Austerity and Bank Lending Behavior

Brief Summary of Preliminary Findings

So far, what I have found is that austerity policy shocks from 1978 to 2007 have a negative effect on bank lending to the private sector. Most of this can be explained by its effects during a boom, which are even more significantly negative. Interestingly, but unsurprisingly, during a slump, austerity shocks are statistically insignificant. When decomposing private lending by banks, we see that most of the fall in total lending is explained by the fall in real household lending. Contrasting to the real lending per capita, we see that during a boom, the effect is statistically insignificant but during a slump it is strongly negative. Interestingly, lending to non-financial businesses is not found to be statistically significant throughout the full sample or during a boom or slump. We can see that the real mortgage lending in the full sample mimics the effects of austerity shocks on real lending per capita but this relation disappears when controlling for the state of the economy. In fact, during a slump, we see that only the first periods are statistically significant but overall show a strong negative effect while there is no statistically significant effect during a boom. The IRF graphs are below in the following pages.

The next steps I will do are to incorporate new state dependencies: high vs low interest rates, expansion vs recession, etc... as well as bifurcate the fiscal consolidation shocks between tax-based and spending-based.

Data

The narrative-identified fiscal consolidation shocks spanning 1978 to 2019 with estimates of the *size* of these fiscal consolidations are from Jordà and A. Taylor 2024 but originally constructed and provided by Guajardo, Leigh, and Pescatori. The data used to measure bank lending behavior are total loans, loans to households, loans to corporates, total mortgages, loans-to-deposits from the 6th release of the Jordà-Schularick-Taylor Macrohistory dataset. Furthermore, the cyclically-adjusted primary balance data is from the OECD.

The methodology used follows the procedures from Jordà and A. M. Taylor 2016. First, I use the austerity shock size variable to instrument for the treatment dCAPB. I then use local projections to estimate the multiplier effect of this on different aggregate debt levels. I will add more dependent variables as the project progresses. 95 percent confidence bands and the joint test are shown. This is specifically replicated code from Jordà and A. Taylor 2024. I exclude any data from beyond 2007 to omit the effects of the global financial crisis.

Controls

x1 = l1d.y, x2 = l2d.y, x3 = l1.dCAPB, x4 = l2.dCAPB, x5 = l.yhpcyc, x6 = ld.debtgdp, x7 = l.stir , x8 = l.ltrate, x9 = l.cay, x10 = l.dlcpi

where y = real gdp per capita

Equations

IV First Stage Equation

$$SdCAPB_{it,h} = \pi_{0h} + \pi_{1h}\, size_{it} + \gamma'_h X_{it} + \varepsilon_{it,h} \tag{1}$$

Second Stage Long Difference Local Projection Equation

$$S_{it,h}y = \alpha_h^{LD} + \beta_h^{LD}\widehat{SdCAP}B_{it,h} + \gamma_h^{LD}X_{it} + u_{it,h}^{LD} \tag{2}$$

Multiplier Calculation - General Formula

$$m(h) = \frac{\text{cumulative response of } S_{it,h}y}{\text{cumulative response of } SdCAPB_{it,h}} \tag{3}$$

Averaged Multiplier Estimate

$$m(h) = \frac{\sum_{h=0}^{4} \beta_h^{LD}}{5} \tag{4}$$

Preliminary Results

Here are the IRFs for the **multipliers** I mentioned in the previous email.
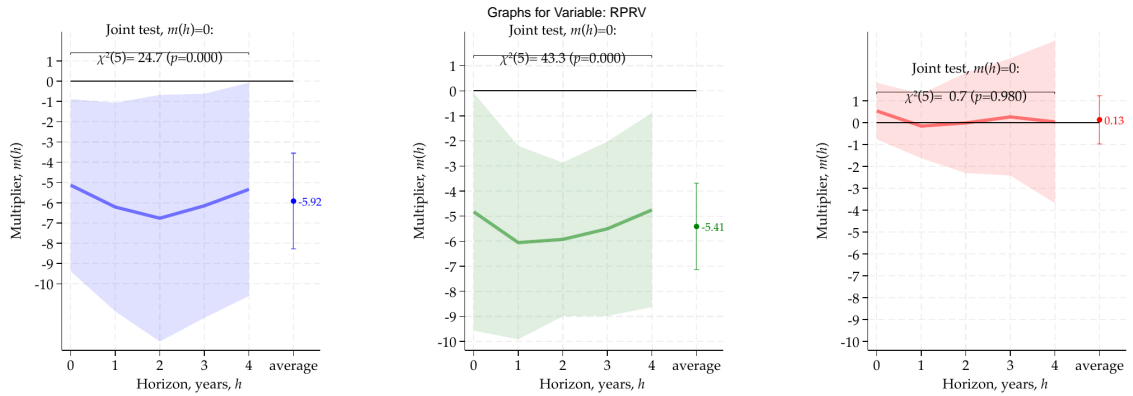

Figure 1: Real Lending Per Capita; Blue is full, green is boom, and red is slump.
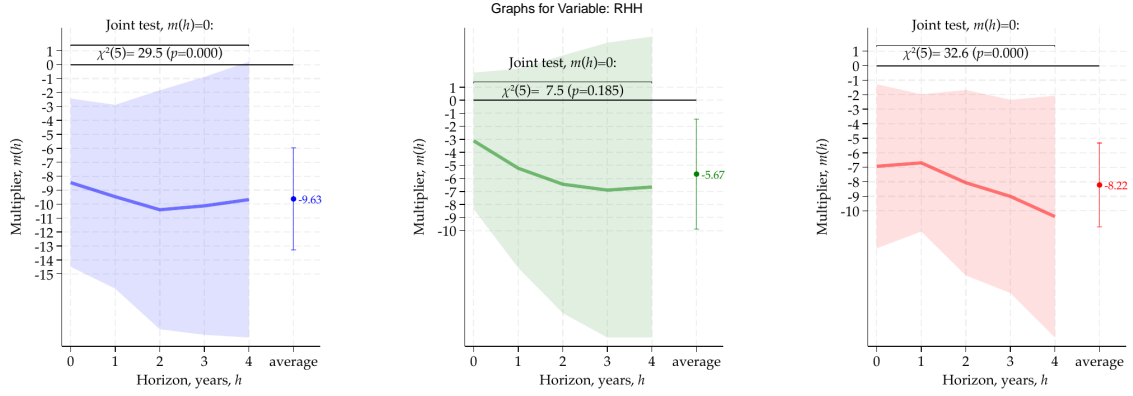
Figure 2: Real Household Debt per Capita; Blue is full, green is boom, and red is slump.
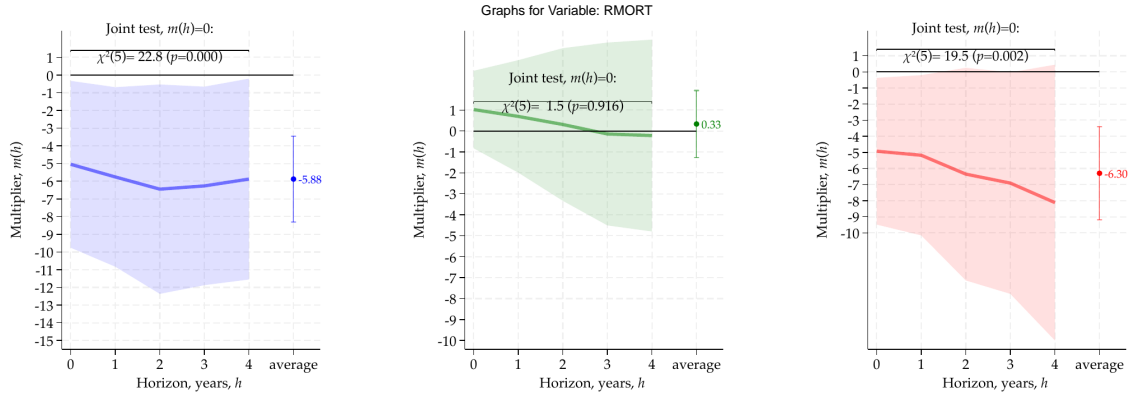

Figure 3: Real Mortgages per Capita; Blue is full, green is boom, and red is slump.
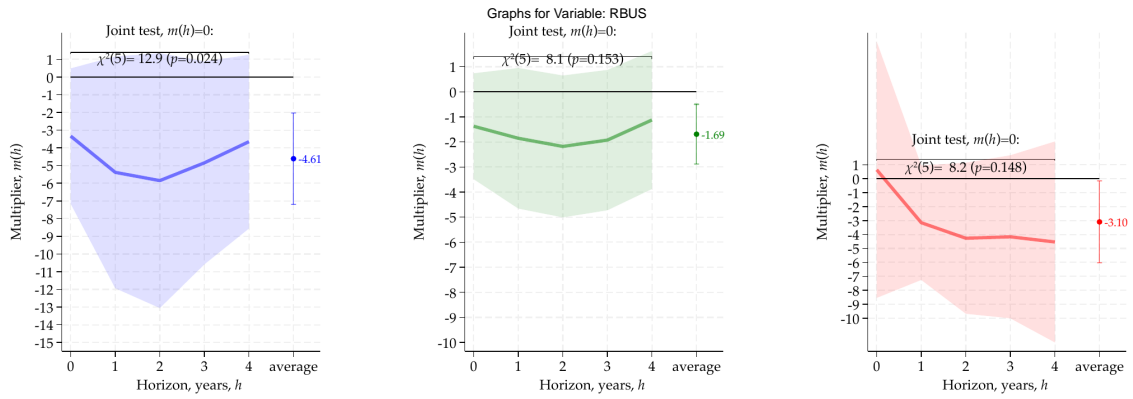

Figure 4: Real Business Debt per Capita; Blue is full, green is boom, and red is slump.

Bibliography

Jordà, Òscar and Alan Taylor (Aug. 2024). *Local Projections.* w32822. Cambridge, MA: National Bureau of Economic Research, w32822. DOI: 10.3386/w32822. URL: http://www.nber.org/papers/w32822.pdf (visited on 08/25/2024).

Jordà, Òscar and Alan M. Taylor (Feb. 1, 2016). "The Time for Austerity: Estimating the Average Treatment Effect of Fiscal Policy". In: *The Economic Journal* 126.590, pp. 219–255. ISSN: 0013-0133, 1468-0297. DOI: 10.1111/ecoj.12332. URL: https://academic.oup.com/ej/article/126/590/219/5077421 (visited on 08/11/2024).