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"Macroeconomic Modeling and Central Banking: A Progress Report".

We review the major theoretical and empirical developments of macroeconomic models in academia and central banks over the last five decades, from large-scale simultaneous-equations (LASSIE) models to Real Business Cycle (RBC) models, Vector Autoregressive (VAR) models, and finally the "Rich" Dynamic Stochastic General Equilibrium (RDSGE) models. We describe recent progress made in specifying, solving, estimating and evaluating macroeconomic models, and the practical implications of these for the use of models for policy analysis and forecasting.
We examine, from a historical perspective, the use of macroeconomic models in seven major central banks, namely, the US Federal Reserve System (FRB), European Central Bank (ECB), Bank of Canada (BoC), Bank of England (BoE), Bank of Japan (BoJ), Norges Bank (NB), Reserve Bank of New Zealand (RBNZ), and at the International Monetary Fund (IMF), with a focus on their current benchmark models. We emphasize the role of models in policy deliberations and in providing a common and disciplined platform for internal debates and external communications to the public. We argue that it is useful for a central bank to maintain a suite of models with a clear benchmark.
From our analysis, we offer a guarded optimism for the future of the practical use of RDSGE models as the benchmark or core model for policy analysis and forecasting. RDSGE models offer internally consistent, general-equilibrium accounts of effects of both shocks and systematic changes in policy, and they may outperform statistical data models such as the VARs. However, theoretical, technical and computational constraints remain, preventing such models from becoming fully operational and challenging the status of improved LASSIE models.