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PRESS RELEASE

Noname – A new quarterly model for Belgium

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This paper presents the National Bank of Belgium's new quarterly model for the Belgian economy. This model is developed as a tool for producing medium-term projections along with their risk analysis and constitutes a coherent framework for analysing policy issues. It is one of the many tools that are used to produce projections but has the advantage of serving as a guide for internally consistent thinking. The size of the model has been kept as small as possible. This results from the view that the cost of adding more and more equations to an increasingly complex model outweighs the benefits of more detailed insights.

The description of consumers' and producers' behaviour follows recent trends in the economic literature.

The model embodies overlapping generations of consumers facing a constant probability of death. In such a context, the rate at which future labour income flows are discounted is above the market interest rate. This implies that the actual households' horizon is shortened and that consequently the strong wealth effects peculiar to infinite horizon models are reduced considerably, while the influence of current income is strengthened. As a result, the extreme version of the Ricardian equivalence does not hold, since the present value of future tax changes does not completely match current adjustments in tax payments.

Firms seek to maximise profits in imperfectly competitive product and labour markets. The emphasis is put on the firms' price decisions in order to consistently account for the crucial influence of international competition on a small open economy like Belgium. Both domestic costs and foreign competitors' prices play a part in these price decisions. The relative weight of these two components is dependent on the degree of openness of the economy - as measured by the share of trade goods - and on the substitutability between domestic and foreign goods. As a result, prices for the domestic market diverge from those for foreign markets. Import prices are symmetrically determined by foreign costs and domestic competitors' prices. This pricing-to-market hypothesis entails flexible mark-ups and an incomplete exchange rate pass-through that remains present even in equilibrium.

Final demand is allocated according to relative prices which also determine imports and exports. Demand for domestic goods is then equal to domestic output which is produced by a Constant Elasticity of Substitution technology combining capital and labour with an estimated elasticity of substitution below one.

As for the public sector, current expenditure is divided into interest payments on government debt and different types of primary expenditure categories which are exogenous in real terms. Unemployment benefits are the only business cycle sensitive component. General government receipts have been split up in more detail, since they are not only important for public accounts but also for the determination of real income, labour costs and market prices.

The theoretical framework the model is based on ensures that the economy will follow a stable growth path determined by the growth of the labour supply and by the rate of labour-augmenting technical progress.

The dynamics around long-term equilibrium paths originates from delayed responses due to the cost of adjusting variables and from movements induced by changes in agents' expectations about future events. Such an explicit treatment and estimation of expectations allows to simulate the model under various expectations formations: either under model-consistent forward-looking expectations or under a backward-looking adaptive scheme.