Is The Tax System in Iran an Efficient System?
A Comparing of Different Taxes Effects on Iran Economy, by a Dynamic CGE Model.

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Abstract
Although there are many debates about the extent and size of government intervention, government intervention in the economy is unavoidable. Therefore government spending and taxes are irresolvable components of the economy. Government expenditure and taxes are fiscal policy instruments but how much they are effective and useful has been a challenge to economists. It seems that efficiency of these instruments depends on their components. It means that beside the size of government expenditure and total amount of tax revenue, the constituent shares are also important..
In order to examine all aspects, we use a dynamic computable general equilibrium model. The model solves for a sequence of single period equilibriums, thereby it is a recursive dynamic CGE model. The results show that according to the targets of policymakers, any taxes can be effective. But it should be noted that in Iran's oil dependent economy, any decline in private spending has to be offset by increasing government expenditure. If oil revenues are removed from economy, raising tax rates will have a negative impact on production and it would be much worse than it would in the oil dependent economy.

Keyword: Taxation, government expenditures, dynamic general equilibrium model

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1. **Introduction**

Of the many issues that divide economists, the one which is probably most debated is the degree and type of government intervention in the economy, as seen through its many manifestations, such as the size of public expenditure as a percentage of gross domestic product (GDP), the degree of labour and financial market regulation, the structure and level of taxation (direct and indirect taxes), etc.

The existing literature presents disagreeing results about the relationship between government size and economic development. On the one hand, the former may have a negative impact on economic growth due to government inefficiencies, crowding-out effects, excess burden of taxation, distortion of the incentives systems and interventions in the free markets. On the other hand, government activities may also have positive effects due to beneficial externalities, the development of a legal, administrative and economic infrastructure and interventions to offset market failures.

Looking at the size of government in various economies indicates that the government outlays have gradually increased over the years, especially in high income economies. This could confirm the Wagner theory which suggests that when economic growth accelerates there will be a more-than-proportionate increase in government expenditure because there will be a need for more administrative and protective functions of the state, a need for increased provision of social and cultural goods and services, and an increased need for provision of proper administrative and bureaucratic controls to ensure the smooth operation of market forces. (Wahab, 2004).

Fig. 1 shows that while in the high income countries the government expenditure exceeds 15% of GDP and sometimes reaches 20%, it is about 10% for low income countries. The corresponding G/GDP value for Iran has fluctuated in recent years. It has decreased from 16% in 1995 to 11% in 2007.

Another policy tool for government intervention is taxation. Fig. 2 depicts tax revenue as a percentage of GDP for the listed countries. As shown, over the last decade the worldwide average tax revenue (% of GDP) has been 15%. However, its value has been relatively higher for moderate and high income countries (around 14 to 16 percent). In Iran, the ratio has been on a moderate increasing trend but has never reached 10%.
Figure 1: The ratio of government expenditure to GDP (percent)

Figure 2: The ratio of tax revenue to GDP

Figure 3: The share of income tax, profit tax in tax revenue
According to Fig. 3, 4 and 5 it is clear that tax on goods and services has a world-wide dominant share in total tax revenues (averaged 31%). Income tax and tax on foreign trade are in the next places (22% and around 5% respectively). However the corresponding share of taxes in high-income countries shows a distinctive pattern. In those countries the share of income tax and tax on goods and services are relatively equal and tax on foreign trade has a share of less than 1%. In moderate-income countries, tax on goods and services and income tax comprise 35% and 22% of tax revenues respectively. In these countries, the share of tax on foreign trade has decreased from 7% to 4% over the last decade.

In Iran, the share of income tax has reached 20% in recent years. Tax on foreign trade comprised 6.5% of tax revenues. Finally, the share of tax on goods and services has always been less than 5%.

The difference in the share of different kinds of tax in total tax revenue compared to its average value in the world, high-and middle-income countries poses a question: is the current structure of tax revenues in Iran efficient? There are different methodologies to answer the question, but in this paper we will discuss this subject by comparing the effects of different types of taxes on the Iranian economy by means of a general equilibrium model. A general
equilibrium approach well addresses the diverse issues surrounding the issue of government intervention and tax policies. In this context, CGE models are the most appropriate tools to handle these types of analyses since they can reflect the distribution and feedback effects of policies on all economic sectors. Therefore, we have analyzed the effects of tax policies on Iranian economy using a recursive dynamic CGE model developed for Iran.

2. Literature survey
In this section, some of the major studies on the effects of tax policy on economic variables are reviewed. Zonur (2003) examined some of the effects of taxes on economic variables by means of a static computable general equilibrium model. In his research, he studied the effects of changes in sales tax and payroll tax on production, price and final demand of agriculture, industry, dwellings and services sectors. Sharifi (2010) studied the net effect of indirect taxes collected from production of different sectors to finance government expenditures. He has analyzed the effect of these policies on employment and inflation by means of input/output models and has examined the contractionary effects of rising taxes and expansionary effects of the resulting expenditures simultaneously. According to the results, implementation of this policy results in increasing producer price index and employment.
Faridzad et al. (2011) studied the effect of taxation on value added of different sectors using an input/output table. Shafi’i et al. (2006) examined the effects of fiscal policies on economic growth for the period of 1959-2003 using an ARDL model. The results indicate that while public expenditures and taxation have a direct and adverse effect on economic growth respectively, consumption expenditures of government has no meaningful effect on growth. Sameti et al. (2010) studied the effect of value added taxation on net export of Iran and other Asian countries from 1985 to 2008. They also examined the effect of corporate income tax on net export. In order to do so, a theoretical-experimental model was defined and was estimated using generalized moment method. The results show that while in the short term value added tax had negative impact on net export, in the long term it had no effect. Besides, in the short term corporate income tax had a positive effect on net export.
In his MSc thesis, Haji-Abadi (2003) analyzed the causal relationship between government spending and tax revenues in Iran. Time-series techniques and causality test (Hsiao) shows a causality from government spending to tax revenues. In other words, when government spending increases, its revenues increases as well (Oskui et al., 2004).
Paitakhti et al. (2004) studied the effect of reducing tax rate on government budget deficit. The results show that in the short and long term the tax rate has a positive effect on budget balance. Besides, the economic growth rate has a positive effect on reducing budget deficit. In this paper, we study the effect of different type of taxes on major macroeconomic variables using a dynamic general equilibrium model of Iran.

3. Model details

The model developed is in line with the neoclassical structuralist modeling tradition, which has been originally described in Dervis et al (1982), and has at its core the static CGE model described in Lofgren et al (2002). The underlying assumptions are mainly in line with the standard CGE literature (De Melo and Tarr, 1992). There are few differences related to adding the oil rent to government revenues and transferring most part of it to government investment in public sector. The model's equations define the behavior of economic agents and the conditions of market equilibrium and macroeconomic balances.

Institutions

Institutions are represented by households (rural and urban), enterprises, government, and the rest of the world. Income of households and enterprises is from primary factor returns generated during production and the inter-institutional transfers. It is assumed that institutions allocate their savings between investment and financial funds. These funds contain money and deposited loans, foreign assets and other financial assets. To retain simplicity, demand for financial funds is considered as transaction demand for money (liquid currency), which is a fixed ratio of institutions' income.

What remains of savings is invested. Investment is disaggregated into demand for final commodities using fixed shares. This means relative changes in price of investment goods result in no real compositional shift in investment.

It is assumed that households' decision to savings is independent of its consumption decision and based on marginal propensity to save which quantifies the saving-income relation. Households' disposable income is equal to his income net of saving, income tax and payments to other institutions. Households' demands are represented by a linear expenditure system (LES), which is derived from the maximization of a Stone-Geary utility function subject to a household budget constraint. The LES specification has the benefit of considering supernumerary household consumption.
Government is passive in the economy, i.e. it does not optimize any objective function. The government earns its income from oil and gas rent, from taxes and from net foreign borrowing and spends it on consumption and on transfers to other institutions.

The producing sector is disaggregated into 6 activities: agriculture, oil, industry, dwellings, public services and other services. These activities produce 6 distinguishing commodities. The model allows for individual activities to produce more than a single commodity and for a single commodity to be produced by more than one activity as well.

A nested production function is considered. Primary factors (two labor types and one type of capital) are combined using a constant elasticity of substitution (CES) function. The aggregate value added produced is further combined with fixed-share intermediates, using a Leontief specification.

It is assumed that imports are differentiated from domestically produced commodities. As a result, following Armington assumption (Armington, 1969), substitution possibilities exist between imported and domestic commodities under a CES specification. Similar to this methodology, domestic and exported commodities are distinguished through a constant elasticity of transformation (CET) function.

Under the small-country assumption, Iran is assumed to face a perfectly elastic world demand at a fixed world price, except for oil, for which Iran is considered influential. The domestic currency prices of imported and exported goods are obtained by adjusting the world price by the exchange rate and the import and export tariff rates.

**System Constraints and Closures**

Equilibrium in the goods market requires that demand for commodities equal supply. Aggregate demand for each commodity consists of households and government consumption and investment spending, and export and transaction services demand. Aggregate demand exhausts aggregate supply comprising domestic production and import. Equilibrium is attained through the interaction of domestic and foreign prices.

The equilibrium in primary factor market is dependent on how the relationship between factor supply and wages is defined. Factor wages differ across different activities and are equal to the product of the economy-wide wage and a fixed activity-specific wage distortion term.

Supplied quantity of capital is assumed fixed within one period. It is also assumed immobile across sectors. As a result capital earns sector-specific returns which equalize exogenous supplies and endogenous demands for capital. Labor supply is considered to be perfectly
elastic. Unemployment is assumed to be sufficiently large such that allows real wages to be fixed. It is therefore the supply that adjusts to equalize demand. The model includes three macroeconomic accounts: the current account, the saving-investment account and the government account. Equilibrium is achieved in each account through adjustment mechanism which is specified by a set of ‘macroclosure’ rules. To equilibrate saving and investment, it is important to determine the direction of causality between them. The choice of savings-investment closure reflects this point. Recent work on this issue concluded that the long-run relationship between saving and investment in Iran has been governed by saving (Hasanpour and Torkamani, 2007). Therefore the model adopts a savings-driven closure, in which the savings rates of households and enterprises are exogenous and fixed, and investment passively adjusts to equilibrate savings. The foreign exchange market equilibrates via adjustments of the real exchange rate. Thus, the balance of trade (foreign savings) is exogenous and fixed at the base-year level. This will prevent the model results from ending in high external debt. In government account it is the government saving (dis-saving) which adjusts to equilibrate the account. Thus the budget deficit of the government may change with no limit. Finally, the consumer price index is chosen as the numéraire. All nominal values are thus measured relative to the CPI. The model solves for a sequence of single period equilibriums, thereby it is a recursive dynamic CGE model. The dynamic path follows the neoclassical growth framework (Solow growth model) implying that the long-run growth rate of the economy is determined by capital accumulation, labour supply growth and increase in productivity. The stock of capital is determined endogenously according to Eq. (1).

\[ K_{i,t+1} = (1 - \delta)K_{i,t} + \mu_i I_t \]  

(1)

In which \( K_{i,t} \) is the stock of capital of sector i in period t, \( \delta \) is rate of depreciation, \( I_t \) is the investment in period t and \( \mu_i \) is the share of capital in sector i. Since the model is saving driven, the investment and thus the capital stock are determined endogenously for each period. The allocation of capital to each sector is determined based on the return to capital in each sector.

4. Scenarios Definition
To investigate the effects of taxes on the economy, two scenarios are defined. In the first scenario, a change in tax rates and in the second scenario the same change in tax revenue is discussed.

In this paper, the following symbols are used in tables and graphs to represent the scenarios and variables:

- $ta$: tax on activity (production sector)
- $ty$: tax on income
- $tm$: tax on import (tariff)
- $tva$: tax on value added (VAT)
- $UH$: urban household
- $RH$: rural household.

**A: The same change in tax rates:**

We will study these scenarios in this section:

1. Doubling the activity tax rate (product tax rate)
2. Double income tax rate
3. Doubling goods tax rate (tariff rates)
4. Doubling VAT tax rate
5. Doubling all taxes.

**Simulation results:**

- **Changes in the demand side:**

In this section we imply the impact of simulation on the demand side variables, namely GDP and its components. We will also compare the multiplier of taxes.

Increase in tax rates due to the contraction of the private sector demand (consumption and investment) will cause a reduction in aggregate demand. On the other hand, any increase in government expenditure because of increasing tax revenues will raise GDP.

If the government investment expenditure plays a complementary role for the private investment, the private investment is expected to increase. As a result of an increase in the one of components of GDP, the aggregate demand will expand. Therefore, the final impact of these policies on the economy will depend on the resultant of all effects.
In Figure 6 the positive effect of tax rates doubling on GDP is depicted. But over time, the expansionary effect is diminished and excluding income tax, other taxes would have shrinking effect on the economy in the final years of the period under study. It may be indicative of offsetting the decline in private sector demand through increased government spending in the early years. But the downward trend GDP growth shows that most of government expenditure is consumption expenditure. So it does not stimulate private investment. At the table 1 mean of changes in the components of GDP is given.

### Table 1- Mean of Change in GDP and its components

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>Private Investment</th>
<th>Private Consumption</th>
<th>Net Export</th>
<th>Government Expenditure</th>
<th>Tax Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production Tax</td>
<td>-0.001</td>
<td>-2.272</td>
<td>-2.209</td>
<td>-1.898</td>
<td>4.957</td>
<td>14.985</td>
</tr>
<tr>
<td>Income Tax</td>
<td>0.015</td>
<td>-0.042</td>
<td>-6.057</td>
<td>-3.400</td>
<td>16.042</td>
<td>37.050</td>
</tr>
<tr>
<td>Tariff</td>
<td>-0.003</td>
<td>-0.490</td>
<td>-0.717</td>
<td>-8.040</td>
<td>0.651</td>
<td>6.434</td>
</tr>
<tr>
<td>VAT</td>
<td>0.004</td>
<td>-4.012</td>
<td>-4.218</td>
<td>-3.806</td>
<td>11.199</td>
<td>32.474</td>
</tr>
<tr>
<td>All Tax</td>
<td>0.016</td>
<td>-6.131</td>
<td>-12.313</td>
<td>-16.168</td>
<td>31.582</td>
<td>86.937</td>
</tr>
</tbody>
</table>

As the table 1 shows an increase in the tax rate reduces private investment, private consumption and net export. Private investment will be most affected by the increase in the VAT rate and then by the increase in the tax rate on production. But the income tax is the most influential tax on the private consumption. Taxes on imports will reduce net exports more than other taxes.

Most of the increase in tax revenue comes from the doubling of the income tax rate. VAT is in second place. Also because of direct impact tax revenues on government spending, government expenditure will get most impact from an increase in income tax and VAT.
Figure 7- Comparison of the multiplier of taxes

Figure 7 Shows that the income tax has the biggest impact on GDPc. The reducing effect of this tax on GDP is also lower than other taxes and over the time it will have a relatively stable change on production. However, the import tax is the only tax that has a negative effect on production and will decrease GDP with a relatively faster rate than other taxes.

Household Welfare:

To evaluate the impact of changes in tax rates on household welfare, we examined the changes in household income. As expected, an increase in tax rates causes the lower net income for households. Table 2 shows change percentage in net income of urban and rural households resulting from model simulations.

Table 2- Change in household income resulting the simulation

<table>
<thead>
<tr>
<th>Household</th>
<th>UH</th>
<th>1391</th>
<th>1392</th>
<th>1393</th>
<th>1394</th>
<th>1395</th>
<th>1396</th>
<th>1397</th>
<th>1398</th>
<th>1399</th>
<th>1400</th>
<th>Difference of beginning and end</th>
<th>Mean of variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TY</td>
<td></td>
<td>-6.01</td>
<td>-6.08</td>
<td>-6.15</td>
<td>-6.21</td>
<td>-6.27</td>
<td>-6.32</td>
<td>-6.37</td>
<td>-6.42</td>
<td>-6.46</td>
<td>-6.50</td>
<td>0.49</td>
<td>-6.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-5.27</td>
<td>-5.34</td>
<td>-5.41</td>
<td>-5.47</td>
<td>-5.52</td>
<td>-5.57</td>
<td>-5.62</td>
<td>-5.66</td>
<td>-5.70</td>
<td>-5.73</td>
<td>0.46</td>
<td>-5.53</td>
</tr>
<tr>
<td>TA</td>
<td></td>
<td>-1.68</td>
<td>-1.79</td>
<td>-1.90</td>
<td>-2.00</td>
<td>-2.10</td>
<td>-2.20</td>
<td>-2.29</td>
<td>-2.38</td>
<td>-2.47</td>
<td>-2.55</td>
<td>0.87</td>
<td>-2.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-1.91</td>
<td>-2.02</td>
<td>-2.13</td>
<td>-2.24</td>
<td>-2.34</td>
<td>-2.45</td>
<td>-2.54</td>
<td>-2.64</td>
<td>-2.73</td>
<td>-2.82</td>
<td>0.91</td>
<td>-2.38</td>
</tr>
<tr>
<td>TM</td>
<td></td>
<td>-0.31</td>
<td>-0.39</td>
<td>-0.47</td>
<td>-0.55</td>
<td>-0.63</td>
<td>-0.71</td>
<td>-0.79</td>
<td>-0.87</td>
<td>-0.95</td>
<td>-1.03</td>
<td>0.72</td>
<td>-0.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.44</td>
<td>-0.52</td>
<td>-0.61</td>
<td>-0.69</td>
<td>-0.78</td>
<td>-0.86</td>
<td>-0.95</td>
<td>-1.03</td>
<td>-1.12</td>
<td>-1.20</td>
<td>0.76</td>
<td>-0.82</td>
</tr>
<tr>
<td>TVA</td>
<td></td>
<td>-3.29</td>
<td>-3.49</td>
<td>-3.69</td>
<td>-3.87</td>
<td>-4.05</td>
<td>-4.22</td>
<td>-4.39</td>
<td>-4.55</td>
<td>-4.70</td>
<td>-4.85</td>
<td>1.56</td>
<td>-4.11</td>
</tr>
<tr>
<td>ALL</td>
<td></td>
<td>-2.35</td>
<td>-2.80</td>
<td>-3.23</td>
<td>-3.65</td>
<td>-4.05</td>
<td>-4.43</td>
<td>-4.81</td>
<td>-5.17</td>
<td>-5.51</td>
<td>-5.85</td>
<td>3.50</td>
<td>-4.18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-3.13</td>
<td>-3.59</td>
<td>-4.04</td>
<td>-4.47</td>
<td>-4.89</td>
<td>-5.29</td>
<td>-5.68</td>
<td>-6.05</td>
<td>-6.41</td>
<td>-6.76</td>
<td>3.64</td>
<td>-5.03</td>
</tr>
</tbody>
</table>
As noted, the biggest drop in household income comes from the increase in income tax rate. During the ten-year after implementation of the scenarios urban income has declined by 28.6 percent on average and rural household income has reduced 5.53 percent. Value added tax will be in the next place. Also tax on import will have the least impact. As seen in Table 2, urban households will be affected more than rural households by the change in income tax but other taxes have a deeper effect on rural household than urban households. Over the time, reducing impact on earnings from an increase in VAT rate is more than other taxes. So that rural households income decline from 3.29% at the beginning of period to 4.58% reduction in the end. And, the change in diminution of rural household income enduring the period under study is 1.63 percent.

**B: The same changes in tax revenues:**

To compare the effectiveness of tax policies, the change in tax rates change are considered in a way that results in the same amount of change in tax revenue. Namely:

\[
\Delta TA(t_y) = \Delta TA(t_a) = \Delta TA(t_m) = \Delta TA(tva_a)
\]

Therefore, the following scenarios are considered:

- 1.42% increase in income tax rate,
- Doubling of the tax rate on production,
- 3.62% increase in the tariff,
- 1.45% increase in the rate of VAT.

Due to the increase in the tax rate for the same boost in tax revenue, it could be said the most potential creating revenue come from the income tax. In other words, the lowest increase in the tax rate belongs to income tax and in the opposite the largest increase in the rate is for tax on imports.

According to the figure 8, it can be concluded that the income tax is the only tax in the period under study will have a positive effect on GDP. The increase in VAT and tax on production sectors will increase GDP in the first but over time, the effect will be depreciated. VAT after 7 years and tax on production after 4 years will have a negative effect on national income. In other words, the primary increased effect of government spending goes away over time and the decline in investment and consumption will dominate. The only tax that its increase will reduce GDP is tax on import. Zero effect in the first year will reach to 1.6% decline in GDP in the ten years later.
Given that in this section the same changes in tax revenue by changes in different tax rates are considered, for comparing the performance of various taxes on economic variables, the economic results should be considered.

According to the table 3 it can be said the least adverse impact on GDP is for the income tax. Although this tax has the maximum reduction effect on private consumption compared to the other taxes, but the least negative impact on investment is for income tax too. Also along with the increase in government spending we will see an increase in GDP.

Table 3- Mean of Change in GDP and its components

<table>
<thead>
<tr>
<th>Production Tax</th>
<th>Income Tax</th>
<th>Tariff</th>
<th>VAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-0.001</td>
<td>0.006</td>
<td>-0.008</td>
</tr>
<tr>
<td>Private Investment</td>
<td>-2.272</td>
<td>-0.060</td>
<td>-1.146</td>
</tr>
<tr>
<td>Private Consumption</td>
<td>-2.209</td>
<td>-2.536</td>
<td>-1.667</td>
</tr>
<tr>
<td>Net Export</td>
<td>-1.898</td>
<td>-1.416</td>
<td>-18.483</td>
</tr>
<tr>
<td>Government Expenditure</td>
<td>4.957</td>
<td>6.587</td>
<td>1.390</td>
</tr>
</tbody>
</table>

Production tax has a negative impact on private investment more than other taxes and tariff will have the least impact on government expenditure. As the table shows highest decline in GDP come from the import tax rate. Further an increase in tariff will be with the sharp decline in net exports. Considering that oil export is exogenous in the model, it would indicate a reduction of non-oil exports. It represents a chronic dependence on import of
intermediate goods by domestic production. So with the growth in the price of goods because of increasing tariff rate, net exports of these commodities will decline.

- Household welfare

As the table 4 Shows, the second place in terms of reducing household income belongs to tax on production after income tax and tariff will have the least effect. But in the long-term impact of import taxes are further so that the decrease in income of urban household will reach to 2.39% from 0.74%. And, rural household income will extend from 1.02 to 2.78 percent. Also income tax effect during the period will be more stable as it can be seen that the difference between amount of declining urban income and rural income at the beginning and end will be respectively 0.21 and 0.2 percent. Production tax other than other taxes will have a deeper impact in the long run on rural households. Because of increasing production tax, the average reduction in rural household income is 2.38%. But urban household will be affected by income tax more than other. This is due to the fact that urban households have a greater share in income tax.

| Table 4- Change in household income resulting the simulation |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                 | 1391            | 1392            | 1393            | 1394            | 1395            | 1396            | 1397            | 1398            | 1399            | 1400            | Difference of beginning and end | Mean of variation |
| ty               | UH              | -2.51           | -2.54           | -2.57           | -2.59           | -2.62           | -2.64           | -2.67           | -2.69           | -2.71           | 0.21            | -2.63           |
|                 | RH              | -2.21           | -2.24           | -2.27           | -2.29           | -2.32           | -2.34           | -2.36           | -2.38           | -2.40           | 0.20            | -2.32           |
| tm               | UH              | -0.74           | -0.92           | -1.11           | -1.29           | -1.48           | -1.66           | -1.85           | -2.03           | -2.21           | 1.65            | -1.57           |
|                 | RH              | -1.02           | -1.22           | -1.41           | -1.61           | -1.81           | -2.00           | -2.20           | -2.39           | -2.59           | 1.76            | -1.90           |
| ta               | UH              | -1.68           | -1.79           | -1.90           | -2.00           | -2.10           | -2.20           | -2.29           | -2.38           | -2.47           | -2.55           | 0.87            | -2.14           |
|                 | RH              | -1.91           | -2.02           | -2.13           | -2.24           | -2.34           | -2.45           | -2.54           | -2.64           | -2.73           | -2.82           | 0.91            | -2.38           |
| tva              | UH              | -1.54           | -1.63           | -1.72           | -1.81           | -1.89           | -1.98           | -2.05           | -2.13           | -2.20           | -2.27           | 0.74            | -1.92           |
|                 | RH              | -1.69           | -1.79           | -1.89           | -1.98           | -2.07           | -2.15           | -2.23           | -2.31           | -2.39           | -2.46           | 0.77            | -2.10           |

Non-oil economy:

Given the large share of oil revenues in government revenue, it seems that the effects of tax rate changes on the economy could be affected by neutralizing effects of oil revenue. In other words, fluctuations in tax revenue will be offset by oil revenue.

So in this section for comparing oil dependent economy with a non-oil economy, it is assumed that the share of oil revenues in total government revenues to reach a value of zero from 2001 to 2011. In addition to having an economy without oil income, oil export will be close to zero in the model during these years.
To compare the effects of taxes on the non-oil economy and oil dependent economy, we analyze multipliers when the tax rates were doubled. Figures 9, 10, 11 and 12 show different effects of changing tax rates in two models. As seen coefficients in the non-oil economy are much larger and they indicate a greater effect of taxes on GDP in the long-run. In addition, the graphs show that to increase taxes will reduce GDP in the non-oil economy. Although income tax has positive effect on GDP but this effect was associated with a decline and will have a negative amount in the end of period. In other words, finally to increase the income tax will have the contractile effect on GDP.

5. Summery and conclusion
Taxes are one of the important tools of government fiscal policy. In addition to being a source of government revenue, taxes can play an important role in the economic development of country due to its impact on the economic behavior of the private sector.

In this article, the main taxes in the Iranian economy (income tax, taxes on production, import taxes and VAT) have been studied. To evaluate the effects of taxes on the economy,
we use a general equilibrium approach. So by using a dynamic general equilibrium model, the direct effects and distributional effects of taxes have been studied.

Results concerning the impact of taxes can be summarized as follows:

Income tax is the best tax to increase government tax revenue. On the other hand, in the short run the tax will have a negative impact on production and has the least negative effect on private investment.

Comparing the share of income tax in the total tax revenue with other countries shows that Iran economy has less relied on this tax. It should be noted that along with the high rate of income tax government must raise public services to compensate the loss of household’s welfare. As a result, this tax is the worst tax in terms of households’ welfare (households’ income). On the other hand, it was shown that the effects of income tax on households and the economy in the short-run and long-run are almost similar.

Tax on production has the greatest influence on reducing the private investment. VAT will be in the second place for decreasing investment. Most of the decline in GDP is a result of a tax on imports. Reduce in net export reflects the high share of intermediate goods in import and prices will increase because of higher tariff. So in the short term, although this tax has less effective on household income, it will result in the greatest reduction in household income in the long run.

Urban households will experience more reduction in their revenues due to income tax than other taxes while, tax on production leads to the most diminution in the rural household income.

The results show that according to the targets of policymakers, any taxes can be effective. But it should be noted that in Iran's oil economy declining in private spending are to be offset by increasing government. If the oil windfalls are removed from economy, raising tax will have a negative impact on production and it would be much more than the oil dependent economy.

References


