

# Junzhu Zhao

Department of Economics  
National University of Singapore  
Singapore 117570

Phone: +65 84234922  
Email: [junzhuzhao@gmail.com](mailto:junzhuzhao@gmail.com)  
Website: <http://junzhuzhao.weebly.com/>

## Education

Ph.D. in Economics, National University of Singapore, 2017 (Expected).

*Dissertation:* "Essays on Monetary Policy".

*Committee:* John Ham (Chair), Martin Bodenstein (Co-Chair), Shenghao Zhu, and JungJae Park.

M.A. in Economics, Shanghai University of Finance and Economics, 2012.

B.A. in Economics, Central University of Finance and Economics, 2009.

## Research Interest

Macro and Monetary Economics, Monetary Policy, DSGE Modelling, and Labor Market

## Job Market Paper

Wages, Employment, and Optimal Monetary Policy (with Martin Bodenstein).

**Abstract:** We investigate 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.

## Working in Progress

1. On Targeting Frameworks and Monetary Policy (with Martin Bodenstein).

**Abstract:** We analyse 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 policymaker's 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.

## 2. Optimal Monetary Policy with Labor Market Frictions (with Martin Bodenstein).

**Abstract:** We discuss 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 minimise 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.

## Research Experience

Research Assistant for Prof Martin Bodenstein, National University of Singapore, 2014-2015

Research Assistant for Prof Ning Sun, Shanghai University of Finance and Economics, 2010-2011

## Teaching Experience

Spring 2014 and Spring 2015: Advanced Macroeconomic Theory, Teaching Assistant

Fall 2015 and Spring 2016: Economy of Modern China, Teaching Assistant

Fall 2014: Econometrics I, Teaching Assistant

Fall 2013: International Trade I, Teaching Assistant

## Activities

1. Summer School on DSGE Modelling, University of Surrey, UK, Sep 2015.

## Honors and Awards

09/2012 - 07/2016      *Research Scholarship*, National University of Singapore

09/2009 - 07/2010      *First Class Scholarship*, Shanghai University of Finance and Economics

## Personal

Laguages: Mandarin (Native); English (Fluent)

Skills: Matlab, Dynare, Latex, Stata

## Reference

Prof. Martin Bodenstein  
Monetary Affairs  
Federal Reserve Board  
United States of America 20551

Prof. John Ham  
Department of Economics  
National University of Singapore  
Singapore 117570

Prof. Shenghao Zhu  
Department of Economics  
National University of Singapore  
Singapore 117570

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