Unemployment in the Netherlands
and
Modeling Macroeconomic Employment Policy

- Comments -

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It is a pleasure for me to discuss the contributions by J. Muysken and by F.A.G. den Butter. Both papers are concerned with economic analysis for policy purposes and they pay much attention to the economic significance of their findings. Rather than attempting to perform the art of full employment and design policy rules that aim at clearing the labour market, the authors stick to a more down to earth target and look for relationships and policy measures that could be used to mitigate the unemployment problem.

The paper by Muysken is in the tradition of the distribution approach to disequilibrium analysis. It contains a partial but careful analysis of the dynamics of employment and unemployment in the Netherlands in the last three decades. Den Butter reports results of fiscal and monetary policy simulations using several variants of complete, stylized macroeconomic models for the Netherlands for the period 1973-1986. These models are in the tradition of models constructed by the Dutch Central Planning Bureau.

My comments are organized as follows. First, I shall discuss the paper by J. Muysken. I shall start by summarizing the basic assumptions underlying his analysis. Then, I shall comment on these assumptions, on the empirical findings and some policy issues. In the second part, I shall summarize the main results by den Butter, comment on their significance and discuss some policy implications.

After a detailed description of the conditions on the labour market in the Netherlands since 1950, Muysken presents his model. The main assumptions underlying his model are as follows. Demand for labour and supply of labour are distributed over a continuum of micromarkets according to a log-normal distribution. Aggregation over the micromarkets results into an employment equation which can be approximated by a C.E.S. function in which the arguments are labour demand and supply. These variables are assumed to be given and not explained in the model. The parameter of the employment equation \( \Theta \) is positively related to the variance of the distribution.

Muysken extends the standard employment equation in two directions. He assumes that \( \Theta \) is variable and depends on the one period lagged unemployment rate and on a linear trend. Furthermore, he replaces labour supply in the
employment equation by effective labour supply which is defined as labour supply corrected by a factor that is negatively related to the long-term unemployment rate. Finally, the long-term unemployment rate equation is obtained from familiar definitional relationships between labour demand, labour supply, employment and vacancies, assuming that the employment probability for a long-term unemployed is a constant fraction of that of a short-term unemployed.

Some comments on the specification of the model are in order. First, generalizing the employment equation by introducing a time dependence in the variance of the distribution over micromarkets is certainly a step in the right direction. The introduction of a deterministic trend however is very questionable. A deterministic trend term can at best be a local approximation of some systematic shift in the parameter $\Theta$, but when it is used for a period of 28 years, it can have an undesirable impact on the results of the empirical analysis, in particular because employment is assumed to depend in a highly nonlinear way on this trend term. Also one has to be extremely cautious when using models with trend terms in extrapolation. It would have been preferable to model any shift in $\Theta$ by including variables which explain the shift.

Second, the substitution of labour supply by effective labour supply with a correction factor that depends on long-term unemployment leads to a relationship with negative slope between employment and long-term unemployment. The motivation given for this extension that long-term unemployed may not be considered as serious candidates for a vacant position is probably not the most plausible one.

An alternative interpretation would be the deterioration of human capital as a result of long-term unemployment. For the Netherlands, the finding that the parameter $\alpha$ of the correction factor is significantly different from zero which suggests that the correction is supported by empirical evidence, could also be related to spillover effects from the goods market. As shown in the paper, capacity utilization has been low in the Netherlands for many years and Keynesian unemployment has been important. This suggests that a large fraction of firms has been supply-constrained on the goods market. In the presence of constraints on sales, firms do not have much incentive to expand production and employment. Labour supply however has been rapidly growing in the Netherlands over the sample period. According to the employment equation, this should have lead to an expansion of employment. The correction factor mentioned above could therefore pick up the effects of spillovers from the goods market to the labour market. As long as the spillover effect of an imbalance on the goods market is not incorporated in the model, the correction factor could be needed to reconcile a growing labour supply with a stagnating employment.

An international comparison could give insight into the importance of such spillovers. For instance, it would be worthwhile to compare the Netherlands with countries in which firms have been constrained on the product market but labour supply has not increased over the period under consideration whereas long-term unemployment has. One would expect to find a value of $\alpha$ close to zero.
With respect to the results in the second part of table 2, notice that the specification for the share of long-term unemployment in total unemployment is not logically consistent with the fact that the share only takes values between zero and one. For large values of the unemployment-vacancy ratio, the implied values of the share can become larger than one. At best the specification can then be taken as a local approximation of the share equation. At worst, it will yield misleading prediction. It would be preferable to use a specification which does not have this feature such as e.g. the logit regression.

Also, the specification could be further improved by allowing for an asymmetry in the reactions of the share \( (u^t/u) \) resulting from rising or falling total unemployment respectively. That the reaction can be asymmetric becomes obvious from the following example. Assume that unemployment increases by 1 unit per time period and that after one period, an unemployed is considered as long-term unemployed. Unemployment is then determined by the following equations \( u_t = u_{t-1} + 1 \) and \( u^t_t = u^{t-1}_t + 1 \). When unemployment decreases by one unit per time period, one has for the first period \( u_t = u_{t-1} - 1 \) and \( u^t_t = u^{t-1}_t \), if one assumes that short-term unemployed are hired first and \( u^t_{t'} = u^{t-1}_{t'} - 1 \), and \( u^t_{t'} = u^{t-1}_{t'} - 1 \) for \( t' > t \).

Finally, let me come to the policy implications of the model. I agree with J. Muysken that it might be difficult to draw strong conclusions from a partial analysis. There is, however, a feature of the model which suggests that policy measures designed to reduce long-term unemployment might be at least as effective as those which aim at reducing total unemployment. By affecting the correction factor in the employment equation, a reduction of long-term unemployment has an additional positive impact on employment. One should of course realize that the size of this impact is not very accurately determined in the model as the point estimate of \( \alpha \) appears to be very sensitive to the choice of the series for the vacancies (see table 1). If the correction factor in the employment equation measures the impact of a depreciation of the stock of human capital, schooling and training programs for long-term unemployed could offset this negative effect. To the extent that the correction factor is a proxy for spillover effects from imbalances on the product market, the model should be adapted to account for these features before policy conclusions can be drawn. In that case policy measures aiming at restoring equilibrium on the goods market could also positively affect the labour market. Finally, the dynamics of labour supply, which has had a major impact on unemployment in the Netherlands in the last decades, deserves special attention when designing policies to reduce unemployment.

The analysis of den Butter is of a more general nature in the sense that he uses a complete model for the Dutch economy to assess the impact of various fiscal and monetary policy measures. The use of a core model has the advantage of making the analysis transparent at the price of a possible oversimplification. Also the use of models which include a monetary sector and those which do not helps in understanding the mechanisms by which policy measures are transmitted in these models.
The models reflect the main characteristics of those built at the Central Planning Bureau (CPB). Surprisingly the employment equation of the stylized models is more standard than that used by the CPB in its third generation models, where it adopts the distribution approach to labour market disequilibrium and derives the employment equation from aggregation over micromarkets. It would have been useful (and interesting for a conference on "The Art of Full Employment") to see how sensitive the simulation results are to adopting the distribution approach to labour market disequilibrium.

Instead of discussing other features of the models, I shall focus on the simulation results. The general conclusion of ineffectiveness of fiscal policy is consistent with results from the Mundell-Fleming model. It is also in line with findings for several European countries of the European Unemployment Project initiated by J. Drèze (see Drèze and Bean, 1989).

If one analyses the effects of fiscal and monetary policy using disequilibrium models that distinguish among various regimes (see e.g. Malinvaud, 1977), policy effectiveness is seen to be closely related to the regime in which the economy or the main sectors of the economy are. In the prototype model put forward by Malinvaud (1977), fiscal policy is ineffective under classical unemployment (firms do not have an incentive to respond to a change in government spending) but it is not under Keynesian unemployment. Evidence given by Muysken indicates that the Keynesian regime has been predominant in the period of analysis. Then, to the extent that these prototype models apply, the results on fiscal policy ineffectiveness are somewhat surprising but the finding of no important "crowding-in" effect is not. This matter deserves further attention.

When a policy instrument has (almost) not been used in the period for which the model has been built, its potential impact can not be assessed (very accurately). This may be a reason too for finding policy ineffectiveness.

It would also be interesting to run the simulations for larger changes, both positive and negative, in government expenditures, to see if the finding of only small effects is due to the size of the changes in policy instruments. This would also allow to see to what extent the model is nonlinear and its response is asymmetric.

The Ricardian equivalence of financing fiscal policy which is assumed in section 5, has implications for the methodology. If it holds true, i.e. if it makes no difference for the behaviour of economic agents whether public expenditures are financed by issuing bonds or by taxation, then this equivalence should be imposed when the model is estimated. To illustrate this point assume that consumption \( c_t \) is a linear function of real income net of the real value of the financial deficit of the government

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c_t = \alpha + \beta y^*_t,
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where \( y^*_t \) is net disposable income. Assume that the net real income is \( y^*_t = \gamma y_t \) is a fraction of real income \( y_t \), \( 0 < \gamma \leq 1 \). If one estimates a linear
relationship between $c_i$ and $y_i$, $c_i = \alpha + \beta y_i$, one gets an underestimate of the marginal propensity to consume $\beta$.

The bias for the propensity to consume may not be important but the multiplier can be strongly affected when an inappropriate income concept is used. This could also (partly) explain why policies are found to be ineffective. Notice also that it would have been more appropriate to include wealth in the consumption function and to correct wealth for the government's debt to study the Ricardian equivalence.

Monetary policy is found to have positive effects on the labour market but the fact that prices are almost not affected (see table 6) by a monetary expansion casts some doubts about the accuracy of the projections from these models. In the long run, a monetary expansion should affect the price level. Similarly, an appreciation of the exchange rate has an important impact on the labour market. This impact is possibly the result of a decrease of real wages. But one might wonder why firms would be willing to increase labour demand when the volume of income, private consumption and investments drop and exports are likely to fall (although the current account generates a surplus) (see table 7).

To conclude from the results presented by den Butter, I agree with the author that there is a lot of uncertainty about the size and in some instances also the sign of the effects of the simulations. This should not retain us from running simulations and using their results (with caution) but it should also encourage us to improve the model specification.

My comments should be interpreted as suggestions for improvement of two contributions which I found very interesting and useful.
Notes

1. Department of Economics, University of Limburg, Maastricht.

References