

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, Jordan, 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, El 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.

Zarzo & 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 to 2010. 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 (Sannasee 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 (Ujii, 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, El Salvador, Guatemala, Honduras, Grenada, Trinidad & Tobago, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Cuba, Uruguay, Venezuela, Haiti, Dominican Republic and Puerto Rico. Second is Middle East & North Africa (MENA) countries that contain 21 developing countries: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Libya, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Tunisia, Morocco, United Arab Emirates, West Bank & Gaza, 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 the fourth region is Sub Saharan African Countries (SSA) having 46 developed and developing countries: Burundi, Benin, Chad, Botswana, Burkina Faso, Cameroon, Cabo Verde, 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”.

$$\ln(\text{GDP})_{i,t} = \beta_0 + \ln \beta_1 \text{EX} + \ln \beta_2 \text{TR} + \ln \beta_3 \text{ER} + \ln \beta_4 \text{TT} + \ln \beta_5 \text{D} + \ln \beta_6 \text{GR} + \ln \beta_7 \text{L} + \ln \beta_8 \text{C}$$

=> 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

$$\boldsymbol{\varepsilon} = \boldsymbol{\sigma} = \mathbf{0}$$

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 $\mathbf{H}_0 = \text{constant variance (homoscedasticity)}$ and the alternative hypothesis is $\mathbf{H}_1 = \text{heteroscedasticity}$. 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:

$$\mathbf{Y}_{it} = \boldsymbol{\alpha}_i + \mathbf{X}_i \mathbf{Y}_{it} + \mathbf{B}_i \mathbf{X}_{it} + \boldsymbol{\epsilon}_{it}$$

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 $\text{chi}^2 < 0.05$ 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 $\alpha_i = \alpha$
- ii) Auto regressive parameter vary across section as $\alpha_i \neq \alpha$

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:

$$\Delta(\text{Gross Domestic Product})_{i,t} = \alpha_i + \gamma (\text{Gross Domestic Product})_{i,t-j} + \alpha_j \Delta(\text{Gross Domestic Product})_{i,t-j} + \varepsilon_{i,t}$$

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:

$$\mathbf{H}_0: \gamma = 0$$

Whereas alternative hypothesis is: ‘**all series in panel is stationary**’. $\mathbf{H}_1: \gamma \neq 0$

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:

$$\Delta(\text{Gross Domestic Product})_{i,t} = \alpha_i + \gamma (\text{Gross Domestic Product})_{i,t-j} + \alpha_j \Delta(\text{Gross Domestic Product})_{i,t-j} + \varepsilon_{i,t}$$

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:

$$\text{gdp}_{it} = \lambda_i + \beta_{i1}\text{Exp}_{it} + \beta_{i2}\text{T}_{it} + \beta_{i3}\text{EX}_{it} + \beta_{i4}\text{D}_{it} + \beta_{i5}\text{COB}_{it} + \beta_{i6}\text{index}_{it} \\ + \beta_{i7}\text{TT}_{it} + \beta_{i8}\text{GR}_{it} + \theta_{it} + \epsilon_{it}$$

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

$$\Delta \text{gd pit} = \phi i + (\text{gdp}_{it-1} - \theta_{oi} - \theta_{oi} \text{Exp}_{it} - \theta_{1t} \text{T}_{it} - \theta_{2t} \text{Ex}_{it} - \theta_{3t} \text{D}_{it} - \theta_{4t} \text{COB}_{it} - \theta_{5t} \text{index}_{it} - \theta_{7t} \text{TT}_{it} - \theta_{8t} \text{GR}_{it}) + \delta_{1i} \Delta \text{Exp}_{it} + \delta_{2i} \Delta \text{T}_{it} + \delta_{3i} \Delta \text{Ex}_{it} + \delta_{4i} \Delta \text{D}_{it} + \delta_{5i} \text{COB}_{it} + \delta_{6i} \text{index}_{it} + \delta_{7i} \text{TT}_{it} + \delta_{8i} \text{GR}_{it} + \epsilon_{it}$$

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 χ^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

	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 χ^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

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

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

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 χ^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 χ^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** (.0132457)	-.5726549* (.0711301)	-.1593506* (.0193791)
$\Delta \ln \text{erate}$	-7.745825 (7.751107)	-4.46952 (4.469669)	-.0061287 (.006906)
$\Delta \ln \text{export}$	.1035231*** (.0624272)	-.050766*** (.0529116)	.0435057* (.0180679)
$\Delta \ln \text{tt}$	-.0134008 (.0916987)	.7123038 (.4932268)	-.0076795 (.058369)
$\Delta \ln \text{co}$	-.4307167 (.4656754)	-.218153 (.5036692)	.0398719 (.0352719)
$\Delta \ln \text{dex}$	.0395458 (.1013801)	-.4480692 (.4064671)	-.0643123 (.0772886)
$\Delta \ln \text{gr}$	-1.941376 (5.24344)	-8.685957 (12.19118)	.0146432 (.1041295)
$\Delta \ln \text{t}$	-.0425903 (.1175558)	.0163693 (.1423288)	.0015402 (0.192939)
$\Delta \ln \text{d}$	-13.55816 (11.0994)	22.84973 (31.53594)	.3100722 (.2201724)
constant	-.0782752 (.4379367)	-99.0756 (240.2422)	.7348022* (.267887)
Long Run	Pooled Mean Group	Mean Group	Dynamic Fixed Effects
$\Delta \ln \text{ex}$	-.2793087* (.0747137)	-.0319551 (.0744589)	.0123611 (.0192451)
$\Delta \ln \text{export}$	1.644816* (.3554781)	.443276*** (.2613103)	.2556484* (.0412885)
$\Delta \ln \text{tt}$	-.3032176* (.365781)	-41.97015 (40.26191)	-.1004062 (.2174237)
$\Delta \ln \text{co}$	-2.14927* (.4529343)	2.785603 (2.406468)	-.2821611* (.0679263)
$\Delta \ln \text{dex}$	.4892203* (.1963227)	-.7001329 (1.506885)	-.0575551 (.0414568)
$\Delta \ln \text{gr}$	-2.130296* (.5297634)	21.77164 (32.67873)	.0496998 (.038437)
$\Delta \ln \text{t}$	-1.396268* (.3411283)	-.1258496 (.2524534)	-.0285248 (.0378171)
$\Delta \ln \text{d}$	-6.650119* (1.815957)	52.97157 (104.3386)	-.2311022 (.2789514)
Hausman test ¹ Prob > chi ²	-35.02 chi2<0		
Hausman test ² Prob > chi ²	19.39 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)
$\Delta \ln \text{exchange rate}$	-.004465 (.0070516)	.0028366 (.0097641)	-.0022009 (.0076734)
$\Delta \ln \text{export}$	.172531 * (.0463419)	-.0592426 (.0913566)	.2379057 * (.0181013)
$\Delta \ln \text{tt}$	-.0542123 (.2087319)	.1251541 (.7726347)	-.0259232 (.077504)
$\Delta \ln \text{co}$	.0334024 (.1096275)	-18.11424 (12.88549)	-.0200195 (.025899)
$\Delta \ln \text{index}$	.1299484 (.3170629)	2.966599 (7.229872)	.0964786 (.0699143)

$\Delta \ln gr$	-3.072107 (2.883536)	-4.566513 (3.617265)	-.1764767 ** (.0843154)
$\Delta \ln t$	-.0162257 (.0612662)	.3861441 (.3258512)	.042946 (.0302606)
$\Delta \ln d$	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
$\Delta \ln exchnge\ rate$	-.0089535 (.005743)	.1057779 (.1662671)	-.0366168 (.0256421)
$\Delta \ln export$	.7061398 * (.0351014)	.539442 * (.1422243)	.5926634 * (.0850623)
$\Delta \ln tt$	-.0589605 (.1156881)	-1.494286 (1.864154)	.4878998 (.4911132)
$\Delta \ln co$	-.0119032 (.0269961)	11.6342 (10.31899)	-.1890751 ** (.0983906)
$\Delta \ln dex$	.3581653 * (.0676038)	7.756977 (5.594278)	-.149392 (.2448798)
$\Delta \ln gr$	.0414984 (.0326411)	.5682171 (.7230342)	.0799015 (.1280404)
$\Delta \ln t$	-.0631681 ** (.0310719)	-.8331297 ** (.3880051)	.1046894 (.124698)
$\Delta \ln d$	-.6497009 (.181611)	-.79.22621 (57.9731)	-.2400377 (.5370313)
Hausman test ¹	18.58		
Prob > chi ²	0.0173		
Hausman test ²	32.11		
Prob > chi ²	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 test² 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 test² 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	-2.444282 * (.0437736)	-.9480444 * (.0734449)	-.1649072 * (.0168516)
$\Delta \ln exchange\ rate$	-.0324551 * (.0304992)	.0521189 (.0760124)	.0020305 (.0020305)
$\Delta \ln export$	.0742826 (.0529945)	.124642 (.124642)	.0108795 (.012505)
$\Delta \ln tt$	-.2298168 (.2970776)	-.8545294 (.6176965)	-.01913 (.0690818)
$\Delta \ln co$	.1269732 (.0904376)	-1.003939 (1.085444)	.0280535 *** (.0156447)
$\Delta \ln dex$	.2253164 (.227463)	1.638293 (1.484592)	-.0256602 (.0727245)
$\Delta \ln gr$	11.13315 (9.944723)	40.3188 (40.49326)	.0168139 (.0168139)
$\Delta \ln t$	.1746724 (.0450128)	.2080037 * (.0853606)	.0558521 * (.0182642)
$\Delta \ln d$	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

<i>Δlnexchange rate</i>	.0321399 * (.0077308)	.0359199 (.0401799)	-.0446878 * (.0160476)
<i>Δlnexport</i>	.1053547 * (.0305058)	.4503508 * (.1473388)	.1273428 * (.0411808)
<i>Δlnnt</i>	.003166 (.209348)	.8121849 (.0401799)	-.5420922 *** (.3270553)
<i>Δlnco</i>	.0200742 (.0206483)	.6813027 (.9363698)	-.0475159 *** (.0264136)
<i>Δindex</i>	.8346186 * (.0758116)	.1932244 (1.14948)	.1608092 * (.068823)
<i>Δlngr</i>	-.0053328 (.0128922)	.2072183 (.4492369)	.0298098 (.0225353)
<i>Δlnl</i>	-.4054111 * (.0187456)	-.0833048 (.1160832)	-.2155574 * (.0471015)
<i>Δlnd</i>	-6.710278 * (.6109148)	1.731535 (5.227073)	.2533822 (.1683013)
Hausman test ¹	28.61		
Prob > chi ²	0.0004		
Hausman test ²	1.40		
Prob > chi ²	0.9942		

Table shows the results of PMG, MG and DFE estimators for EEA region. To decide the appropriate estimator between PMG and MG the Hausman test¹ 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 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 test² 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)
<i>Δlnex</i>	.8803821 (.856247)	1.921389 (1.770911)	.0058711 (.0070276)
<i>Δlnexp</i>	-.067061 (.0587232)	.8128087 (1.015707)	0.318086 ** (.0144118)
<i>Δlnnt</i>	.6243287 (.6284131)	.7127232 (.9552543)	-.1779406 ** (.0786923)
<i>Δlnco</i>	4.543539 (4.717269)	1.483756 (1.903311)	-.0071656 (.0207042)
<i>Δindex</i>	.0722161 (.387766)	-.7619472 (1.523725)	.0079562 (.0256409)
<i>Δlngr</i>	1.320593 (2.236534)	-2.570831 (5.027968)	-.0262088 (.0721478)
<i>Δlnt</i>	12.3492 (9.304085)	47.0566 (44.96102)	.0057341 (.0208386)
<i>Δlnd</i>	-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
<i>Δlnexchange rate</i>	-.1035363 * (.0127684)	-.7752591 (.7364057)	-.1512508 * (.0244043)
<i>Δlnexport</i>	.0404584 * (.0141184)	36.91484 (36.72142)	.2539828 * (.0381223)
<i>Δlnnt</i>	1.665414 * (.4808511)	7.677267 (5.1503971)	1.489388 (.4400124)
<i>Δlnco</i>	-.1461242 * (.0152916)	12.79656 (8.946492)	-.1335638 * (.0526512)
<i>Δindex</i>	.0997488 (.0630879)	-1.290565 (1.382693)	.0024689 (.0351582)
<i>Δlngr</i>	.075817 * (.0239245)	3.10116 (3.632794)	.0023658 (.0537942)
<i>Δlnt</i>	.0202432 (.0563421)	2.821007 (6.083594)	-.0105191 * (.0599594)
<i>Δlnd</i>	-.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 test¹ 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 test¹ 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 borders, 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 test¹ is used. The Hausman test¹ 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 test² 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 Hausman 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 borders but they should also promote exports diversification.

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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
El Salvador	4 July 2016
Grenada	8 December 2015
Guyana	30 November 2015
Honduras	14 July 2016
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

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

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