Discussion of "Housing Prices and Consumer Spending: The Bank Balance Sheet Channel" by Nuno Paixão

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Research Question

How much of the house price and consumption contractions during the Great Recession were generated by bank balance sheet deterioration?

Overview

Methods

Empirical

- ▶ Measure impact of capital ratio decline on lending.

- ▶ Shocks originate in housing market, and impact credit supply and bank balance sheets.

- ▶ Instrument with structural breaks in house prices between 2000 to 2006 (Charles, Hurst, and Notowidigdo; 2017)

Theoretical

- ▶ Structural macro model with endogenous bank balance sheet channel.

- ▶ Credit supply depends on household creditworthiness *and* aggregate capitalization of banks.

Overview

Results

Empirical: A house price decline that decreases the capital ratio by 1ppt:

- Lowers house purchase loan originations by 10.5%.

- Lowers home refinances by 15.2%.

Theoretical: Endogenous response of banking sector:

- Amplifies drop in house prices by 13%.

- Amplifies increase in foreclosures by 9%.

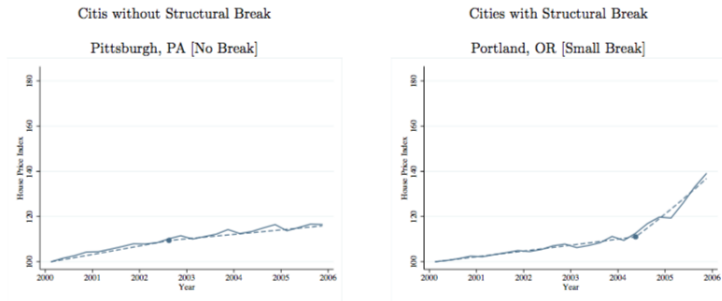- Amplifies decrease in consumption by 22%.

Comments

Comments

- ▶ Well-executed and carefully explained.

- ▶ Structural model captures important features of household choice problem and banking sector.

- ▶ Uses causal inference to capture effect of capital ratio decline.
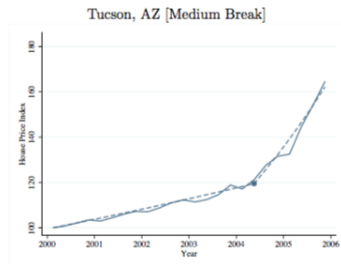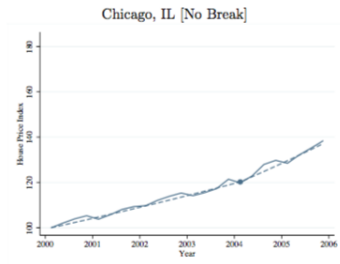
Comment #1

Instrument Exogeneity

Figure 7: Variation in Structural Break Across Cities

Note: Figure taken from Charles, Hurst, and Notowidigdo (2017).
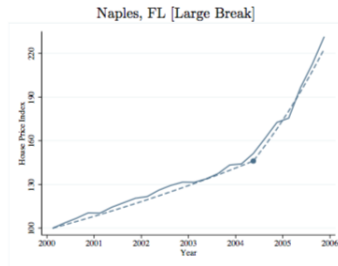
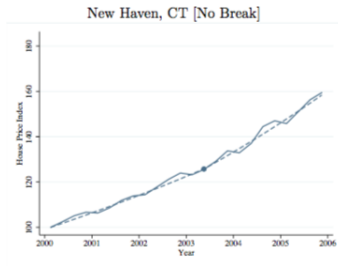# Comment #1

Instrument Exogeneity

Note: Figure taken from Charles, Hurst, and Notowidigdo (2017).

Comment #1

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Comment #1

Charles, Hurst, Notowidigdo (2017)

► Instrument constructed using structural breaks in house price growth.

► Plausibly exogenous to <u>labor market</u> confounds.

Comment #1

Mian and Sufi (2009)

The expansion in mortgage credit from 2002 to 2005 to subprime ZIP codes occurs despite sharply declining relative (and in some cases absolute) income growth in these neighborhoods.

Comment #1

Instrument Exogeneity

- ▶ Speculation that generated structural breaks likely related to financial sector.

- ▶ Relationship between income and credit breaks down prior to financial crisis, severing link between labor market and house prices.

- ▶ Relationship between financial sector and house prices is unlikely to have changed.

Comment #1

Instrument Exogeneity

▶ Paper addresses this issue by excluding predicted effect attributable to county where mortgage origination is measured.

▶ This yields the impact on credit supply of shocks that affect bank as a whole.

▶ Still possible that instrument not exogenous.

Comment #2

Spatial Correlation: TD Bank

Spatial Correlation: SunTrust Bank

Comment #1

Instrument Exogeneity

- Across branch, within-bank correlation in lending policy.

- Endogenous selection into speculative housing markets.

Comment #2

Capital-to-Asset Ratio

► The model is structured around the aggregate capital-to-asset ratio, but it is unclear how important this is.

► As the paper notes, "exogenous changes in house prices impacted balance sheet variables, including net charge-offs, provisions, and late loans..."

Comment #2

Capital-to-Asset Ratio

Table 1: Variation in Capital to Assets Ratio

	Mean	SD	Median	Perc10	Perc90
Capital Ratio - Weighted					
2006	14.4102	6.8702	12.523	10.6074	18.9267
2009	13.0172	5.5591	12.4066	9.2284	17.8725
Changes Capital Ratio - Unweighted					
2006-2009	-1.1767	7.1829	-.1076	-3.6732	1.4572
Δ2006-2009	-1.481	8.6879	-.3291	-5.4247	1.3389
Changes Capital Ratio - Weighted					
2006-2009	-.5429	3.9144	-.3101	-2.1024	1.8451
Δ2006-2009	-.1361	4.4029	.3226	-2.2392	1.8627

Source: Call Reports. Capital to Assets Ratio weighted by total assets in 2005

Comment #2

Capital-to-Asset Ratio

► The mean capital-to-asset ratio only changes from 14.4 to 13.0 between 2006 and 2009.

► There is much more cross-sectional variation between the 10th (10.6) and 90th (18.0) percentiles in 2006.

► What is most important: The mean ratio? The mean size of the ratio change? The ratio of banks in the left tail?

► How should we think of forced bank recapitalizations?

Comment #3

Model Implications

- ► Gertler-Kiyotaki (2011)-style banking frictions imply that banks pay quadric cost that increases in the deviation from regulator's target.

- ► This yields a funding cost that depends quadratically on the capital ratio, which is the same for each bank in equilibrium.

- ► What does this imply for the functional form of the tests in the empirical section?

- ► How important is it that the model abstracts away from the high degree of heterogeneity in capital-to-asset ratios?

Comment #4

Mortgage Spreads

► Mortgage spread rises in late 2008, but only because 10-year treasury bill drops faster than the 30-year fixed rate mortgage.

► This suggests that the mechanism at play isn't a deterioration of the capital-to-asset ratio, but rather, a combination of monetary policy and demand for safe assets.

Comment #4

Mortgage Spreads

Shaded areas indicate U.S. recessions   **Sources: Board of Governors, FHLMC**   myf.red/g/lapf