RESEARCH STATEMENT

Sarah Zubairy
Department of Economics, Duke University
sz9@duke.edu

My research interests broadly lie in the areas of macroeconomics, monetary economics and applied econometrics. My current research has focused on studying issues in identification and modeling of discretionary fiscal policy. This is motivated by the renewed interest in the dynamic effects of fiscal policy actions and the fact that unlike monetary policy, there is relatively little consensus in the literature on the consequences of fiscal policy changes. One of the reasons behind this lack of consensus is the difficulty in building models that can reconcile empirical evidence concerning fiscal variables, particularly the response of consumption and wages to increased government spending. I have addressed this shortcoming of existing models by exploring a transmission mechanism for increased public spending and in one of my papers I develop and estimate a model to match empirical responses to a spending shock. However, since that work considers spending financed by lump-sum taxes, my job market paper further extends the framework to allow for distortionary taxes, and a more careful modeling of the government financing behavior. I use full information Bayesian techniques to estimate this dynamic stochastic equilibrium model, and characterize the dynamics of the economy in the case of both spending and tax changes.

My empirical work has also addressed some of the issues in identification of fiscal shocks and their propagation through the economy. This includes considering the contribution of fiscal shocks along with monetary policy shocks in driving macroeconomic fluctuations in the frequency domain, and studying the implications of considering the two policy shocks together. In addition I have looked at federal spending shocks from a regional perspective, analyzing the propagation of military and non-military spending shocks through different states. Following is a brief description of each of my papers.

On Fiscal Multipliers: Estimates from a Medium Scale DSGE Model (job market paper)

My job market paper contributes to the debate on the most effective fiscal measure to stimulate the economy, in the context of a micro-founded medium-scale dynamic stochastic general equilibrium (DSGE) model developed and estimated to explain the effects of discretionary fiscal policy. The model features a rich fiscal block including distortionary taxes on labor and capital income, detailed fiscal rules and a transmission mechanism for government spending shocks. I estimate this model using likelihood-based Bayesian methods. I find the multiplier for government spending to be 1.1, and the maximum impact is when the spending shock hits the economy. In addition, the estimated model predicts a positive response of private consumption to government spending, though small in magnitude. The multipliers for labor and capital tax on impact are 0.13 and 0.33 respectively. However, the effects of tax shocks take some to build, and exceed the effects of higher spending at horizons of 12-20 quarters. These effects of tax shocks are primarily driven by the response of investment. The results highlight the fact that multipliers vary significantly across the horizon and thus the stimulative effect in the short-run differs from effects in the longer-run. I also carry out several counterfactual exercises to show how alternative financing methods and expected monetary policy have consequences for the size of fiscal multipliers.

Explaining the Effects of Government Spending Shocks

This paper focuses on explaining the consequences of government spending shocks. I identify unanticipated government spending shocks using the insights in Blanchard and Perotti (2002) who identify government shocks based on the automatic response of fiscal variables to the state of the economy, in a structural vector-autoregression (VAR), and the alternative approach of Ramey and Shapiro (1998) who identify spending shocks as events that signal large military buildups in US history. I have put together both identification

schemes to construct spending shocks which are robust to Ramey (2008)'s criticism that the episodes of military buildup Granger-cause the structural shocks. I find that in response to an unexpected rise in government spending, output, consumption, wages and hours worked, all go up, whereas investment declines on impact. I construct a theoretical model, which features deep habits in order to overcome the fall in consumption and wages driven by negative wealth effects due to increased government spending. Deep habit formation implies that agents form habits over individual varieties of goods, as opposed to a composite consumption good (Ravn, Schmitt-Grohe, and Uribe (2006)). This new feature gives rise to counter-cyclical markups, and thus acts as a transmission mechanism for public spending shocks. I estimate this model by minimizing the difference between the impulse responses in the DSGE model and the ones implied by an identified VAR, and show that it successfully replicates the effects of a government spending shock, particularly for consumption and wages. In addition, I compare this model to one with habits at the level of aggregate consumption and show that deep habits significantly improve the fit of the model.

What is the Importance of Monetary and Fiscal Shocks in Explaining US Macroeconomic Fluctuations?, with Barbara Rossi (under review)

We analyze the role of government spending shocks along with monetary policy shocks in explaining macroeconomic fluctuations, in a structural VAR where both shocks are identified simultaneously. Our main finding is that government spending shocks are relatively more important in explaining medium cycle fluctuations (defined between 32 and 200 quarters) and monetary shocks play a larger role in explaining business cycle frequencies (between 8 and 32 quarters). The recent literature on modeling medium-scale DSGE models has found that government spending shocks are not a major driving source at business cycle frequencies. Our results corroborate these findings but point out that by focusing only on business cycle frequencies, the literature has missed the empirically important role of fiscal shocks at lower frequencies, which we uncover. We also find that failing to recognize that both monetary and fiscal policy simultaneously affect macroeconomic variables might incorrectly attribute fluctuations to the wrong source. In addition we show that government spending shocks identified via the two competing methodologies, narrative approach versus recursive ordering approach, are very different shocks in terms of their importance at business and medium cycle frequencies.

Who Benefits from Increased Government Spending? A State-Level Analysis, with Michael Owyang (under review)

The aggregate public spending multiplier does not capture the potential industrial, geographic, or demographic heterogeneity in the effects of a spending increase. Such dispersion, in addition to determining who benefits, may help us determine the channels in which fiscal stimulus acts. In this paper, we simultaneously identify two government spending shocks: military spending shocks as defined by Ramey (2008) and federal spending shocks as defined by Blanchard and Perotti (2002), and analyze the effect of these shocks on state-level personal income and employment. Our findings suggest regional patterns in the manner in which both shocks affect state-level variables. Moreover, we find differences in the propagation mechanisms for military versus nonmilitary spending shocks. The former benefits economies with larger manufacturing and retail sectors and states that receive military contracts. While nonmilitary shocks also benefit states with the proper industrial mix, they appear to stimulate economic activity in more-urban, lower-income states.

My future plans include continuing work on structural modeling of fiscal policy. I am currently working on a project with co-authors where we estimate models with different proposed transmission mechanisms for government spending shocks and compare them to see which fits the data best. These mechanisms include deep habits in public and private consumption and a fraction of the population consisting of credit constrained consumers, proposed by Gali, Lopez-Salido, and Valles (2007). In addition, an avenue of interest for me is estimating models with regime switching in fiscal policy, to consider times when the government debt was not fully backed by futures taxes, and debt issue was inflationary. Recent work on Markov switching in monetary and fiscal policy by Davig and Leeper (2009) point towards interesting interactions between the two. I am also eager to broaden my horizon by exploring new research agendas with my colleagues and working in a highly interactive research environment.

References

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