

Leon Bettendorf

Taxation and Unemployment: an AGE approach

This paper describes the static model PACE-L which is used to simulate the effects of tax cuts on, in particular, the labour market. I have evaluated this model from the perspective of dynamic general equilibrium models (with overlapping generations). My comments focus on five topics.

1. *Dynamic issues*

Modelling intrinsic dynamic decisions (like savings, investment and human capital formation) in a static framework always creates some problems. Taking properly account of expectations about future developments requires a fully dynamic model. Furthermore, calculating the full transition path that follows a policy reform is needed when one is interested in welfare effects. Households living during the transition are known to be affected in general much more than the households active in the new steady state. However, I admit that a fully dynamic model might be a too heavy instrument in this context. Therefore, a simple alternative which I want to suggest is to consider the steady version of a fully dynamic model. After imposing the steady state conditions, a consistent one-period model results. Notice that the authors have already followed this approach in the modelling of the labour market.

2. *Unemployment risk*

The model does not make a distinction between employed and unemployed workers; each worker gets unemployed for the same fraction of his labour supply. An alternative interpretation is inspired by the explanation of unemployment in the EUTAX-model by Sorensen.¹ After the labour unions and the firms have negotiated on wages and employment, the labour market status is revealed to each person. As a consequence, decisions taken by an employed worker will differ from the ones taken by an unemployed.

3. *Closure rule*

The chosen closure rule will affect results in a static model. It is argued that savings equal investment (capital cannot be imported, at least in the short run) but I do not understand how this can be consistent with the condition that imports are not necessarily equal to exports. When the surplus on the trade balance does not equal zero, net foreign assets have to be different from zero, which implies that domestic savings cannot be equal to domestic investment. Next, what is implicitly assumed about the deficit on the

¹ <http://www.econ.ku.dk/pbs/diversefiler/eutax.pdf>.

government budget?. Finally, whereas the small open economy assumption is made for the goods markets (i.e. world prices are given), it does not hold for the capital market. The feature that the domestic interest rate can differ permanently from the rate on the world market seems not consistent in this small economy.

4. *Household heterogeneity*

In this model version household heterogeneity is limited to low and high skilled labour. For the policy analysis under consideration, heterogeneity in other dimensions might be needed. A distinction between male and female workers seems relevant in view of the highly different labour supply elasticities. Considering more age classes is interesting since the unemployment rate is the highest at the beginning and at the end of the working life. Finally, specifying marginal tax rates that rise with labour income might capture better the disincentive effects of the tax system.

5. *Simulation results*

I would like to see the simulated effects of tax cuts on sectoral variables (labour intensive versus capital intensive sectors) and on the real exchange rate. Other policies to reduce unemployment might be simulated. A natural candidate is to reduce the replacement rate of the unemployment benefits. Another proposal combines two simulations: consider an increase of the tax allowance, financed by an increase in the marginal tax rate.

I will be highly interested in further extensions and applications of the model.