



Fiscal stimulus and the role of wage rigidity

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ABSTRACT

In this paper we study the impact of an expansion in public spending in an economy characterized by limited asset market participation and sticky wages. The flexible wage version of the model implies strong expansionary effects on output and consumption but also a counterfactual increase in real wages. The introduction of sticky wages, besides being a realistic addition, solves this problem and preserves the expansionary effects on output and consumption. Moreover, once we introduce segmentation in the labor market, sticky wages are even essential to obtain expansionary effects.

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1. Introduction and motivation

The recent financial turmoil has sparked renewed widespread interest in the effectiveness of fiscal policy as a stabilization tool. Many countries have launched ambitious fiscal packages whose objective is to stimulate a weak macroeconomic environment. In policy circles, the use of fiscal policy has been justified on the basis of essentially two arguments (cf. Feldstein, 2009; Spilimbergo et al., 2008 among others). The first relies on the possible ineffectiveness of monetary policy in the current situation in which the interest rate is approaching the zero lower bound in several countries. When standard monetary policy is ineffective, as in a liquidity trap situation, a standard IS-LM analysis would suggest a major role for fiscal policy intervention.¹ The second argument is based on the relevance of limited asset market participation. If a significant fraction of households have no access to financial markets and cannot smooth consumption intertemporally, a fiscal stimulus can induce expansionary effects by increasing current income for agents that do not participate in financial markets. Of course, the structure of the labor market is crucial in this analysis since labor income is the largest component of current income.

In this paper we focus on this second argument that is used to justify the usefulness of a fiscal package and we investigate its validity and robustness in a dynamic stochastic general equilibrium model (DSGE) across different specifications of the labor market. Interestingly, the IMF report by Spilimbergo et al. (2008) recommends a fiscal package based on an increase in public spending and on tax cuts or transfers towards consumers that do not smooth consumption intertemporally and that, therefore, are supposed to consume any increase in current income. Our model is perfectly consistent with this policy recommendation and provides a theoretical rationale for such a measure.

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¹ A series of very recent papers consider the effectiveness of fiscal policy in a liquidity trap situation in the context of modern macroeconomic models based on optimizing behavior (see Christiano et al., 2009; Cogan et al., 2009; Eggertsson, 2009; Woodford, forthcoming, among others).

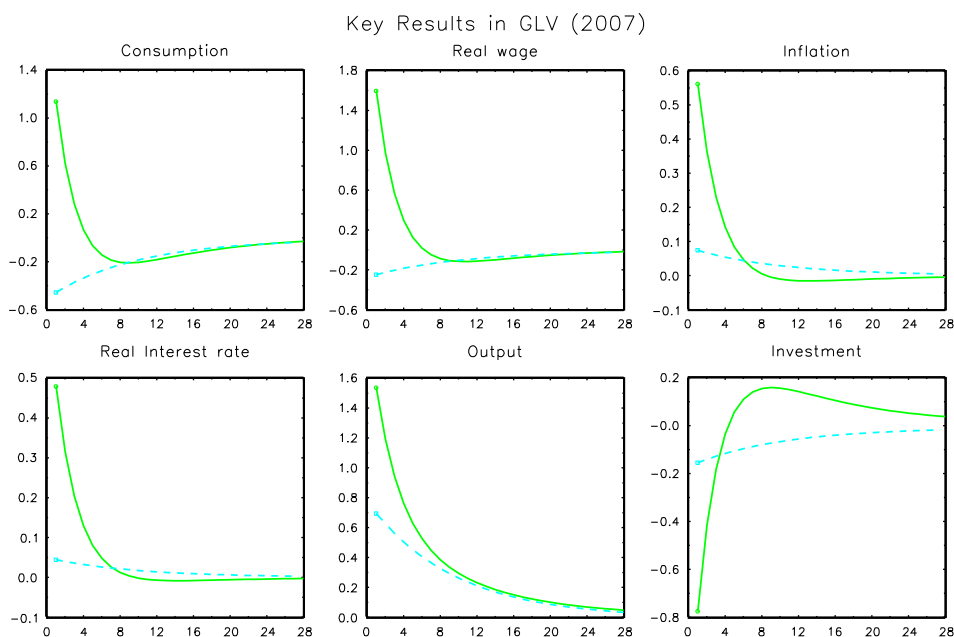


Fig. 1. The responses of key variables to a government spending shock in the GLV model with 50% of rule-of-thumb consumers (solid lines) and in the same model with no rule-of-thumb consumers (dashed lines).

While the IS-LM model easily generates expansionary effects (i.e. an output multiplier larger than one and a positive response of consumption) from an increase in government spending, it is difficult to generate the same effects in DSGE models where agents optimize their decisions in an intertemporal set-up. This is so because agents are subject to a wealth effect: when government spending increases, they rationally anticipate an increase in taxes and they cut consumption and increase labor supply (cf. Baxter and King, 1993 for a standard Real Business Cycle (RBC) model). The same mechanism applies in models with monopolistic competition and sticky prices (Linnemann and Schabert, 2003). However, in all these models agents can borrow and lend freely.

Instead, Galí, López-Salido and Valles (GLV) (2007) have proposed a model, where fiscal shocks can generate expansionary effects in a world where limited asset market participation is a relevant feature.² Following the suggestion in Mankiw (2000), GLV introduce “rule-of-thumb consumers” (ROT) into the basic New Keynesian model to explain the excessive dependence of aggregate consumption on current income compared to the predictions of the “permanent income theory”. These consumers cannot optimize intertemporally because of lack of access to financial markets. In each period, they consume their current disposable income and do not save; they coexist with optimizing agents (OPT), who take consumption decisions according to the “permanent income hypothesis”. OPT agents are more sophisticated because they can hold bonds, rent capital to firms and receive profits derived from firm ownership. The friction induced by limited asset market participation, although somewhat ad hoc, is a very simple device to limit the strength of the wealth effect and to take into account a feature that can be relevant in normal times and even further in a financial crisis.³ In the GLV model it is possible to generate an output multiplier larger than one and a positive response of consumption as long as the government spending shock is financed, at least in part, through a budget deficit and as long as there are sticky prices and monopolistic competition in the labor market. Importantly, output and consumption multipliers are strongly increasing in the number of constrained agents, as can be seen in Fig. 1.⁴ Therefore, this kind of model could justify the approval of a fiscal package in a situation where limited asset market participation is a relevant feature. The objective of this paper is to test the validity and the robustness of this conclusion across different specifications of the labor market.

We believe that this exercise is interesting for two reasons. First, in the baseline GLV model wages are assumed to be flexible. However, substantial empirical evidence indicates a large degree of nominal wage rigidity in micro-data

² In the literature, other models have been proposed to obtain expansionary effects of fiscal shocks on output and consumption (cf. Bouakez and Rebei, 2007; Linnemann and Schabert, 2005; Linnemann, 2006; Ravn et al., 2006; Jacob, 2010; Monacelli and Perotti, 2008). Estimated models based on GLV (2007) are presented in Forni et al. (2009), Coenen and Straub (2005) and López-Salido and Rabanal (2008). In Furlanetto and Seneca (forthcoming) and Furlanetto et al. (2010) we show that ROT consumers are also extremely useful in explaining productivity and investment shocks.

³ Since ROT agents do not optimize intertemporally, they are not affected by the wealth effect. Note that Ricardian equivalence does not hold in the model. In fact, it matters for ROT agents whether an increase in government spending is financed through an increase in taxation or through a budget deficit. In the first case their current income decreases, whereas in the second case it is not affected. Hence, this model enables us to study the impact of fiscal shocks that are not budget-balanced, i.e. the kind of fiscal shocks that are more plausible in reality.

⁴ In Fig. 1 the dashed line represents the standard New Keynesian model (100% of OPT agents), the solid line relates to the same model (under the same calibration) but with 50% of OPT agents and 50% of ROT agents (GLV, 2007).

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