Economic Growth in Iran and Effective Factors on Its Changes

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ABSTRACT

One of the issues raised in each country's economy is achieving to a sustainable growth in long term; there are various factors effecting on economic growth that is seen in a lot of studied. This study is considered, effect of important component examine on economic growth. Components of real exchange rate deviation, effect monetary variables, the importance of foreign capital flows, the theory of equality power and structural models were used for measuring real rate deviation indicator, deviation of real exchange rate in each model makes a negative impact on economic growth in Iran. In economical real variables (production and employment) and amount of money we cannot find significant relationship and monetary policy is neutral in Iran and real Gross Domestic Product (GDP) don’t has strong fluctuation in recent years. In examining the role globalization in attracting foreign capital, the results showed a positive relationship between foreign direct capital flows and investment in portfolio on economic growth in countries that have a higher degree of globalization. Finally, commercial cycle fluctuations are caused decrease economic growth in long term and fluctuations in output growth led to distrust in production and is caused reduces Investors and economic growth in the long term.

KEY WORDS: real exchange rate, monetary variables, Auto Regressive Conditional Heteroskedastic, econometric models.

1- INTRODUCTION

Exchange rate as a measure equal value of national currency is reflected economic status. In an open economy, exchange rate is a key variable due to its interaction with other internal and external variables and effect on economic performance and economic variables. Knowledge of effectiveness monetary policy have been one of the areas of conflict between classical and Keynes. Conflict of both groups in confirmation your comment looking for real evidence and also use of economic models is significant. With the emergence of endogenous growth models considered as an effective factor on the long-term economic growth and Investment in human resources or R & D has been proposed in addition to physical investment, If the business cycle fluctuations effect on these investments can have been effect on long term growth in economic. Today there is a new interest in strategic planning as a means of monitoring a rapidly changing environment and taking effective decisions and action based upon that monitoring (Rezvani, Gilaninia, Mousavian, 2011). Globalization is meaning to unlimited competition, development, inefficient loss of boundaries between countries, cultures and organizations in the areas of public and private (Soufi, Gilaninia, Mousavian, 2011). Challenges globalization and required facilities for globalization process has been cased that country is faced with the accuracy and uncertainty. In this regard, although increased investment is not sufficient condition but necessary condition is for access to economic growth and development, according to shortage investment resource in many developing countries, optimize attribution of limited resources in activities efficiently is very important. It is necessary to identify the relative advantages of a country be acting towards allocating resources between important economic sectors. In this paper will survey amount of above effective factors as influencing factors in economic growth.

2 - Theoretical Foundations

2-1 – Monetarist
1- Money have supply and demand like every another product. Lows of supply and demand is true about money. Thus if we consider money price Interest rate or Bank Interest Rate, investment is demand of funds. Thus money demand have inverse relation with Interest rate or
2- In Siderskey model money in long run can affect economic real variables. Money is one of the factors of production. In this case money should be changed commensurate with other factors of production. Otherwise has no effect on real variables like production and employment (Blanchard; Fischer, 1999, 355)

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3-In keynes idea, money in national economy is a fundamental variable that if change, in special situation can effect on Production and employment through interest rate. Significantly (Tafozoli, 2007, 466).
4- Friedman does not accept Keynes analysis based on efficiency lack of monetary policies and indirect effects of changes money stock on the effective demand. Increasing amount of money is lead to excess of supply over demand "real inventories" that ultimately will cause to increase the monetary income (Friedman ,1982).
5- Monetarist believes that central banks must create stable growth in money supply. Due to the close relationship between money supply and monetary income, Monetarists believe that stable growth in money supply will caused stable growth in economic activity.

Table 1 - different schools viewpoint about the impact of money

<table>
<thead>
<tr>
<th>school</th>
<th>viewpoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classic</td>
<td>Money is neutral and Merely its impact discharge in nominal Sector</td>
</tr>
<tr>
<td>Keynes</td>
<td>Money is not neutral but there is many obstacles such as the liquidity trap and ... on the way its impact.</td>
</tr>
<tr>
<td>Monetarists</td>
<td>Money is not neutral in the short term but is neutral in the long term.</td>
</tr>
<tr>
<td>New Classic</td>
<td>Unpredicted Money Policies effect on level of production and Other real variables.</td>
</tr>
<tr>
<td>Commercial Cycles - Real</td>
<td>Money is neutral and Merely its impact discharge in nominal Sector</td>
</tr>
<tr>
<td>New Keynes</td>
<td>Money is not neutral and monetary policies affect.</td>
</tr>
</tbody>
</table>

Source: Moslehi, F(2006)

Skidelsky, Keynes biography author believes that post Keynes have completed remaining work of Keynes about refuse neutral money. Also post Keynes believe that money isn’t neutral .thus in their idea money is important and basic in economic.

2-2 – Commercial cylices
According to conducted researches is positive relationship between economic growth and cyclic fluctuation if:
1) There is Precautionary saving.
2) There is High technology with high risks.
This group believes that is increase precautionary saving with increasing cyclic fluctuations in economic and in result is increased investment and finally investment growth will led to increasing in economic long term growth. Second group emphasize on role of technology as important factor in relationship between commercial cylices and economic growth in long term.in country that their goal is average rate with higher growth should accept higher risk and accept higher technology.
In Black Bern idea, increasing cyclic fluctuations is led to increasing stockpile of technical knowledge in economic and increasing economic growth in long term. Many researchers consider technology as created factor in economic fluctuations and they have concluded that fluctuations are led to economic growth in long term and another group believe that there is negative relationship between long term growth and cyclic.

2-3- Investment Subtraction
Investment and its effect have liaised to many factors, that some factors is following explanation:
1) Strong dependency of investments’ rate to obtained incomes from to sale petroleum in Iran.
2) Transcend of investment risk in Iran to reason transcend lack of stability political such as (Iran-Iraq War, wars in Afghanistan, Iraq and Kuwait...).
3) Despite the bureaucratic red tape has caused a significant contribution from private investors left the country or will invest in non-productive sectors that This has been creates weak competition and finally lack of innovation economy.

2-4- Concept of capital output ratio
Capital output ratio is called to amount of capital that is used to generate an additional unit of product. When is said, capital output ratio in economic is one to five, it means that for generate one milliard rial is needs the equivalent of five billion rials investment. Primarily capital output ratio is two types: average capital- output ratio and final ratio of capital output .average ratio is ratio of all past capital to total income and final ratio is capital stock and production has been added in the recent period. Capital output ratio has dependent to used technique and method. Capital output ratio for a country is means of capital output ratio in various economic sectors.

2-5 - Deviation of the real exchange rate
If the real exchange rate can be adjusted properly and in path balance ,it have positive affect on the economy and otherwise it will put damaging effects on the economy and it function. Real exchange rate is as price ratio of commercial goods to price of non-commercial goods and equilibrium real exchange rate is relative prices of commercial goods to non-commercial goods. Now if real exchange rate of equilibrium exchange rates is different in each period, has occurred deviation of real exchange rate.in this study is used old theory of equality of purchasing power

\[
\text{RER} = \text{ER} \left[ \frac{PF}{Pd} \right]
\]
That in it RER is real exchange rate, ER official exchange rate, Pf General Level of foreign price, Pd General Level of Domestic prices is as an approximation of the price of the commercial and non-commercial. Improper adjustment of real exchange rate appears in two forms: If the real exchange rate of the equilibrium real exchange rate is lower, deviation of as (over-valuation of national currencies) or will appear as more expensive national the money and vice versa. Therefore expected when country is encountered real exchange rate deviation from its equilibrium value, it will also accept the negative impact of economic growth.

2-6- Foreign Capital Attraction

Economists in years (1930) that unemployment was main attribute, approximately work force considered as product factor. In contrast, growth theorists in the early years after World War II saw a major role in the capital. Neoclassical growth model are considered a step forward for classical growth models. This model has a production function that its characteristic is sets of variable from capital-labor and capital-product.

Among the many economists who have examined the neoclassical growth model, individuals such as Ozawa and Swann soul have done most of the empirical and theoretical work in this area and their model in discussions about economic growth model has many applications. Their model is based on that If in steady stable equilibrium conditions have been, income per capita is determined by the production function that includes technology, savings and population growth rate which all of them are as exogenous model.

3- Experimental Principles and Results

In today's business environment is characterized by increasing competition, more forward fighting is going to win every day (Gilaninia & et al, 2011). The results indicate that the unpredicted component of money, does not affect the level of real output however, money predicted component has significant effect on real output. The results indicate that both predicted and unpredicted component fiscal policy (government spending) had significant effects on real economic activity (Yamak, and Kucukale 1998:35). A review of studies for Iranian economy shows that reduced foreign exchange earnings from oil exports, the government faced budget deficits in most cases and the main budget deficit is financed from borrowing place in Central Bank. Severe monetary positive momentum in recent years has occurred when due to increasing oil revenues, Iran's economy has a good income. However, with recession and depression has faced and this is discussed as one of the reasons for the lack of monetary positive momentum influence on economic growth. Therefore, more coordination in implementing financial and monetary policies in this area would be fruitful.

Sadeghzadeh Yazdi, Jafari Samimi and Elmi Adopted of appropriate fiscal and monetary policy in each country economy is considered to knowledge of shape of country's money demand function. They for achieving to this goal are used from method of return with interval distribution. Variables in real money balances, GDP, inflation, exchange rates and government budget deficits are also oriented (Sadeghzadeh Yazdi, Jafari Samimi and Elmi, 2006).

Mahdavi believe that used of finite source of oil in Iran's economy cannot be trusted the long-term economic development (Mahdavi, 2000).

Abrishami and Mohseni believe that international specialization in goods for a country is led to its strong economy dependence on its export revenues. Variability and fluctuations in prices mainly reflected in the instability of national income and economic growth (Abrishami and Mohseni, 2002).

Landball (2004) In studies showed that the relationship between economic growth and foreign capital flows is positive and effects from globalization and its consequences affected economic environment of achieved capitalist countries positively.

In this regard new economic theory formed after decade (1990), In addition protect the historical role of investment, Factors such as knowledge, technology and new methods of management - part of which is the result of foreign investment - was introduced In affecting economic growth.

Yavari and Saadat (2005) in paper by using Iran’s information showed obtained growth from foreign investment under conditions the import substitution strategy is less since the export development strategy will be adopted. Hoseini & Molaei (2006) in their study show that in Iran stability economic conditions such as low inflation, tax rates and government spending to sustain economic growth will result to entering foreign capital in long term. In the past two decades in international level capital flows has been increasing trend. This flow from form official sources - that banks and government agencies put disposal - has tended to foreign direct investment and portfolio investment.
In addition to foreign direct investment, indirect investment or foreign investment in portfolio as part of integration and globalization of financial markets can be considered. The following chart shows the different areas of investment in shares. Terms of region is lowest belonging to Middle East and North Africa and highest belonging to western Asia and Pacific Ocean.

After the revolution, the atmosphere was changed to the detriment of foreign investment, incoming flow of capital into the country was decline and decreased to 4milliard $ in (1979), 2millard $ (1981) till 1993 amount of foreign investment in some years not only zero but also was negative. After approval of the Law on free zones in 1993 investment flow incoming to country has increasing trend. Terms of real attraction of foreign capital was in end position region and among140 countries surveyed was 132. Latest statistics show that in 2007 Iran's share of world trade was 67%.

<table>
<thead>
<tr>
<th>Table 2: Some economic indicators of Iran in comparison with sample</th>
</tr>
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<tbody>
<tr>
<td><strong>Indexes</strong></td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>Inflation</td>
</tr>
<tr>
<td>Size of Government</td>
</tr>
<tr>
<td>Per capita income to fixed price</td>
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<tr>
<td>Per capita income to fixed price Including the purchasing power index</td>
</tr>
<tr>
<td>Capital market volume relative to domestic production</td>
</tr>
<tr>
<td>The market size relative to global GDP</td>
</tr>
<tr>
<td>Income from tourism to exports</td>
</tr>
<tr>
<td>Open economy</td>
</tr>
<tr>
<td>Domestic fixed capital formation to domestic production</td>
</tr>
<tr>
<td>Growth rates of liquidity Volume</td>
</tr>
</tbody>
</table>
**Table 3: The relationship between economic growth, foreign investment and its requirements**

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Countries with higher degree of globalization</th>
<th>Countries with low degree of globalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant value</td>
<td>0.48 (7.125)</td>
<td>0.315 (6.012)</td>
</tr>
<tr>
<td>Population growth</td>
<td>0.587 (3.582)</td>
<td></td>
</tr>
<tr>
<td>Domestic investment</td>
<td>0.125 (10.87)</td>
<td>0.998 (9.505)</td>
</tr>
<tr>
<td>Inflation</td>
<td></td>
<td>-0.147 (-618.5)</td>
</tr>
<tr>
<td>Size of Government</td>
<td>-0.35 (-5.87)</td>
<td>-0.101 (-4.458)</td>
</tr>
<tr>
<td>External (Foreign) debt</td>
<td>(-1.389)</td>
<td>(-3.875)</td>
</tr>
<tr>
<td>Liberalization indicators of Capital market</td>
<td>-0.098 (-2.989)</td>
<td></td>
</tr>
<tr>
<td>Degree of Open economy</td>
<td>0.201 (7.875)</td>
<td>0.185 (4.589)</td>
</tr>
<tr>
<td>The size of Capital market</td>
<td>0.0045 (3.528)</td>
<td>0.298 (2.565)</td>
</tr>
<tr>
<td>Foreign Direct Investment</td>
<td>0.075 (4.87)</td>
<td></td>
</tr>
<tr>
<td>Foreign investment in portfolio</td>
<td>0.125 (3.21)</td>
<td></td>
</tr>
<tr>
<td>Number of observations</td>
<td>200</td>
<td>330</td>
</tr>
<tr>
<td>Squared-Adjusted R</td>
<td>0.688</td>
<td>0.587</td>
</tr>
</tbody>
</table>

- Amount of numbers in parentheses is t-statistic
- Method: GLS (variance components)
- Except two foreign investments ratio to GDP and investment in portfolio other variables are entered in the form of logarithmic model.
- Investment variable in the portfolio is obtained of total investments in securities and bonds in foreign countries.

In examine relationship between output growth fluctuations in long-term and its impact have the following case:

**A) Uncertainty and volatility and its calculation method**

Uncertainty refers to the condition that in it can determine probability of future events. Based on different methods of calculating the fluctuations and uncertainty are discussed as follows:

1) One measure is distance variable of its average.
2) The second method is used to variance or standard deviation of variable that has been used in several studies.
3) Other criteria include the expected change forecasters (including economists, consultants, etc.) from variable during the time.

**B) Model Introduce**

Antonio model is one of concluded study in this field. He relationship between volatility and long term economic growth suggest based on endogenous growth models in his idea, increased fluctuations and uncertainty is caused increased risk and thus reduce investment return rate. So in the long term economic growth will decrease.

Antonio in his model regardless from cyclical fluctuations on the role of inflation, inflation uncertainty and the financial depth indicators relationship between volatility and economic growth in long-term.

**C) Review Relationship between fluctuations and long-term economic growth In Iran**

In general aim of this study is review relationship between fluctuations and long-term economic growth in Iran based on inflation, inflation uncertainty and the financial depth indicators during 1961-2008. Respectively variables used in this section are GDP without oil in 1997 to constant prices, training costs, inflation, inflation uncertainty and indicators of financial depth. Purpose of training costs is government spending for education. Government expenditures for training are calculated according to price implicit indicators as real and terms constant prices in 1997. From retail price indicators goods and services in terms base year 1997 is used as a substitute from inflation.

Also ratio of money to non-oil GDP is considered as indicators of financial depth. Used variables have been extracted from the central bank balance sheet in the Islamic Republic of Iran during the different years. In order to estimate takes place the long-term relationship of unit root tests for every variable and then by using Co-integration model of Johansson and Juselius is estimate Long-run equilibrium relationship for economic growth in Iran.

**D) Unit root test**

The results show that all variables level model data is not static, but test repeating about difference of data indicate all the variables after once difference the theory of non-stationary at levels 5 and 10 percent rejected, and are static. So unit root tests for selected variables are from I (1) degree into a stacked model.
E) Co-integration analysis and Maximum Likelihood Estimation (MLE) of Johansson and Juselius in economic growth

For doing co-integration test of Johansson and Juselius is used its test i.e. maximum eigenvalue test and impact test. The results show that produced fluctuations take place a negative effect on economic growth and as an important and affecting factors are considered economic growth in Iran. This coefficient shows if fluctuations production to rate of one percent increase production rates are reduced 0.58 percent (condition of to fix other factors) and can be said that the increased production short-term fluctuations, leading to increased uncertainty and thus reduce investment so in the long term take place negative effect on economic growth. Inflation and inflation uncertainty are other variables affecting on the growth. The results show that inflation uncertainty in Iran led to a reduction in long-term economic growth and its impact is higher than inflation. So that a single increase in inflation uncertainty reduces the production rate 0.49 percent. While rising one unit of inflation is caused decrease 0.25% produced. Also impact of education on long-term economic growth is positive and significant. This coefficient shows if real costs of education increase to amount of a percentage, production will increase 0.45 percent. Index coefficient of financial depth has achieved -0/1 in Iran. This means that increasing financial depth index offers long-term negative effect on economic growth. Can be said increase financial depth index led to rising inflation and will be decrease economic growth in long term.

3-1-Comparing the ratio of capital to produce (ICOR) in economic sectors

In this section definition has been done before. Index (ICOR) calculate for the total economy and for the different sectors of agriculture, oil and gas, mining and industry and service so we have a relative criteria but is not accurate for comparing the performance of our investment in economic sectors. During the period studied, ie average ratio of capital to produce the total economy in the years 2002-2009 was equivalent to 3 that this ratio in agriculture, oil and gas, mining and services industries has been respectively, equal to 1/5, 0/7, 5 and 5/7 respectively. Since the optimal range for the ratio of capital to produce according to experience of developed countries is about 1 to 3 can be concluded that the average ratio of capital to production in agriculture and oil and gas compared with mining and industry and service sector is fewer and closer to desired range.

3-2-Investment process in different parts of Iran

The process of made investments in whole country, agricultural sector and oil and gas and industries and mines sector and services investment process in different parts were generally in line and in the years of an increase country revenues (for example, in the years before the victory of the revolution) have increased with increased foreign exchange earnings, and thus the high price of crude oil in the whole economy and investment in various sectors of the economy, whiles in time war investment in different parts of country economy relative has decrease due to war costs and the relative decline in GDP.

In examining the changing exchange rate and its relationship with variables such as investment, foreign trade, and economic growth in this area well studies have been done in recent year such as done studies by Ghasemloo(1997),Hoseini(1999), Hazhbar Kiani & Nik Eghbali(1999) And Nasrollahi(2002). Ghasemloo has examined to effect of deviation of exchange rates on exports and economic growth that its results is negative impact of real exchange rate deviation from its equilibrium direction on Iran's exports and economic growth. Hoseini has examined the behavior of real exchange rate and to measure its turbulence and is concluded that most important factor deviation of real exchange rate is trade barriers and the exchange informal market growth. Nik Eghbale has examined Real exchange rate deviation from long-term values and its impact on supply of agricultural exports to Iran and reached the conclusion that the deviation of real exchange rate by a factor of negative 11 percent has significant adverse effect on agricultural products.

Razin and kolinz(1997) in their study conducted that deviation of real exchange rates in most developing countries is as a higher rate of local money which results there is a significant negative correlation between the deviation of real exchange rate and economic growth. While developed countries have a lower rate of local money that is not this negative relationship.

3-3-Specified and estimated economic growth model

In view of recognition the impact of real exchange rate deviations from path equilibrium on economic growth, is essential after introduction and review calculated criteria of deviation index of real exchange rate is presented relating to model's effectiveness. For identify the relationship between the deviation of real exchange rate and economic growth in Iran will use the following model:

\[ RGDPRI = \beta (RERMIS, GINV, TOTG, POPG) \]

That in it RGDPRI is growth rate of GDP to constant prices in 1980 (economic growth) RERMIS is real exchange rate deviations from equilibrium values, GINV is Gross fixed capital formation to constant prices in 1980, ToTG is Growth rate of equation relating that is calculated ratio of export to import price index base year 1980 and POPG is Iran's population growth rate. During 1959-2008 Money stock has been from 40 / 3 billion rials to 625,759 billion rials Indicate that growth is 1552652 (Money stock in the period intended is equal to 15,528) It figures indicate that money stock has growth averaged 24 percent in the year in during 1959-2008 Iran's economy,
except for the years 1960, 1961 and 1984 it has experienced double-digit growth rates. Growth of this variation has been in height in 1974 (approximately 57%), and in 1963 in trough drawdown (about 5/9 percent).

Unemployment stability in short term is a result this fact that available unemployment are effective in wage contracts so economic policies that real unemployment change in a time, equilibrium unemployment rate will change and in result short term unemployment levels will be different long-run level.

Implement monetary policies in the economy of Iran about affect aggregate demand has no significant effect on the economy. In Iran economy, Real GDP except in recent years doesn’t have severe fluctuations and has a natural way. Unemployment rate is very large fluctuations and don’t have natural rate.

The final productivity coefficient of capital (change in production as a result of change in capital stock) is in each of sections. BAG is represents the final productivity of capital in agricultural sector, BOIL the final productivity of capital in oil and gas sector, BIND represents the final productivity of capital in department of industries and mines and BSER represents the final productivity of capital in services sector. Obtained result of IGOR method, the final productivity of capital in agricultural sector and oil and gas is more mining and industries and services sectors, it means that BSER<BIND<BOIL<BAG. Result increase in inventory investment and increased investment in agriculture and oil and gas sectors affected more GDP. Therefore, more investment in these areas due to comparative advantage in these sectors compared with sectors of service and industries and mines are more effective in increasing production.

4- Conclusion and suggestions

However results obtained of our findings provide as follows:

This paper has examined money effect on real economy variables by monetarist approach. Monetarists believe that money is not neutral in the short term but long term is considered neutral. For measure impact of money stock on real economic variables has examined on real variables such as employment and real economic growth on the other variables such as real money stock, real growth rate of government spending and Growth rate of oil revenues and exchange rate in parallel market.

Real GDP didn’t have strong fluctuation except for recent years and has a natural path. Unemployment rate is very large fluctuations and didn’t have natural rate.

In Iran economy, Real gross domestic product (GDP) is has a normal rate. In relationship between volatility and long-term economic growth in Iran during the years 1961-2008 that it was conducted based on Antonio model. According to considered model in this study is used from variables GDP growth, fluctuations in output growth, inflation, inflation uncertainty and financial depth indicators. The results show increase fluctuations of production in short-term leading to increased uncertainty and thus reducing the investment and in the long term negative effect will has on economic growth. Inflation and inflation uncertainty on economic growth are both negative. The results show that inflation uncertainty in Iran is led to reducing on economic growth in long-term and its impact is higher than inflation. Also effect of training on economic long-term growth is positive and significant. All investments had conducted at national economy by the public sector, private and cooperative such as Agriculture, oil and gas, mining and industries and service. These results suggest that:

- Because private sector contrast the public sector invest in fields that gain more benefit thus and so majority of investment in this sector is non-productive and services sectors, so the government should provide incentives for private sector in agriculture, mining and industry and oil and gas till private sector by investing in these sectors is cause increase productivity and increase of national production, and accelerate economic growth and are being resolved unemployment problems.

- The government is better proceed to government and regulatory obligations instead of Policies.

- The government should facilitate conditions of investment and production of goods and services to with goals of exports and supports from private sector.

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