Do Exports and Economic Growth Depend on each other at Intergovernmental Organization Level Trade: An Empirical Study

Shafaqat Mehmood
shafaqatphd@gmail.com
UC BerkeleyX | edX, The University of California At Berkeley, United States

Abstract
A number of trade opportunities exist in Pakistan by establishing close links with Organization for Economic Cooperation and Development (OECD) countries, and these opportunities could be achieved through trade openness. Furthermore, Pakistan can play significant role in enhancement of trade relations among the OECD countries because major trading partners of Pakistan falls under the umbrella of OECD. The aim of the study is to analyze Export-Led Growth (ELG) and Growth-Led Exports (GLE) hypotheses in case of Pakistan’s export to OECD (PETOECD) in presence variable namely Pakistan Total Exports (PTE). This study also analyzes relationship among Pakistan exports to OECD, PTE and Gross Domestic Product (GDP) as measure of Economic Growth of Pakistan.

Introduction
International trade is the most important engine for economic growth as generally discussed among the economists, and export is an important element of international trade (Jain & Singh, 2009). David Ricardo and Adam Smith were considered as an early founder of the concept of trade liberalization or openness because their theories are in support of trade and international development (Alam, 2011). Link between exports and economic growth is one of major areas in international economics, and received a great attention by investigators (Bahmani-Oskooee & Economidou, 2009). Further, from past to now, link between economic and export growth considered as a vital question among economists. Such kind of link has four possible propositions namely: export-led growth, growth-led export, bidirectional link between economic growth and export, and finally, absence of any link between economic growth and export (Safdar, Mahmoodi, & Mahmoodi, 2011). The aim of this study is to analyze the ELG and GLE Hypotheses in Case PETOECD. Here ELG means, an increase in exports leads towards an increase in GDP, and GLE means, an increase in GDP could lead toward an increase in exports. Many studies investigated the ELG hypothesis and merely studies explored GLE hypothesis at national level or in sense of panel model, but a few studies investigated these hypotheses at regional level export or at an intergovernmental organization level.

Another purpose of present study is to make clear about dependency of export and growth on each other among other variables namely: Pakistan Exports to OECD, PETOECD, and GDP. The selection of above said variables based on review of literature. The previous studies investigated these hypotheses by taking time series data and panel data at national level, but the present study is totally different from previous studies from different Prospective such as in present study ELG and GLE hypotheses will be explored in...
Do Exports and Economic Growth Depend on each other at Intergovernmental Organization Level Trade: An Empirical Study

Shafaqat Mehmood

Academy of Contemporary Research Journal
Volume II, Issue IV, 2013, 152 -160

The present study may lead to understand the presence or absence of existence of ELG and GLE. In simple words, it will make clear about the dependency of PETOECD, PTE and GDP on each other. This research work may provide help to understand that an increase in exports leads to an increase in GDP or an increase in GDP could lead to increase in exports in case of PETOECD. As a major portion of Pakistan exports 55% approximately is towards the OECD. Identification of GLE or GLE hypotheses in case of PETOECD will also help for suitable policy prescriptions which will lead to the enhancement and improvement of the exports relationship with OECD countries. Finally, the significance of this research work is that it may lead the economy of Pakistan to the development, and in result, country balance of payment will also be improved.

Remaining portion of present synopsis is organized as follows: section two presents review of related literature; section three contains data and mythology, section four presents the results and discussions; second last section contains conclusions, and list of references in last.

Literature Review

In case of developing countries, link between economic and export growth contains interest in both prospective (i.e. theoretical and empirical literature). Alam (2012) explored the link between economic growth, imports and exports in case of Pakistan by using data for 39 years from 1971 to 2009. They investigated the export-led growth, growth-led export, import-led growth, growth-led imports hypotheses. Shafaqat and David (2012) conducted a study on Pakistan exports at regional level, and revealed a long run relationship between GDP and Pakistan’s exports to SAARC. Furthermore, Granger causality revealed that GDP does cause Pakistan’s exports to SAARC. Hafiz (2013) explored the impact of exports on the economy growth, and documented that Pakistan exports to OECD is positive correlated with GDP but total export negative correlated with GDP of Pakistan. Alam’s empirical outcomes verified validity of GLE hypothesis in case of short run period and long run period. While ELG hypothesis is valid in short run period but not in long run time of period. In case of Pakistan and Bangladesh, Shafaqat (2012a) conducted study to explore the effect of various variable (including exports) on GDP. Shafaqat study found that exports have a negative effect on the GDP of Pakistan and have positive effect on the GDP of Bangladesh. The study of Alam (2011) documented a

Overview of Pakistan, OCED and their Intra-trade

Agriculture is the backbone of Pakistani economy. Industry, Agriculture, and services sectors contribute to GDP as 23.6%, 26% and 54.6% respectively. During 1975–2012, the GDP of Pakistan increased from 10.4 billion rupees to 19436.9 billion rupees, during the same period, Pakistan total exports increased from 10.3 billion rupees to 1518.6 billion rupees (Economic Survey of Pakistan, 2012).

OECD stands for Organization for Economic Co-operation and Development, and it is first type of international organization namely intergovernmental organizations. OECD has developed in the European region after the World War II. OECD was officially developed on 30 September 1961. Today, under the umbrella of OECD there 34 countries, including a few major countries namely: Australia, Canada, France, Germany, Japan, Korea, Netherlands, New Zealand, Turkey, United Kingdom, and United States (OECD, 2012).

OECD economies are major trading partners of Pakistan. The exports from Pakistan to OECD increased from 4 billion rupees to 607.5 billion rupees during 1975-2012. During the same period, imports from Pakistan to OECD raised from 13 billion rupees to 591 billion rupees on an average 11.72% per year growth rate. The OECD member countries contribute approximately 55 percent in Pakistan total exports (Economic Survey of Pakistan, 2012).

Problem Statement

It is commonly accepted that countries having a better export performance also do well in their growth of GDP and vice versa. Above said statement raises an essential question related to the nature of link between GDP and exports (Afzal, Rehman, & Rehman, 2008). Present study will be conducted to address the answer of above said questions in context of PETOECD which an intergovernmental level organization. Because major portion of Pakistan exports 55% approximately is towards the OECD. A number of studies showed that exports have a positive relationship with economic growth. Mostly, these studies checked ELG and GLE hypotheses by taking time series data and panel data at national level at national level. But in the selected empirical literature review not any study founded on the topic namely: Analysis of Export-Led Growth and Growth-Led Exports hypotheses in Case of PETOECD. Present study will lead to identify relationship between Pakistan GDP and its exports to OECD.

Research Questions

- Is there Export-Led Growth, in case of PETOECD?
- Is there Growth-Led Exports, in case of PETOECD?

Research Objectives

Following are the main objectives, which will be achieved by present research:

- To analyze the empirical link between GDP of Pakistan and its exports to OECD
- To investigate the Export-Led Growth hypothesis
- To investigate Growth-Led Exports hypothesis

Hypotheses

This research study has the following hypotheses to test:

- H₁: Variables under consideration of present study are co-integrated
- H₂: Variables under consideration of present study are not co-integrated
- H₃: Pakistan exports to OECD does granger cause Pakistan GDP
- H₄: Pakistan exports to OECD does not granger cause Pakistan GDP
- H₅: Pakistan GDP does granger cause Pakistan exports to OECD
- H₆: Pakistan GDP does not granger cause Pakistan exports to OECD

Significance of Research

The present study may lead to understand the presence or absence of existence of ELG and GLE. In simple words, it will make clear about the dependency of PETOECD, PTE and GDP on each other. This research work may provide help to understand that an increase in exports leads to an increase in GDP or an increase in GDP could lead to increase in exports in case of PETOECD. As a major portion of Pakistan exports 55% approximately is towards the OECD. Identification of GLE or GLE hypotheses in case of PETOECD will also help for suitable policy prescriptions which will lead to the enhancement and improvement of the exports relationship with OECD countries. Finally, the significance of this research work is that it may lead the economy of Pakistan to the development, and in result, country balance of payment will also be improved.

Remaining portion of present synopsis is organized as follows: section two presents review of related literature; section three contains data and mythology, section four presents the results and discussions; second last section contains conclusions, and list of references in last.
strong link between exports and Pakistan economic growth. The research work of Tang & Lai (2011) found the validity of present of ELG hypothesis in case Asian economies based on their empirical analysis by employing the granger causality. Ullah at al. (2009) investigated causal link between Exports and Growth in Pakistan by using time series data from 1970 to 2008. They concluded that a positive link exists between export and economic growth, but GDP not Granger cause Export. Afzal, Rehman & Rehman (2009) explored the link between exports, GDP and debt servicing in Pakistan. They documented absence of ELG hypothesis. Cetintas & Barisik (2009) documented the validity of ELG hypothesis in case of 13 transition countries including Pakistan. Pazim (2009) also tested the validity of ELG hypothesis based on panel data and documented that co-integration test shows the absence co-integration between the export and growth. The study of Omisakin (2009) employed the granger causality test and cointegration test based on study of Toda and Yamamoto (1995) and documented the presence of strong link between exports, import, and economic growth. Aurangzeb (2006) made a study on relationship between Economic Growth, Exports, and Productivity, and concluded that growth of exports depends on economic growth. Siddiqui and Javed (2005) explored the impact of trade liberalization on Pakistan economic growth. They concluded a long run negative link between trade and GDP growth.

Data and Methodology
On the base of hypotheses and objectives mentioned in the first section, nature of present research is descriptive and analytical. Secondary data has been employed to measure the relationship among variables under consideration. Present study made whole analysis on Pakistan and OECD countries by considering these countries as target population. For data collection, these sources have been used namely: Economic Survey of Pakistan (Various Issues), International Monetary Fund (IMF), and World Bank Indicators among other sources. Annual time series data of variables under consideration has been taken for the period of 1975 to 2012 and data has measures in million.

Definition, Measurement and Empirical justification of Variables
The following table includes the definition, measurements and Empirical justification on selection of variables which have been used in present study:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition and Measurement of Variables</th>
<th>Empirical justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>GDP refers to Gross Domestic Product of Pakistan. Annual time series data will be obtained in million rupees from economic survey of Pakistan 2011-2012</td>
<td>(Qadri &amp; Waheed, 2011); (Ullah et al., 2009); (Galimberti, 2009); (Siddiqui &amp; Iqbal, 2005)</td>
</tr>
<tr>
<td>PTOECD</td>
<td>PTOECD refers to Pakistan Exports to Organization for Economic Cooperation and Development. Annual time series data will be taken in million rupee based on economy survey of Pakistan 2011-2012</td>
<td>Author own value addition based on empirical and theoretical literature review</td>
</tr>
<tr>
<td>PTE</td>
<td>PTE refers to total exports of goods and services of Pakistan. Time series data will be taken in million rupees on the economic survey of Pakistan 2011-2012</td>
<td>(Rizavi, Khan, &amp; Mustafa, 2010); (Ullah et al., 2009); (Bahmani &amp; Economidou, 2009); (Galimberti, 2009)</td>
</tr>
</tbody>
</table>

Methodology for Data Analysis
This section consists of entire statistical and econometric techniques through which the objective of the present study can be achieved. Data analysis software namely: SPSS-16 and E-View 7 have been used to analyze the data. First of all, unit root test used to check the stationarity of data. A number of techniques are used to check the unit root in series but in present study only Augmented Dickey-Fuller (ADF) test and Phillips Perron (PP) test were used. Secondly, Granger causality test has been employed to check the direction of causality among the variables under consideration within the framework of VECM and Vector Autoregressive (VAR) model. An overview of these tests is given below.

Investigation of Unit Root
ADF test and PP tests used to investigate the unit root within time series variable under consideration namely: Pakistan exports to OECD, Pakistan total exports, and GDP. Investigation of unit root within time series data is important to check that stationarity or non-stationarity of data (Muhammad, 2013; Abdul & Haruto, 2012; and Muhammad, 2012).

There are many variations in PP and ADF test explore unit root, but still these tests usually used to check unit root (Farooq, Shafqaq, Zahid, 2013; Farah 2012; Shafqaq; 2012b; and Khan & Qayyum, 2008). ADF test was developed by Dickey and Fuller developed in 1981 based on DF test, to check the stationarity of data. ADF test can be used even error terms being related. ADF test and PP test both have the same interpretation. PP test is considered as non parametric as compared to ADF test. PP and ADF test have similar null hypothesis (Khan & Qayyum, 2008).

Co-integration Test
This test has been used to check co-integration among variables. Granger developed idea about co-integration in 1969, later on same idea was also investigated by the (Engle & Granger, 1987) and (Johansen, 1991) among others. Mostly, time series data economic variables are non-stationary at level but at their first difference data can be achieved stationarity. The regression of Cointegration in case of only two variables is us below:

\[ X_t = \alpha + \beta Y_t + Z_t \]

\[ Y_t = \epsilon + \psi X_t + Z_t \]

Where; constants are denoted by \( \alpha \) and \( \epsilon \), and \( \beta \) and \( \psi \) shows the coefficients of \( Y \) and \( Y \). In case of PTOECD
Do Exports and Economic Growth Depend on each other at Intergovernmental Organization Level Trade: An Empirical Study

Shafaqat Mehmood

Academy of Contemporary Research Journal
Volume II, Issue IV, 2013, 152-160

and GDP, the general forms of equations for regression of Cointegration are as follows:

\[ P_{ETOECOD_t} = \alpha + \beta GDP_t + Z_t \]
\[ GDP_t = \epsilon + \psi P_{ETOECOD_t} + Z_t \]

In case of Pakistan total exports and GDP, the general forms of equations for regression of Cointegration are as follow:

\[ P_{TE_t} = \alpha + \beta GDP_t + Z_t \]
\[ GDP_t = \epsilon + \psi P_{TE_t} + Z_t \]

Johansen’s (1988) cointegration test has been used to test whether two series move together or not in long run period. If two series are cointegrated, it means that long-term link exist between variables. This tests report the total number of co-integrating equations among explain and explanatory variables. According to Amalendu (2013), Johansen cointegration test and Granger causality test can be considered most appropriate to check integration and casual link among time series variable.

Granger Causality Test
Granger Causality test to gauge the direction of causality, if a pair of variables have long run link between variables. The Standard form of Granger Causality test two variables is as below:

\[ B_t = \beta_0 + \sum_{i=1}^{m} \beta_i B_{t-i} + \sum_{i=1}^{n} a_i A + U_t \]
\[ A_t = \gamma_0 + \sum_{i=1}^{m} \gamma_i A_{t-i} + \sum_{i=1}^{n} \partial_i B + V_t \]

Mutually uncorrelated residuals are denoted by the V and you and it is period of time. In this case, the null hypothesis against the alternatives hypothesis as below:

\[ a_i = \partial_i = 0 \]
\[ a_i \neq 0 \]

The casual direction runs from A to B if the estimated values of coefficients \( \hat{\alpha} \) show their significance and the \( \hat{\beta} \) show non-significant. The casualty direction runs from B to A if the estimated values of coefficients \( \hat{\beta} \) show their significance and the \( \hat{\alpha} \) show non-significant. If both coefficients \( \hat{\alpha} \) and \( \hat{\beta} \) show their significant, then causality direction will be run on both sides.

Results and Discussions
In present chapter some abbreviations have been used which are as follow:
- GDP = Natural logarithm of Gross Domestic Product of Pakistan
- PETOECD = Natural logarithm of
- PTE = Natural logarithm of Pakistan Total Exports

Investigation of Unit Root
Tables 2-7 reports the results of ADF test and PP test at level. Results revealed that at level, calculated values of ADF test and PP test are greater than the critical values with confidence level of 1% and 5%. So, ADF test and PP test failed to reject the null hypothesis that GDP, PETOECD and PTE have a unit root. Further, probability values of ADF test and PP test are also greater than 0.05 which indicate non-stationarity of time series variables under consideration.

<table>
<thead>
<tr>
<th>Table 2: ADF Test on GDP at Level</th>
</tr>
</thead>
</table>
Null Hypothesis: GDP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)
<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>0.791</td>
</tr>
<tr>
<td>Test critical values:</td>
<td></td>
</tr>
<tr>
<td>1% level</td>
<td>-4.522</td>
</tr>
<tr>
<td>5% level</td>
<td>-3.844</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3: ADF Test on PETOECD at Level</th>
</tr>
</thead>
</table>
Null Hypothesis: PETOECD has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic based on SIC, MAXLAG=9)
<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-2.475524</td>
</tr>
<tr>
<td>Test critical values:</td>
<td></td>
</tr>
<tr>
<td>1% level</td>
<td>-4.727</td>
</tr>
<tr>
<td>5% level</td>
<td>-3.956</td>
</tr>
</tbody>
</table>
Table 4: ADF Test on PTE at Level
Null Hypothesis: PTE has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-1.368693</td>
</tr>
<tr>
<td>Test critical values: 1% level</td>
<td>-2.732</td>
</tr>
<tr>
<td>5% level</td>
<td>-1.952</td>
</tr>
</tbody>
</table>

Table 5: PP Test on GDP at Level
Null Hypothesis: GDP has a unit root
Exogenous: Constant
Bandwidth: 2 (Newey-West using Bartlett kernel)

<table>
<thead>
<tr>
<th>Adj. t-Stat</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phillips-Perron test statistic</td>
<td>0.934</td>
</tr>
<tr>
<td>Test critical values: 1% level</td>
<td>-4.732</td>
</tr>
<tr>
<td>5% level</td>
<td>-3.892</td>
</tr>
</tbody>
</table>

Table 6: PP Test on PETOECD at Level
Null Hypothesis: PETOECD has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 4 (Newey-West using Bartlett kernel)

<table>
<thead>
<tr>
<th>Adj. t-Stat</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phillips-Perron test statistic</td>
<td>1.211</td>
</tr>
<tr>
<td>Test critical values: 1% level</td>
<td>-5.326</td>
</tr>
<tr>
<td>5% level</td>
<td>-4.636</td>
</tr>
</tbody>
</table>

Table 7: PP Test on PTE at Level
Null Hypothesis: PTE has a unit root
Exogenous: Constant
Bandwidth: 9 (Newey-West using Bartlett kernel)

<table>
<thead>
<tr>
<th>Adj. t-Stat</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phillips-Perron test statistic</td>
<td>-1.970909</td>
</tr>
<tr>
<td>Test critical values: 1% level</td>
<td>-3.522</td>
</tr>
<tr>
<td>5% level</td>
<td>-2.844</td>
</tr>
</tbody>
</table>
On the other hand, from Table 8 to Table 13 reports the results of ADF test and PP test at first difference on three variables under consideration. Results of these test revealed that at first difference, calculated values of ADF test and PP test are less than the critical values with confidence level of 1% and 5%. So, ADF test and PP test has rejected the null hypothesis and concluded that GDP, PETOECD and PTE have no problem of a unit root. Further, probability values of ADF test and PP test are also less than 0.05 which indicate stationarity of time series variable under consideration.

Table 8: ADF Test on GDP First Difference
Null Hypothesis: D(GDP) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-4.651</td>
</tr>
<tr>
<td>Test critical values:</td>
<td></td>
</tr>
<tr>
<td>1% level</td>
<td>-2.528</td>
</tr>
<tr>
<td>5% level</td>
<td>-1.8459</td>
</tr>
</tbody>
</table>

Table 9: ADF Test on PETOECD First Difference
Null Hypothesis: D(PETOECD) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-4.316</td>
</tr>
<tr>
<td>Test critical values:</td>
<td></td>
</tr>
<tr>
<td>1% level</td>
<td>-3.135</td>
</tr>
<tr>
<td>5% level</td>
<td>-2.441</td>
</tr>
</tbody>
</table>

Table 10: ADF Test on PTE First Difference
Null Hypothesis: D(PTE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

<table>
<thead>
<tr>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-4.591</td>
</tr>
<tr>
<td>Test critical values:</td>
<td></td>
</tr>
<tr>
<td>1% level</td>
<td>-2.527</td>
</tr>
<tr>
<td>5% level</td>
<td>-1.846</td>
</tr>
</tbody>
</table>

Results of Johansen Cointegration Test
Johansen’s Co-integration technique used at lag interval 1 to 1 with assumption a linear deterministic trend in variables. Results from Table 14 indicate one cointegrating equation because critical value exceeds the trace which indicates a long run relationship among variables namely: GDP, PETOECD, and PTE. Variables under consideration have integrated with each other and Johansen Co-Integration revealed the existence of long run relationship among the variables.
Table 14: Johansen Cointegration Test

Date: 09/23/13  Time: 04:10
Sample (adjusted): 1977 2012
Included observations: 36 after adjustments
Trend assumption: Linear deterministic trend
Series: GDP PETOECD PTE
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Trace</th>
<th>0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CE(s)</td>
<td>Eigenvalue</td>
<td>Statistic</td>
</tr>
<tr>
<td>None *</td>
<td>0.774</td>
<td>94.649</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.567</td>
<td>54.329</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.467</td>
<td>31.705</td>
</tr>
</tbody>
</table>

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level denotes rejection of the hypothesis at the 0.05 level

Results of Granger Causality Test
Table 15 shows the results of Granger causality test at lag 2. Swartz criterion is considered as an appropriate tool to select the lag length. At lag 2, results from Table shows that there is unidirectional causal relationship between GDP and PETOECD, causality run from PETOECD to GDP. In case of GDP and PTE, there is also unidirectional relationship, and causality run from PTE to GDP. In case of PTE and PETOECD, there is bidirectional relationship, and causality runs on both sides.

Table 15: Results of Granger Causality Test at Lag 2

<table>
<thead>
<tr>
<th>Pairwise Granger Causality Tests</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>PETOECD does not Granger Cause GDP</td>
<td>36</td>
<td>4.12233</td>
<td>0.025</td>
</tr>
<tr>
<td>GDP does not Granger Cause PETOECD</td>
<td>1.857</td>
<td>0.187</td>
<td></td>
</tr>
<tr>
<td>PTE does not Granger Cause GDP</td>
<td>36</td>
<td>2.926</td>
<td>0.081</td>
</tr>
<tr>
<td>GDP does not Granger Cause PTE</td>
<td>0.135</td>
<td>0.864</td>
<td></td>
</tr>
<tr>
<td>PETOECD does not Granger Cause PETOECD</td>
<td>36</td>
<td>2.761</td>
<td>0.069</td>
</tr>
<tr>
<td>PETOECD does not Granger Cause PTE</td>
<td>3.340</td>
<td>0.025</td>
<td></td>
</tr>
</tbody>
</table>

Conclusions and Recommendations
This paper made an attempt to analyze the ELG and GLE hypotheses in case of PETOECD in presence variable namely PTE. Present study has explored relationship among PETOECD, PTE and GDP. Data analysis software namely: SPSS-16 and E-View 7 have been used to analyze the data and time series data has been used for the period of 1975-2012. As a major portion of Pakistan exports 55% approximately is towards the OECD. So, the identification
of GLE or GLE hypotheses in case of PETOECD may help for suitable policy prescriptions which will be lead to enhancement and improvement of exports relationship with OECD countries. Results indicated that time series data has been became stationarity at same level (at first difference). Johansen’s Co-integration showed one cointegrating equation which indicates a long run relationship among variables. Based on Granger causality test, there is unidirectional relationship between GDP and PETOECD. This study supported the ELG hypothesis in case of Pakistan exports at intergovernmental level to OECD. These conclusions are also in line of Alam (2012) and Toda and Yamamoto (1995). So, Pakistan and OECD member countries can avail various trade opportunities by establishing and improving close trade links with each other. Furthermore, Pakistan can play significant role in enhancement of trade relations among the OECD countries because major trading partners of Pakistan falls under the umbrella of OECD.

References


Hypothesis: A Panel Threshold Regressions Approach.


