

Research Statement

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My research focuses on the analysis of monetary policy in the new Keynesian framework. The first paper explores the welfare implications of various policy regimes in the empirically-validated business cycle model of Smets and Wouters. The second paper examines the issue of robust monetary policy designs in two competing reference new Keynesian models with special emphasis on labor markets. The ongoing project is to investigate optimal monetary policy in new Keynesian models with labor market frictions.

The first paper, *On Targeting Frameworks and Monetary Policy* (joint with Martin Bodenstein), analyses the welfare implications of different monetary policy strategies in the empirically-validated business cycle model of Smets and Wouters. In contrast to the recent literature, we investigate policies under commitment and discretion when the policymakers objective function does not coincide with the preferences of the representative consumer. Once the preferences do not coincide with each other, discretionary policies that target the price-level or the change in the output gap outperform the standard loss function that assigns weight to deviations of inflation and the output gap from their target values. Furthermore, discretionary policies perform better than commitment policies under the simplified objectives. The intuition for this finding is simple. Consider a cost push shock that pushes up price markups. In the near term, the optimal commitment policy (under the preferences of the representative agent) calls for an inflation rate above its long-run target value that raises the price level before implementing an episode of below target inflation that in part drives back the price level. Although the (balanced growth path of the) price level may not be fully restored, the permanent change to the price level is small. If policy acts under discretion and the objective of the monetary authority does not coincide with the preferences of the representative consumer, incorporating the price level in the monetary policy objective can effectively mimic the optimal policy.

The second paper, *Wages, Employment, and Optimal monetary policy* (joint with Martin Bodenstein), investigates optimal monetary policy when the policymaker considers both a model with search and matching frictions in the labor market and a model with sticky nominal wages to be good approximations of the true data-generating process. Although the models imply similar impulse response functions for common variables under an estimated interest rate rule, these responses differ importantly when policy is set optimally in each model. Price inflation is stabilized in the search and matching model at the expense of wage inflation, with the reverse being the case in the sticky wage model. Employing the concept of optimal targeting rule, we show that a policy optimal in one model is far from optimal in the other model. When monetary policy reflects uncertainty over the true model, wage inflation stabilization features importantly as long as the policymaker assigns a moderate probability to the sticky wage model. This finding provides all the more reason for central banks to respond directly to wage inflation contrary to their public statement.

The ongoing project, *Optimal Monetary Policy with Labor Market Frictions* (joint with Martin Bodenstein), discusses aspects of the optimal monetary policy in a New Keynesian model with search and matching frictions. Going beyond the existing literature we assume that the steady state of the model may be inefficient, an assumption that opens up new conceptual and mathematical challenges. Within this framework, we characterize the optimal policy using a purely quadratic approximation to the utility function of the representative agent and derive the optimal targeting rule following the ideas discussed in Giannoni and Woodford (2010). The optimal targeting rule places weight on lead and lags of output, employment, and the price level, as well as on weighted historical averages of output, inflation and employment. Surprisingly, imposing onto the model the optimal targeting rule derived from the textbook NK model with frictionless

labor markets implies the responses in the model with search and matching frictions that closely resemble those under the optimal monetary policy. When searching for the responses in the model with search and matching frictions that minimize the simple loss function of the textbook NK model (i.e. the sum of weighted squared deviations of inflation and the output gap from their respective target values), the resulting impulse responses differ substantially from the optimal ones. Thus, optimal targeting rules seem to be more robust across models than loss functions.