

# Effects of Government Intervention in Interest Rates: Case of Iran

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## **Abstract**

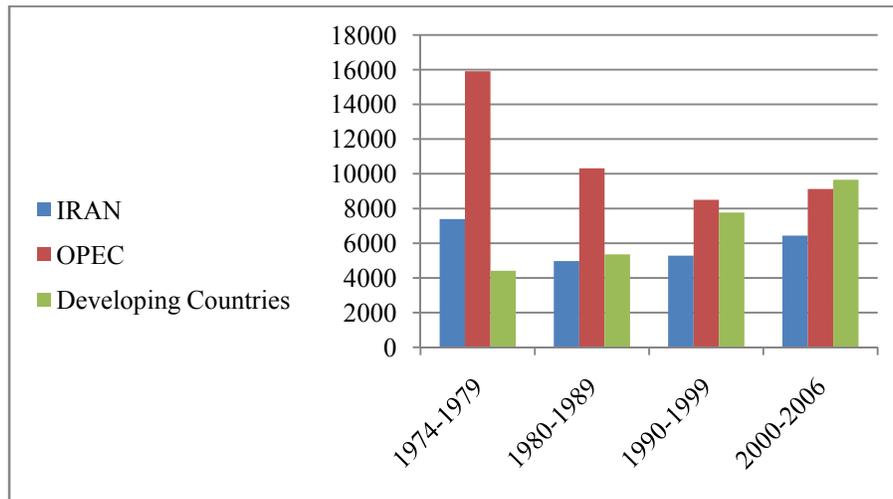
Government intervention in economy can be aimed at a variety of political or economic objectives, such as promoting economic growth, increasing employment, raising wages, raising or reducing prices, promoting equality, managing the money supply and interest rates, increasing profits, or addressing market failures. Advocates of free market or laissez-faire economics tend to see government intervention in the economy as harmful, due the fallacy of central planning, the law of unintended consequences, and other considerations. They believe “government intervention for economy make things worse”.

In this paper we model the intervention of Iranian government in interest rates and consequences of this intervention which was increase of bank debts to Central Bank and also inflation. At the end, we offer two policies to solve high inflation and increasing bank debts.

**Key words:** Bank debts to Central Bank, Central Bank independence, Government Intervention

## 1-Iran (Geopolitics, Government, Economy)

Iran is an oil rich country of Middle East with 10% world oil reserves and 15% of natural gas reserves. Her unique geopolitical place in the middle of Eurasian region allows her to reach for various markets. Iran has a long esteemed history with acclaimed sights and cultures suitable for tourism industry.



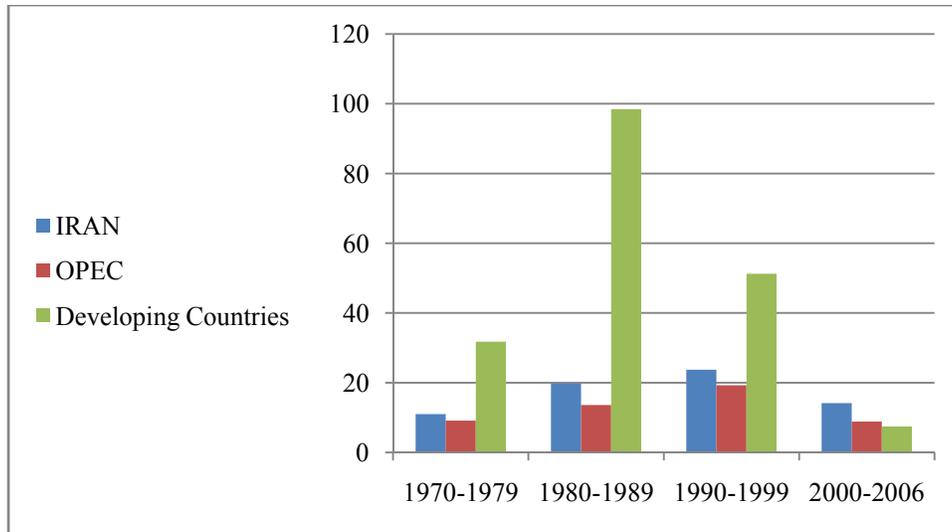
**Figure 1 – GDP (PPP) Per capita**

Although Iran is a superpower in energy but even with 74,196,000 populations as of 2009<sup>1</sup> (18<sup>th</sup>) and very good opportunities in transportation, energy and tourism industries, it has 73<sup>rd</sup> GDP per capita (11,202\$). Iran's economy is mainly considered to be state ownership and central planned. In the past three decades Iran's GDP per capita almost remained the same despite increase in developing countries<sup>2</sup> with same or less potentials (Figure 1); therefore there is a growing concern between public and private sectors about national development.

Government relies on the oil sector (45%), which provides the majority of government revenues. Most economic activities (e.g. pricing) is controlled by the state. In the economy where government holds (or at least shares stakes of) most of the major firms, private sector activity is typically limited to small-scale workshops, farming, and services. Price controls, subsidies, and other rigidities weigh down the economy, undermining the potential for private-sector-led growth. By the price ceiling or price floor policies, significant informal market activities and inefficiencies undergo.

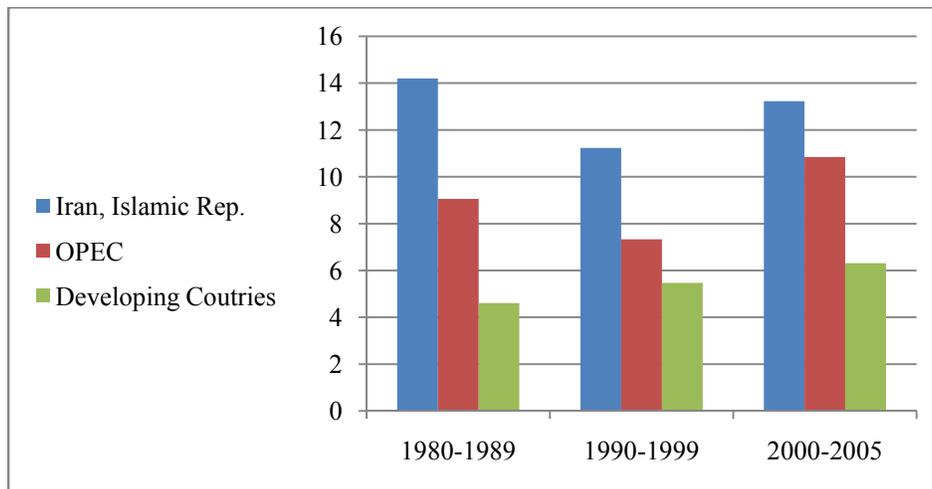
<sup>1</sup> Department of Economic and Social Affairs Population Division (2009) World Population Prospects, Table A.1. United Nations. [http://www.un.org/esa/population/publications/wpp2008/wpp2008\\_text\\_tables.pdf](http://www.un.org/esa/population/publications/wpp2008/wpp2008_text_tables.pdf).

<sup>2</sup> Argentina, Brazil, South Korea, Indonesia, Malaysia, Turkey, India, China and Singapore



**Figure 2 - Inflation Comparison**

Inflation has been a problem of the Economy of Iran since 70's. Most of developing countries overcame their inflation crisis over years by employing balanced budget and independence of central bank policy (Figure 2). Although inflation has fallen substantially because of lower oil prices, Iran continues to suffer from stagflation of double-digit inflation and unemployment.



**Figure 3 - Unemployment rate**

Natural rate of unemployment is about 5% yet Iran has been over the 10% boundary for a long time (Figure 3). This is considered being "structural unemployment". Underemployment among Iran's educated youth has convinced many to seek jobs overseas, resulting in a significant "brain drain." It considered being administration's job to overcome such inflation and unemployment problems and many came with some solutions towards them.

Political system of Iran is considered to be elective. President (as well as members of parliament) is elected every 4 years only for maximum of two terms. They have incentive to

swiftly reduce unemployment and grow economy. The key to this satisfaction would be monetary and fiscal policies. Fiscal policies include import restriction, subsidies and large government spending in the cost of vast but fluctuating oil income.

Central Bank of Iran, the key player in monetary market, sets loan renting rates for all state-owned and private commercial banks. CBI also sets for regulations concerning money transformations and holding. Central Banker is appointed by president so his independence is disputed. Only in Mr.Ahmadinejad's administration 3 central bankers were appointed.

## 2-Banking in Iran

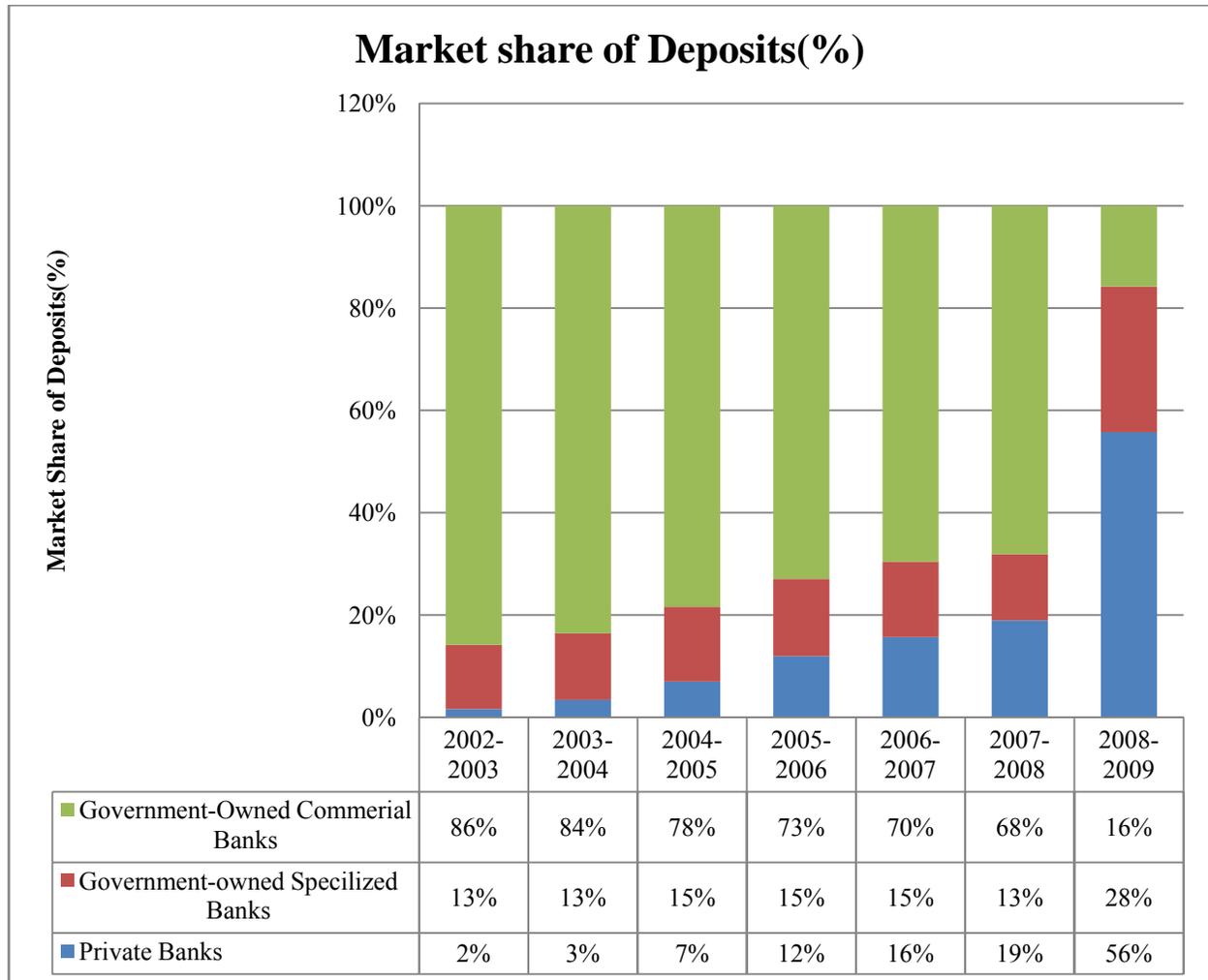
Banks of Iran can be categorized in two major groups: the government-owned banks and the private banks. All private banks are commercial banks but the government-owned banks are two types: commercial banks and specialized banks. Specialized banks are active in specialized fields like agriculture or housing. For example "Bank Keshavarzi" provides loan and financial services only for agricultural projects and "Bank Maskan" provides loan and financial services only for housing purposes. Table 1 shows all banks active in Iran.

| Number                        | Name                            | Year of establishment | Note               |
|-------------------------------|---------------------------------|-----------------------|--------------------|
| <b>Government-Owned Banks</b> |                                 |                       |                    |
| Commercial Banks              |                                 |                       |                    |
| 1                             | Bank Melli Iran                 | 1928                  |                    |
| 2                             | Sepah Bank                      | 1925                  |                    |
| 3                             | Post Bank of Iran               | 1996                  |                    |
| Specialized Banks             |                                 |                       |                    |
| 4                             | Keshavarzi Bank                 |                       |                    |
| 5                             | Maskan Bank                     |                       |                    |
| 6                             | Industry and Mine Bank          |                       |                    |
| 7                             | Export Development Bank of Iran | 1991                  |                    |
| 8                             | Toseye-Taavon Bank              | 2009                  |                    |
| <b>Private Banks</b>          |                                 |                       |                    |
| 9                             | Eghtesad Novin Bank             | 2001                  |                    |
| 10                            | Karafarin Bank                  | 2001                  |                    |
| 11                            | Parsian Bank                    | 2001                  |                    |
| 12                            | Pasargad Bank                   | 2005                  |                    |
| 13                            | Sina Bank                       | 1985                  | Privatized in 2007 |
| 14                            | Saman Bank Corp                 | 2001                  |                    |
| 15                            | Sarmayeh Bank                   | 2001                  |                    |
| 16                            | Tat Bank                        | 2009                  |                    |
| 17                            | Day Bank                        | 2010                  |                    |
| 18                            | Cyrus Bank                      | 2010                  |                    |
| 19                            | Ansar Bank                      | 2009                  |                    |
| 20                            | Garzol-Hasaneyeh Mehr Iran Bank | 2009                  |                    |
| 21                            | Mellat Bank                     | 1980                  | Privatized in 2008 |
| 22                            | Tejarat Bank                    | 1978                  | Privatized in 2008 |
| 23                            | Saderat Bank of Iran            | 1952                  | Privatized in 2008 |

**Table 1: Banks in Iran**

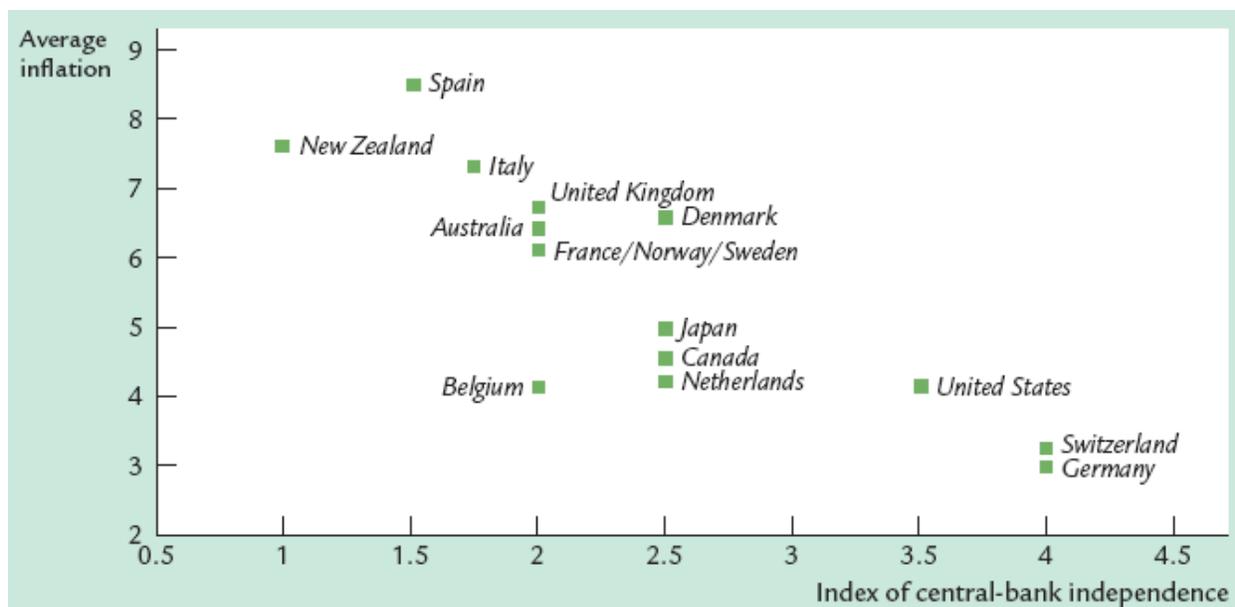
After 1979 revolution, all banks were publicized and till 2001, there was no private bank in Iran. First wave of establishment of private banks started in 2001 with establishment of five private banks. The first wave of privatization of public banks started in 2007 and 2008 with privatization of four public banks with permission of supreme leader of Iran.

Figure 4 shows the market share of deposits for each section, namely government-owned and private sector banks. In all years, from opening of the first private bank in 2001 to date, private banks have increased their market share of deposits. Especially in the last year, there is a jump in their market share mainly because of privatization of four government-owned commercial banks.



**Figure 4: Market Share of Deposits**

Central Bank of Iran is responsible for implementing monetary policy. But Iran's Central Bank is under political interference and doesn't have authority in its main functions such as determining interest rates. But Alesina & Summers(1993) showed that there is a close relationship between inflation and independency of Central Banks. The more independent the central bank is, the less the inflation will be. Figure 5 shows the result of their study in some countries. (See also Eijffinger&Schling (1993))



**Figure 5: Results of Alesina & Summers study that shows relationship between central-bank independency and Inflation**

According to a research in Iranian parliament<sup>1</sup>, when Iran's status and its central bank's independence compared with other countries in 2000, it is shown that Iran had the lowest grade that it ranged with 23rd grade. The main reason was that central bank of Iran had no right to restrict financial needs of the government. Moreover results of another study in 2004 shows that central bank wasn't enough independent when the 1st and 2d development plan Act were enforced so that its independence was estimated about 0.335 that it is the least, but during 2000-2004; when the 3rd development plan Act was enforced, its independence index reached to 0.465 by authorized it to give bounds, reducing administrated facilities, and limiting taken public loan by it. But according to the 4th development plan Act, president has been empowered to choose director general of central bank of Iran that it has led to many problems such as central bank has obliged to change the frame of government budget from foreign exchange to Rial.

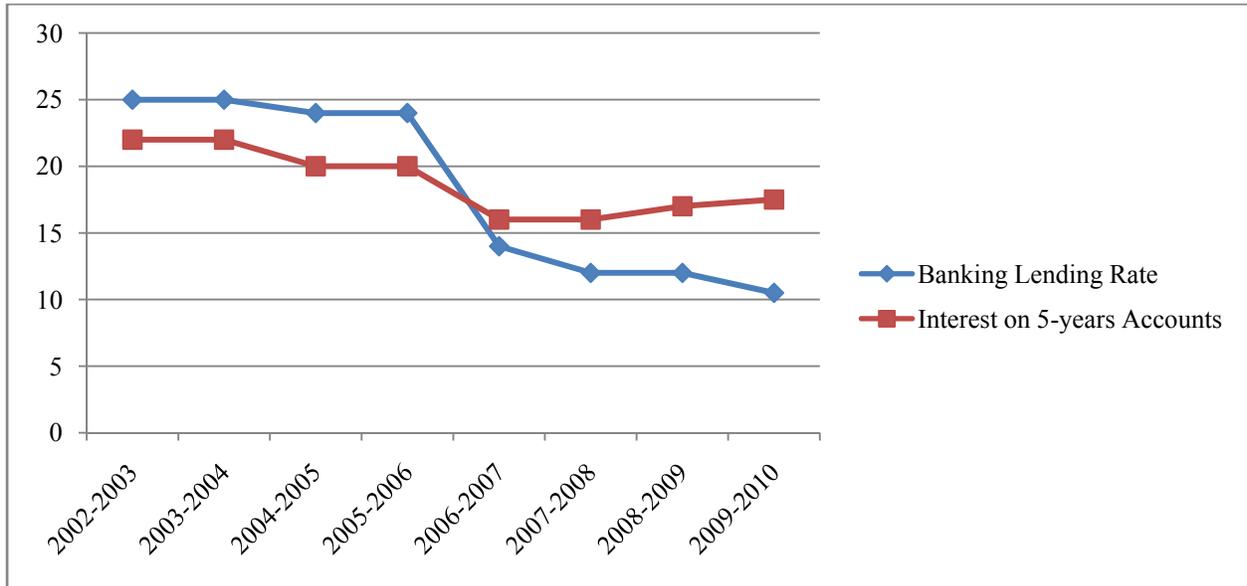
The low independency of Central Bank is the main problem that Iran's economy faces. This problem may be the source of other problems in Iran's economy for example high inflation and high unemployment rate due to high political intervention in Central Bank decisions.

### 3-Problem Definition

After victory of President Ahmdinejad in 2004 presidential election in Iran, he started a program called "Banking Industry Reforms" to stimulate investment and to support emergence of new SMEs to reduce unemployment rate. To obtain this goal and to reform the banking industry for this purpose, the action plan was just to provide cheap loans for industries and entrepreneurs. So during these years, government decreased the interest rate and also forced all banks to provide loans to people with this low rate.

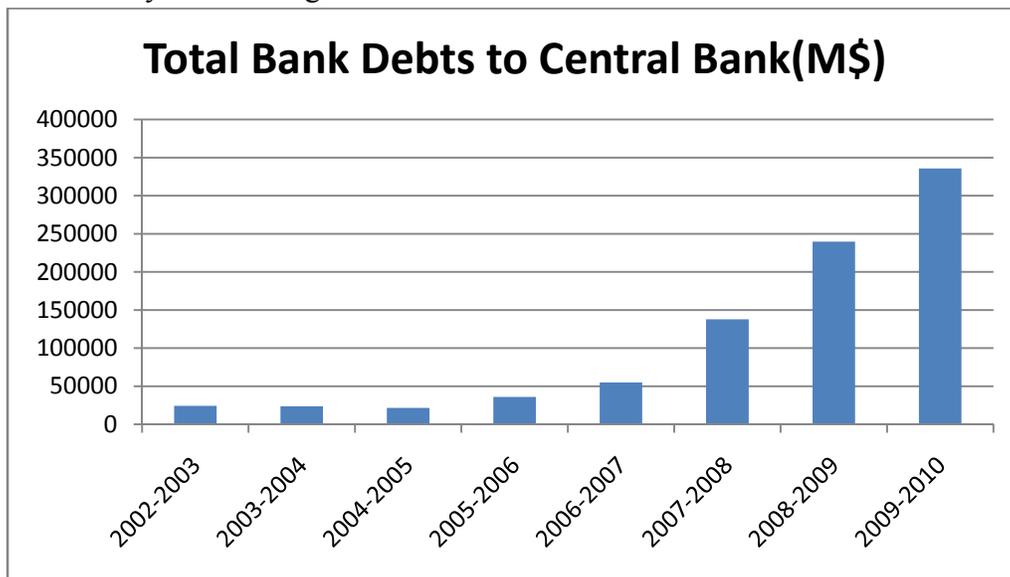
<sup>1</sup> Iran's Parliament Center of Research, [www.Majlis.ir](http://www.Majlis.ir)

Figure 6 shows the changes in interest rates during the last 8 years. The first 4 years is the government of president Khatami and the next four years is the government of president Ahmadinejad. As you can see in this figure, in the last four years, the interest rate on 5-year accounts is more than the bank loan interest. So you can get loans from banks and put it again in banks with higher interest rate!



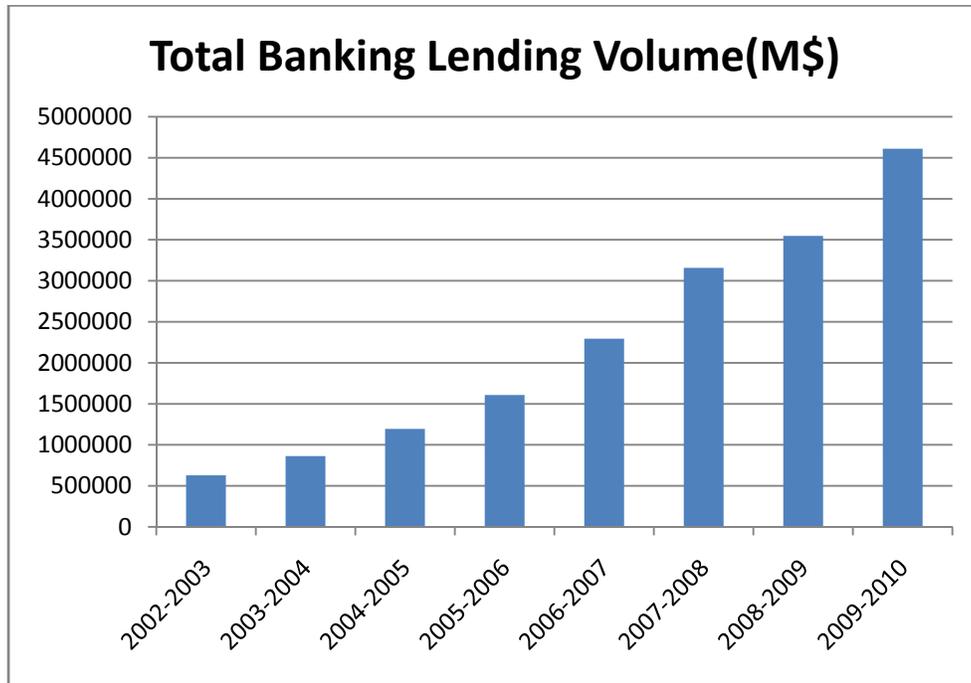
**Figure 6: interest rate behavior in Iran**

Because this policy was not profitable for banks, they changed their behavior to get resources to provide loans to respond to high demand and also to respond to government pressures to lend people with low interest rate. They started to get loans from central bank with low interest rate to lend to people and industries. So the debts of banks to central bank jumped during the last four years. The figure 7 shows this fact.



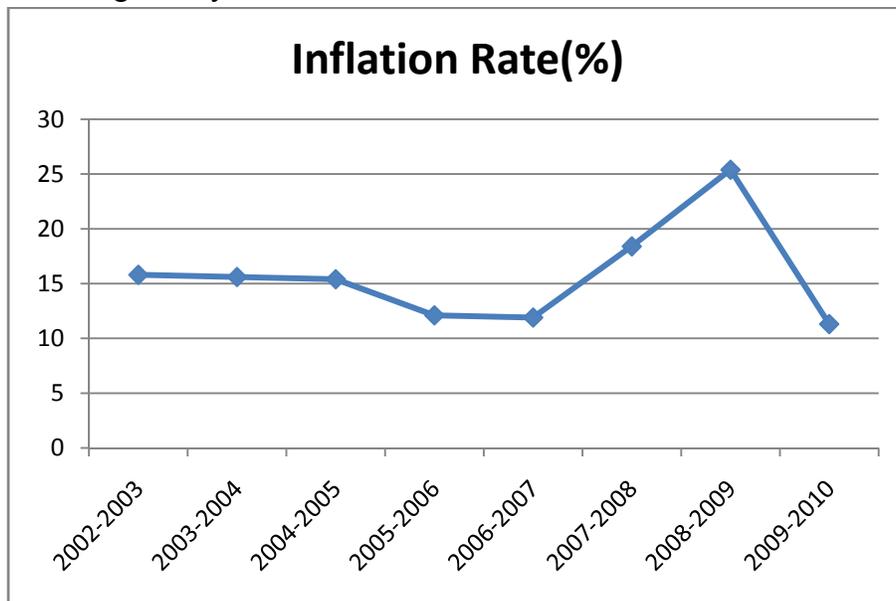
**Figure 7: Total Bank Debts to Central Bank**

Lending from Central Bank, banks could lend more. Figure 8 shows the total lending volume of Iranian banks. You can see that decrease of interest rates didn't affect the bank loan volume.



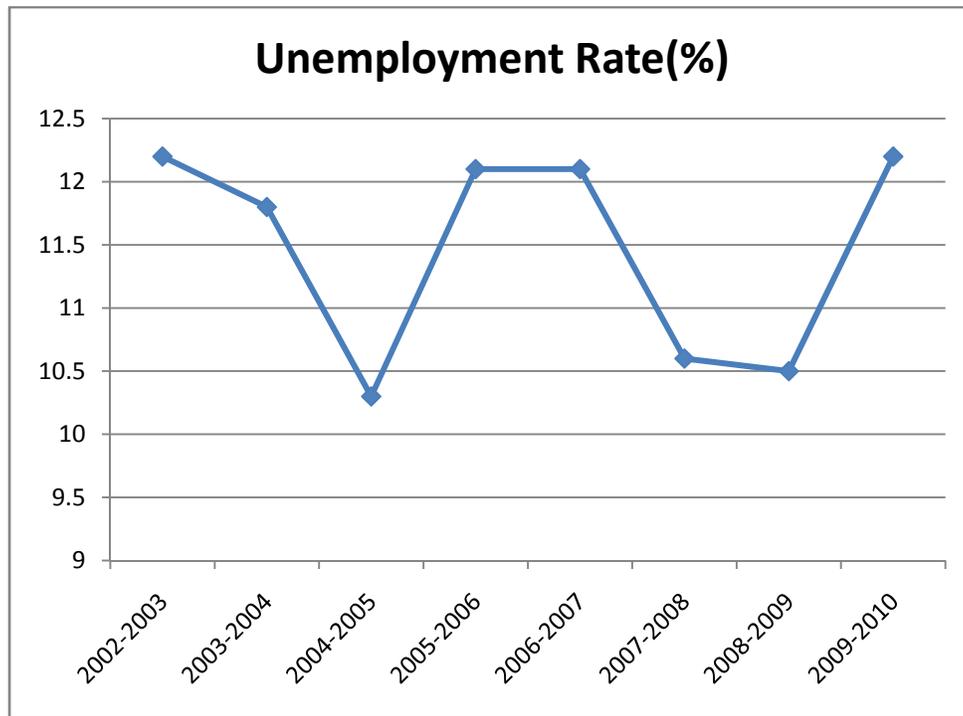
**Figure 8: Total Banking Lending Volume**

But the total debt of banks to central bank is a main factor of money base. So this policy besides other policies caused high inflation in the country. Figure 9 shows the behavior of inflation of Iran during these years.



**Figure 9: Inflation Behavior in Iran in past 8 years**

As mentioned before, the main goal of government was to decrease unemployment rate. The figure 10 shows unemployment rate of Iran during these years.



**Figure 10: Unemployment rate in Iran during Past 8 years**

It seems that government plan to reduce unemployment rate was effective in short-run but after a while the unemployment rate backed to the previous rate but with the expense of high inflation during four years that caused high pressure on people.

With respect to figures above, the goal of this paper is to answer questions below:

- 1- Why did inflation decrease despite growth of bank debts to central bank?
- 2- What is the solution of the problem of bank debts to central bank of Iran besides inflation problem?

#### **4-Model**

Figure 11 shows the model. Below we describe each part of the model. Fig. 12 shows the first part. In this part we modeled the relationship between inflation, interest rates and society demand for loan and bank demand for new resources to respond to this demand.

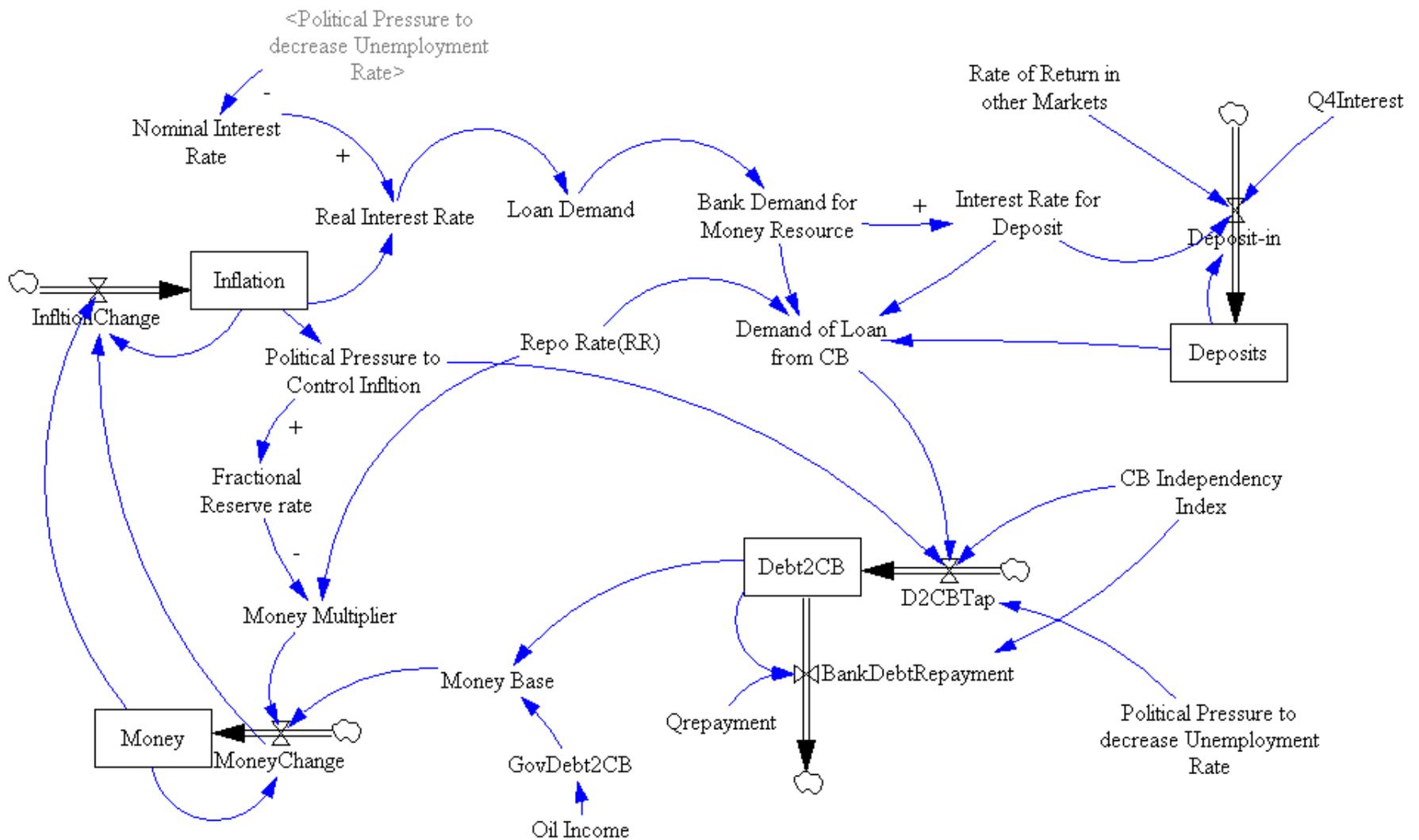
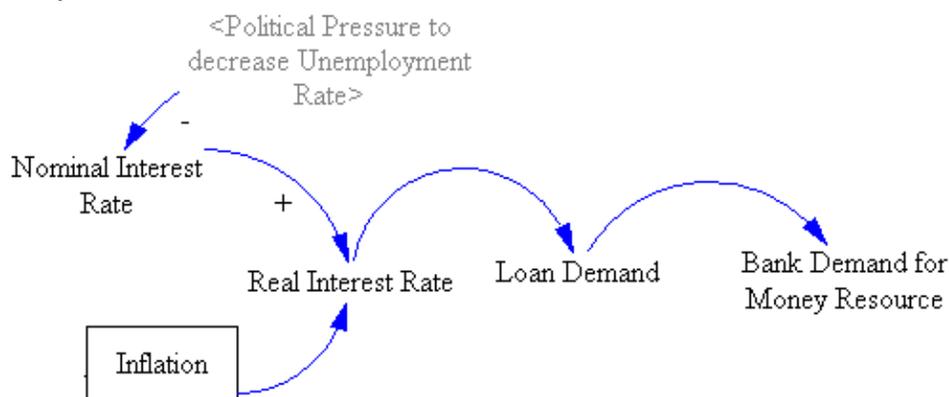


Figure 11: Model

In the classical economic perspective, the real interest rate is the price in capital market where supply (Savings) and demand (Investment) coincide but in Keynesian economics it is the price of demand for money. The common relationship between real and nominal interest rates and inflation rate is known as *Fisher Effect*. When a person rents a loan at  $i\%$  and buys some assets and goods to earn the profit, he would actually pay  $r\%$  ( $r=i-\pi$ ) where inflation rate is  $\pi\%$ . The reason is even without considering the profit produced, the invested assets and goods themselves grew at inflation rate.

Another point is about the demand function of loanable fund. Although so many factors may seem to be effective in the decision making, it is presumably connected to “real interest rate”. When real interest rate increases, those projects with less interest will become uneconomic so there will be less demand for capital. As Keynesian point of view, demand derives supply side of economy so with increased demand of loanable funds; there will be pressure for increasing supply of money.



**Figure 12: the effects of real interest rate on loan demand**

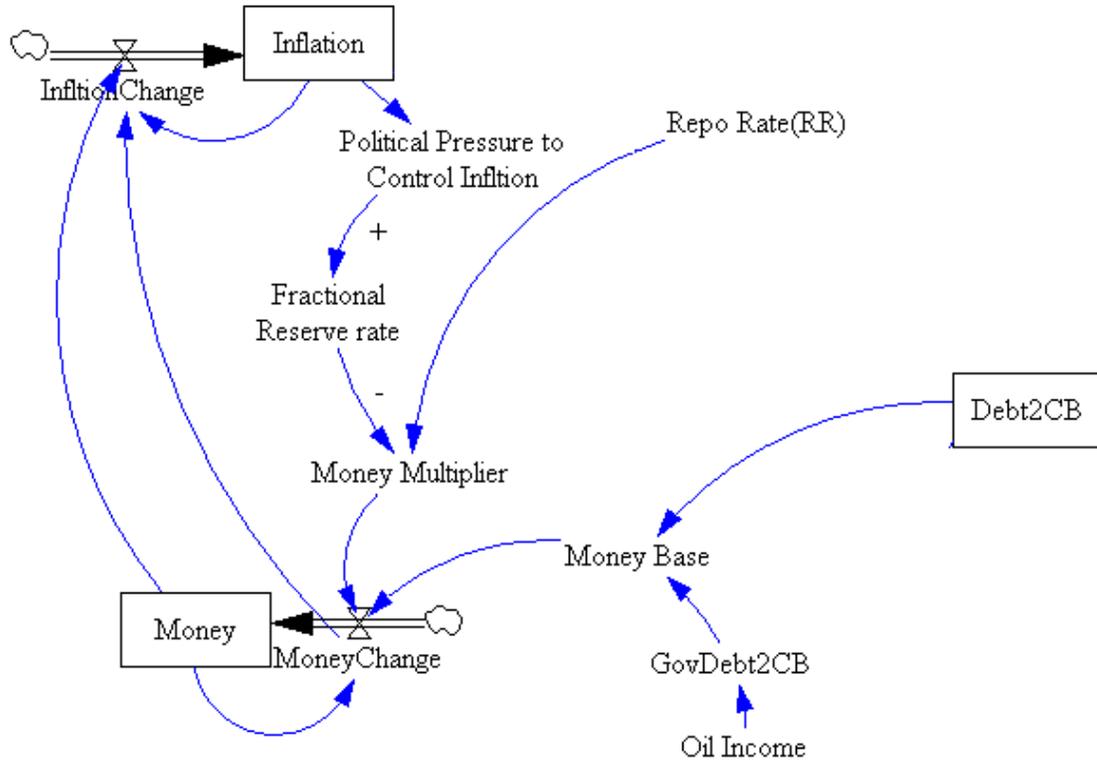
Figure 13 shows the second part, model of relationship between money and inflation for our model. Money Base is formed by four parts; Government debts to Central Bank, Foreign Exchange assets of CB, Banks debts to CB and other assets like gold. In Iran where government earns from national oil reserves two mechanisms are running. At the pro-energy sale cycles government earns too much of exchange (commonly US dollar) which should be sold at market or sold to CB. After a while governments like Iran start to grow in Dutch expansion on their size. On the other times when rapid decline in oil income happens there is little increase in foreign exchange stock but because of the grown size of government there will be need for huge loans from CB so this part of money base grows.

Money Multiplier is the ratio of increment of money to money base increment. When a commercial bank earns A\$ deposit, it has to pay some fraction of it to central bank as federal regulations, besides there is a portion of loan to pay for interest. So the money multiplier is:

$$MM = \frac{1}{RR + FR}$$

Monetary economists like Milton Friedman consider the inflation an absolutely monetary matter. Consider the following “Quantitative Monetary theory”:

$$P.Y = M.V$$



**Figure 13: inflation and money**

Where V is velocity of money, M is Money, Y is real GDP and P is price level. If money is the only good that is transferred in every trade (where it seems true) this would be correct. With some differentiation a rearrangement we will have:

$$\frac{\partial Y}{Y} + \frac{\partial P}{P} = \frac{\partial M}{M} + \frac{\partial V}{V}$$

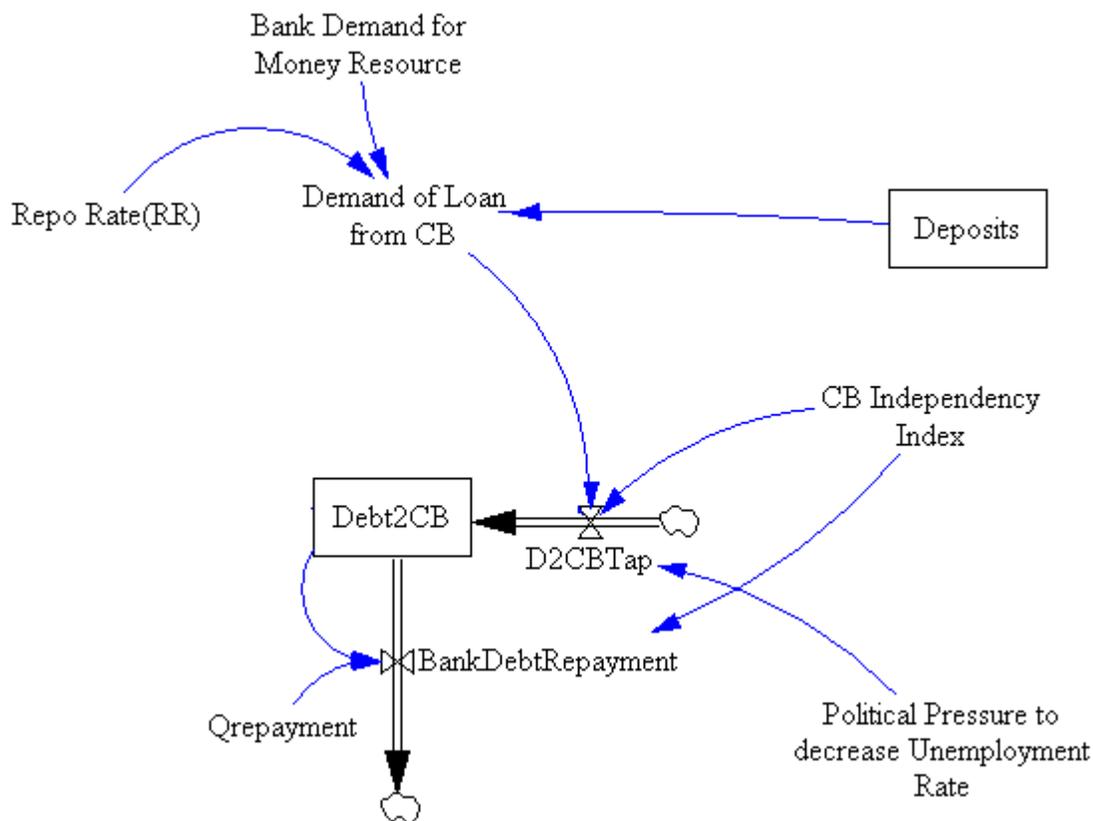
Velocity of Money is considered to be stable. Real GDP does not grow at very large rate so the only effective factor in inflation (price level growth) is money growth or:

$$\pi = \frac{\partial M}{M}$$

In the political stage inflation is very bad because the more expected inflation the more unemployment and the more dissatisfaction of inflation effects constituency of voters thus politicians decide to reduce the multiplier by increasing its factors.

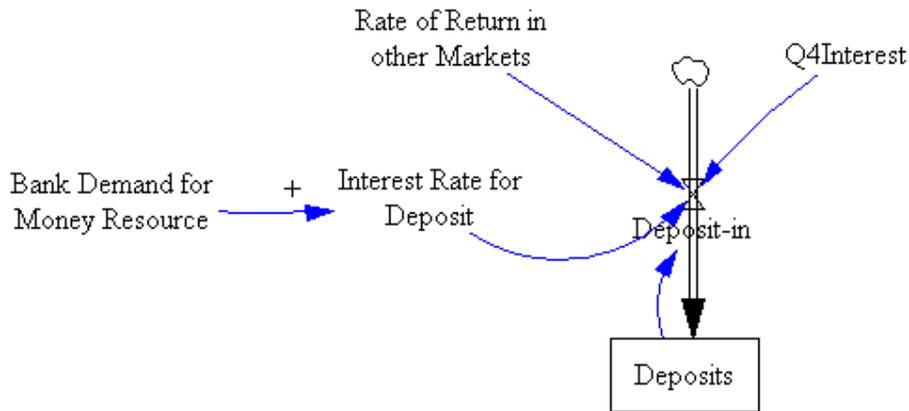
Figure 14 shows the third part of the model. In this part we modeled the demand and supply of money from Central Bank. When demand for loan rises in the country, banks search for new money resources. They have two options. One the money in hands of people and second they borrow from Central Bank. When deposits are not enough to respond the loan demand as well as the time that Repo Rate (RR) is less than deposit interest, banks prefer to make loan using the resources they borrow from Central Bank.

It was the demand side. The supply side is the side that determines if Central Bank lends banks. Political pressure will force the Central Bank to lend to banks and the more the Central Bank is independence, the more it is reluctant to lend the banks. Though independency of Central Bank an political pressure are interrelated but we preferred to separate them in model because in every country there are pressures on Central Bank but it doesn't necessarily means lack of independency of Central Bank.



**Figure 14: demand and supply side of lending from Central Bank**

Figure 15 shows the last part of the model. As mentioned before, banks for new resources have two options: First lending from Central Bank and second absorbing new deposits. To absorb new deposits they have to make deposit more interesting. So they should raise the interest rate on deposits. And also they should offer a rate attractive in comparison of rate of return of other markets.

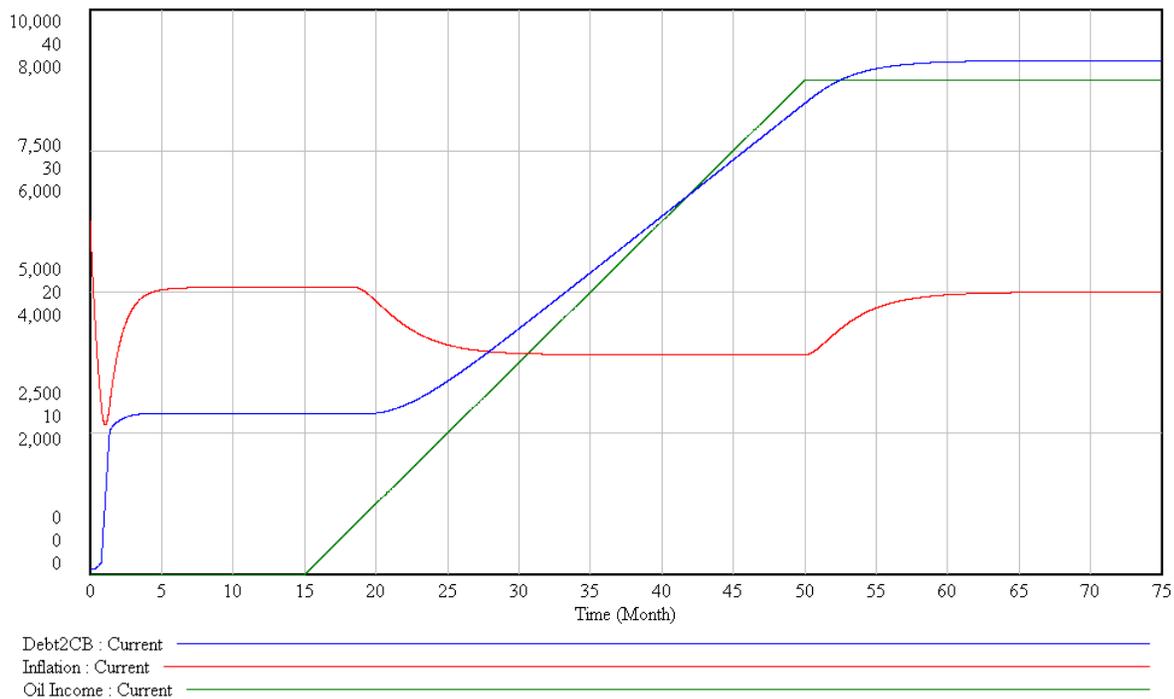


**Figure 15: New deposits for banks**

## 5-Results

As figure 16 shows, rise in oil income with a short delay will decrease the inflation and it will provide a chance to return to previous system in which banks were able to borrow from Central Bank without any pressure to control inflation. But when the oil income becomes constant, the effect of banks debt to Central Bank shows its effect on inflation.

But in reality, there was no decrease or limitation in Iranian banks debt to Central Bank of Iran but at the same time, Iran experienced decrease in inflation. The reason is that Iran's oil income increases and this helped the government to spend its debt to Central Bank that is a very important factor in determining the money base. So it helped government to reduce inflation without any pressure to limit the bank debts to Central Bank.



**Figure 16: Result of the model**

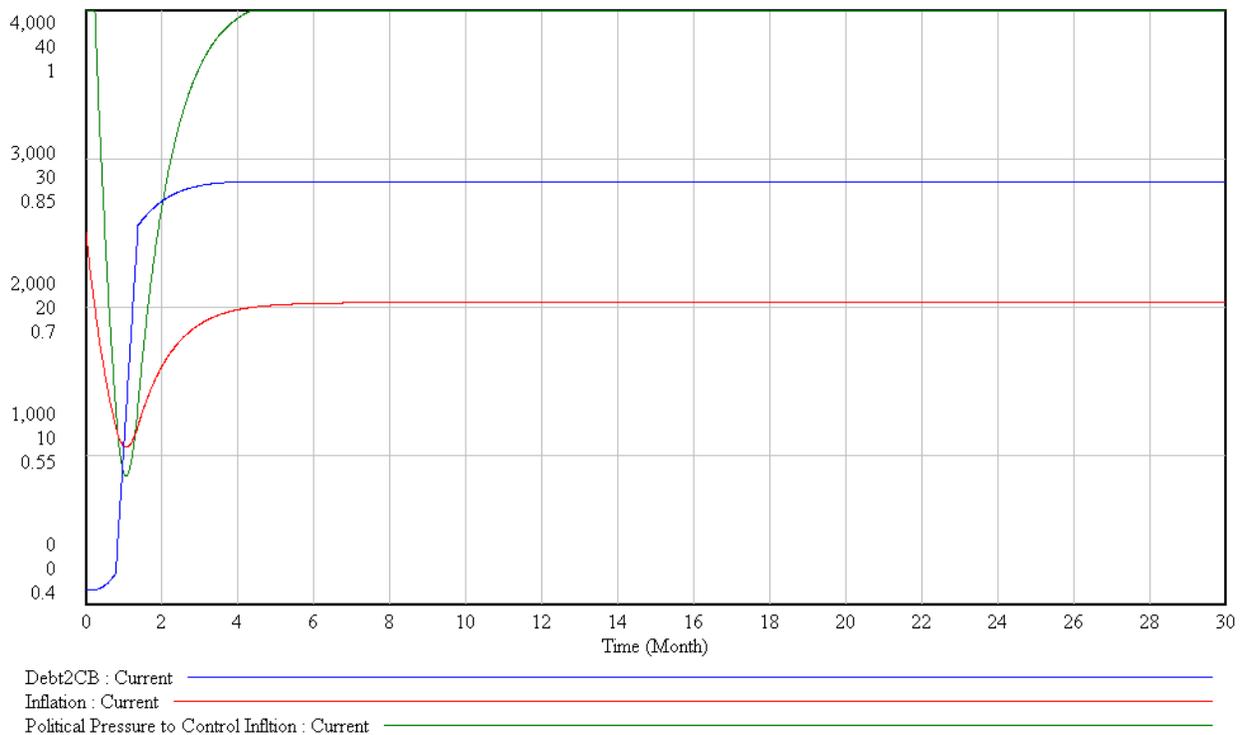
## 6- Policies

In this section we offer two policies:

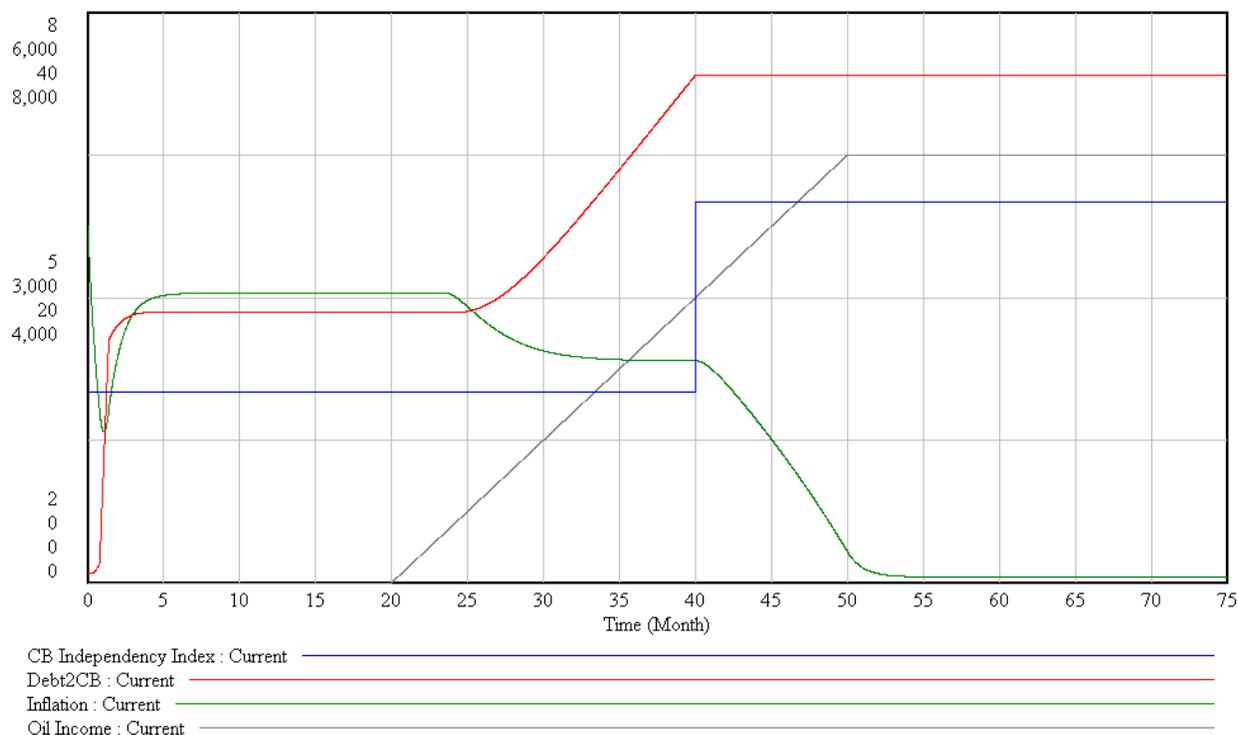
- 1- Government doesn't rely on oil income
- 2- Central Bank Independency increases.

In first policy, the system is closed and there is no other parameter to control the inflation except for the effect of banks debt to Central Bank. If it is so, the system will reach to a stable point. Actually the political pressure to control inflation will limit lending from Central Bank and consequently will limit inflation (figure 17). But due to the existence of a level of lending, inflation is not zero. So it is obvious when there is a way to reduce the inflation for example oil income, it increases the power of government and likelihood of intervention in money policies.

Second policy is to increase the independency of Central Bank. In this policy Central Bank will prevent lending banks. So even with rise of oil income, with prevention of lending to banks due to Central Bank decision in  $t=40$  (Figure 18), bank debts will be constant and inflation will fall dramatically. So it shows the relationship between independency of Central Bank and inflation. The more the Central Bank is independent, the less the inflation is.



**Figure 17: Results of first policy**



**Figure 18: Results of second policy**

## 7-Conclusion

Government intervention in determining the interest rate in Iran caused many problems for the Central Bank and also for other economic indexes like inflation. In this paper, we showed that the intervention is the main cause of inflation. But due to a source of revenue for the government, oil income, government was able to reduce inflation without change in its policy toward interest rate and Central Bank lending.

We showed that eliminating the oil income will force government to limit debts from central Bank due to its inflation effects. But even with oil income, giving more power to Central Bank is a better policy to control inflation and bank debts to Central Bank.

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