

**Investigating The Nature of Keynesian or non-Keynesian effect of fiscal policy on Private Consumption:  
An Application of the Asymmetric-TVAR model**

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**Abstract**

Giavazzi and Pagano 1990 and Perotti 1999 noted that the impact of fiscal policy on the consumption of the private sector varies in different economic conditions, and the most important factors influencing the consumption of the private sector can be named as the state of the economy in terms of recession or boom, as well as the amount of government debt. After the above-mentioned studies, the hypothesis of nonlinear fiscal policy effect on the private consumption was examined in different aspects. This study was also aimed at evaluating the subject matter of the study about the Keynesian or non-Keynesian nature of the fiscal policy using seasonal data for the Iranian economy during 1369-1395. In order to study the subject, non-linear integration and co-integration tests (STAR), nonlinear causality test (TGC) and asymmetric threshold vector autoregressive model have been used. The results of integration, co-integration and nonlinear causality tests showed that the co-integration and causality relationship of the variables follow a nonlinear process and the degree of integration of some of the variables used also has a nonlinear process. On the other hand, the results of the asymmetric threshold vector auto regression model showed that the taxes and the current government expenditures in the Iranian economy have Keynesian nature. But the government's current spending shows a non-Keynesian nature during the recession and has a Keynesian's nature during boom. Also, in terms of positive, negative, small and large shocks, it was also found that asymmetry exist in how fiscal policy shocks affect the consumption of the private sector during business cycles.

**Keywords:** Non-Keynesian effect, fiscal policy, private consumption, business cycle.

**JEL Classification:** E62 ,E32 ,G28.

**1. Introduction**

The real business cycle model predicts that the government spending shocks (which is financed by a lump-sum tax) reduces consumption of the private sector and increases employment (through the negative effect of wealth), which

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ultimately increases the returns on capital and encourages investment (Blanchard and Perotti 2002 and Perotti 2005). In contrast with the above non-Keynesian analysis, Keynes and his followers claim that after an increase in government spending, the private sector spending (due to increased income) increases and investment shrinks because the increase in private sector's consumption raises the interest rate through the financial channel for consumers with income restrictions, which ultimately leads to lower investment. The size of interest rate increase depends on monetary policy (Fatas and Mihov, 2001). This difference between the Keynesian and non-Keynesian views motivated the authors to attempt to write this article and is somehow the innovation of this study. Our goal is to examine whether the relationship between fiscal policy and private sector consumption in Iran is Keynesian or non-Keynesian.

## 2. Background

Tagkalakis (2008) divided consumers into consumers with liquidity constraints and consumers who have access to the credit market, using a two-period framework (first period for the boom and the second period for recession), showing that since during the downturn, the consumers face the problem of accessing credit markets, the government spending shocks have a greater impact on consumption during the downturn than the boom. In his empirical model, Tagkalakis considered the private sector consumption as a function of government spending shocks, taxes, and disposable incomes. Therefore, in the present study, we introduced oil shocks into the model; on the one hand, by separating government expenditures into current and capital expenditures, we developed the Tagkalakis 2008 model for the Iranian economy.

## 3. Econometric problem

The model used in this study is presented in the form of a asymmetric threshold vector autoregressive model as follows:

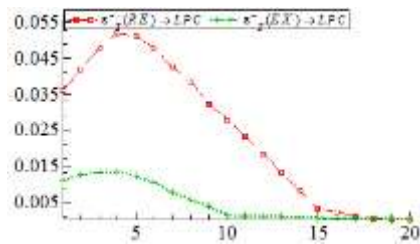
$$Y_t = \alpha_0 + \theta_1[Y_{t-i}] + \theta_2[Y_{t-i}]I(EXPANSION: if (growth_{t-i} > Z)) + \varepsilon_{1t} \quad (1)$$

$$Y_t = \alpha_1 + \theta_3[Y_{t-i}] + \theta_4[Y_{t-i}]I(RECESSION: if (growth_{t-i} < Z)) + \varepsilon_{2t} \quad (2)$$

In the above equations  $Y_t$  is the matrix of the dependent variables of the model (including the logarithm of the private sector consumption  $lpc$ , the logarithm of the current government expenditures  $ljar$ , the logarithm of capital government expenditures  $lomr$ , the logarithm of tax  $ltax$ , the logarithm of the oil revenue  $loil$ , and the logarithm of the disposable incomes  $lyd$ ), and the matrix  $Y_{t-i}$  also indicates the lags for the variables in the  $Y_t$  matrix. Also,  $(growth_{t-i} > Z)$  represents the first regime, the boom period, that  $growth$  is economic growth, and  $Z$  denotes the threshold of economic growth in the model, which leads to non-linearization of the model. If  $(growth_{t-i} < Z)$ , this indicates the second regime or the period of recession. Therefore, equation 1 represents the boom period and equation 2 represents the period of recession.

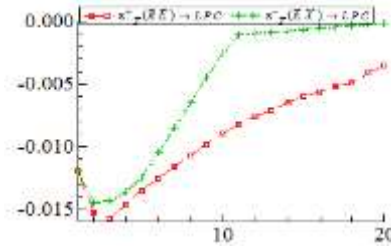
**4. Replication**

Figures 1 and 2 show that the positive and negative impact of the tax shocks on the private sector consumption is higher during the recession than in the boom period, and the tax in the Iranian economy has a Keynesian nature.



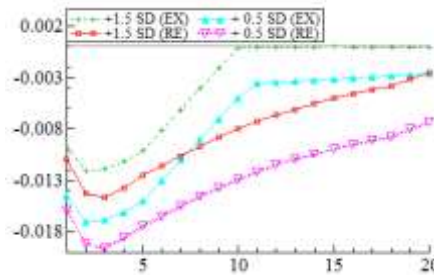
$\epsilon_T^+(EX)$ : positive tax shocks (boom),  $\epsilon_T^-(EX)$ : negative tax shocks (boom),  $\epsilon_T^+(RE)$ : positive tax shocks (recession),  $\epsilon_T^-(RE)$ : negative tax shocks (recession)

**Figure 1: Positive Tax Shocks**



**Figure 2: Negative Tax Shocks**

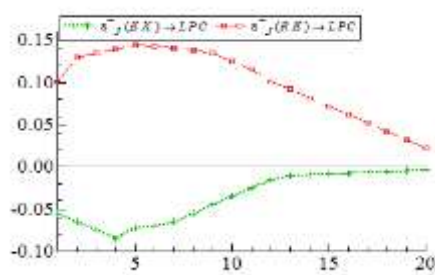
Figure 3 also suggests the asymmetrical impact of small and large tax shocks on the private sector consumption.



1.5 SD (EX): Large Tax Shocks (boom), 0.5 SD (EX) : Small Tax Shocks (boom), 1.5 SD (RE) : Large Tax Shocks (recession), 0.5 SD (RE) : Small Tax Shocks (recession)

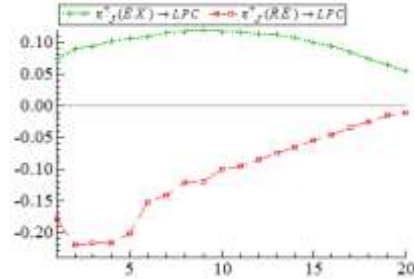
**Figure 3: Large and Small Tax Shocks**

Figures 4 and 5, on the other hand, show that the effect of the positive and negative effects of government spending shocks on the private sector consumption is greater during the recession than in the boom period. Also, the government's current expenditures during the boom and recession have a Keynesian and non-Keynesian nature, respectively.



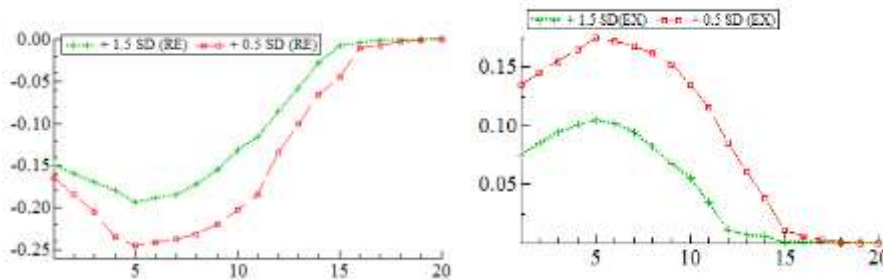
$\epsilon_j^+$  (EX): Positive Current Expenditure Shocks (boom);  
 $\epsilon_j^-$  (EX): Negative Current Expenditure Shocks (boom);  
 $\epsilon_j^+$  (RE): Positive Current Expenditure Shocks (recession);  
 $\epsilon_j^-$  (RE): Negative Current Expenditure Shocks (recession);

**Figure 4: Positive Current Expenditure Shocks**



**Figure 5: Negative Current Expenditure Shocks**

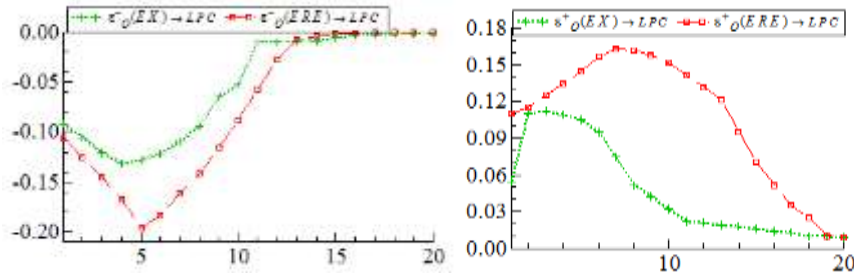
Figure 6 also shows that, in terms of the size of the shocks, the current government spending shocks have a different effect on the private sector's consumption.



1.5 SD (EX) :Large Current Expenditure Shocks) boom);  
 0.5 SD (EX) :Small Current Expenditure Shocks) boom);  
 1.5 SD (RE) :Large Current Expenditure Shocks (recession);  
 0.5 SD (RE) :Small Current Expenditure Shocks (recession);

**Figure 6: Large and Small Current Expenditure Shocks During Business Cycles**

Figures 7 and 8 show that the positive and negative effects of government capital spending on private sector consumption are greater during the downturn compared to the boom period. Besides, the government capital expenditure has a Keynesian nature.

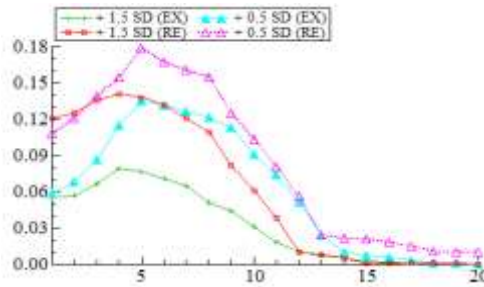


$\varepsilon_0^+(EX)$  : Positive Capital Expenditure Shocks (boom);  
 $\varepsilon_0^-(EX)$  Negative Capital Expenditure Shocks (boom);  
 $\varepsilon_0^+(RE)$  : Positive Capital Expenditure Shocks (recession);  
 $\varepsilon_0^-(RE)$  : Negative Capital Expenditure Shocks (recession);

**Figure 8: Negative Capital Expenditure Shocks**

**Figure 7: Positive Capital Expenditure Shocks**

According to Figure 9, the small and large shocks of government capital spending have an asymmetric effect on private consumption.



1.5 SD (EX) :Large Capital Expenditure Shocks (boom);  
 0.5 SD (EX) :Small Capital Expenditure Shocks (boom);  
 1.5 SD (RE) :Positive Capital Expenditure Shocks (recession);  
 0.5 SD (RE) :Small Capital Expenditure Shocks (recession);

**Figure 9: Large and Small Capital Expenditure Shocks During Business Cycles**

**5. Conclusion**

This article examined two main issues by examining the effect of fiscal shocks during the business cycles by concentrating on the asymmetrical effect of shocks. First, the nature of fiscal policy was examined in terms of taxes, the current government expenditures and the capital government expenditure. Then, the asymmetry of fiscal shocks was also examined during the business cycles.

During the Iranian economic downturn (seasonal economic growth below 2.75), since consumers faced liquidity constraints, and they were not able to transfer consumption between periods, the effect of fiscal policy on the consumption of the private sector during recession was greater than the boom period.

Therefore, Iranian economic policymakers should note that, during recession, fiscal policies have a stronger effect than in the boom period. And applying

fiscal shocks has different effects on consumption depending on their direction and size. Also, during recession, government current expenditures cannot be used as an economic stabilization tool.

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