

The Effect of Trade Liberalization on Balance of Payment and Economic Growth in Iran

Yalda Sadat Amini¹, Abuzar Hatami Qushchi², Leila Zeinalzadeh Ahranjani¹, Nader Sadat Amini¹

¹Department of Economics, Salmas Branch, Islamic Azad University, Salmas, Iran

²Department of Management, Astara Branch, Islamic Azad University, Astara, Iran

ABSTRACT

The main purpose of this paper is examining the effects of trade liberalization on current account balance of payments and economic growth in Iran. In this study, by exploring the relationship between trade balance and economic growth, the effect of trade liberalization on economic growth has been investigated. Time series data had been used to estimate the model in the years 1961-2006. Using auto regressive distributed lags (ARDL), the existence of long-term relationship between variables has been investigated. Furthermore, using the error correction method (ECM), the existence of short-term relationship between variables has been investigated. The results show that, the effect of trade liberalization on the trade balance is positive and significant in the long run as well as on economic growth. But, the effect of trade liberalization on the current account balance of payments is not significant.

Keywords: Trade Liberalization, Balance of Payment, Economic Growth, Auto Regressive distributed Lags (ARDL).

1. INTRODUCTION

Liberalization in principle and in general refers to the removal of government ownership of production units and non-interference in economic affairs and market systems. It is practically proved that, the complete elimination of government from intervention in economic affairs is neither useful nor possible, thus in liberation procedure, this intervention restriction should be considered. Economic liberalization also considered as deregulation and bureaucracy reduction as main obstacles of development. The principle of this policy is based on the idea that, the much production factors including labor, capital and management can have more maneuverability, investments will occur in courses in which, the country have relative advantage on them and with relative price change, the investors can change their productive fields sooner. On the other hand, the liberalization will lead to the liberation of prices of some goods and services so that, their prices will be in normal levels and the value of goods can reveal their normal signs to producers and consumers. In other words, liberalization is breaking the monopoly and dividing the market. In recent years, one of the main topics of development economists was explaining the relationship between trade liberalization and economic growth in developing countries. Currently, 148 countries holding about 90 percent of global trade have joined the WTO. Iran is one of the few countries that have not joined WTO yet, while the negotiations to join WTO had begun and it appears that over the coming years, Iran will join WTO. This membership, requires acceptance of WTO's agreements and regulations and also fulfilling some pre-conditions that can affect a great impact on the Iran's economy. On the other hand, direct involvement of government in economic affairs and attracting resources and investment into the country in past years, especially in the years after the imposed the war (with Iraq), caused market disruption, non-optimized resource allocation and decreasing the efficiency of productivity, resulting in low economic growth and lower development. Iran due to the sanctions is less globalized country and in this regard cannot deal with all countries of world. There are many monopolistic powers in Iran and these factors will affect the economic activities, so these situations create the complicated and weak views of economy of Iran. These aspects make some limitation in globalizing process. The Iranian economy in the process of globalization will be faced with many challenges and opportunities, so a detailed understanding of this phenomenon and also compatible policies in this regard to coordination with the global economy and access to long-term goals are essential to prepare economy meet possible future events. Therefore, this research tries to study the effects of trade liberalization on balance of payment and Iran economic growth to prepare for possible occurrence of adverse effects and prevent them, as well as the having comprehensive information of favorable effects of trade liberalization on the Iranian economy. In this regard, the research objectives are as follows.

*Corresponding Author: Yalda Sadat Amini, Department of Economics, Salmas Branch, Islamic Azad University, Salmas, Iran.

- Determining long-term and short-term relationship between trade liberalization and foreign trade, especially balance of payments.
- Determining the relationship between trade liberalization and economic growth in the short and long term periods.

Also, the hypotheses of this research are as follows.

1. There is a relationship between trade liberalization and balance of payments.
2. There is a relationship between trade liberalization and economic growth.

2. LITERATURE REVIEW

Literature reviews are presented into two categories. First category is foreign investigations and second in Iranian researches. Because of lack of informing this research in Iran, we have investigated just foreign papers.

Krueger (1997) investigated the evolution of trade orientation and economic growth and emphasized on numerous evidences of positive correlation between export growth and GDP growth. Edwards (1992) have been studied the relationship between trade orientation and trade disputes of economic growth for 30 developing countries during the period 82-1970, but with a simple endogenous growth model and based on Lerner's (1988) criteria showed significant positive effect of open trade on economic growth. Dollar (1992) by introducing two new criteria for open trade, namely, real exchange rate disorder index and variability index (fluctuating) of total real exchange rate for developing countries during the period 1976-85 for 95 showed the relationship between trade openness and economic growth. Ben-David (1993) showed that, there is a relationship between timing of trade reforms and income convergence among countries, especially of Europe. Sachs and Warner (1995) by introducing a new standard for trade openness and using internationally comparable data set; Summers and Huston (1991) showed the positive relationship between open trade policy and economic growth during the period 1970-89 for 117 countries. Harrison (1996), using panel data method and applying the six criteria of openness showed positive relationship between trade policy and economic growth. Edwards (1998), using nine different criteria of openness and trade orientation, investigated the relationship between openness and total factor of productivity (TFP) growth for 93 countries over the period 1960 to 1990. He showed a positive correlation between TFP growth and trade openness with respect to other various criteria for robust trade policy. Frankel and Vermer (1999) have investigated the relationship between trade and income for 150 countries. They showed that, the effects of trade on income are positive and are large and robust from in terms of quantity. However, this relationship is statistically significant. Vajireg (2001), using three-stage least squares method in the context of panel data showed a positive relationship between trade openness and economic growth for 75 countries over the period 1970 to 1989. He concluded that, trade policy affects economic growth through six ways and physical capital accumulation, increasing technology transfer and improved macroeconomic policies, respectively, have the most important contribution in order to determine the effect of trade policy on economic growth. Rodriguez and Derik (2001) challenged the positive relationship between trade policy and economic growth. They believe that, there are systematic evidences implying the relationship between internal trade policy and economic growth, but evidence regarding the relationship between external trade policy and growth is also exaggerated. Green Avi and colleagues (2002), with a dynamic panel data model for 73 countries showed that, trade liberalization with a lag, affects economic growth and growth response to trade policy is J-shaped. It means that, trade liberalization, at first, have a negative impact on economic growth, but with time passing will accelerate economic growth.

Logical and rational basis for the implementation of reform programs in business reveals the fact that, liberalization is a prerequisite for shifting from a relatively closed economy to a relatively open economy. If the economic openness, in fact, is positively related to growth then as a result, the liberalization is a prerequisite of growth.

3. METHODOLOGY AND DATA

The Type of research is applied. In order to data analysis and hypothesis testing, appropriate statistical methods and econometric techniques such as vector error correction model, ECM and ARDL benefitting Microfit software was used. At first, to examine the static variables, the Dickey - Fuller and generalized Dickey - Fuller methods was used and then to investigate long-run and short-term coefficients of relationship between variables the ARDL and ECM models was used, respectively. Also, because Iran had not yet joined the WTO and trade liberalization in Iran has not actually happened like other countries and since trade liberalization can be considered something of a relative in Iran, therefore in this study, for dummy variable related to years of trade liberalization, we used the years in which, deregulation, facilitating foreign trade, reducing nontariff and bureaucratic barriers on import process and

facilitate the export of non-oil commodities have been conducted. To investigate the effect of trade liberalization on the balance of payments and economic growth, we use the following pattern. The first model used to investigate the long-term relationships between trade balance and internal income, foreign income, real exchange rate - exchange rate, and trade liberalization (as dummy variable) and the second model used to investigate long-term relationships of current account balance of payments as part of GDP with internal income, foreign income, real exchange rate - exchange rate, and trade liberalization.

First model:

$$Tb = \Psi + \alpha_1 \ln yd + \alpha_2 \ln yf + \alpha_3 \text{exr} + \alpha_4 \text{tot} + \alpha_5 \text{Dum}$$

Where,

tb: the trade balance is equal to the logarithm of non-oil exports value to imports value $tb = \ln(\frac{X}{M})$

In yd: is the logarithm of internal income (non-oil GDP to constant prices of year 2000)

In yf: is the logarithm of foreign income that is equal to the average GDP of 19 countries business parties in Iran (Hong Kong, Brazil, Sweden, India, China, England, Italy, New Zealand, Japan, Malaysia, Pakistan, America, Australia, Singapore, Belgium and Spain).

exr: free market exchange rate $exr = E(\frac{P_f}{P_d})$

P_d is internal price (Iran), P_f is foreign price (America), and E is the nominal exchange rate

tot: the commercial exchange rate, trade equation obtains from the ratio of exports to imports price index (Base year for export and import price index, is 1376). $tot = \ln(\frac{P_x}{P_m})$

P_x is export price index, P_m is import price index, and Ψ is constant component

Dum: dummy variable related to the years in which, deregulation, facilitating foreign trade, reducing nontariff and bureaucratic barriers of imports process, and facilitating the process of non-oil exports have been conducted. Therefore, according to studies, as expressed in the third section, the years 1353-1357, 1368-1372, and 1378-1385 that fulfill above mentioned conditions exhibited with $DUM = 1$ (eligible for liberalization conditions) and the remaining years with the $DUM = 0$.

$\alpha_5, \alpha_4, \alpha_3, \alpha_2, \alpha_1$: Coefficients

4. RESULTS

Before estimating the model, we must apply unit root test on variables. This test is presented in Tables 1 and 2 . Based on Dickey - Fuller and generalized Dickey - Fuller tests results, all variables are at non-stationary level (the null hypothesis, instability, is accepted) but in first order difference, all variables in the model are stable, i.e. all variables are accumulated in the first degree.

Table 1: Unit root test for model variables

Variable	LNYD	LNYF	TB	BPG	Exr	ToT
Statistic for the model including intercept and without linear trend	-1.49	-2.81	-1.84	-1.74	-1.48	-1.10
Critical value at	-2.93	-2.93	-2.93	-2.93	-2.93	-2.93
	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary
Statistic for the model including intercept and linear trend	-2.40	-2.40	-2.40	-2.40	-2.40	-2.40
Critical value at 0.05 level	-3.52	-3.52	-3.52	-3.52	-3.52	-3.52
	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary

Table 2: Unit root tests for first order difference of model variables

Variable	DLNYD	DLNY	DTB	DBPG	Dexr	DTOT
Statistic for the model including intercept and without linear trend	-3.52	-4.15	-5.52	-5.22	-4.48	-4.62
Critical value at 0.05 level	-2.93	-2.93	-2.93	-2.93	-2.93	-2.93
	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary
Statistic for the model including intercept and linear trend	-3.65	-5.01	-5.53	-5.24	-4.67	-4.56
Critical value at 0.05 level	-3.52	-3.52	-3.52	-3.52	-3.52	-3.52
	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary	non-stationary

Now we evaluate long-term coefficients for trade balance pattern using ARDL method

Table 3: Results of model estimation

Regressor	Coefficient	Standard Error	T-Ratio [Prob]
LNYD	-3.5374	.64095	-5.5191[.000]
LNYF	2.5516	.51243	4.9793[.000]
EXR	.1205E-4	.4754E-4	.25351[.801]
TOT	-.33481	.14353	-2.3327[.025]
C	-51.9682	11.1701	-4.6524[.000]
D (-1)	.22441	.11533	1.9458[.060]

All coefficients of lnyd, lnyf, exr, tot, and D variables are significant at the 95% confidence level. Only Exr variable related to the real exchange rate is insignificant. (Exr cannot explain the long-term trade balance).

Also, the coefficient of error correction mechanism (ECM) is equal to -0.43 indicating that, in each year 0.43 of the imbalance in trade balance will be adjusted in the next period of. In other words, 0.43 of the difference between actual value and balance value of the trade balance deleted in each period. Similarly, 0.43 percent of short-term imbalance of trade balance would adjust and approach its long-term trend, thus, it can be expected this adjustment will take 2.5 years. The determination coefficient is equal to 0.4, which indicate moderate explanatory power of the model.

5. Conclusion

According to the results of first model estimation in Section 4 which investigate the effect of trade liberalization on trade balance, when foreign income increases 1%, trade balance in the long-term will increase 2.55%. Similarly when the exchange rate increases a unit, trade balance in the long-term will decrease 0.33% but, the real exchange rate cannot explain the long-term trade balance and finally, the effects of trade liberalization on the trade balance after a year will be positive with 0.22 therefore it can be concluded that the effect of trade liberalization on economic growth is significant and positive thus, the second hypothesis- there is relationship between trade liberalization and economic growth- is acceptable. The second model- effect of trade liberalization on the current account balance of payments- with an increase of 1% in internal income, the balance of payments to GDP ratio will decrease 2.99% and with an increase of 1% in foreign income, this ratio will increase 2.26% and with an increase of a unit in the exchange rate, the current account balance of payments to GDP ratio will decrease 0.3 unit. Similarly, the real exchange rate and trade liberalization does not have any significant relationship with this ratio. Therefore, the first hypothesis- there is a relationship between balance of payments and trade liberalization- can be rejected.

Given the positive effects of trade liberalization on the trade balance and economic growth in Iran and according to the present world economy going towards an open and without boundary economy, the following guidelines appear to be necessary:

- Reducing government intervention in the economy and market rules
- Reducing tariff and non-tariff barriers such as import quotas, restrictive licensing systems, and social-traditional constraints
- Providing Facilitations for importers of capital goods
- Implementing free trade policy with partial and gradually manner
- Preventing bribery through removing quantitative quotas and currency and trade agreements
- Use of floating exchange rates
- Stop supporting non-efficient alternative industries and encouraging diversification of exports, i.e. support of export development strategy and restricting import substitution strategy

Limitations of this research are including unavailability of some reliable data for variables and difference data source. Also in this research some variables are presented in reduce form and for some other, appropriate proxies are used because of existence of data lag for some years.

REFERENCES

- Amelia U. Santos - Pauline (2002) "Trade Liberalisation and Balance of Payments in selected Developing Countries", Department of Economics, Keynes college, University of Canterbury, Kent CT2 7NP UK.
- Atanas Christev (2003) "Trade Liberalisation and Employment Effects in Ukraine", Department of Economics, Heriot-Watt University, Edinburgh.
- Pacheco Lopez, P (2003), "The impact of Trade Reforms on Mexico's Imports", paper delivered to the EcoMod 2003, Istanbul, Turkey; July.
- Parikh, A (2002), "Impact of Liberalisation, Economic Growth and Trade policies on Current Account of Developing Countries, Econometric Study" World Institute for Development Economics Research. Discussions paper No .2002.63.
- Penelope Pacheco - Lopez (2003), "The Impact of Trade Liberalisation on the Trade Balance, the Balance of Payments and Economic growth: The case of Mexico, Department of Economics, Keynes Colleg, University of Kent, Canterbury kent, CT2 7NP, England .
- Prabirjit Sarkar (2004), "Is there any impact of Trade Liberalisation on growth? Experiences of India and Korea." Economics Department, Jadavpur University Kolkata - 70032.
- Smith, A, the Wealth of Nations (New York the Modern Library, 1937) P.424.
- United Nation Conference on Trade and Development (UNCTAD) (1999), Trade and Development. Report, Geneva.