Economic impact of a reduction in the Andalusian income tax using a computable general equilibrium model [Impacto Económico de una reducción del IRPF en Andalucía a través de un Modelo de Equilibrio General Aplicado]

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The Great Recession triggered by the financial crisis has had a severe impact on economic growth and employment around the world and especially in Europe. The high and persistent levels of unemployment reached require structural reforms that need to be accompanied by growth and employment friendly fscal policies. At the same time, fiscal consolidation is called for in many of these economies to reduce debt bias or rebuild fiscal buffers employed during the crisis. The effects of both fiscal policies and fiscal consolidation on labor market outcomes varies due to the measure adopted but also the composition of the fiscal consolidations, its length or the labor market institutions, among others. In this context, the goal of the paper is assessing the effect of a real measure on the regional economy, analyzing the variations in the main economic variables affected. The regional government of Andalusia has promoted the measure, which will consist of linear two-point drop in the regional section of the personal income tax in the budget for 2016, benefiting about three million people. Beside this effect, the resulting behavior of the unemployment rate is of a major relevance because Andalusia exhibits one of the largest unemployment rates across European Union. To do this, an intersectoral Computable General Equilibrium Model (CGE) is employed, encompassing one representative firm in each sector, a single representative consumer, one public sector and one foreign or rest of the world sector. Although the model is static, it includes a savings and investment sector whose behavior follows a simple but commonly used rule in applied general equilibrium, enabling us to account for an activity (savings from the point of view of agents as consumers and other agents, and investment from the point of view of final demand) that cannot be isolated from the flows of income the model attempts to capture. The model also include a labor

market, in which the aggregate labor supply follows the real-wage unemployment equationwhich accompanied Spain's entry into the European Community. This paper compares the results obtained to recently published data for 1985-87; we find that the model performed well in predicting the changes in relative prices and resource allocation that actually occurred, particularly if we incorporate exogenous shocks that affected the Spanish economy in 1986. We also analyze the sensitivity of the results to alternative specifications of the labor market and macroeconomic closure rules; we find that the central results are robust. (Kehoe et al. (1995)). that captures the feedback effects between the real wage and the unemployment rate. This feedback represents the frictions in the labor market that cause unemployment. The labor supply is perfectly elastic up to the level of the total labor endowment where it turns inelastic. On the other hand, in the capital market, it is assumed that supply is perfectly inelastic since this factor is not commonly thought of being utility producing for consumers in the short-term The database used in this paper is the Social Accounting Matrix (SAM) for Andalusia in year 2010. It has been developed expressly for this analysis from the lastest Input-Output Framework for Andalusia, published by the Instituto de Estadísica y Cartografía de Andalucía in 2015. The SAM comprises 34 accounts, including 24 productive sectors, 2 inputs (labor and capital), a representative consumer, a saving/investment account, a government account, the taxes accounts according to the disaggregation required by the proposed model, and a foreign sector, being available within the appendix section. Using the information contained in that database, numerical values for the parameters in the CGE model are obtained by the usual procedure of calibration, reproducing the MCS as an initial equilibrium used as a benchmark for the simulations. Notice the time-distance discrepancy between the fiscal measure and the database available, which is an unavoidable but fairly common restriction in the applied general equilibrium analysis. The results should therefore be interpreted as if that measure had taken place in 2010. The results show that the cut in personal income tax has not effect on the relative prices, the activity levels or the unemployment rate. Regarding the unemployment rate, it should be noted that positive effects described by literature do not appear because both the interaction between income and substitution effects (Gale y Samwick, 2014), or the need of a sizeable measure to generate a significant employment effect (De Mooij and Keen, 2013). The investment level exhibits a slight decrease (-0,002 p.p.) due to a fall in savings, since the increase in disposable income is intended for consumption, as consumption ratio (0,051 p.p.) reveals. The fiscal aggregates display the predicted behavior. On one hand, the direct fiscal burden decreases (-0,082 p.p.) since the cut in personal income tax; on the other hand, the public deficit increases (0,082 p.p.) due to there is not shift to other fiscal instrument, pursuing fiscal consolidation. The compensatory measure could not be needed if the cut in tax was balanced by higher tax compliance as result of a greater economic growth. Thus, the economic growth ratio exhibits a positive behavior (0,005 p.p.) but enough to compensate the loss of revenue and the slight increase of the government expenditure These results are not directly comparable with any other previous study at national or regional levels. However, it can be analyzed on the light of those studies assessing the impact of fiscal measures intended to reduce the wedge tax. At national level, Alvarez y Polo (2014) assess the effects of a reduction in Social Security contributions paid by employers is balanced with an increase in personal income tax. They find out overall positive results in terms of consumption and employment due to a fall in prices. At regional level, Cardenete (2004) analyze the effects of a hypothetical decrease of employers' contributions to Social Security until reach the European average. The results show a positive behavior of the private consumption, higher than that obtained in this study, but the size of the shock is also higher. In the context of a growth and employment friendly fiscal policy, our finding suggest that the measure promoted by the regional government could spur the growth through aggregate demand, but it not enhance the employment level, at least in the short term. In addition, although the measure could improve the welfare of the household by increasing the disposable income, the offsetting could be a higher public deficit to be funded. It would be advisable considering this measure within the framework of a fiscal consolidation that shift the financial cost to other taxes, ensuring budget neutrality and promoting employments. An alternative could be the environmental taxes, on which the regional government has exclusive competencies and whose effects are less distortive.

Andalusia

Computable general equilibrium models

Fiscal reform

Impact analysis

Social Accounting Matrix