect model is consistent and efficient but fixed effect model is only consistent. In the alternative hypothesis fixed effect model remains consistent but random effect model no more consistent. If chi2 < 0.05 we reject null hypothesis and accept alternative hypothesis and use fixed effect model. When fixed

effect is selected we checked time- fixed effect. The null hypothesis for this test is that there are no time fixed effect effects and alternative hypothesis is that there exist time- fixed effects. If random effect model is selected than Breusch Pagan Lagrange Multiplier is used to check panel effects in data. It also helps to make a choice between random effect model and OLS. Breusch Pagan LM test of independency test and Pasaran CD test are run to check cross sectional dependency. The null hypothesis of both tests is that there is no cross sectional dependency. The alternative hypothesis is that residuals are correlated. The problem arise when time period small and N is large, in this situation fixed and random effects estimators will be biased and this biasedness will be disappear only where T tends to infinite. To solve this problem we move to ARDL (Auto Regressive Distributed log Model) but before applying ARDL to check whether the data is stationary or not.

6.3.3. Panel Unit Root Tests:

For non- stationary data some form of trend removal is required to make it stationary. For this purpose Panel Unit Root test are applied. Panel unit root tests are undistinguishable. Panel Unit Root based on the assumption that autoregressive parameters vary across- section and error term are cross correlated. To check unit root there are two assumptions for autoregressive coefficients.

i) Common auto regressive parameters for all cross sections as $\boldsymbol{\alpha_i = \alpha}$

ii) Auto regressive parameter vary across section as $\boldsymbol{\alpha_i \neq \alpha}$

Levin Lin Chu test follow first assumption while Pesran and Fisher follow the second and assumed that it caused by common time specific affects. When there is no cross sectional correlations in error IPS test more powerful than Fisher test.

For stationary of panel variable there are known panel unit root tests named as:

- Levin Lin Chu test
- Im, Pesran & Shine test
- Fisher

When the problem of heteroscedasticity and serial correlation exist in the errors these unit root tests take care of these problems.

6.3.4. Levin Lin & Chu:

Levin Lin & Chu test is used for balanced panel data set. LLC follows the assumption of common auto regressive for all cross- sections. It also assumes that there is no cross sectional dependency but trend and intercept can change across-section. LLC permits homogeneity in autoregressive coefficients but allows heterogeneity in intercept. It includes no exogenous variable but include fixed effect and individual trend. In the LLC test lag series chose by "Schwarz *Info Criterion*" and specify lag structure used in ADF regression. Long run (LR) variance of each cross section panel is estimated by "Kernal Bartell". Our model with first- order autoregressive is given below:

$\Delta(Gross\ Domestic\ Product)i,t = \alpha_{i+} \gamma$ (Gross Domestic Product)$_{I,t\_\_j+}$ $\alpha_j \Delta($ Gross Domestic Product)$_{I,t\_\_j+}$ $\varepsilon_{i,t}$

In the above equation GDP represents a series individually for all the panel members (MENA, LAC, EEA, and SSA countries). The number of lags represents by "***p***" and error term is not serially correlated. Null hypothesis of this test is as: '**there is unit root'.** Null hypothesis can be written as:

$$H_o: \gamma = o$$

Whereas alternative hypothesis is: '**all series in panel is stationary**'. $H_1: \gamma \neq o$

In the above equation Gemma (γ) is restricted and identical across regions by both null and alternative hypothesis.

6.3.5. Im, Pesran & Shine test:

IPS test is used for unbalanced panel data set. IPS follow the assumption that auto regressive parameter vary across region. Like LLC test IPS test is also based on ADF test. It includes exogenous variables, individual trends and fixed effects. It allows heterogeneity and panel specific effects in autoregressive parameters. In IPS Gemma (γ) is not restricted, it vary across regions. The equation is given below:

$\Delta(Gross\ Domestic\ Product)i,t = \alpha_{i+} \gamma$ (Gross Domestic Product)$_{I,t\_\_j+} \alpha_j$ Δ(Gross Domestic Product)$_{I,t\_\_j+} \varepsilon_{i,t}$

IPS assumes that error term is serially uncorrelated and has heterogeneous variance for all cross sections. Null hypothesis of IPS is as: ***'there is unit root'*** whereas alternative hypothesis is **'there is some cross sections without unit root'.** IPS test is more sufficient and appropriate when T and N are finite.

6.3.6. Fisher ADF:

In Fisher test unit root test perform separately on each cross sections then together p-values to check whether cross sections are stationary or not. This idea was given by Choi and by Maddala & Wu. Null and alternative hypothesis of Fisher test are same as for the IPS. It includes no exogenous repressors, but include fixed effects and individuals trend.

6.4: Auto Regressive Distributed Lag Model:

ARDL is a technique of dynamic panel model. It is used for macro panel data. ARDL technique is applied to check integration among variables and established long run relationship among Export Promotion Agency, Trade Facilitations and Economic Growth in MENA, SSA, LCA & EEA regions. ARDL includes lags for independent and dependent variables in error-correction form. Model can be calculated through two ways:

- Pooled Mean Group (PMG)
- Mean Group (MG)

When N and T are large Fixed and Random Effects gives biased estimates. These techniques applied to resolve the problem of biased estimates and treat heterogeneity issue of dynamic panel data.

Let we have a model as:

$$gdp_{it} = \lambda_i + \beta_{i1}Exp_{it} + \beta_{i2}T_{it} + \beta_{i3}Ex_{it} + \beta_{i4}D_{it} + \beta_{i5}COB_{it} + \beta_{i6}index_{it} + \beta_{i7}TT_{it} + \beta_{i8}GR_{it} + \theta_{it} + \epsilon_{it}$$

after ARDL specification (1,1,1,1,1,1,1,1,1), the model with error correction format takes the format,

$$\Delta gdpit = \phi i + (gdp_{it-1} - \theta_{oi} - \theta_{oi}Exp_{it} - \theta_{1t}T_{it} - \theta_{2t}Ex_{it} - \theta_{3t}D_{it} - \theta_{4t}\,COB_{it}$$

$$- \theta_{5t}index_{it} - \theta_{7t}TT_{it} - \theta_{8t}GR_{it}) + \delta_{11i}\Delta Exp_{it} + \delta_{21i}\Delta T_{it} + \delta_{31i}\Delta Ex_{it}$$

$$+ \delta_{41i}\Delta D_{it} + \delta_{51i}COB_{it} + \delta_{61i}index_{it} + \delta_{71i}TT_{it} + \delta_{81i}GR_{it} + \epsilon_{it}$$

In the above model GDP is dependent variable and all others are explanatory variables. Short run coefficient of independent and dependent variables is θ **,** delta (δ) is long run coefficient and ϕ is speed of convergence. The consistency and efficiency of these tests require that there should be long run relationship among variables and coefficients of error correction should be negative. According to **PMG** intercept, short run coefficients and error variance vary cross the regions but it imposes restrictions on long run coefficients that it remains same across the regions as technology, economies of scale and government policies have same impact on economic growth of MENA, SSA, LAC and EEA countries. But **MG** allows long run coefficient to vary across regions. MG estimator averaging observation gives consistent results. While **DFE** impose restriction on all slope coefficients and error variance remains constant across region.

6.5: Unit Root Tests

Given below are the results of Unit Root Tests of LAC, MENA, EEA and SSA regions:

6.5.1. Unit Root tests for LAC region

Table 5.1: Unit Root tests of LAC countries

	Level			first difference		
	Levin, Lin & Chu	Im, Pesaran, & Shine	Fisher ADF	Levin, Lin & Chu	Im, Pesaran & Shine	Fisher ADF
Ln_ GDP	0.08784	2.33755	33.6032	-6.44733 *	-8.61065 *	173.624 *
Ln _ exchange rate	-0.17509	4.35464	61.1266	-9.80834 *	-18.5489 *	369.300 *
Index	14.6901	6.55189	64.2663	-8.98958 *	-5.04695 *	160.737 *
Ln _ COB	1.07119	5.66582	38.8649	-8.65297 *	-13.0474 *	303.372 *
Ln _ D	3.3192	-0.11250	2.95502	-5.30654 *	-3.78298 *	91.1607 *
Ln _ Export	15.3266	1.55534	0.95594	-13.0151 *	-9.85125 *	272.897 *
Ln _ Gov reg	-1.22866	4.06957	16.2139	-5.40196 *	-18.6478 *	333.900 *
Ln _ tariff	-0.18730	1.39050	52.7913	-14.9353 *	-16.6602 *	342.550 *
Ln _ time to trade	3.56616	3.71129	65.7783	-14.0856 *	-15.0235 *	312.585 *

Note: Null hypothesis of all the tests take non- stationary and alternative hypothesis take stationary. Table shows the individual statistics and p-values with the lag length selection of (1). Intercept is included in all terms with or without first differences. Probabilities of fisher type test are using asymptotic x^2 distributions while other tests assume asymptotic normality. (*), (**) & (***) shows significance at the level of 1%, 5 % and 10 %.

Interpretation

Unit Root test is used to check order of integration and to detect that no series in the data set exceeds the order of integration I (1). Table 5.1 shows the results of LLC, IPS and Fisher ADF Unit Root tests for Latin American Countries. The Null Hypothesis of all these tests has no unit root. The results show that all three tests are stationary at first difference, so we concluded that all series in data is stationary at I (1) and sure that no series in our data set integrated at order I(2). So holding these results we are able to proceed further.

6.5.2. Unit Root tests for MENA region

Table 5.2: Unit Root Tests for MENA Countries

	Level			First Difference		
	Levin, Lin & Chu	**Im, Pesaran & Shine**	**Fisher ADF**	**Levin, Lu & Chu**	**Im, Pesaran & Shine**	**Fisher ADF**
Ln _ GDP	0.19658	3.30178	3.31105	-9.57634 *	-11.0721 *	-10.0073 *
Index	2.14335	-0.49005	-0.17069	-5.24379 *	-9.21757 *	-7.99658 *
Ln _ COB	0.05383	0.97293	34.7431	-8.60475 *	-7.15148 *	171.595 *
Ln _ Distance	-1.16862	0.88464	6.33214	-4.06448 *	-7.99554 *	79.2050 *
Ln _ Export	2.98357	5.6809	5.89625	-20.9832 *	-16.4748 *	263.345 *
Ln _ exchange rate	-1.13436	1.81328	32.4969	-7.11330 *	-9.37846 *	184.399 *
Ln _ gov reg	-0.21447	0.60170	36.0479	-1.88673 *	-4.82635 *	158.187 *
Ln _ tariff rate	-3.90620 *	-1.54360	52.9592	-3.80544 *	-8.24922 *	148.095 *
Ln _time to trade	-0.04841	6.23830	24.5749	-14.7202 *	-17.6897 *	328.999 *

Note: Null hypothesis of all the tests take non- stationary and alternative hypothesis take stationary. Table shows the individual statistics and p-values with the lag length selection of (1). Intercept is included in all terms with or without first differences. Probabilities of fisher type test are using asymptotic x^2 distributions while other tests assume asymptotic normality. (*), (**) & (***) shows significance at the level of 1%, 5 % and 10 %.

Interpretation

Table 5.1.2 shows results of LLC, IPS and Fisher ADF for MENA countries. The Null Hypothesis of these test hold no unit root. The results show that majority of the variables are stationary at first difference. But the LLC test suggests that tariff rate is stationary at level.

6.5.3. Unit Root Tests for EEA countries

Table 5.3: Unit Root Tests for EEA countries

	Level			first difference	
	Levin, Lin & Chu	Im, Pesaran & Shine	Fisher ADF	Levin, Lin & Chu	Im, Pesaran & Shine
Fisher ADF					

Ln_GDP	3.3238	3.8983	38.5045	-3.3665 *	-10.8550 *	300.4926 *
index	-3.34158 *	2.37935	69.7487	-1.67600 **	-1.75115 **	168.235 *
Ln_ COB	-2.12257 *	5.73422	63.3482	-3.36731 *	-6.15009 *	203.353 *
Ln _ Distance	-1.52300 ***	-4.03065 *	186.407 *	-1.68170 *	-9.07528 *	298.374 *
Ln _ exchange rate	-11.4813 *	-6.91280 *	184.680 *	-14.7313 *	-12.4662 *	307.565 *
Ln _ export	-12.7332 *	-5.09596 *	190.188 *	-13.2513 *	-12.8937 *	326.995 *
Ln _ tariff	-2.49911 *	-6.91280 *	59.7738	-9.71445 *	-7.44102 *	-7.77466 *
Ln _Gov Regulation	0.29318	3.97213	35.7226	-7.81628 *	-15.3463 *	372.012 *
Ln _time to trade	-0.34453	0.66638	87.2592	-14.0390 *	-15.3462 *	377.627 *

Note: Null hypothesis of all the tests take non- stationary and alternative hypothesis take stationary. Table shows the individual statistics and p-values with the lag length selection of (1). Intercept is included in all terms with or without first differences. Probabilities of fisher type test are using asymptotic x^2 distributions while other type of tests assumes asymptotic normality. (*), (**) & (***) shows significance at the level of 1%, 5 % and 10 %.

Interpretation

Table 5.1.3 shows the results of LLC, IPS and Fisher ADF for SSA countries. According to Levin, Lin and Chu test logistic performance index cost of business start-up procedure, exchange rate, distance, export and tariff rate are stationary at level while other variables are stationary at first difference. IPS test suggest that tariff rate, exchange rate, distance and export are stationary at level. Fisher ADF suggests that export, exchange rate and distance have no unit root at first difference.

6.5.4. Unit Root Tests for EEA countries

Table 5.4 : Unit Root Tests for SSA countries

	Level			first difference		
	Levin, Lin & Chu	Im, Pesaran & Shine	Fisher ADF	Levin, Lin & Chu	Im, Pesaran & Shine	Fisher ADF
ln_GDP	1.60984	6.38549	6.62134	20.3621*	20.0096 *	-17.2641 *
Index	2.57110	0.33420	-3.19197 *	2.57110 *	-5.95104 *	-1.91295 **
Ln_COB	0.46732	8.57398	8.69848	-6.91991 *	-7.62703 *	-9.24475 *
Ln_Distance	113.980	27.2873 *	-75.2755 *	7.68311 *	-13.7029 *	-12.4469 *
Ln_exchange rate	0.12691	5.02396	6.23410	22.4387 *	-29.4060 *	-22.5320 *
Ln_export	20.4100	-1.19495	18.6824	-21.8808 *	-20.4190 *	-15.5672 *
Ln_gov reg	-0.07870	7.57676	8.65277	-12.8539 *	-35.6095 *	-27.0168 *
Ln _Tariff rate	-0.21934	-0.89420	0.63651	-11.7046 *	-10.9093 *	-10.5156 *
Ln_time to trade	4.20447	8.56742	7.73892	-11.0954 *	-19.5657 *	16.6403 *

Note: Null hypothesis of all the tests take non- stationary and alternative hypothesis take stationary. Table shows the individual statistics and p-values with the lag length selection of (1). Intercept is included in all terms with or without first differences. Probabilities of fisher type test are using asymptotic x^2 distributions while other type of tests assumes asymptotic normality. (*), (**) & (***) shows significance at the level of 1%, 5 % and 10 %.

Interpretation: Table 5.4 shows the results of Unit Root tests for SSA countries. The Null Hypothesis of LLC, IPS and Fisher ADF hold unit root. Fisher ADF suggests that logistic performance index is stationary at level while other variables are stationary at first difference. IPS and Fisher ADF suggest that distance has no unit root at level.

6.6:. Tests of PMG, MG and DFE:

Table for LAC region

Short Run	Pooled Mean Group	Mean Group	Dynamic Fixed Effects
Error correction	-.0267451**	-.5726549*	-.1593506*
	(.0132457)	(.0711301)	(.0193791)
$\Delta lnerate$	-7.745825	-4.46952	-.0061287
	(7.751107)	(4.469669)	(.006906)
$\Delta lnexport$	.1035231***	-.050766***	.0435057*
	(.0624272)	(.0529116)	(.0180679)
$\Delta lntt$	-.0134008	.7123038	-.0076795
	(.0916987)	(.4932268)	(.058369)
$\Delta lnco$	-.4307167	-.218153	.0398719
	(.4656754)	(.5036692)	(.0352719)
$\Delta index$	.0395458	-.4480692	-.0643123
	(.1013801)	(.4064671)	(.0772886)
$\Delta lngr$	-1.941376	-8.685957	.0146432
	(5.24344)	(12.19118)	(.1041295)
Δlnt	-.0425903	.0163693	.0015402
	(.1175558)	(.1423288)	(0192939)
Δlnd	-13.55816	22.84973	.3100722
	(11.0994)	(31.53594)	(.2201724)
constant	-.0782752	-99.0756	.7348022*
	(.4379367)	(240.2422)	(.267887)
Long Run	Pooled Mean Group	Mean Group	Dynamic Fixed Effects
$\Delta lnex$	-.2793087*	-.0319551	.0123611
	(.0747137)	(.0744589)	(.0192451)
$\Delta lnex$port	1.644816*	.443276***	.2556484*
	(.3554781)	(.2613103)	(.0412885)
$\Delta lntt$	-.3032176*	-41.97015	-.1004062
	(.365781)	(40.26191)	(.2174237)
$\Delta lnco$	-2.14927*	2.785603	-.2821611*
	(.4529343)	(2.406468)	(.0679263)
$\Delta index$	.4892203*	-.7001329	-.0575551
	(.1963227)	(1.506885)	(.0414568)
$\Delta lngr$	-2.130296*	21.77164	.0496998
	(.5297634)	(32.67873)	(.038437)
Δlnt	-1.396268*	-.1258496	-.0285248
	(.3411283)	(.2524534)	(.0378171)
Δlnd	-6.650119*	52.97157	-.2311022
	(1.815957)	(104.3386)	(.2789514)
Hausman test[1]	-35.02		
Prob > chi[2]	chi2<0		
Hausman test[2]	19.39		
Prob > chi[2]	0.0129		

Table 1 shows results of PMG, MG and DFE estimation of long run and short coefficient. Hausman tests indicate which technique is efficient and consistent. The Hausman test 1 is used to makes selection between PMG and MG. The Null Hypothesis of Hausman test depict that PMG is consistent and efficient but MG is only consistent under null hypothesis not efficient. So Hausman test apply to check consistency of MG and PMG. The results of the Hausman test demonstrate that we are unable to reject the null hypothesis because value of Chi^2 is less than zero and Hausman test failed to meet the asymptotic properties of Hausman, so we cannot proceed with Hausamn and cannot reject Null hypothesis. So results of PMG are efficient and consistent those are interpreted here. In the PMG estimator the value of error correction is significant with negative value -.026 at 5% level of significance. Error correction depicts speed of convergence towards the equilibrium after an exogenous shock to the equilibrium. This suggests that 26% disequilibrium can be corrected in the first year. The long run coefficient of exports is significant and positive at 1% level of significance. The long run coefficient of exchange rate is significant at 1% level of significance but it is negative. Time to trade and cost of business start-up procedure are negative but significant at 1% level of significance. The long run coefficient of logistic performance index has positive and significant at 1% level of significance. The long run coefficient of government regulation is significant at 1% level of significance but it has negative impact on GDP. The result shows that it is not time consuming for LAC countries to deal with requirements of government regulations. The long run coefficient of tariff rate is also significant at 1% level of significance but it is negative

Short Run	Pooled Mean Group	Mean Group	Dynamic Fixed Effects
Error correction	-.2541183 * (.0560233)	-.6802406 * (.0936863)	-.1110207 * (.017411)
$\Delta lnexchange\ rate$	-.004465 (.0070516)	.0028366 (.0097641)	-.0022009 (.0076734)
$\Delta lnexport$	.172531 * (.0463419)	-.0592426 (.0913566)	.2379057 * (.0181013)
$\Delta lntt$	-.0542123 (.2087319)	.1251541 (.7726347)	-.0259232 (.077504)
$\Delta lnco$	.0334024 (.1096275)	-18.11424 (12.88549)	-.0200195 (.025899)
$\Delta index$	.1299484 (.3170629)	2.966599 (7.229872)	.0964786 (.0699143)

$\Delta lngr$	-3.072107 (2.883536)	-4.566513 (3.617265)	-.1764767 ** (.0843154)
Δlnt	-.0162257 (.0612662)	.3861441 (.3258512)	.042946 (.0302606)
Δlnd	1.159121 * (.8120525)	-27.71589 (22.07092)	.0443931 (.2217729)
constant	-1.537775 * (.3576764)	201.258 (153.9364)	-.6060474 (.4031569)
Long Run	**Pooled Mean Group**	**Mean Group**	**Dynamic Fixed Effects**
$\Delta lnexchnge\ rate$	-.0089535 (.005743)	.1057779 (.1662671)	-.0366168 (.0256421)
$\Delta lnexport$	.7061398 * (.0351014)	.539442 * (.1422243)	.5926634 * (.0850623)
$\Delta lntt$	-.0589605 (.1156881)	-1.494286 (1.864154)	.4878998 (.4911132)
$\Delta lnco$	-.0119032 (.0269961)	11.6342 (10.31899)	-.1890751 ** (.0983906)
$\Delta index$	.3581653 * (.0676038)	7.756977 (5.594278)	-.149392 (.2448798)
$\Delta lngr$	.0414984 (.0326411)	.5682171 (.7230342)	.0799015 (.1280404)
Δlnt	-.0631681 ** (.0310719)	-.8331297 ** (.3880051)	.1046894 (.124698)
Δlnd	-.6497009 (.181611)	-79.22621 (57.9731)	-.2400377 (.5370313)
Hausman test[1] **Prob > chi[2]**	18.58 0.0173		
Hausman test[2] **Prob > chi[2]**	32.11 0.0001		

that shows that 1% decrease in tariff rate cause 13% increase in GDP. Distance also has significant long run coefficient that has negative long run relationship with GDP. The Hausman test[2] allows deciding between DFE and PMG. The p-value of Hausman test is 0.0129 which is less than 0.05 so we are able to reject the Null hypothesis which supports that DFE estimator are consistent. We accept alternative hypothesis that concluded that PMG estimator is consistent and efficient.

Table for MENA region

Table shows results of long run and short run coefficients of MG, PMG and DFE estimators for MENA countries. The error correction for PMG is negative and significant at 1% level of significance. Error correction is also negative and significant at 1% level of significance for MG and DFE. To identify whether these results are consistence and efficient Hausman test is used to make selection between PMG and MG. The p- value of Hausman test is less than 0.0173 which is significant at 5%. So we reject null hypothesis and accept alternative hypothesis in which MG is consistent and

efficient. The hausman result allows interpreting MG results because they are most appropriate as compared to PMG. The error correction is significant and negative with high value of -.68; it shows 68% deviation from the long run relationship is corrected in the first year. The long run coefficient of exchange rate is positive but insignificant. The MG estimator shows strong and positive long run relationship between export and GDP. It shows that 1% increase in exports will be associated with 5% increase GDP. The long run coefficients of time to trade and distance are negative and insignificant. The long run coefficients of cost of business start-up procedures and logistic performance index is positive but insignificant. The results also shows that time to spent dealing the requirements with government regulations has positive but insignificant long run impacts on GDP of MENA countries. The long run coefficient of tariff rate is negative but significant at 5% level of significance. It shows that 1% decrease in tariff rate will cause 8% increase in GDP. The Hausman test[2] is applied to make selection between MG and DFE. The p-value is less than 0.05 so we are able to reject Null Hypothesis and accept alternative hypothesis and concluded that Mean Group estimation is more efficient and consistent than DFE.

Table for EEA region

Short Run	Pooled Mean Group	Mean Group	Dynamic Fixed Effect
Error correction	-.2444282 * (.0437736)	-.9480444 * (.0734449)	-.1649072 * (.0168516)
$\Delta lnexchange\ rate$	-.0324551 * (.0304992)	.0521189 (.0760124)	.0020305 (.0020305)
$\Delta lnexport$	.0742826 (.0529945)	.124642 (.124642)	.0108795 (.012505)
$\Delta lntt$	-.2298168 (.2970776)	-.8545294 (.6176965)	-.01913 (.0690818)
$\Delta lnco$	.1269732 (.0904376)	-1.003939 (1.085444)	.0280535 *** (.0156447)
$\Delta index$	.2253164 (.227463)	1.638293 (1.484592)	-.0256602 (.0727245)
$\Delta lngr$	11.13315 (9.944723)	40.3188 (40.49326)	.0168139 (.0168139)
Δlnt	.1746724 (.0450128)	.2080037 * (.0853606)	.0558521 * (.0182642)
Δlnd	4.240055 * (1.130034)	3.801557 (2.383751)	1.414056 * (.261542)
constant	8.85719 * (1.534412)	-13.34758 (17.26751)	1.049951 * (.3042977)
Log Run	**Pooled Mean Group**	**Mean Group**	**Dynamic Fixed Effect**

$\Delta lnexchange\ rate$	.0321399 * (.0077308)	.0359199 (.0401799)	-.0446878 * (.0160476)
$\Delta lnexport$	.1053547 * (.0305058)	.4503508 * (.1473388)	.1273428 * (.0411808)
$\Delta lntt$	.003166 (.209348)	.8121849 (.0401799)	-.5420922 *** (.3270553)
$\Delta lnco$	.0200742 (.0206483)	.6813027 (.9363698)	-.0475159 *** (.0264136)
$\Delta index$	.8346186 * (.0758116)	.1932244 (1.14948)	.1608092 * (.068823)
$\Delta lngr$	-.0053328 (.0128922)	.2072183 (.4492369)	.0298098 (.0225353)
Δlnt	-.4054111 * (.0187456)	-.0833048 (.1160832)	-.2155574 * (.0471015)
Δlnd	-6.710278 * (.6109148)	1.731535 (5.227073)	.2533822 (.1683013)
Hausman test[1] **Prob > chi[2]**	28.61 0.0004		
Hausman test[2] **Prob > chi[2]**	1.40 0.9942		

Table shows the results of PMG, MG ad DFE estimators for EEA region. To decide the appropriate estimator between PMG and MG the Hausman test[1] is used. The p-value is 0.004 which is less than 0.05. So we reject null hypothesis and accept alternative hypothesis and conclude that Mean Group estimator is more efficient and consistent than Pooled Mean Group. It allows interpreting the results of Mean Group estimators. The error correction of MG estimator is negative and significant at 1% level of significance. It shows 94% deviation from the long run relationship is corrected in the first year. The long run coefficient of export is significant at 1% level of significance. It is also shows positive and strong long run relationship of export and GDP. The long run coefficients of exchange rate, time to trade, and cost of business start-up procedures, logistic performance index and government regulation are positive but insignificant. The long run coefficient of tariff rates is negative and insignificant. The Hausman test[2] is applied to make selection between MG and DFE. The p-value of hausman test is 0.9942 which is greater than 0.05. So we are unable to reject the null hypothesis. Null hypothesis support DFE estimator and concluded that it is more efficient and consistent than MG. The error correction term of DFE is negative and significant at 1% level of significance. The value of error correction shows 16 % deviation from long run relationship is corrected in the first year. The Dynamic Fixed Effect results suggest positive and strong long run relationship between export and GDP. The magnitude of export coefficient is approximately .1273, which is significant at 1% level of significance. The long run coefficient of exchange rate is

negative but significant at 1% level of significance. The long run coefficients of time to trade and cost of business start- up procedures are negative but significance at 10% level of significance. The long run coefficients of logistic performance index are positive and significant at 1% level of significance. The long run coefficient of tariff rate shows that 1% increase in tariff rates cause to 21% decrease in GDP. The distance has positive but insignificant long run coefficients. The magnitude of long run coefficient of government regulation is positive and insignificant.

Table for EEA region

Short Run	Pooled Mean Group	Mean Group	Dynamics Fixed Effect
Error correction	-1.613192 * (.0400778)	-.6786521 * (.0737812)	-.1088014 * (.011588)
$\Delta lnex$	.8803821 (.856247)	1.921389 (1.770911)	.0058711 (.0070276)
$\Delta lnexp$	-.067061 (.0587232)	.8128087 (1.015707)	0.318086 ** (.0144118)
$\Delta lntt$	.6243287 (.6284131)	.7127232 (.9552543)	-.1779406 ** (.0786923)
$\Delta lnco$	4.543539 (4.717269)	1.483756 (1.903311)	-.0071656 (.0207042)
$\Delta index$	.0722161 (.387766)	-.7619472 (1.523725)	.0079562 (.0256409)
$\Delta lngr$	1.320593 (2.236534)	-2.570831 (5.027968)	-.0262088 (.0721478)
Δlnt	12.3492 (9.304085)	47.0566 (44.96102)	.0057341 (.0208386)
Δlnd	-17.34891 (17.60158)	-.0045862 (1.263492)	.2566813 *** (.1463595)
constant	1.632734 ** (.7876946)	126.9446 (127.8474)	-.5243652 ** (.2286969)
Long Run	**Pooled Mean Group**	**Mean Group**	**Dynamics Fixed Effect**
$\Delta lnexchange\ rate$	-.1035363 * (.0127684)	-.7752591 (.7364057)	-.1512508 * (.0244043)
$\Delta lnexport$	.0404584 * (.0141184)	36.91484 (36.72142)	.2539828 * (.0381223)
$\Delta lntt$	1.665414 * (.4808511)	7.677267 (5.1503971)	1.489388 (.4400124)
$\Delta lnco$	-.1461242 * (.0152916)	12.79656 (8.946492)	-.1335638 * (.0526512)
$\Delta index$	.0997488 (.0630879)	-1.290565 (1.382693)	.0024689 (.0351582)
$\Delta lngr$	.075817 * (.0239245)	3.10116 (3.632794)	.0023658 (.0537942)
Δlnt	.0202432 (.0563421)	2.821007 (6.083594)	-.0105191 * (.0599594)
Δlnd	-.9786348 *	-.2774853	.1519124

	(.3204094)	(3.179035)	(.2626654)
Hausman test[1]	19.87		
Prob > chi[2]	0.0108		
Hausman test[2]	43.72		
Prob > chi[2]	0.0000		

Table shows the results of Pooled Mean Group, Mean Group and Dynamic Fixed Effect estimators for the SSA region. The error correction term from these three estimators is negative and significant at 1% level of significance. To identify which of the estimator is efficient and consistent we apply Hausman test[1] to make the selection between PMG and MG. The p-value of Hausman test is 0.0108 which is less than 0.05% level of significance so we reject null hypothesis in which Pooled Mean Group is consistent and efficient. The Hausman test[1] suggest MG estimator which is consistent and efficient in alternative hypothesis. The error correction term from MG estimator is negative and significant at 1% level of significance. It shows that around 67% disequilibrium from the long run relationship can be corrected in the first year. The long run coefficients from the Mean Group estimator are mostly insignificant and large. The long run coefficient of export, time to trade, and cost of business start- up procedure, government regulation and tariff are positive but insignificant. The long run coefficient of exchange rate, logistic index and distance are negative but insignificant. The Hausman test is used to decide the appropriate estimation technique between MG and DFE. The p-value is 0.000 which is highly significant, so we are able to reject null hypothesis and accept alternative hypothesis and concluded that Mean Group estimator is more efficient and consistent than Dynamic Fixed Effect.

7: Conclusion

The present study was aimed to explore the relationship between EPAs, Trade Facilitations and Economic Growth. we check the impact of EPAs and Trade Facilitations on economic growth of MENA, LAC, SSA and EEA countries for the time period of 25 years using tariff rate, exchange rate, exports, logistic performance index, average time spent dealing with requirement of Government Regulation, cost of business start- up procedures, distance and time to trade as independent variables. These variables capture the activities of EPAs and Trade Facilitations. They provide information about what type of EPAs and Trade Facilitations

‘efforts giving benefits. The results of Panel Unit Root Tests showed that majority of the variables are stationary at first. The results of PMG, MG and ARDL showed a strong long run relationship among EPAs, Trade Facilitations and Economic Growth and also confirmed that EPAs and Trade Facilitations have different effects for developed and developing countries in the LAC, MENA, EEA and SSA. The results of LAC region showed that PMG estimation is more consistent and efficient than MG and DFE. It was found that in LAC region EPAs and Trade Facilitation efficiently working to foster exports of the LAC countries. The long run coefficient of export is positive and significant at 1% level of significance. This result is also consistent with previous literature that shows that EPAs and Trade Facilitations have strong and positive impact on the exports of countries (Martincus and Carballo, (2010); Francis & Collins, 2004; Iwanow &Kirkpatrick, 2007). We found that 1% decrease in exchange rate is associated with 27% increase in GDP. The similar result was revealed by Silvana Tenreyro (2004). The results showed that EPAs and TFA working efficiently to lower time to trade for LAC countries. Martinez & Marquez (2008) concluded that time to export and time to import has negative and significant impact on growth. Cost of business start -up procedures has negative impact on GDP. When cost increase new exporters will reluctant to start new business. The long run coefficient of cost of business start-up procedure is negative and significant at 1% level of significance (Dennis & Shepherd, 2009). It shows LAC countries have high quality of logistic services and have efficient process to clear export through custom (Nordas et. al. 2006). It is very time consuming for exporters to deal with requirements of government regulations. The result showed that EPAs and TFA working efficiently to improve quality of infrastructure and better regulatory environment. . Helpman et. al. (2006) also investigate that high quality of regulation environment improve export performance. Long distance indicates high transportation cost. Land locked countries have high transportation cost because they have high freights to deliver goods to foreign markets. As Elbadawi et. al. (2006) concluded that Africa’s distance from the international foreign markets deter its manufactured exports. But we found that EPAs and TFA working very efficiently to lower transportation cost for exporters of LAC country. The result of tariff rate

also shows that 1% decrease in tariff rate lead 13% increase in GDP of LAC countries. The results also consistent with the result of Wilson et al. (2005) that examined how improvements in different categories of trade facilitations increase trade growth. The results show that 1% decrease in tariff rate cause to 1.2% increase in trade growth. Distance has also significant and negative impact on trade growth; 1 kilometer decrease in distance will lead 1.3% increase in trade flows. The overall estimation showed that Export Promotion Agencies and Trade Facilitations working efficiently to enhance economic growth of LAC countries.

The results of MENA region showed that MG estimation is more efficient and consistent than PMG and DFE. The long run coefficients of time to trade, distance and exchange rate are insignificant. It might be possible that in MENA countries time to trade and distance are not major hindrance for trade and exports. Long distance from the markets and partner country and more time to trade increase transaction costs of imports and exports. The maritime transport and air transport are main indicators of Port efficiency and plays very important role to deliver goods to international markets. But those countries that share land boarders, port efficiency is less important as compared to those who do not (Wilson et. al. 2005). The results showed that in MENA region EPAs and TFA working efficiently to boost exports (Rose, 2007; Iwanow & Kirkpatrick, 2007). The result of government regulation does not support the results of (Wilson et al. 2005). They concluded that regulatory and custom environment have positive and significant impact on economic growth. They justify their results as high quality of regulations reduce corruption and unnecessary trade cost for exporters. The long run coefficient of tariff rate is negative but significant at 5% level of significance (Wilson et al. 2005). As Dennis (2006) also concluded that regional trade agreement and trade facilitation enhance the development of MENA region.

For EEA region to decide the appropriate estimator between PMG and MG the Hausman test[1] is used. The Hausman test[1] states that Mean Group estimator is better for the estimated model because the p-value of Hausman is significant. The results showed that EPAs and Trade Facilitations enhancing exports of EEA countries. But we found that all other indicators of EPAs and TF are insignificant. This showed that EPAs and TF are not performing these activities in EEA region, because these are not major hindrance for economic progress of EEA countries. Most of EEA countries

are developed and exporters do not face the problem of high tariff rates, volatility in exchange rates, high entry cost and unnecessary documentation to clear exports through custom. They have better regulation infrastructure. The Hausman test[2] concluded that DFE estimator is more consistent and efficient than MG. The results of long run coefficients of time to trade, cost of business start-up procedure, tariff rate logistic performance index, exchange rate, export and government regulations are consistent with the previous literature (Nordas et. al. 2006; Helpman et. al. 2006; Clarke, 2005; Dennis & Shepherd, 2009; Wilson et al. 2005; Tenreyro, 2004; Martincus and Carballo 2010). The results of distance does not support the results of (Hummels, 2001; Wilson et al. 2005; Elbadawi et. al. 2006) they concluded that distance has negative and significant impact on trade and exports.

For SSA region Hausamn tests state that Mean Group estimation is more consistent and efficient than Pooled Mean Group and Dynamic Fixed Effect. The long run coefficients from the Mean Group estimator are mostly insignificant and large. We found that Export Promotion Agencies and Trade Facilitations are not performing their activities. Most of the SSA countries are developing countries. Lederman et al. (2006) attempted to examine the reasons why EPAs are not successful in SSA region. Only 4% EPAs are under the ministry command and 25% of budget allots to EPAs activities. In SSA region EPAs main focus on SMEs but the budget spent on small and medium enterprises are lower than the expenditures spent on established firms. Lesser & Leeman, (2009) gave some other reasons, he concluded that trade of SSA countries consist of staple goods. Most of the traders are small and medium firms and they have small trade consignments. Most of the traders avoid legal practices of regulations and duties.

8: Recommendations: Following are few suggestions that can bring further improvements in the performance of EPAs and Trade Facilitations:

- To making policies of trade regarding economic growth, government should eradicate hidden corruption and bribery in trading goods from place to another place.
- Developing countries should increase share of expenditures for the activities of EPAs and Trade Facilitations.

- They should assist traders to shift their exports of informal traded goods to formal traded goods across regions.
- The main focus of their activities is to assist new exporters and small and medium enterprises. But they should also encourage experienced exporters and established firms to exports in new markets.
- They should not only to make easy movement of goods across the boarders but they should also promote exports diversification.

References

Ahmed, Z. U., Mohamed, O., Johnson, J. P., & Meng, L. Y. (2002). Export promotion programs of Malaysian firms: an international marketing perspective. Journal of Business Research, 55(10), 831-843.

Álvarez Espinoza, R., & Crespi, G. (2000). Exporter performance and promotion instruments: Chilean empirical evidence.

Anwer, M. S., &Sampath, R. K. (2000).Exports and economic growth.Indian Economic Journal, 47(3), 79.

Baier, S. L., &Bergstrand, J. H. (2001). The growth of world trade: tariffs, transport costs, and income similarity. Journal of international Economics, 53(1), 1-27.

Beverelli, C., Neumueller, S., &Teh, R. (2015). Export diversification effects of the wto trade facilitation agreement. World Development, 76, 293-310.

Carrère, C., Strauss-Kahn, V., &Cadot, O. (2007). Export diversification: What's behind the hump? The selected works of Oliver Cadot.

Cheung, Y. W. (2005). An analysis of Hong Kong export performance. Pacific Economic Review, 10(3), 323-340.

Clarke, G. R. (2005). Beyond tariffs and quotas: why don't African manufacturers export more? World Bank Policy Research Working Paper, (3617).

Cruz, M. (2014). Do export promotion agencies promote new exporters? World Bank Policy Research Working Paper, (7004).

Dennis, A. (2006). The impact of regional trade agreements and trade facilitation in the Middle East and North Africa region. World Bank Policy Research Working Paper, (3837).

Dennis, A., & Shepherd, B. (2011). Trade facilitation and export diversification. The World Economy, 34(1), 101-122.

Diamantopoulos, A., Schlegelmilch, B. B., & Katy Tse, K. Y. (1993). Understanding the role of export marketing assistance: empirical evidence and research needs. European Journal of Marketing, 27(4), 5-18.

Elbadawi, I. A., Kaltani, L., & Schmidt-Hebbel, K. (2008).Foreign aid, the real exchange rate, and economic growth in the aftermath of civil wars. The World Bank Economic Review, 22(1), 113-140.

Elbadawi, I., &Mengistae, T. (2006). Market access, supplier access, and Africa's manufactured exports: an analysis of the role of geography and institutions (Vol. 3942). World Bank Publications.

Fontagné, L., Orefice, G., &Piermartini, R. (2016). Making (Small) Firms Happy.The Heterogeneous Effect of Trade Facilitation Measures (No. 2016-08).

Francis, J., & Collins-Dodd, C. (2004). Impact of export promotion programs on firm competencies, strategies and performance: The case of Canadian high-technology SMEs. International Marketing Review, 21(4/5), 474-495.

Funke, M., &Ruhwedel, R. (2001). Product variety and economic growth: empirical evidence for the OECD countries. IMF Staff papers, 48(2), 225-242.

Gil-Pareja, S., Llorca-Vivero, R., Martínez-Serrano, J. A., &Requena-Silvente, F. (2015).Regional export promotion offices and trade margins. Review of World Economics, 151(1), 145-167.

Grainger, A. (2011). Trade facilitation: a conceptual review. Journal of World Trade, 45(1), 39-62.

Hausmann, R., &Rodrik, D. (2003).Economic development as self-discovery. Journal of development Economics, 72(2), 603-633.

Hayakawa, K., Lee, H. H., & Park, D. (2011). Do export promotion agencies increase exports?

Helleiner, G. K. (Ed.). (2002). Non-traditional export promotion in Africa: Experience and issues. Palgrave.

Heller, P. S., & Porter, R. C. (1978). Exports and growth: An empirical re-investigation. Journal of Development Economics, 5(2), 191-193.

Helpman, E., Melitz, M., & Rubinstein, Y. (2007). Estimating trade flows: Trading partners and trading volumes (No. w12927). National Bureau of Economic Research.

Hillberry, R. H., & Zhang, X. (2015). Policy and performance in customs: evaluating the trade facilitation agreement. World Bank Policy Research Working Paper, (7211).

Hoekman, B. (2005). Designing North South trade agreements to promote economic development.Washington DC, the World Bank and London, DFID.

Hogan, P., Keesing, D. B., Singer, A., & Mundial, B. (1991). The role of support services in expanding manufactured exports in developing countries (Vol. 28). Washington, DC: World Bank.

Hummels, D., &Schaur, G. (2012). Time as a trade barrier (No. w17758).National Bureau of Economic Research.

Iwanow, T., & Kirkpatrick, C. (2009). Trade facilitation and manufactured exports: Is Africa different? World Development, 37(6), 1039-1050.

Jindal, G., &Gakhar, K. (2015). Export Promotion Programs and Exporters Performance, Strategies and Competencies: A.

Jordana, J., Volpe Martincus, C., & Gallo, A. (2010).Export promotion organizations in Latin America and the Caribbean: an institutional portrait. Inter-American Development Bank.

Katz, B., &Istrate, E. (2011).Boosting Exports, Delivering Jobs and Economic Growth. Brookings Institute: Project on State and Metropolitan Growth.

Lederman, D., Olarreaga, M., & Payton, L. (2006). Export promotion agencies: What works and what doesn't.

Lee, C. S., & Yang, Y. S. (1990).Impact of export market expansion strategy on export performance. International Marketing Review, 7(4).

Leonidou, L. C., Palihawadana, D., &Theodosiou, M. (2011). National export-promotion programs as drivers of organizational resources and capabilities: effects on strategy, competitive advantage, and performance. Journal of International Marketing, 19(2), 1-29.

Lesser, C., &Moisé-Leeman, E. (2009). Informal cross-border trade and trade facilitation reform in sub-Saharan Africa.

Martincus, C. V., & Carballo, J. (2010). Beyond the average effects: The distributional impacts of export promotion programs in developing countries. Journal of Development Economics, 92(2), 201-214.

Martincus, C. V., Estevadeordal, A., Gallo, A., & Luna, J. (2010).Information barriers, export promotion institutions, and the extensive margin of trade.Review of World Economics, 146(1), 91-111.

Martinez-Zarzoso, I., &Márquez-Ramos, L. (2008).The effect of trade facilitation on sectoral trade.The BE Journal of Economic Analysis & Policy, 8(1).

Michaely, M. (1977). Exports and growth: An empirical investigation, Journal of development Economics 45(2)-52-7

Michalopoulos, C., & Jay, K. (1973). Growth of Exports and Income in the Developing World: A Neo-classical View “, AID discussion paper, 28, Washington, DC.

Milner, C., Morrissey, O., &Zgovu, E. (2008).Trade facilitation in developing countries.CREDIT Research Paper, 8(05).

Moïsé, E. (2013). The costs and challenges of implementing trade facilitation measures.

Nordås, H. K., Pinali, E., & Grosso, M. G. (2006).Logistics and time as a trade barrier.

Olarreaga, M., Sperlich, S., &Trachsel, V. (2016). Export Promotion: what works? (No. 11270).CEPR Discussion Papers.

Persson, M. (2010).Trade facilitation and the extensive margin.The Journal of International Trade & Economic Development, 22(5), 658-693.

Pesaran, M. H. (2007). A simple panel unit root test in the presence of cross-section dependence. Journal of Applied Econometrics, 22(2), 265-312.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. Journal of the American Statistical Association, 94(446), 621-634.

Rose, A. K. (2007). The Foreign Service and foreign trade: embassies as export promotion. The World Economy, 30(1), 22-38.

Sannassee, V. R., Seetanah, B., Lamport, J. M. (2014). Export diversification and economic growth: the case of Mauritius. Connecting to global markets.

Schminke, A. D., & Van Biesebroeck, J. (2012, August).Smoothing out the bumpy road to export success: Evaluating export promotion activities in Belgium. In IDB Workshop on the Effects of Trade and Investment Promotion (http://www. iadb. org/en/topics/trade/callfor-papers/agenda, 7259. html).

Sharma, A., &Panagiotidis, T. (2003). An Analysis of Exports and Growth in India: Some Empirical Evidence (1971-2001).

Shirazi, N. S., &Manap, T. A. A. (2005). Export-led growth hypothesis: further econometric evidence from South Asia. Developing Economies, 43(4), 472-488.

Taneja, N. (2004). Trade facilitation in the WTO: Implications for India. Indian Council for Research on International Economic Relations (ICRIER).

Tenreyro, S. (2007).On the trade impact of nominal exchange rate volatility.Journal of Development Economics, 82(2), 485-508.

Ujiie, T. (2006).Trade facilitation.

Volpe Martincus, C., & Carballo, J. (2010). Export promotion: bundled services work better. The World Economy, 33(12), 1718-1756.

Volpe Martincus, C., & Carballo, J. (2012). Export promotion activities in developing countries: What kind of trade do they promote? The Journal of International Trade & Economic Development, 21(4), 539-578.

Wheeler, C. N. (1990). Stimulating Scottish and United Kingdom economies through export promotion programs. International Perspectives on Trade Promotion and Assistance, Quorum, New York, NY, 101-18.

Wilson, J. S., Mann, C. L., & Otsuki, T. (2003). Trade facilitation and economic development: A new approach to quantifying the impact. The World Bank Economic Review, 17(3), 367-389.

Wilson, J. S., Mann, C. L., & Otsuki, T. (2005).Assessing the benefits of trade facilitation: A global perspective.The World Economy, 28(6), 841-871.

Appendix:

Members	Date of acceptance
Albania	10 may 2016
Belize	2 September 2015
Botswana	18 July 2015
Brazil	29 may 2016
Cambodia	12 February 2016
China	4 September 2015
Hong Kong	8 December 2014
Cote d'Ivoire	8 December 2015
EI Salvador	4 July 2016
Grenada	8 December 2015
Guyana	30 November 2015
Honduras	14 July2016
Lesotho	4 January 2016
Liechtenstein	18 September 2015
Madagascar	20 June 2016
Malaysia	26 may 2015
Mali	20 January 2016
Mauritius	5 March 2015
Mexico	26 July 2016
Moldova	24 June 2016
Montenegro	16 May 2016
Nicaragua	4 august 2015
Niger	6 August 2015
Norway	16 December 2015
Panama	17 November 2015
Paraguay	1 March 2015
Peru	27 July 2016
Saudi Arabia	8 July 2016
Seychelles	11 January 2016
Thailand	5 October 2015
Togo	1 October 2015

Trinidad & Tobago	29 July 2015
Turkey	16 March 2016
United Arab Emirate	18 April 2017
Vietnam	15 December 2015
Zambia	16 December 2015