

Trade Openness and Economic Growth In Iran, and some OPEC Nations

Ebrahim Gorgi^{*}
Masoomah alipourian^{**}

Abstract

This paper tries to test the relationship between trade openness and economic growth in Iran, as well as some OPEC Nations. By using panel data we investigated the hypothesis that trade openness through its special mechanisms positively affects the economic growth of these countries. The results show that the oil exports have negative effect on economic growth of these countries.

Keywords: Economic growth; Trade openness; OPEC Nations; Trade policies; measures of openness

* - Ph.D Economic faculty of Tehran University.

** - M.A Economic faculty of Tehran University

Introduction

The relationship between trade openness and economic growth has been a key debate in the development literature for most of the second half of the twentieth century. In post world war period many economists have concluded that protective trade policies stimulated growth, and, therefore, import substitution policies were widely adapted by developing countries. From 1980 and thereafter the results of empirical studies had demonstrated the failure of the import substitution approach and consequently export-oriented policies were widely adapted.

In fact a possible link between openness and growth has been an important factor in stimulating an unprecedented wave of unilateral trade reforms, with over 100 countries committing to some kind of trade liberalization over the last 20 years. The reason for this strong bias in favor of trade liberalization is partly based on the conclusions of a wide range of empirical studies, which claimed that outward-oriented economies consistently have higher growth rates than inward-oriented countries.

Accordingly, because of the lack of data, in empirical studies, so far, OPEC Nations have been ignored. But in recent years the necessity of analyzing the economic growth of these countries, once again, came up to the surface.

In addition, politicians in these countries committing to trade openness especially exports, and imports have an important role in their economic growth. So, it is important to analysis the impact of trade openness on the economic growth of OPEC Nations.

Therefore, the objective of this paper is the analysis of the impact of the trade openness on the economic growth of oil exporting countries. After introduction, this paper briefly reviews the literature; the model building; the data structure; and the outcomes of the model respectively. Finally, conclusion and policy implication will end up the paper.

2- Literature review

The role of trade policy in economic development has long been a subject of considerable debate among economists. The evolution of thinking on trade orientation and growth has been charted by krueger (1997). She emphasizes those countries with a more open trade orientation appearing to

grow faster through time. Edwards (1998) has argued that the positive association between trade and openness is robust to the measure of openness used, though Rodriguez and Rodrik (1999) challenge this conclusion, arguing that although there is little systematic evidence linking inward oriented trade policies and growth, the evidence linking outward orientation and growth overstates the relationship between the two.

In the new growth models, openness trade policies provide the access to new inputs. This will embody new technology and increase the effective size of market facing producers, which, in turn, raises the return to innovation and affects the country's specialization in research- intensive production.

The empirical studies have used many different measures to test the effects of trade openness on economic growth. A large number of studies used trade shares in GDP and found a positive relationship with growth. These studies concluded that imports are important as exports for economic performance, and these two should be considered complementary to each other rather than alternatives.

Also we can use population densities to measure the trade openness of countries. That is as the ratio of total population to total area, due to the belief that countries with higher densities are more likely to be open and have more international contacts (Sachs and Warner 1995, 1997).

Some of the studies have looked at the relationship between average tariff rates and growth in the last several decades. Lee (1993), Harrison (1996), and Edwards (1998) found a significant and Negative relationship between tariff rates and growth. Most of these studies concluded that trade restrictions are always detrimental for growth regardless of the countries development level and size. O'Rourke, 2000, Clemens and Williamson, 2001, Irwin, 2002, reported the positive correlation between tariffs and growth for the late 19th and the early 20th century.

Finally Edwards (1992, 1998) used Non Tariff Barriers as a measure of trade restrictions and reported an insignificant relationship with growth. He concluded that NTBs are poor indicators of trade orientation because broad coverage of NTBs does not necessarily mean a higher distortion level.

3- The Model building and data

In theoretical models where they argue about the relationship between trade policy and economic growth, those variables that affect growth, are appointed on basis of equipment of theory, then for empirical estimation, other variables which affect through main variable, will be added to the model. Durlaf and Kuehe (1999) until 1998 knew more than 90 variables in empirical studies. In our model, variables have chosen on the based literature of trade openness and economic growth. In literature of growth have used export share of natural sources to total export or GDP for the countries that have abundant natural sources.

In this paper some OPEC Nations are being used as a statistical sample for our analysis. The model is being estimated by using panel data regression and fixed effect method. Because of time and data limitations the number of countries is being reduced from 11 to 5 countries and time limited from 1960-2002 to 1988-2001. The data are from world development indicators (WDI, 2004).

The model that is used for the analysis of the impact of the trade openness on economic growth is as follows;

$$GDP_C = a_0 + a_1EX + a_2IM + a_3IMD + a_4ED + a_5PD + a_6IN + a_7HTE + a_8FDI + a_9CAB$$

Where GDP_C is a country's per capita growth rate, EX is export share of GDP, IM is import share of GDP, IMD is duties on import,

ED is duties on export, PD is population density, IN is inflation rate, HTE is high technology export, FDI is indirect foreign investment, CAB is current account balance.

We use two types of trade openness measures in the regression to explore the relationship between trade openness and growth. The basic measure of trade intensity is the OPENNESS that is import penetration ratios (IM) and export share in GDP (EX) to measure the openness of a country.

The other group of trade openness measure is based on trade restrictions. First, import duties (IMD), as a percentage of the value of imports, are the sum of all levis collected on goods at the point of entry into the country and used as a measure of the average import tariff rate. Second,

total export duties (ED), as a percentage of the value of exports, are comprised of all Levis collected on goods at the point of export.

In this model Density is used to measure the trade openness of countries due to the common belief that countries with higher densities are more likely to be open and have more international contacts (Sachs and Warner, 1995, 1997).

Two others variable that used to measure the trade openness are HTE (High Technology Export), which has positive effect on growth, and FDI (Foreign Direct Investment) that caused economic growth to grow fastly.

Another variable that can be positive or negative is Current Account Balance. If it is positive, induced an increase of economic growth, if it is negative affects the growth inversely.

Inflation rate variable (IN), which affects growth negatively, used in the model.

4- Empirical results

4-1- Trade volumes and growth

The regression results in Table 1 reports a significant and negative coefficient for export (-1.06). This coefficient implying that a 1% increase in export shares would decrease the average growth rate of per capita GDP by 1.06% annually. Hence, this result is not supported the hypothesis that export share measured has positive effect on the economic growth in developed and developing countries. It is because, the economies of these countries are heavily depended to their oil exports, therefore, when oil incomes increase, goods importation is going up and their domestic product cannot compete with the same goods of other countries and price of imported goods is less than the price of domestic production in these countries.

The estimation illustrates that, the coefficient of import share of GDP is positive and significant (4.42), which supports the theory and empirical results. This coefficient in Table 1 show that 1% increase in import share would increase the average growth rate of per capita GDP by 1.7% annually.

In empirical studies of growth both export and import shares of GDP, with equal degree of importance and with significant and positive coefficient, indicate various growth rates in different countries. The regression results in spit of negative coefficient of export share because of

36/ Trade Openness and Economic Growth In Iran, and some OPEC ...

especial characteristics of OPEC Nation, support the hypothesis that countries with higher trade share are likely to grow faster than other countries.

4-2- Trade restriction and growth

It is clear from the preceding analysis and also from existing empirical studies that trade volumes is positively and significantly correlated with growth. Consequently, one would expect that anything that poses a barrier to international trade is likely to be harmful to long run growth. In other words, barriers to trade in the Forms of tariff, export duties and taxes on international trade are expected to have a negative correlation with growth, due to the potential trade – reducing effects. Moreover, a large number of studies reported a negative relationship between growth and average tariffs and also other forms of trade restrictions. Based on the existing empirical evidence, there is a near consensus that trade barriers are detrimental to growth, especially after the Second World War. Further more, our results support this hypothesis.

Table 1 indicates a significant and negative coefficient for trade restrictions that are consistent with the prediction of the theoretical and empirical studies. Import duties and export duties coefficients are (-2.29) , (-5.48) respectively implying that a 1% increase in import duties(IMD) or export duties(ED) would decrease the average growth rate of per capita GDP by .17% or 5.48% .

4-3- Other variables of model

In Table 1 the coefficient of inflation rate (IN) is significant and negative that shows it has an inverse relationship with growth of GDP. It is by -0.10% that implying a 1% increase in inflation rate would decrease the average growth rate of per capita GDP by 10%.

Table 1 reports a significantly positive coefficient for Current Account Balance, implying that a 1% increase in CAB, increase the average growth rate of per capita GDP by 1.42%.

In Table 1 High Technology Export (HTE) and Foreign Direct Investment (FDI) coefficient, that have a positive relationship with economic growth, are insignificant and positive

Table 1 shows a significantly negative coefficient for population Density (PD), while empirical results in developed and developing countries show that this variable has a direct relationship with economic growth. It is negative for OPEC Nations because in these countries dense population has produced agriculture and service goods, instead of export and industrial goods, which have positive effect on economic growth.

Table 1: Growth regression; fixed effects estimation

Prob.	t-Statistic	Std.Error	Coefficient	Variable
EX?	-1.066833	0.365829	0.365829	0.0055
IM?	1.702891	0.384864	0.384864	0.0001
IMD?	-0.171974	0.075070	0.075070	0.0266
ED?	-5.489104	2.320438	2.320438	0.0223
PD?	-1.115608	0.190428	0.190428	0.0000
IN?	-0.106725	0.049449	0.049449	0.0362
CAB?	1.428946	0.299579	0.299579	0.0000
HTE?	0.034222	0.212785	0.212785	0.8729
FDI?	0.644605	0.614049	0.614049	0.2993
Fixed Effects	-	-	-	-
IRN—C	35.97525	-	-	-
KWT—C	83.60634	-	-	-
VEN—C	20.48316	-	-	-
IDN—C	112.0512	-	-	-
OMN—C	1.489178	-	-	-

5 -conclusions

The purpose of this paper is the analysis of the impact of the trade openness on the economic growth in Iran as well as some OPEC Nations. By using panel data we investigated the hypothesis that trade openness through its mechanisms positively affects the economic growth of these countries.

In this paper we use two kinds of measures of openness. First export and import divided by GDP. A large number of studies found they have a positive relationship with growth, but in OPEC Nations, export divided by GDP, has a significant and negative relationship with growth. In these countries, that they have abundant natural resources, have used of natural resources export share ratio to GDP, and it has adverse relationship with their growth, because in these countries when incomes of oil increases, their goods imports raises therefore domestic market which can not compete with foreign market faces with problems.

The second category includes measures of trade barriers that have negative relationship with economic growth. Our results of model also indicate a significant and negative relationship between trade barriers and economic growth.

References

- 1- Andriamananjara, S., Nash, J. (1997). "Have trade policy reforms led to greater Openness in developing countries"? World Bank working paper series, No 1730.
- 2- Auguste, B.G., (1997). "The Economics of International Payments Unions and Clearing House." St. Martin's press, New York.
- 3- Clemens, M.A., Williamson, J.G., (2001). " A tariff- growth paradox? Protection's impact the world around 1875-1997".N. BER working paper series. No .8549.
- 4- Durlaf.S.N., Quah, D., (1999)," The New Empirics of Economic Growth", I J. Talyor and M. woodford (Eds.)", Handbook of Macroeconomics, North Holland, Amsterdam.
- 5- Edwards, S, (1992). "Trade Orientation Distortions and Growth in Developing Countries". Journal of Development Economics 39, 31-57.
- 6- Edwards, S. (1993)" Openness trade liberalization, and growth in developing countries". Journal of Economic Literature 31, 1358-1393.

7- Edwards, S. (1998), "Openness productivity and growth: what do we really know?" *Economic Journal* 108, 383-398.

8- Feder, G., (1983), "On Exports and Economic Growth" *Journal of Development Economics*, 12(1/2):59-73.

9- Greenaway, D., Morgan, W., Wright, P. (2002). "Trade Liberalization and Growth in Developing Countries", *Journal of Development Economics*, 67,229-244.

10- Harrison, A. O, (1996). "Openness and Growth: a time series, cross-country analysis for developing countries", *Journal of Development Economics* 48, 419-447.

11- Irwin, D.A, (2000) "Interpreting the Tariff Growth Correlation of the Late Nineteenth Century", NBER Working Paper, No.9739

12- Krueger, A., (1997), "Trade policy and Economic Development: How we learn", *American Economic Review*, 87:1-22.

13-Krueger, A.O.(1978)"Liberalization Attempts and Consequences" Ballinger, Cambridge.

14- Krueger, A.O., (1983), "The Effects of Trade Strategies on Growth", *Finance and Development* 20.

15- Leamer, E.E., (1988), Measures of openness In: Baldwin, R.E. (Ed), *Trade Policy Issues and Empirical Analysis*. The University of Chicago press, Chicago, pp.147-204.

16- Lee, J.W., (1993). "International trade, distortions, and Long-run economic growth", *IMF Staff paper* 40(2). 299- 328.

17- Lee, Iong-Wha,(1995)," capital Goods Imports and Long-Run Growth", *Journal of Development Economic*,98,500-553.

18- Levine, R. Renuit, D. (1992). "A sensitivity analysis of cross-country growth regressions" *American Economic Review* 82,942-963.

19- Michael B. Devereux, (1999), "Growth and the dynamics of trade liberalization", *Journal of Economic Dynamic and control* 23, pp: 773-795.

20-O'Rourke, K.H, (2000),"Tariffs and growth in the late nineteenth century", *Economic Journal* 110,456-483.

21- Sachs, J.D., Warner, A.M., (1995). Economic reform and the process of economic integration, *Brookings papers of Economic*, 1-118.

40/ Trade Openness and Economic Growth In Iran, and some OPEC ...

22- Sachs, J.D., Warner, A.M., (1997) b, Natural resource abundance and economic growth. Center for International Development and Harvard Institute for International Development p.50.

23- Sala-I-Martin, X., (1997). I just ran two million regressions. American Economic Review 87, 178-183.

24- Triffin, R., (1976), Europe and the Money Muddle. Greenwood press, Westport

25- Trued, M.N., Mikesell, R.F., (1955). Postwar bilateral payments agreements precedes in International Finance, vol. 4. Princeton university press, New Jersey.

26- World Bank. (2004): World Development Indicators. CD- ROM.

27- Yanikkaya, H., (2003), "Trade Openness and Economic Growth: a cross Country Empirical Investigation", Journal of Development Economics, 72, 57-89.