THREE ESSAYS ON MACROECONOMICS AND MONETARY ECONOMICS

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CERTIFICATE

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

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To my parents, Fei and Yuejiao, my husband, Amos, and all of my siblings. I love you.

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Abstract

The thesis includes three essays on macroeconomics and monetary economics. The first essay is my work in macroeconomics, particularly Chinese economy. The rest two essays are my work in monetary economics, and also the focus of my doctoral thesis. After the Global Financial Crisis, the Quantitative Easing (or unconventional monetary policy) in the U.S., Japan and other advanced economies have inspired theoretical interest in the questions of how monetary policy can affect the interest rates of money and other assets, and further affect the real economy. In the second and third essays, I build micro-founded models with money and government bonds to address those questions.

The first essay studies the real exchange rate appreciation caused by non-traded factor misallocation in China. The departure of a factor in excess supply in the non-traded sector leads to a real exchange rate appreciation, in a setup that combines the canonical Lewis Model with a Balassa-Samuelson traded/non-traded dichotomy. China is an ideal case for non-traded factor appreciation, since it has not completed its structural transformation. My model identifies non-traded goods with rural output produced in the West of China, and traded goods with manufactures produced on the Eastern Seaboard using overseas capital. According to the model, China's real exchange rate should appreciate as the *hukou* system, which acts to trap labor in the rural West, is dismantled.

The second essay develops a micro-founded model of money and bonds to address effects of monetary policy on output and unemployment. The baseline model considers both money and short-term government bonds serving as media of exchange. We analyze the effects of conventional monetary policy when Central Bank conducts open market operations (OMOs) by adjusting short-term bonds holdings. Conventional monetary policy is effective only when the short-term interest rate is positive. Then we introduce long-term government bonds to address the effects of unconventional monetary policy, particularly when the short-term interest rate hits the zero-lower bound. Quantitative analysis shows that unconventional monetary policy can reduce unemployment only when the fraction of households holding the portfolio of money and bonds is not too big.

In the third essay, we extend standard models of monetary exchange to include, in addition to currency, government bonds. We then study monetary policy, including OMOs, under various assumptions about market structure, and about the liquidity of money and bonds – i.e., their acceptability or pledgeability as media of exchange or collateral. OMOs matter because the supply of liquid assets matters. Theory delivers sharp policy predictions. It can also generate novel phenomena, like negative nominal interest rates, endogenous market segmentation, and outcomes resembling liquidity traps. We also explore explanations for differences in the liquidity of money and bonds using information theory.

Key words: Non-traded Factor Appreciation; Search Theory; Liquidity; Open Market Operations

Contents