

Comments on

“Financing Constraints and Unemployment:
Evidence from the Great Recession”

Prepared for BU/Boston Federal Reserve Conference on
Macrofinance Linkages

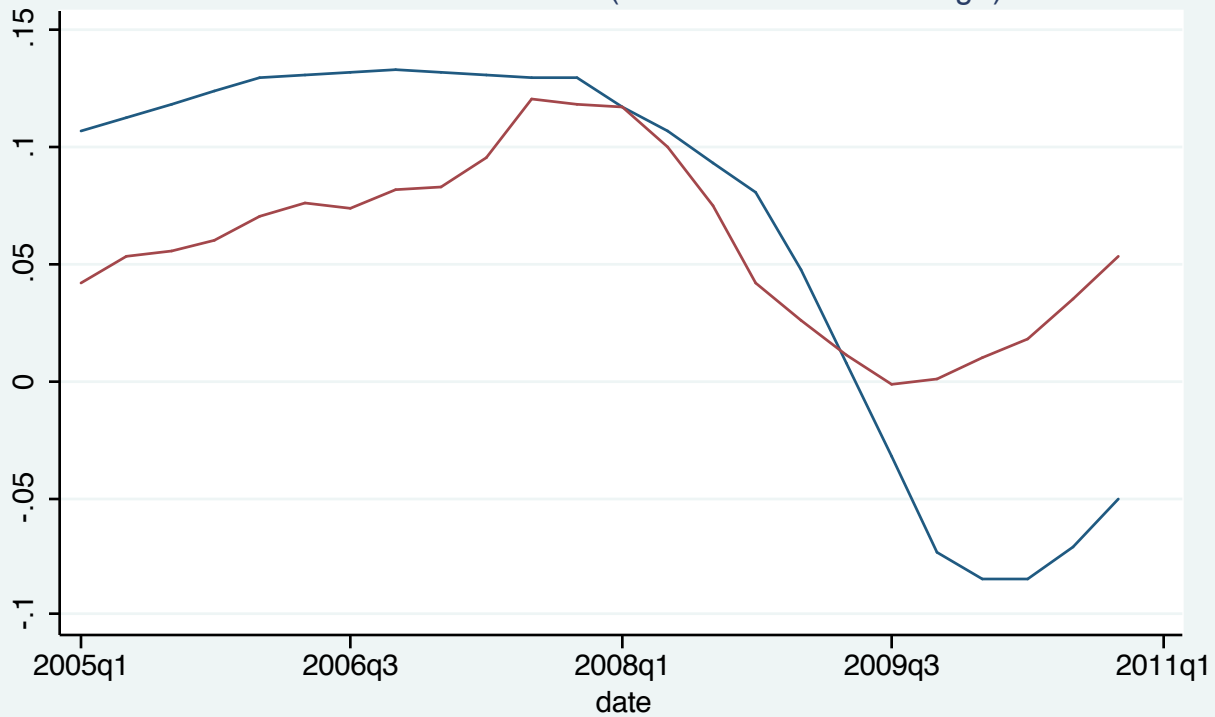
Simon Gilchrist

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Overview:

- Question: are workers employed at small firms more likely to experience unemployment during the Great Recession?
- Mechanism: Small firms have rely heavily on bank loans and have less access to capital during financial crisis.
- To the extent that employment is sensitive to borrowing conditions, small bank-dependent firms are more likely to fire workers.

Growth in Business Debt (Year over Year %Change)



— Non Corporate — Corporate

Methodology:

- CPS Data: March Survey provides information on firm size.
- Examine the effect of firm size on unemployment of workers during Great Recession relative to normal times.
- Control for industry differences by comparing within-industry difference between small and large firms.
- Compare across industries based on degree of financial dependence.

Main Finding:

- Unemployment of workers previously employed at small firms increased more than unemployment of workers previously employed at large firms.
- But only for industries with high degree of external finance dependence.

Robustness exercises:

- Strength of results decline monotonically with firm size.
- Results are robust to alternative measures of financial dependence:
 - Industries ranked by dependence of small firms on bank finance.
- Placebo test: Results do not hold for 2001 recession.

Main concern with estimation:

- Paper seeks to control for demand-based alternative stories for why small firms may react differently to large firms. This includes controlling for region and industry fixed effects.
- Such fixed effects do not control for the varying demand channels over the cycle however.
- To do this one needs to include a full set of industry and region-specific time dummies.
- One could also allow small-firm coefficient to vary over time to assess issues related to timing of recessionary effects.

Quantitative Effects:

- Estimation results imply differential effect of unemployment on small vs large firms can account for job loss of 850,000 workers during recession.
- This translates into 0.55% increase in unemployment.
- How big is this relative to total job loss?
 - Total job loss is on the order of 7 million.
 - The differential effect on employment is 12% of actual jobs lost.
- How big is this in comparison to job loss relative to trend?
 - Job gains should be on the order of 7 million workers since Dec 2007.
 - So the U.S economy has lost 14 million jobs relative to trend.
 - The differential effect on unemployment is 6% of this total job loss relative to trend.

What effects might be missing?

- Estimates do not capture the effect on employment of small firms that do not hire new workers owing to financial pressures.
- Example:
 - Small firm fires worker, worker moves to large firm, large firm fires a worker.
 - No net change in employment at large firms.
 - Reduction in employment at small firm.
- Estimates also miss new jobs created by small firms that would have started up during this time period if financing were available.

Facts on small vs large firms over the business cycle

- Gertler-Gilchrist (1996): Small firms contract more in response to monetary tightenings.
- Chari et. al (2008): Large firms contract more during recessions.
 - Romer episodes precede most recessions however.
- Moscarini and Postal-Vinay (2010): “Large firms are more cyclical”.

Data:

- BDS Annual Data available from 1979-2005. Very close match to BLS Non-Farm Business Employment.
- BEDS Quarterly Data available from 1992-2010. Dynamic-sizing issues might contaminate growth for small firms.
- Construct annual data series over 1979-2010 period by combining BDS/BEDS total employment growth with BDS/BDS Large firm employment growth:

$$G_{Small} = \frac{1}{\alpha}G_{All} - \frac{1 - \alpha}{\alpha}G_{Large}$$

Small defined as employment < 500 so $\alpha = 0.45$.

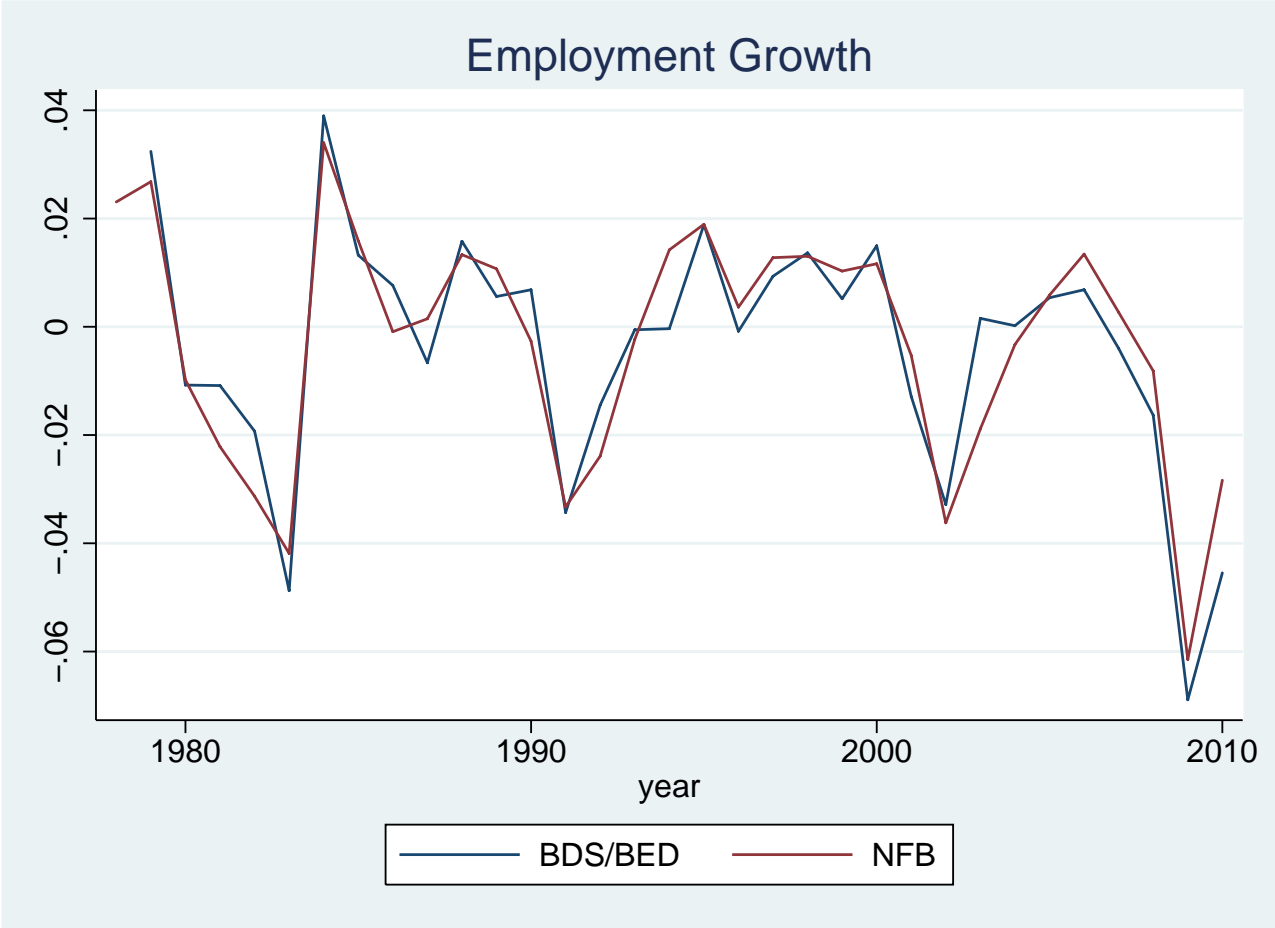


Figure 2:

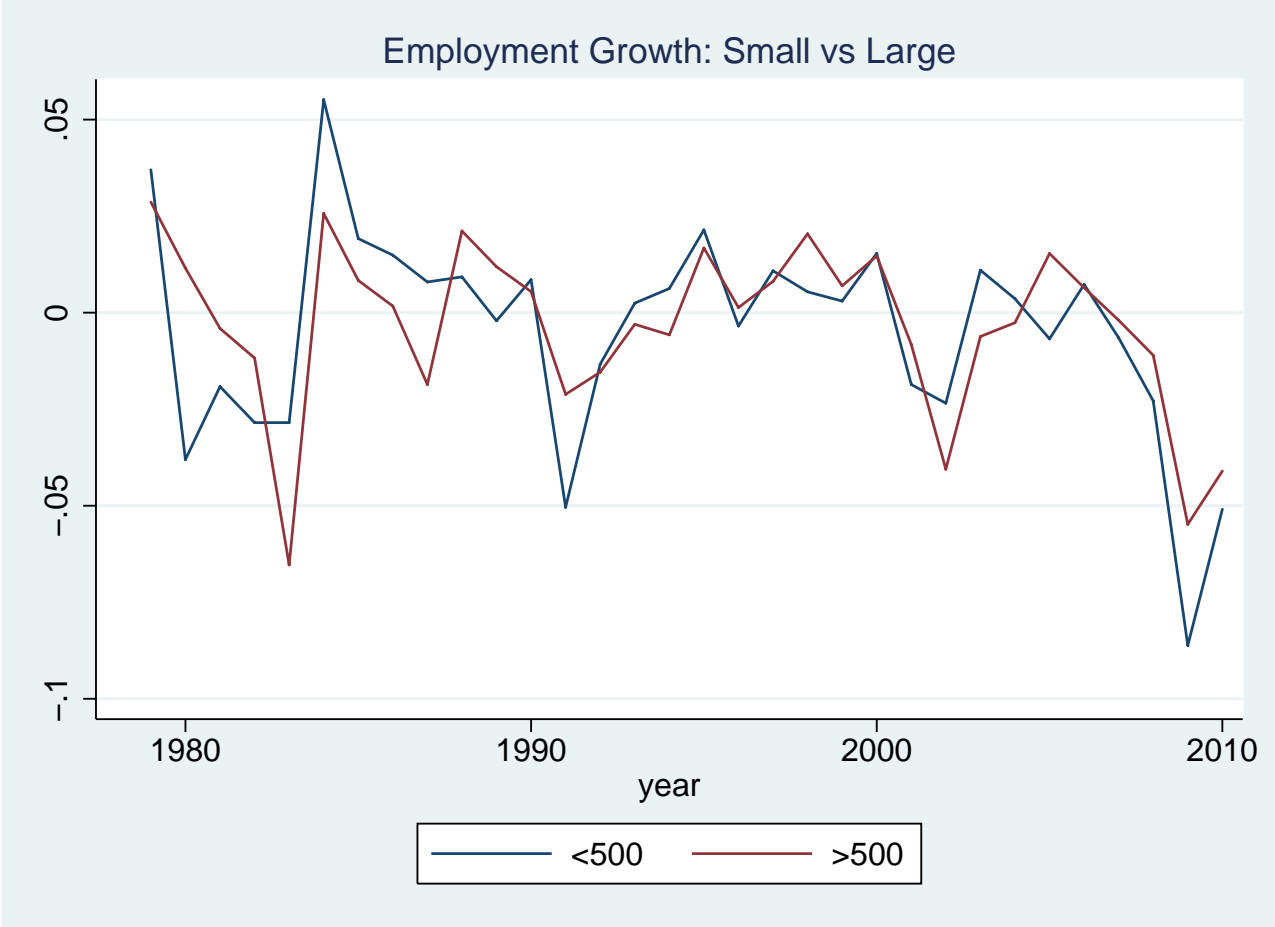


Figure 3:

Cross-Correlations: GDP vs Employment Growth (1979–2010)

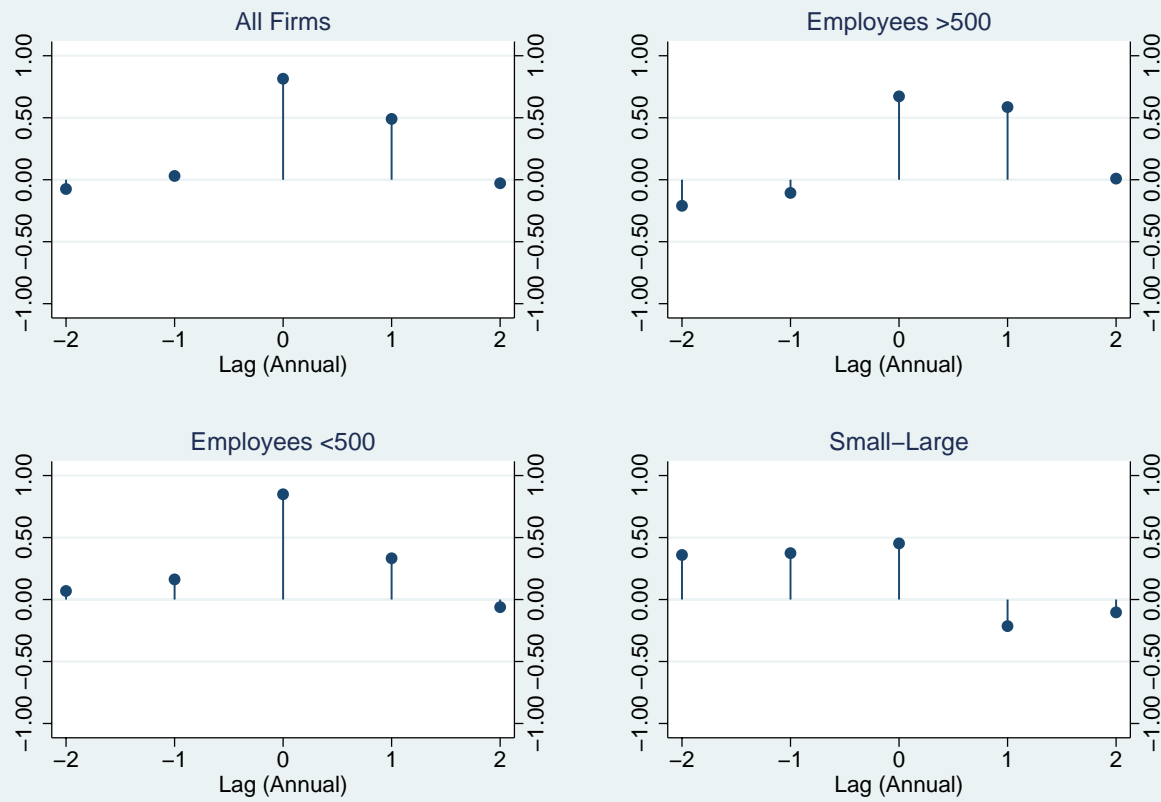


Figure 4:

Covariance with GDP

Sample		$\Delta LGDP_t$	R^2
1979-2010	Small Firm Employment Growth	1.03 (0.11)	0.71
	Large Firm Employment Growth	0.66 (0.12)	0.43
1979-2005	Small Firm Employment Growth	0.92 (0.11)	0.70
	Large Firm Employment Growth	0.60 (0.12)	0.35

Cross-Correlations: Unemployment vs Employment Growth (1979–2010)

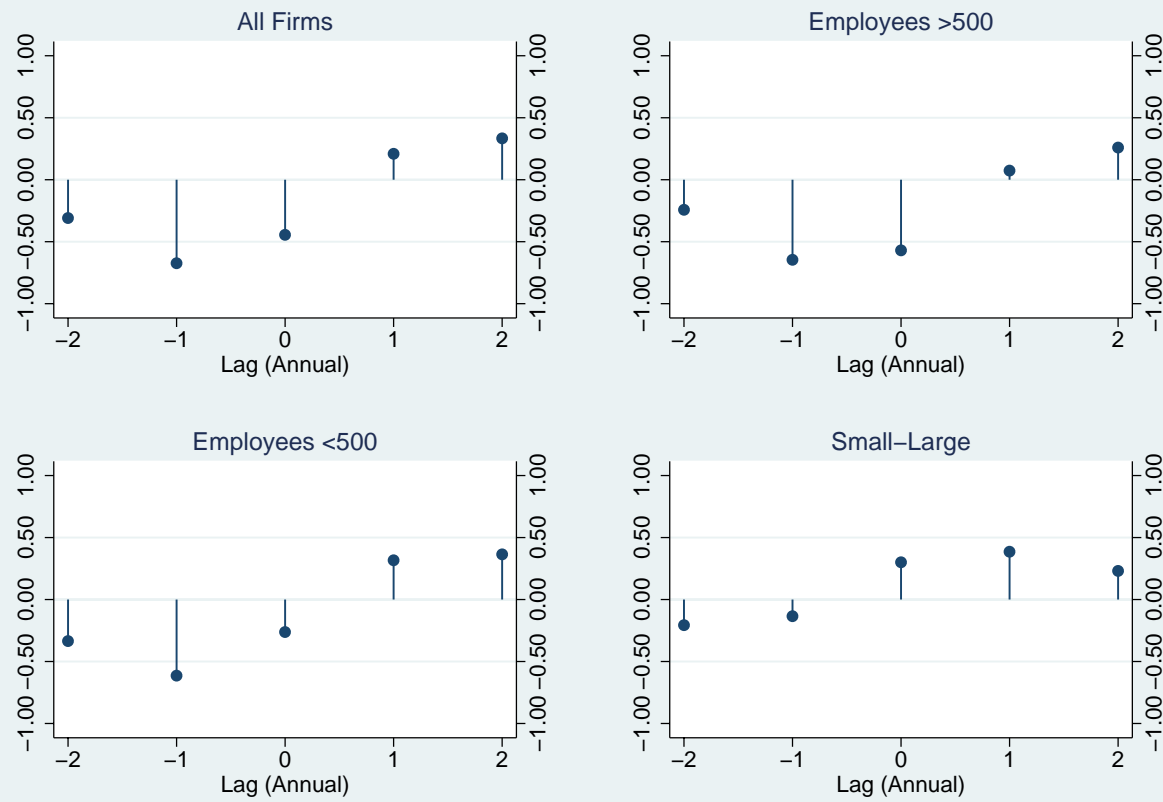


Figure 5:

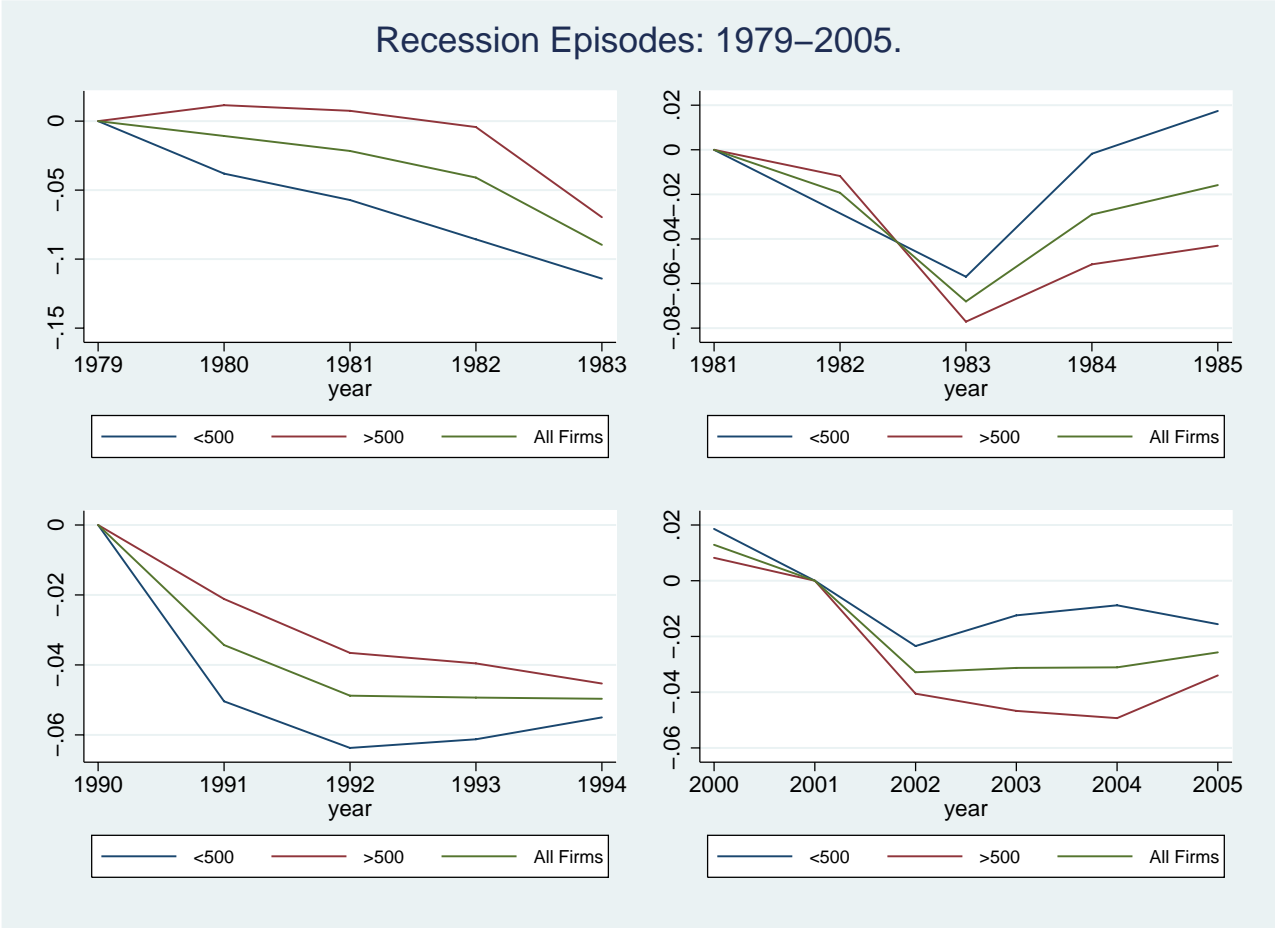


Figure 6:

Recession Episodes: 1979–2005.

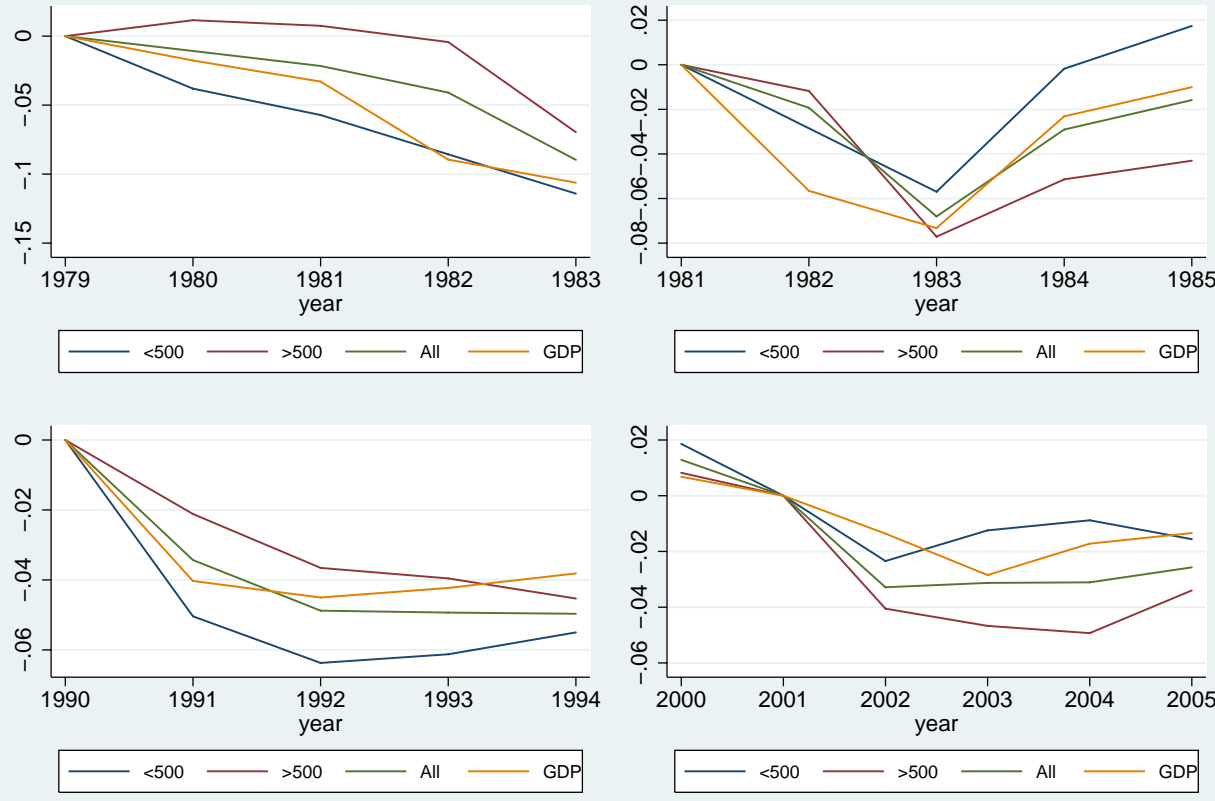


Figure 7:

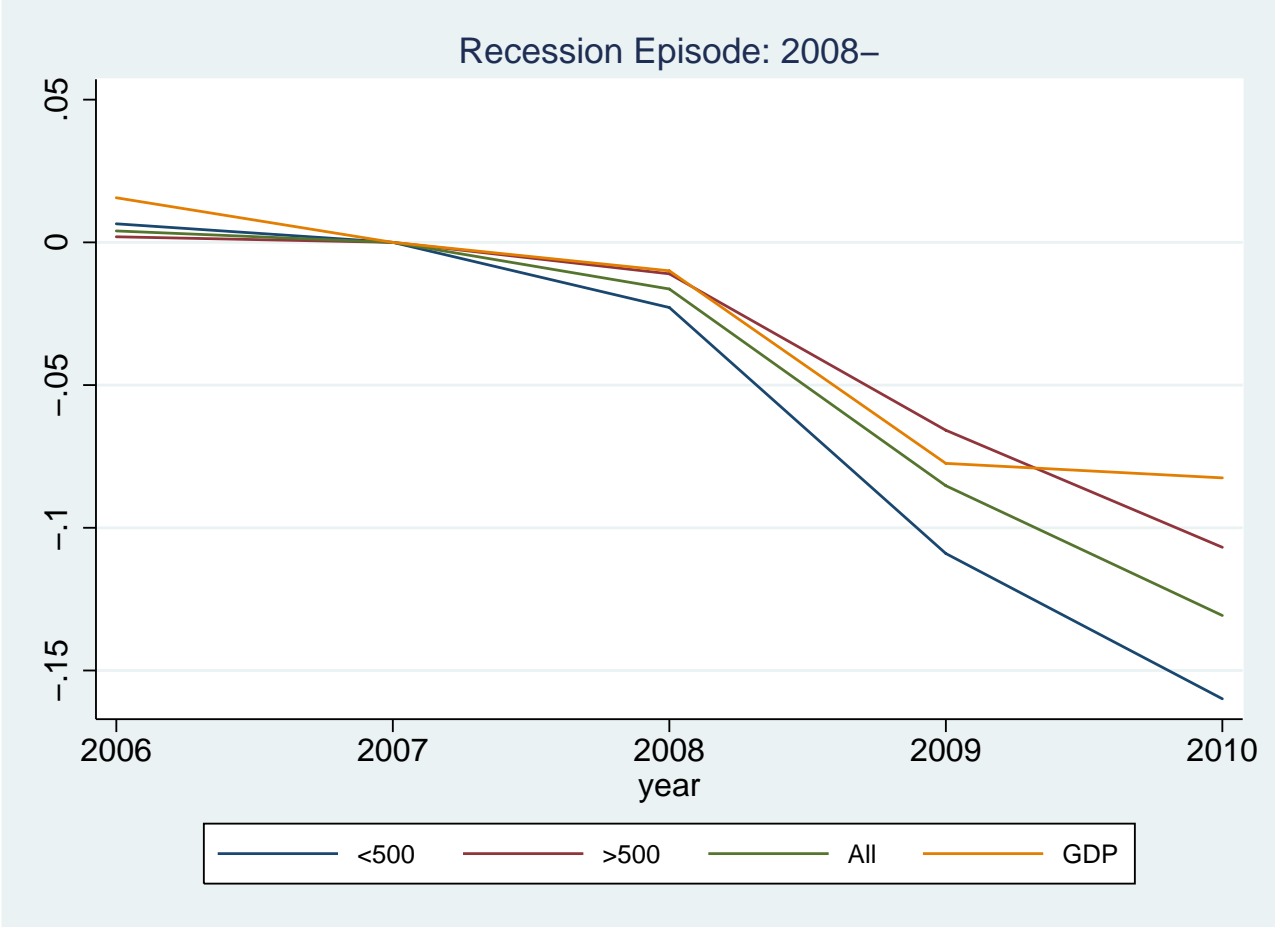


Figure 8:

Summary from BDS/BEDS Data

- Small firms lead the cycle. Large firms lag the cycle.
- Small firm employment growth comoves more with GDP growth.
- Small firms contract more than large firms in three out of five of last recessions.
- Large minus small firm growth correlated with unemployment – consistent with fact that large firms recover later than small firms.

Summary:

- Very nice paper assessing the implications of small-firm financing on unemployment probabilities.
- Paper could include richer set of industry- and region-specific controls to more fully account for demand effects.
- Results consistent with view that small firms contract in response to financial factors – it would be nice to confirm this with analysis for 1990-91 recession.
- Paper suggests policy implications but quantifying mechanism for policy purposes is a challenge.