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Analysis of general equilibrium of economic growth reaction caused by tax change subject to article 105 of the direct taxes act

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Abstract

The purpose of this paper is to analyze the empirical reaction of macroeconomic variables, including economic growth due to the change in tax rates subject to Article 105 of the Direct Tax Act. The research method is quantitative and for data analysis, the Computable General Equilibrium approach is used with GAMS software. Research data is derived from the latest Social Accounting Matrix produced by the central bank. Policy analysis is performed in the form of three scenarios: 5%, 10% and 15% reduction in tax rates. The results of the study indicate that the reduction of tax rates subject to Article 105 of the Direct Taxes Act will increase economic growth. Also, sensitivity analysis results indicate the high accuracy of the research model and reliability to the results of policy analysis. Therefore, it is recommended that the Government in Note (6) of the annual budgetary laws to reduce the tax rate of 15% subject to Article 105 of the Direct Taxes.

Keywords: Economic Growth, Country Budget Law, Computable General Equilibrium, Social Accounting Matrix, Article 105 of the Direct Taxes Act.

JEL Classification: H27, E16, C68, K36.

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1. Introduction

Governments increase their income by creating new tax bases or increasing tax rates. Also, by reducing and increasing the tax rate between some sections of the people or parts of the economy, they act to create an economic balance. Sometimes governments use tax as a financial policy to achieve some macroeconomic goals.

In Iran, tax reforms are carried out on the one hand in the form of amending tax laws and on a smaller level in the form of annual budget laws. The tax rulings of each year's budget laws can be found in its various notes, most of which can usually be read in Note (6) of each year's budget law.

In this regard, the government took action to reduce the tax rate under Article 105 of the Direct Taxes Law in note (6) of the budget law of 2022 of the whole country and in note (6) of the budget law of 2023 of the whole country, It continued and in the budget law of 2024, it has continued the rate of previous years.

Considering that the government has implemented the above financial policy with the aim of supporting production, therefore, in this paper, an attempt is made to analyze the effect of the above tax rate reform on Iran's economic growth using the computable general equilibrium (CGE) method which is appropriate to analyze the effects of tax policies to be investigated in order to scientifically validate this policy for the coming years.

2. Theoretical Framework

According to Article 105 of the Direct Taxes Law, "the sum of the income of companies and the income from the profit-making activities of other legal entities that is obtained from various sources in Iran or outside of Iran, after deducting the losses from non-exempt sources and deducting the prescribed exemptions, with the exception of cases which has a separate rate according to the provisions of this law, will be taxed at the rate of twenty-five percent (25%)".

How taxes affect economic growth is one of the most important theoretical topics in economic literature, which was first proposed by Solow (1956). In this approach, the production of an economy y, which is usually measured by gross domestic product (GDP), is determined by the use of economic inputs - the size and skill of the labor force m, and the size and technological efficiency of the capital stock k.

Solow expresses the economic growth rate as follows: $\dot{y}_i = \alpha_i \dot{k}_i + \beta_i \dot{m}_i + \mu_i$

where y represents the real growth of GDP or the economic growth of country i, k is the net investment rate (a ratio of GDP) and the change in the capital stock over time, m is the effective labor force growth rate percentage, the productivity growth of the entire economy, indicating the final capital productivity. and it shows the production elasticity of labor. Each of the variables on the right side of the above equation can be a channel for tax effects on economic growth.

3. Methodology

In this paper, to examine the tax subject of Article 105 of the Law on Direct Taxes on Iran's Economic Growth, the Computable General Equilibrium (CGE) model has been used. In CGE models, the data source is a matrix called the Social Accounting Matrix (SAM). The latest social accounting matrix of Iran is related to the year 2015, which was prepared by Central Bank in 2022, and this matrix is used as a data source in this article. Based on these data, model calibration is done to ensure the validity of the research model. Finally, the simulation of tax policy subject to Article 105 of the Direct Taxes Law is carried out in the research model. All the above actions are performed in the programming space of GAMS software. The model used in this research is the standard computable general equilibrium (CGE) model presented by Lofgren et al (2002).

4. Discussion

At first, the parametric parameters were directly calculated from the SAM matrix and the behavioral parameters were obtained from the data outside the SAM matrix. These parameters have been obtained either by using past studies or from estimates used in CGE models.

The estimation results show that the reduction of the tax rate leads to increase in investment, employment, GDP and economic growth, total supply, production, and decrease in inflation and government tax revenues in the short term and an increase it in the long term. The results are consistent with theoretical expectations.

Also, the results of the sensitivity analysis show that the model is highly accurate and the results of the increase in the tax rate on Economic Growth and other variables examined in the form of the research model can be trusted with confidence.

5. Conclusion and Suggestions

The results of the simulation of different scenarios showed that: in general, reducing the tax rate under Article 105 of the Direct Taxes Law will increase economic growth.

According to the results of the research on the positive effects of reducing the tax rate subject to Article 105 of the Direct Taxes Law on macroeconomic variables including economic growth, and considering that the increase in production and economic growth is one of the most important goals and needs of the country. It is present, so that 8% economic growth is emphasized in the 7th Development Plan; It is suggested to the government to reduce the tax rate by 15% in the bill of the second part of the budget law of 1403 of the whole country. Also, it is suggested that the government and policy makers should focus on removing business obstacles such as solving producers' insurance issues and problems, improving the business environment, political stability and policy making, and attracting foreign capital to increase investment and Pay special attention to economic growth.

6. Ethical Consideration

6.1. Compliance with ethical guidelines

All ethical guidelines have been followed in writing this article.

6.2. Funding

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6.3. Authors' Contribution

This article was written by the author alone.

6.4. Conflict of interest

There is no conflict of interest to declare from the author.