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MANEGE: a small macro-econometric model of the French economy

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Abstract

This paper describes MANEGE, a small quarterly macro-econometric model of the French economy. The model mingles short-run Keynesian dynamics with a consistent, partly estimated, neo-classical supply side. A well-defined steady-state growth path is fully derived analytically. Standard simulations display plausible short to long-run responses to both demand and supply shocks. The model is helpful in a variety of policy analysis. To illustrate, we use our framework, first to gauge the role of factor costs in the evolution of French structural unemployment, then to evaluate relevant weights for building a Monetary Conditions Index. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

MANEGE (Modele Agregé National pour l'Etude Générale de l'Economie) is a simple quarterly macro-econometric model of the French economy designed for policy analysis and forecasting. Building on common views over the working of the economy, it considers a one-good open economy with short-run Keynesian dynamics and a neo-classical steady state specification driven by supply-side determinants. Error correction models on French national accounts data are estimated

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over the last two decades to deliver key behavioral parameters and adjustment dynamics. Overall simulations of the model display plausible short to long-run responses to standard supply and demand shocks and the model has already been used in a number of policy applications.

Our work aims at filling a relative gap in the French modeling tradition. The heavily-centralized French modeling industry has tended to focus on the construction of very large disaggregated models involving a host of subtle mechanisms and technical assumptions (e.g. the METRIC model at the Ministry of Finance). Despite a move toward smaller-scale models and efforts to disseminate the knowledge in the 1990s (see, in particular, the special issue of *Economie et Prévision*, 1998), models as a rule remain hard to comprehend outside the restricted teams of day-to-day practitioners and model-users themselves often find it cumbersome to work with very large systems. By contrast a relatively compact model providing a core of behavioral equations allows both for realism and a flexible approach to policy analysis. With a dozen econometric equations and approximately twice as more technical and accounting relationships, MANEGE provides this kind of synthetic yet pragmatic tool to handle a variety of practical model-based analyses.¹

A critical ingredient of MANEGE is a well specified and partly estimated long-run supply block. Firms decisions on prices and factor demands (labor and capital) are derived consistently from profit maximization, assuming a monopolistic competition framework, constant returns to scale with a CES technology, and the ‘right to manage’ hypothesis. We impose the relevant restrictions on the long-run coefficients in the price, employment and capital equations. In addition, the wage equation describes the outcome of a bargaining process whereby unemployment adversely affects the level of real wages. With this framework price setting by firms and wage setting by bargainers jointly determine a single rate of equilibrium unemployment. The latter is shown to depend on the tax burden, the real cost of capital and the real exchange rate. It dictates both the threshold under which inflationary pressures stem from the labor market, and the rate at which actual unemployment ultimately stabilizes in overall simulations.

The demand side of the model is fairly traditional, with households spending driven by real disposable income, interest rates and inflation. Trade volumes depend on demand as well as relative prices and capacity utilization. Production is demand-determined, which, due to significant inflation inertia and adjustment costs, entails a short-run trade-off between inflation and unemployment. Adjustment between supply and demand is secured in the long-run by the impact of goods and labor markets pressures on wage and prices as well as by the feedback effects of higher prices on private spending and net exports. Overall, simulations indicate that full crowding out of demand shocks occur in up to 5 years. Convergence to the new equilibrium may, however, take a longer time, typically 10–20 years, notably

¹ In this regard, an earlier competitor of MANEGE was the maquette Micro-DMS presented in Brilllet (1993).

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