

## Research Statement

Zhiming Fu

My primary research interest is in macroeconomics with an emphasis in the areas of fiscal policy, consumer theory, market frictions, the housing market, and the business cycle. I am currently studying two main topics: a) the impact of goods market frictions and labor market frictions on household choices and b) properties of the housing market and the government multiplier during the business cycle. The importance of market frictions, particularly in labor economics and monetary economics, has been widely addressed. My research examines the impact of market frictions on household choices. My job market paper examines the labor supply response to a tax reform in a search model. In a second paper on this topic I examine consumer choices in the presence of incomplete market and search frictions in the goods market. My research on the business cycle is motivated by the recent financial crisis due to the collapse of the subprime mortgage market in 2008. The first paper examines business cycle properties in the housing market. The second paper uses data from China to study the government spending multiplier during business cycles.

### **Labor Supply Response to Tax Reform in a Search Model with Heterogeneous Households (job market paper)**

I develop a dynamic general equilibrium model with progressive taxation, labor market search and heterogeneous households to study the impact of tax reform on labor supply and income inequality across education groups. Households differ in their education level and their time preference. The response of labor supply to tax reform is studied both at the intensive margin (hours worked) and the extensive margins (labor force participation). The quantitative results suggest that: (i) a tax reform which decreases the marginal tax rate by the same magnitude of that in the Tax Reform Act of 1986 (TRA-86), has a significant impact on households' labor supply and that approximately 65 percent of the aggregate labor supply response is along the extensive margin; (ii) household labor supply response to tax reform depends on education levels. People with less education respond more significantly along both the intensive and extensive margin while the response of people with highest education is subtle. However, the income share of the highest education group increases due to an increase in capital income after tax reform. These assertions are consistent with the empirical literature studying the effects of TRA-86 on labor supply.

### **House Prices, Intermediate Inputs and Sectorial Co-movement in the Business Cycle**

This paper examines the business cycle properties of the housing market in a multi-sector dynamic stochastic general equilibrium model with intermediate inputs and adjustment costs for capital and housing. The quantitative results replicate three main business cycle features of the housing market. First, GDP, consumption, non-residential investment, and residential investment co-move positively in the business cycle. Second, residential investment is two times more volatile than business investment. Last but the most important, I find a positive correlation

between house prices and residential investment---a result rarely observed in models without demand side shocks.

**Consumption, Saving and Income Distribution with Incomplete Market and Search Frictions in the Goods Market (work in progress)**

This paper examines the impact of search frictions in the goods market on consumption, saving, and income distribution. To achieve this, I introduce a special good, which is allocated through directed search in the goods market, into the incomplete market model, i.e., the Aiyagari (1994) model. Directed search distinguishes households by their willingness to pay and their assets. Therefore, the existence of the special good provides households an additional incentive to save. I first prove the existence of a stationary equilibrium. Next I solve the model numerically to quantify the impact of the special good on household consumption, savings, income distribution, and risk sharing.

**The Government Spending Multiplier of China during Business Cycles (with Ziguan Zhuang, work in progress)**

In this paper, we use annual aggregate data and provincial data from China to estimate the government spending multiplier during business cycles. Similar to Auerbach and Goronichenko (2012), we use regime-switching models to estimate government spending multipliers in recessions and expansions. Then, we examine the effectiveness of fiscal policies in China during business cycles.

**News Shock and the Business Cycle: the Case of China (with Ziguan Zhuang and Xiaojun Zhao, in Chinese, submitted)**

This paper measures the contribution of news shock to the fluctuations in aggregate output in China. We calibrate the model by using China 1981-2008 annual data. The model shows that the impact of technology shock and news shock on the fluctuations in aggregate output are of the same magnitude. To be specific, news shock explains 55 percent of the changes in the volatility of the aggregate output while technology shock accounts for 45 percent of the changes.

Given my current research, and the importance of market frictions in macroeconomics, there are two main areas that I plan to focus on next. The first area is consumer behavior in the presence of the labor market search and heterogeneous households. The second area is search frictions in the housing market.