

Examine the relationship between commodity imports and fluctuations GDP, according system equations (1991-2012)

Hossein Ostadi, Maryam Jamalipour *

Department of Economic, Dehaghan Branch, Islamic Azad University, Isfahan, Iran

Abstract: Iran imports in the economy as a multi - faceted macro variables, various aspects of analysis and evaluation. So on this basis, the aim of this study is to investigate the relationship between commodity imports and fluctuations in the GDP, according to a system during the same period 1991-2012 to using the simultaneous equation. The results of the first pattern show that labor and physical capital negative and significant effect on the GDP. Imports of capital and intermediary commodity, a negative effect on the fluctuations in the production and imports of consumer goods positive and significant effect on the production of fluctuations in the country. These results demonstrate that intermediary commodities can make production bases stronger and reduce the fluctuation of production accordingly. Imports of the consumer goods make local consumers more dependent on the other countries, due to the cogwheel type effects of the consumption and subsequently increase the fluctuations of production. The results show that the rise of the exchange rate fluctuations in oil prices increase production and increase the degree of openness fluctuations reduces the commercial production. The results of the second model shows that the fluctuations in the GDP has a negative effect on imports. A rise in inflation will increase the country's imports. Indeed a rise in inflation, competitiveness in production reduced and as a result of the increase in imports. The results indicate that the U.S production to produce Iran had a negative effect on the Iranian imports and indicates that by reducing the income of the purchasing power of the Iranians had become less and as a result of the decline in imports. The results also indicate that there is of the exchange rate of imports and more expensive, reducing imports to Iran.

Key words: Importation of capital commodities; Consumption and intermediary; Fluctuations in the gross domestic product (GDP); Simultaneous equations

1. Introduction

The study on foreign trade and economic growth shows that exports and imports can be a significant role in economic growth have. In the transformation of economic growth, between the countries to the pattern of the production, import and export and indissoluble alliance among them as an important factor influencing and in developing countries, the growth model. In Iran's economy, imports as a multi - faceted macro variables from various aspects of analysis and evaluation. Despite necessity to imports due to reasons such as structural dependence of different sectors of the economy in Iran unchecked imports are a serious threat for the production.

Certainly if the flow of imports be managed and monitored correctly, the positive effects in promoting the welfare of domestic consumers, the optimal allocation of resources, reducing the prices of all domestic manufacturers and increase the competitiveness of its exports. There is no doubt that the way with part of imports in order to maintain the economic interests of the country through the relative balance in the trade balance can be a big

steps in the economic sphere (Hosni Shahnaz, 2011).

2. The role of imports intermediary and investment commodities in economic development and growth

Perhaps the most important topic of discussion in the years following the economy of the Second World War, particularly in developing countries, the issue of economic growth.

The purpose of the growth theories, explaining the determinants of growth rates in one country and the reasons for the difference in growth rates and the per capita income between countries and the question of what determines the economic growth rate and a growth rate of how through different policies will be affected. Always respect economists have been developed.

As empirical evidence shows, international trade through imports of intermediary and investment commodities also enhances the growth rate in developing countries. According to studies conducted by Summers and Houston relative price of capital goods in developed and developing countries with high income, compared to developing countries and the low - income, cheaper. Therefore, the

* Corresponding Author.

developing countries can with imports of intermediary and investment commodities cheaper than developed countries, economic growth. In the case of applying the imports in growth model can be said that when the basis for the growth and development of the majority of the third world countries through the industrial activity is necessary for production, in the first degree and within the framework of the necessary industrial base. For this purpose, imports of intermediary and investment commodities should fill the vacuum.

It is true that range between the pattern of economic development, manufacturing exports and imports, indissoluble alliance among is established. Indeed, economic growth can be directly to rise intermediary and investment commodities, is so dependent can be seen as a factor of growth models, to be

3. Pattern of research

Pattern of used in the study are as follows:

$$GDP=F(M,M1,M2,ER,oil,L,K,open) \quad (1)$$

$$M=g(GDP,P,Gdpa ER)$$

The dependent variable first fluctuations in the pattern of the GDP, the independent variables first pattern of imports of capital commodities, intermediary and consumption, the rate of exchange, the price of oil, labor, physical capital, the degree of openness trade

In the second model dependent variable imports and the independent variables fluctuations in the GDP , the United States to Iran, the rate of exchange and using the software EViews and for a period of 1991 to 2012

4. The estimated pattern

4.1. Rules for the detection of simultaneous equations model

To avoid false regression to examine the stationary of all the variables of the study has been addressed and before it to extract the fluctuation of the data of the GDP is:

Table 1: Akaike statistics and Schwartz GARCH models fluctuations in the GDP

GDP fluctuations models	The first model GARCH	The second model GARCH	The third model GARCH
kind of model	GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)	GARCH = C(4) + C(5)*RESID(-1)^2 + C(6)*GARCH(-1)	GARCH = C(5) + C(6)*RESID(-1)^2 + C(7)*GARCH(-1)
Akaike statistic	21.93631	21.62508	21.69320
Schwartz statistic	22.16759	21.90532	22.02323

As statistics of the Akaike and Schwartz GARCH models fluctuations in the table above production, as shown in the statistics of the GARCH models are the first maximum, so the first model to calculate the cost of producing variable fluctuations.

All variables except inflation have been Stationary with a difference. Went on to estimate the simultaneous equations.

4.2. Examine the stationary of data

Table 2: Stationary variables results

Variable	ADF (t-Statistic)	Prob.	Result
GDP ratio of Iran to the US	-3.731010	0.0091	I(1) stationary
Import	-3.625593	0.0568	I(1) stationary
physical capital	-4.951597	0.0021	I(1) stationary
the workforce	-2.314970	0.0222	I(1) stationary
raw materials and intermediary commodities	-3.256433	0.0264	I(1) stationary
capital goods	-4.258367	0.0023	I(1) stationary
consumer goods	-4.090217	0.0161	I(1) stationary
Oil prices	-6.291259	0.0000	I(1) stationary
Business degree of openness	-4.291896	0.0021	I(1) stationary
inflation	-2.954827	0.0514	I(0) stationary
exchange rate	-5.285192	0.0002	I(1) stationary
GDP	-2.174157	0.0307	I(1) stationary

5. Conclusion

The results of the first pattern shows that labor and physical capital negative and significant effect on

the fluctuations in the GDP and the results are based on classical economic growth models. Indeed, these two factors, the most important and most influential variables basis classical model of economic growth. the existence of labor and capital reduce fluctuations

of production. The results also indicate that the imports of capital and intermediary commodities, a negative effect on the interfaces fluctuations in production and imports of consumer goods positive and significant effect on the production of

fluctuations in the country. These results demonstrate that intermediary commodities can make production bases stronger and reduce the fluctuation of production accordingly.

Table 3: estimation of simultaneous equations-1

Variable	Coefficient	S.D.	T-statistic	Prob.
Const.	0.4283014	0.3475	1.2324	0.2240
imports of intermediary commodities	-0.3221462	0.1628	-1.9787	0.0538
importation of capital commodities	-0.1191201	0.0468	-2.5418	0.0405
the import of consumer goods	0.1949084	0.1013	1.9225	0.0607
exchange rate	0.748453	0.4093	1.8285	0.0740
Oil prices	0.1237621	0.0413	2.9931	0.0044
the workforce	-0.2407050	0.0310	-7.7415	0.0000
capital	-0.226390	0.0722	-3.1354	0.0029
Business degree of openness	-0.1349274	0.0451	-2.9911	0.0045
The coefficient of determination (R^2):0.975			Durbin-Watson: 1.86	
Adjusted R^2 :0.967				

Table 4: estimation of simultaneous equations-2

Variable	Coefficient	S. D.	T-statistics	Prob.
Const.	-0.1489957	0.0277	-5.3611	0.0000
ratio of domestic production to the US production	-0.8946521	0.1898	-4.7129	0.0000
inflation	0.9268641	0.3906	2.3727	0.0110
production fluctuations	-0.3230722	0.0392	-8.2368	0.0000
exchange rate	-0.901839	0.3437	-2.6236	0.0113
the coefficient of determination (R^2): 0.782			Durbin-Watson : 2.19	
Adjusted R^2 : 0.746				

Imports of the consumer goods make local consumers more dependent on the other countries, due to the cogwheel type effects of the consumption and subsequently increase the fluctuations of production. The results show that the rise of the exchange rate fluctuations in oil prices and increase the degree of openness fluctuations reduces the commercial production. Indeed the rise of the exchange rate and the oil prices due to lack of infrastructure in the country's economy could adversely affect production fluctuations and an increase in the volume of trade exchange fluctuations in the country can reduce production. A rise in inflation will increase the country's imports. Indeed a rise in inflation, competitiveness in production reduced and as a result of the increase in imports. The results indicate that the U.S production to produce Iran had a negative effect on the Iranian imports and indicates that the Iranians with a reduction in the purchasing power of low income and as a result of the decline in imports. The results also indicate that the rise of the exchange rate of imports and more expensive, reducing imports to Iran.

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