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# FISCAL POLICY DYNAMICS, EMPLOYMENT AND CONSUMPTION

Methodological  
articles

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## Keywords

Fiscal policy  
Employment  
Consumption  
Budget deficit

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## JEL Classification

H20, H30, J20, J60

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## Abstract

*The aim of this paper is to analyse both in theory and in practice fiscal policy effects on the employment rate. For example, even if taxation is one of the main instruments of fiscal policy of the government in reducing unemployment, high taxes reduce disposable incomes of consumers, which automatically leads to lower consumption and when consumers buy less, increases the odds that the unemployment increase. To highlight this we used the comparison of a dynamic influence of fiscal policy on macroeconomic variables with the empirical results from an identified multidimensional model. Data shows a positive conditional correlation between government expenditures increase and labour force supply.*

### Introduction and literature review

Tax policy influences the labour market by designing tax systems and the structure of social benefits. There are three key indicators to be taken into account when we discuss about labour performance. These are: labour force participation, employment and unemployment. Low employment rates in many advanced economies and emerging not only reflect poor conditions at the onset of the global financial crisis, but also profound weaknesses of the labour market. Thus, for example, the 2007 unemployment substantially rose.

In advanced economies, the attention paid to fiscal policies and government spending could significantly boost employment. In the short term, unemployment could be reduced by lowering employers' social contributions.

Regarding emerging economies, the labour market situation is one less good (e.g. the Middle East - Egypt, Morocco and Jordan, where the employment rates are below 50 percent, even without being much affected by the crisis) (IMF, 2012).

Turning to fiscal policy, it should be noted that two of the common objectives of fiscal policy refers to reducing unemployment and encouraging economic growth. Unemployment has a negative impact on governments in terms of ability to generate revenue, leading to lower economic activity. When unemployment is high, there are fewer people paying taxes, there are also fewer people with disposable income to spend on goods and services. Reduction in government consumption expenditures affects the expansion and prosperity of enterprises. So, this will influence economic growth. Even if taxation is one of the main instruments of fiscal policy of the government in reducing unemployment, high taxes reduce disposable incomes of consumers, which automatically leads to lower consumption and when consumers buy less, increases the odds that the unemployment increase. On the other hand, reducing taxes and increasing spending encourages economic growth and reduction of unemployment, but the budget deficit may increase. If economic growth is high and unemployment is low, the government can raise taxes and cut spending to offset the debts accumulated during periods of low growth and high unemployment.

According to Battaglin and Elbow's work (2014) on the interaction between fiscal policy and unemployment, the economy of any state will always have unemployment, it showing a higher rate especially in a situation where the private sector will go through negative shocks. For remedy this, the government will have to come up with a series of fiscal stimulus plans, which take into account both cuts of tax and increasing of public production. In case of a healthy private sector, attention must be directed to the budget deficit.

For example, a 2-3% healthy economic growth rate could bring 150000 new jobs for unemployed people, but if unemployment rate reach a steady state of 6-7 %, it is a clear indicator which suggests that the economy itself is not strong enough to create jobs without outside interference. Despite all the government efforts to reduce the unemployment, slow economic growth made the labour market to worsen. As a result, jobless people remain with less money to spend, which create a negative spiral that could difficulty be eluded.

The first consequence of unemployment is losing purchasing power. Since people with no job will spend less money it means that even those who are working will succeed to sell less product, which will bring finally less money for their salary.

Many countries are confronted with huge unemployment rate. If today 200 million people are jobless, in 2018 it is expected that another 13 million will be in the same situation. Among all, the youth unemployment is the most problematic since even in few European developed economies the rate jump over 50%. The new created jobs are insufficient to absorb the new young workers. This reality made from unemployment an important topic for the global agenda.

Looking at this huge challenge, we can understand why Fiscal Monitor in October 2014 chose as a theme "Can fiscal policy do more for jobs?". In order to address this issue it is necessary immediate action on many areas. Especially in some European countries a reform of labour market it is demanded. Fiscal policy is just one instrument but for obtaining a positive result it is necessary more than that.

The *Fiscal Monitor* highlights three solutions:

- ✓ Fiscal policy should protect and encourage the macroeconomic conditions which have an economic positive contribution. The reduction of deficit should be managed by each country in such a way to reduce the negative collateral effects on unemployment.
- ✓ Fiscal policy can enable structural reform in the labour market by compensating the immediate costs of such reforms. It also can act as a trade-off for the people who will be affected at a larger extent by the change. In doing so, fiscal policy makers can build a common understanding of their activities and final objectives.
- ✓ An effective fiscal policy should not increase debt sustainability risk, the costs and results should be clear and measurable. It also needed a certain confidence that these reforms will be continued till the end of the program.

If we look at the OECD countries in the last 30 years, we notice the way on fiscal policy affected the employment.

So, the global financial crisis has left traces in terms of the labour market in many advanced

economies. Unemployment has risen significantly in the OECD, reaching nearly 7.5% in March 2014 (about 46 million unemployed, with 11 million more than in July 2008). Therefore, fiscal policy oriented to support employment rate by stimulating aggregate demand.

Romania managed to raise in the last 23 years more than 190 million unemployed. Romania recorded the highest unemployment rate in February 2002 - 13.5%. In that year, the monthly average of unemployment rate amounted to 11.85%. There were three years - 1994, 1999 and 2000, when unemployment never fell below 10% monthly. Overall, however, the monthly average of unemployment between February 1991 and November 2012 was 7.34%. Also, the lowest unemployment rate in the period 1991 - 2012 was recorded in the second month of 1991. Romania could boast at the time concerned with just over 65,000 unemployed and an unemployment rate of 0.60%. The unemployment rate in 2014 was 6.8%, down from 2013 when it was 7.1% and the employment rate of the working age population (15-64 years) increased in 2014 compared to 2013 with 0,9 percentage points. A worrying phenomenon, however, is the incidence of long-term unemployment among young people: 59.7% of Romanians unemployed over six months were young people, in 2014.

In the literature, the employment and fiscal policy were discussed from different perspectives. The fiscal multiplier was analysed in terms of the macroeconomic impact of government spending (i.e. spending on goods and services) for employment. Nevertheless, the literature has analysed the tax changes and government benefits in relation to labour demand and supply.

Worldwide, the employment issue is pressing. Even if increasingly greater attention is given to relationship between fiscal policy and employment, problems still exist both globally and nationally. Thus, in order to achieve a tax policy reform which could bring positive effects in terms of overcoming the unemployment problem, especially for young people, it is essential to understand what policy instruments would be useful. In this regard, the study "A Fiscal Job? An Analysis of Fiscal Policy and the Labor Market" (Bova et. Al, 2014) was analysed the impact of fiscal policy instruments on labour market outcomes in the short term, taking into account the deviations of employment growth in the long term. The research was conducted in the context of Okun's Law. Considering the fact that there are different fiscal policy tools, we found different effects on fiscal policy on labour market, profit taxes and social contributions. Also, we find that spending with subsidies and changes in social contributions can amplify the impact that fiscal policy has on employment. While the employment

coefficient of total discretionary spending is relatively small, some costs had a strong influence on employment outcomes. For example, a percentage increase of GDP spending on goods and services may lead to an increase in employment rates up to 0.4 percentage points. The results of this study show, firstly, that the choice of the optimal size of Okun's coefficient is a political choice which differs from a country to another country.

In the literature, this issue was also debated by other researchers. Tagkalakis (2013), using a structural VAR emphasis the fact that the unemployment and growth effects in Greece are quite similar in case of government expenditure and investment reductions. He found that tax increasing has negative effects on growth and employment rate. These negative effects are more important in recent years than before the crisis. Other authors investigated the effects of labour tax increasing on unemployment and growth. For instance Bassanini and Duval (2006), using OECD countries data, found that higher labour taxes conducts to increasing in unemployment rates. Cavallo (2005), Gali et al. (2007), Monacelli et al. (2010) using data from US economy, found that shocks in government expenditures have positive effects on employment. Other papers underline the fact that, in case of labour market, the impact of the wage and the non-wage component of government expenditures should be treated separately (Finn, 1998).

Alesina et al. (2002), Lane and Perotti (2003) also studied the effects of fiscal policy on growth and unemployment rate. They found that an increase in government expenses for consumption and public sector wage conducts to wage increases in the private sector with negative consequences on firm profits. This leads to future decreases in employment and investments, and implicitly, negative effects on output, income and GDP growth rate.

### Methodology

So far, the economic literature has addressed more the issue of monetary policies and its effects on economy variables than fiscal policies. There were many argued public debates on the role of fiscal policy emphasising the importance of government spending and taxation. There were discussions around the Balanced Budget Amendment in the United States and the limit of deficits in the Growth and Stability Pact under EMU, all assuming that fiscal policies are very important tools for stabilizing the fluctuation of business cycles.

The model this paper use intent to detect the influence of government spending on taxation fluctuations, thus following a more realistic picture of fiscal policy than the rule of balanced budget.

Christiano and Eichenbaum (1992) advocate for government spending inclusion in the real business

cycle model in order to bring closer to reality as this could not properly represent the observation of average labour productivity and working hours.

Fatas and Mihov (2001) argue that government spending is an important indicator which catches the shifts in fiscal policy that leads to changes in labour productivity and working hours. These two are negative correlated as an increase of hours will decrease the productivity. This problem can be addressed with the help of technological development. The model shows that when government augments the expenses, particularly invests more in development projects, labour supply increases and real wages starts to decline. It is the same mechanism of negative condition as public consumption and employment rate. Their empirical results show that both employment and consumption increases after government spending rises.

Blanchard and Perotti (1999) studied the changes of output elements to a fiscal policy impact. They estimated the elasticity of taxes fluctuations influence on output in order to surprise the responsiveness of tax components to output changes. They also tried to surprise distinct shifts in tax rates from the normal reaction of taxes to economic environment. The analysis provided the proof that spending components don't react immediately to changes in economic context.

Fatas and Mihov (2001) left aside the actual relationship between macroeconomic variables and taxes in order to compare other theories about reaction to government spending fluctuations.

As a step forward in the aria of fiscal policy the present paper is aiming to surprise the changes in output with respect to cumulative influence of labour market components: employment and unemployment rates, and also the responsiveness of budget deficit to an increase level of taxation or consumption.

Our framework is summarized this way:

$$Y_t = \sum_{i=0}^k \beta_1 Y_{t-1} + \sum_{i=0}^k \beta_2 E_{t-1} + \sum_{i=1}^k \gamma_1 E_t U_{t-1} + \sum_{i=1}^k \gamma_2 E_{t+1} U_t \quad (1)$$

Vector Y represents the macroeconomic variables of output that changes as a result of vector employment (E) or vector unemployment (U) dynamics properties impact. This correlation between output and employment or unemployment has been the subject to many studies, like the Okun's analysis (1970) on unemployment and GDP.

$\frac{(Y-\bar{Y})}{\bar{Y}} = \frac{Y}{\bar{Y}} - 1 = c(\bar{U} - U)$  (2), Y is the output and  $\bar{Y}$  - potential GDP/ real GDP rate, c is the factor of changes occurred in unemployment when growth rate varies and U is the unemployment rate. This unidirectional relationship states that 1p.p. increase in unemployment rate will lower GDP with 2 p.p.

Another approach was made by Kapsos (2005) study in which it was analysed the link between employment and output (gross domestic product, labour productivity, working hours). He defined the employment elasticity as the association between change in employment rate and change in output.

Nazara and Islam (2000) states that this way of estimating elasticities brings a lot of instability, which makes this model inappropriate for comparative purposes, so they used another one, a multivariate log-linear regression model with country dummy variables, Di, interacted with log GDP for generating the point elasticity.

$$\ln E_t = \alpha + \beta_1 \ln Y_t + \beta_2 \ln(Y_t + D_t) + \beta_3 D_t + u_t \quad (3)$$

Another model for representing the fluctuation of budget debt on the pressure of shifted fiscal policy by cutting or increasing the taxes, which subsequently will lead to a fluctuation in the level of consumption and labour supply or real wages, as they all are correlated in a negative condition.

$$D_t = \sum_{i=0}^k \beta_1 D_{t-1} + \sum_{i=0}^k \beta_2 C_{t-1} + \sum_{i=1}^k \gamma_1 C_t T_{t-1} + \sum_{i=1}^k \gamma_2 C_{t+1} T_t \quad (4)$$

D is the budget debt as a result of increased government consumption or cut taxes which will lead to a future rise of labour supply. C is the total public consumption comprising administrative expenditure and national development investments. T is a vector of fiscal policy variables and in this case it includes net taxes and a part of governmental spending. The model is a forecast with k lags and it can assume that some of the coefficient matrices are zero.

As Fatas and Mihov (2001), this study takes the government spending variables as predetermined with respect to macroeconomic shocks and unanticipated changes in taxes. Changes in government investments, administrative spending are tackled for reasons other than immediate reaction to macroeconomic conditions.

### Data description

In this section this study is trying to calibrate a regression model in order to compare our results to the ones presented in the literature.

This paper uses data for Romania, hosted by the National and European Statistical Database, INS and Eurostat, for a time period of 15 years (2000 – 2014).

We used two models that show in a tractable manner that the influences between the studies variables are caught by the next regression models:

$$\ln(Y_t) = 0,159 - 0,412 \cdot \ln(E_t) - 0,119 \cdot \ln(U_t) \quad (5)$$

This calculation both independent variables do not explain well enough the fluctuation of the output, as the determination coefficient has a very low value of 0,46. For further research, an individual study of employment influences on output, beginning with Kapsos' methodology, separating different categories of employees and their contribution to GDP's attainment and, independently, an analyse of unemployment in relation with inflation, as the Okun's coefficient is a one way flux of changes.

Another approach is to determine the level of influence of each independent variable on the dependent variable, figure 1 and 2:  $Y_t = (E_t)^{0,8} * (U_t)^{0,2}$  (6)

$$\ln(D_t) = 0,001 + 3,853 \cdot \ln(C_t) - 4,146 \cdot \ln(T_t) \quad (7)$$

Next calculation illustrates, in figure 3, the conditional correlation between consumption and fiscal policy pressure on budget deficit after a shock to government purchases. Furthermore, this model shows that even when spending is financed with debt, the level of taxes is shifted to a future decrease trend. The variable explains much more the changes in a budget deficit as the coefficient of determination has a higher value of 0,66.

### Conclusions

Concluding, we can see a large literature regarding the effects of fiscal policy on employment and economic growth, but one can easily observe different findings from country to country, from period to period, depending essentially by the structure of the economy, other macroeconomic factors and economic conditions.

This policy experiment about the deficit reaction at government spending is different from the one financed with tax shocks. While the government increases spending, financing the deficit with distortionary taxes is contractionary, as expansion in government spending can be explained for higher values of labour supply elasticity.

### Acknowledgment

„This paper was co-financed from the European Social Fund, through the Sectorial Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/138907 "Excellence in scientific interdisciplinary research, doctoral and postdoctoral, in the economic, social

and medical fields -EXCELIS", coordinator The Bucharest University of Economic Studies”.

### Acknowledgement

This work was co-financed from the European social Fund through Sectorial Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/134197 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain”

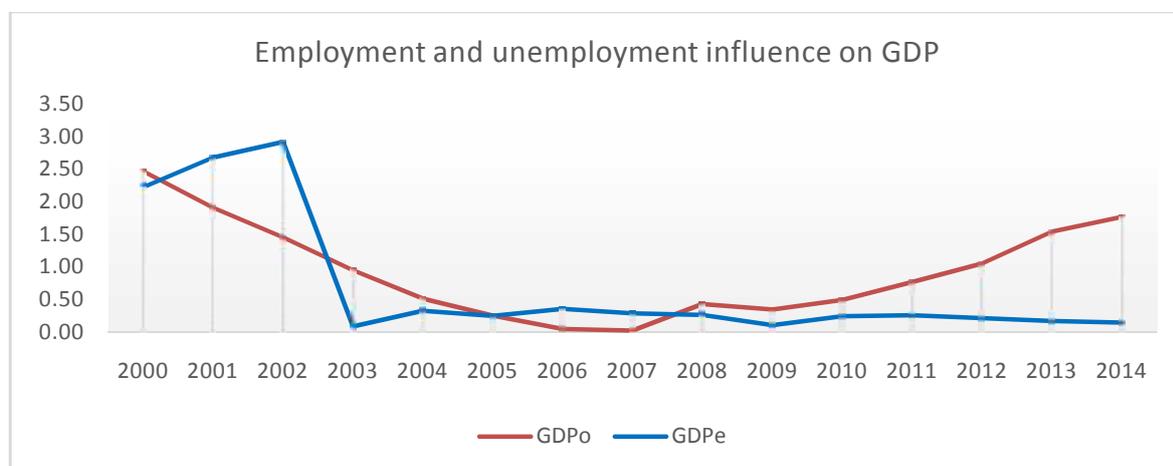
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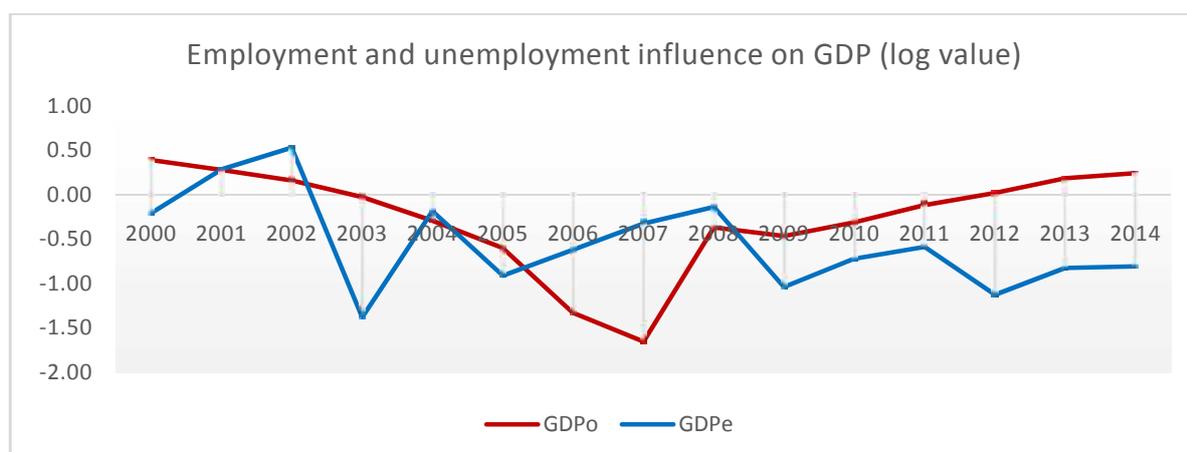
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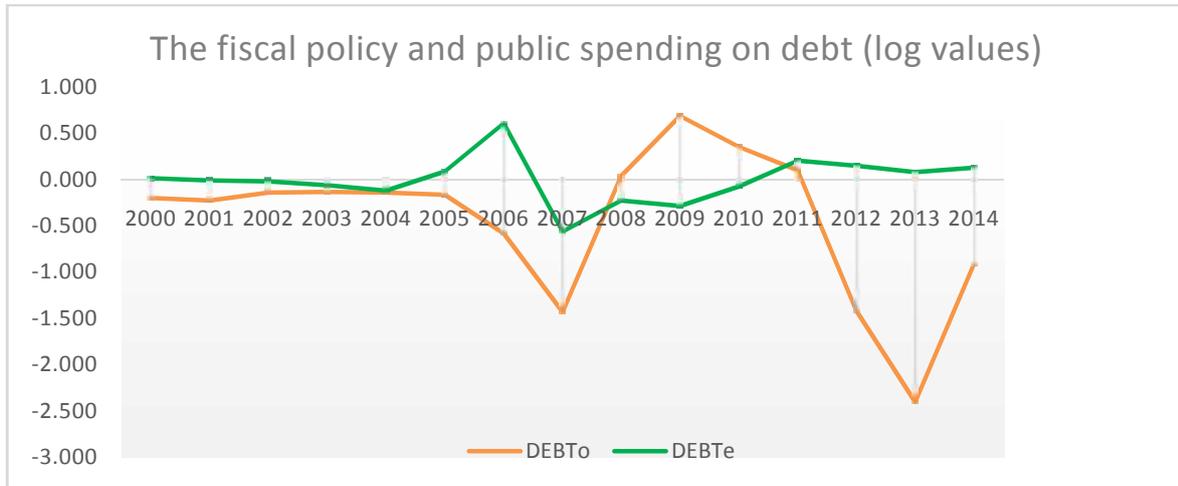
**Appendix – Figures**



Source figure: Own calculation  
 Figure No.1 – Employment and unemployment influence on GDP



Source figure: Own calculation  
 Figure No.2 – Employment and unemployment influence on GDP (log value)



Source figure: Own calculation

Figure No.3 – The fiscal policy and public spending on debt (log values)