# Discussion of "Inflation Dynamics During the Financial Crises," by Gilchrist, Shoenhe, Sim and Zakrajsek

July 12, 2014 EFG

A) Smart combining of Compustat and micro PPI data

B) Convincing that firms with high discount rate raised prices relative to others

♦ Relative price movements are dramatic

♦ They are immediate
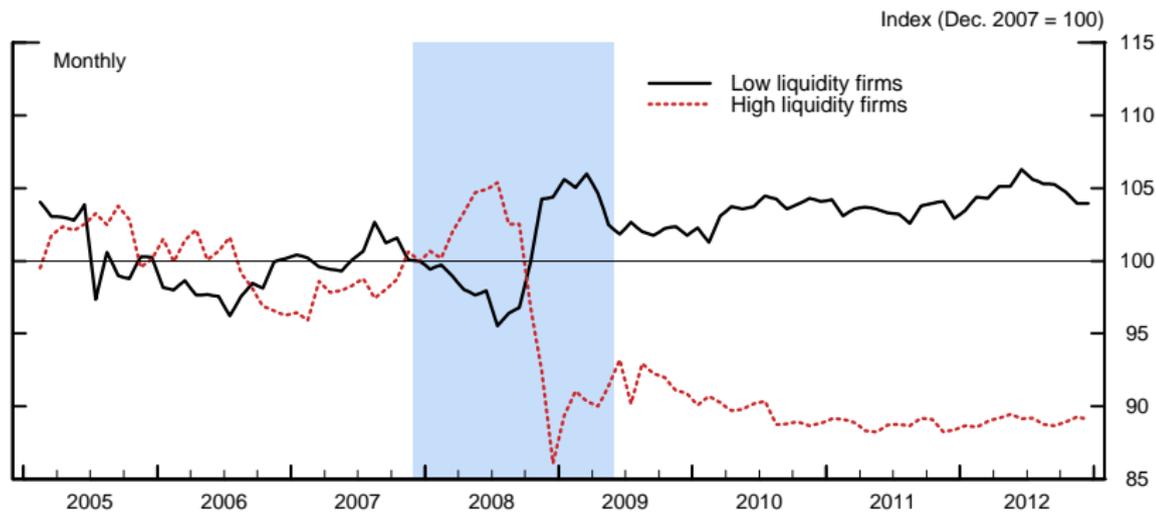
NOTE: Weighted average monthly inflation relative to industry (2-digit NAICS) inflation.

A) Smart combining of Compustat and micro PPI data

B) Convincing that firms with high discount rate raised prices relative to others

♦ Relative price movements are dramatic

♦ They are immediate

♦ Corrobated by

- Plans at peak of crisis (Campella, Graham, and Harvey, 2010)

- Perhaps wage responses (Wang)
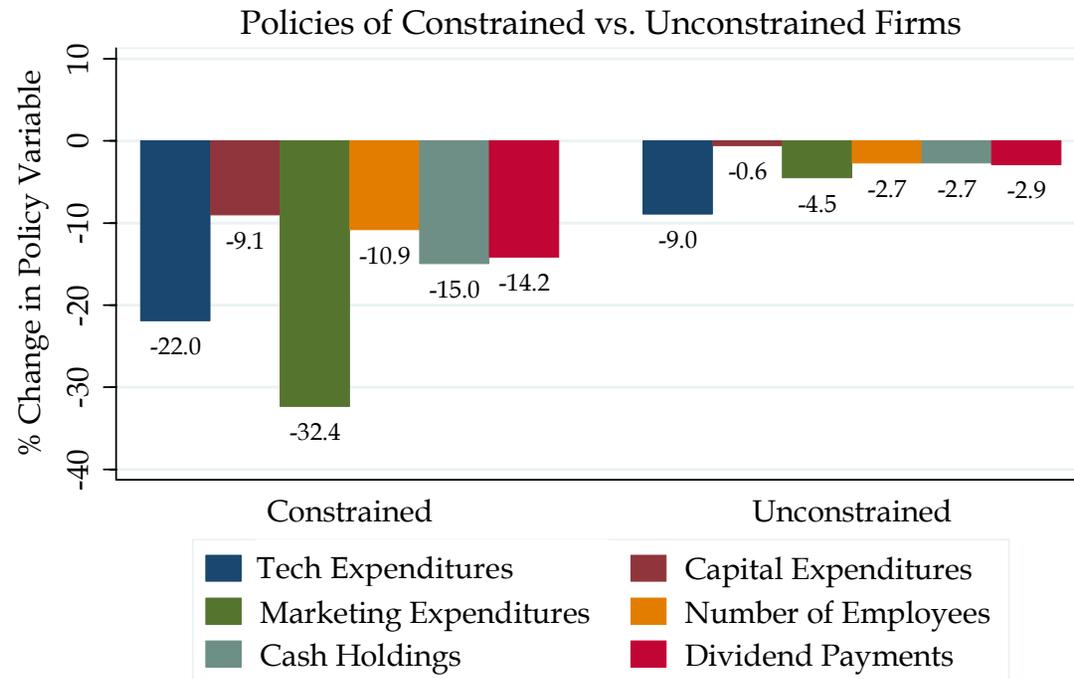
Figure 2: This figure displays U.S. firms' planned changes (% per year) in technology expenditures, capital expenditures, marketing expenditures, total number of domestic employees, cash holdings, and dividend payments as of the fourth quarter of 2008 (crisis peak period). Responses are averaged within sample partitions based on the survey measure of financial constraint. See text for additional details.

Campella, et al. (2010)

Log real earnings for job stayers in 2008 recession


Wang (2014)
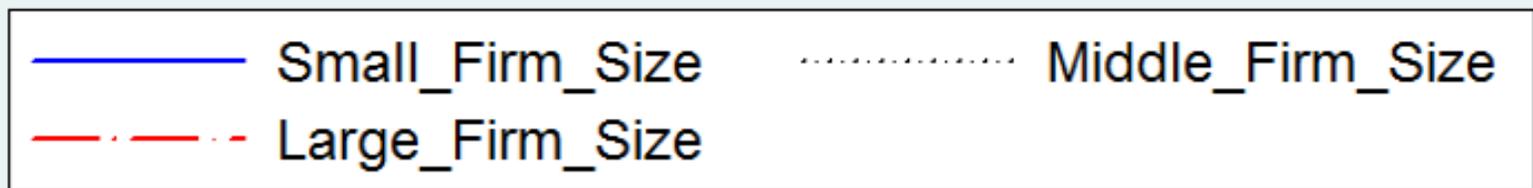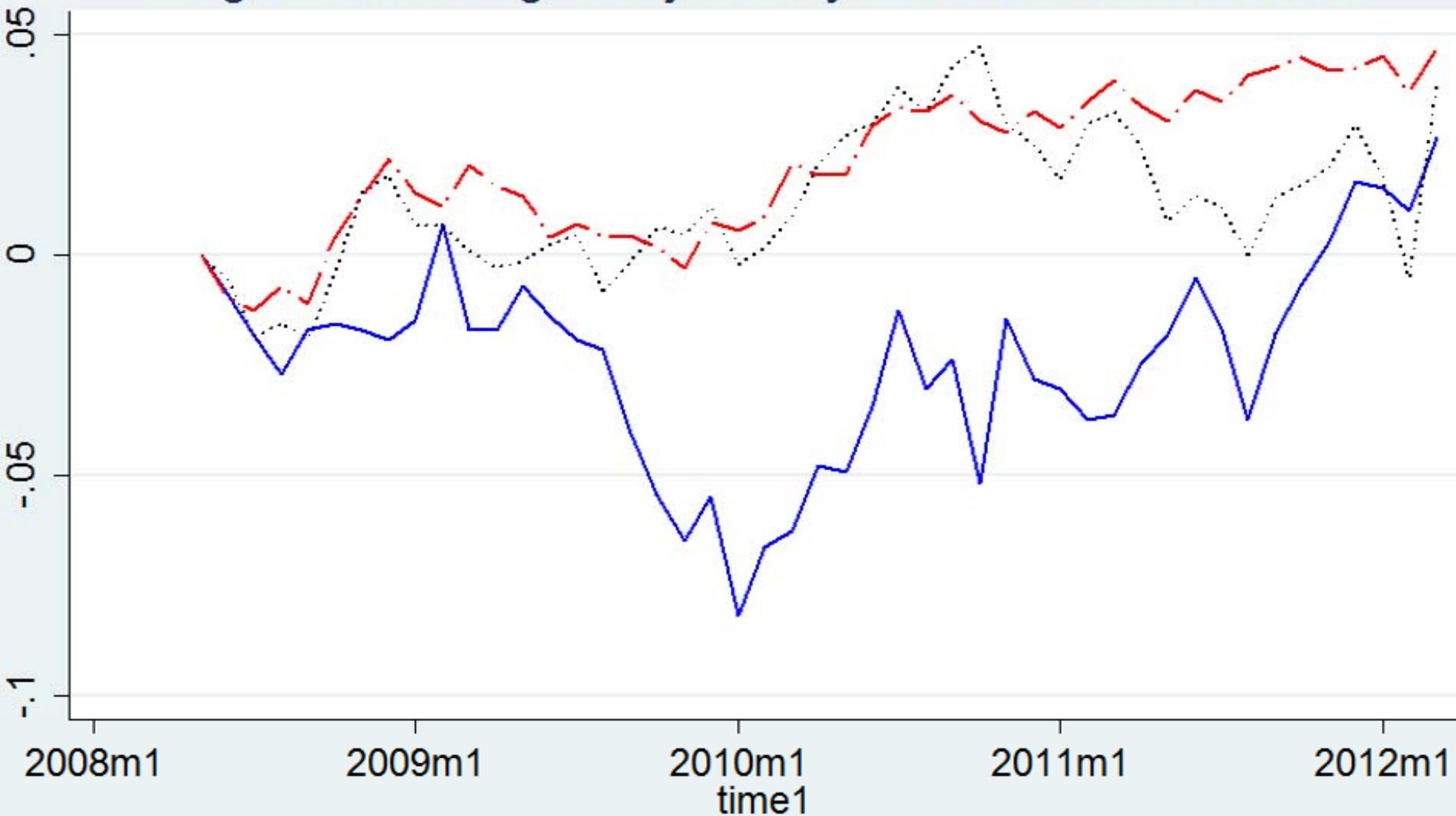
C) Discussion

♦ Identification

♦ Implications for aggregate versus relative markups
    (Behavior of consumers in model)

♦ Benefits of inbedding in New Keynesian model

D) Identification

♦ Proxies, e.g. $\frac{liquid\ assets}{total\ assets}$, for constrained not correlated with variables that shift marginal cost or markup for alternative reason

♦ Some concern that never goes away

Index (Dec. 2007 = 100)

Monthly

Low liquidity firms
High liquidity firms
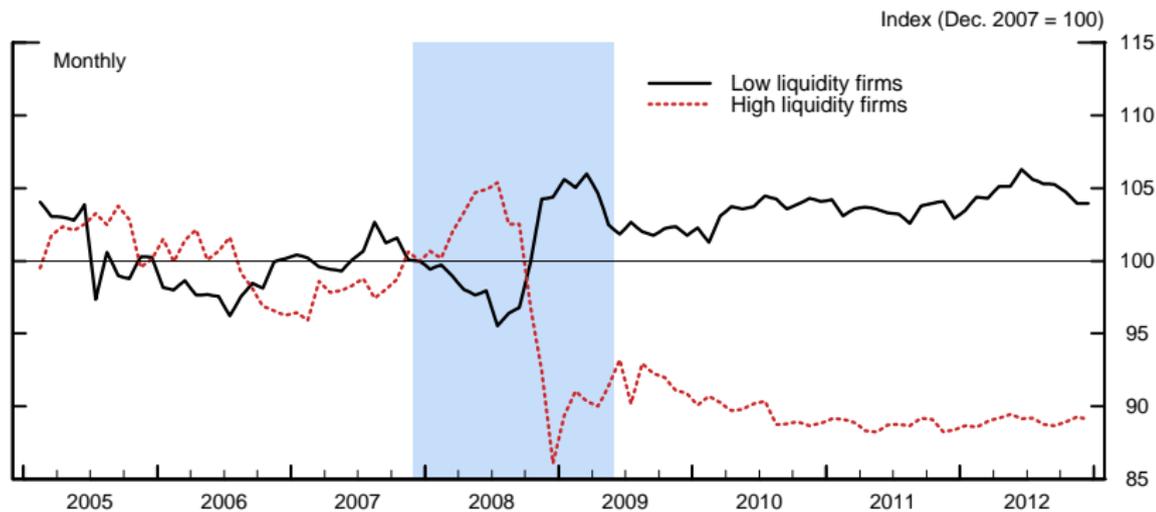
NOTE: Weighted average monthly inflation relative to industry (2-digit NAICS) inflation.

D) Identification, cont.

♦ Proxies, e.g. $\frac{liquid\ assets}{total\ assets}$, for constrained not correlated with variables that shift marginal cost or markup for alternative reason

♦ Some concern that never goes away

♦ Might be good to look at relative quantities (revenue & employees in Computat)

E) Implications for aggregate markups

♦ Convincing that "constrained" markup up compared to "unconstrained"; but how about in aggregate? (As in model)

(a) Output
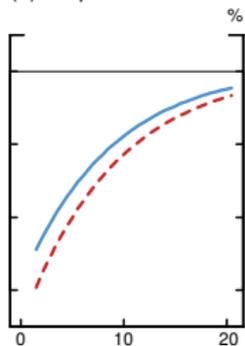
(b) Value of intnl. funds

(c) Mark-up

(d) Inflation
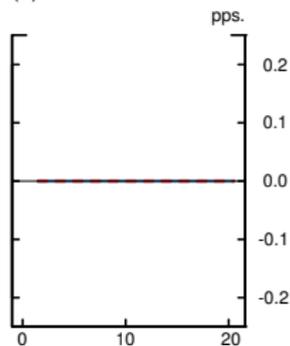
w/o financial frictions — — — w/ financial frictions

E) Implications for aggregate markups

♦ Convincing that "constrained" markup up compared to "unconstrained"; but how about in aggregate? (As in model)

♦ Labor share and intermediate share drop a lot during "Great Recession" (especially if define by hours)

Real GDP and Labor Share
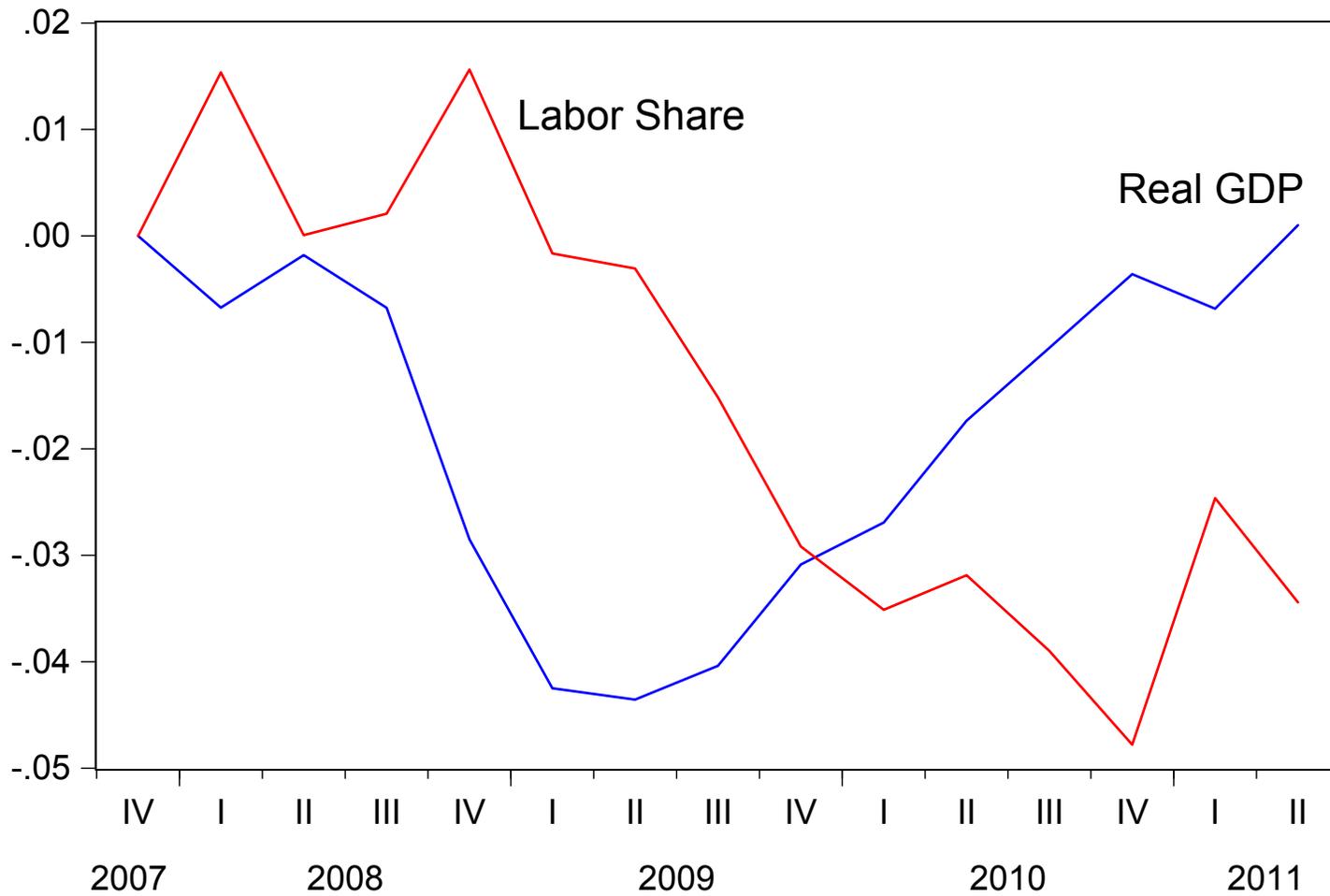
Real GDP and Intermediates Share
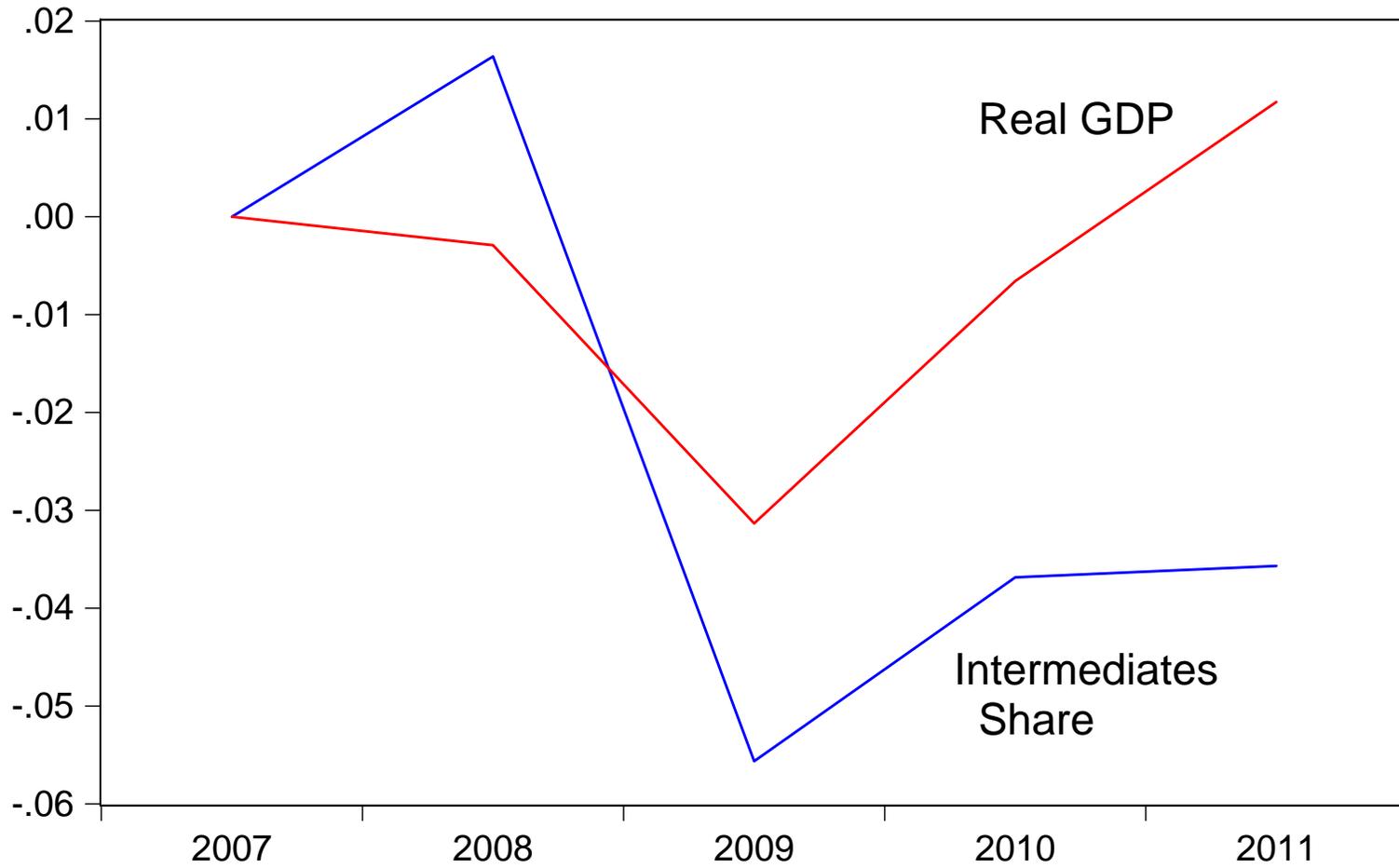


Bils, Klenow, and Malin (2014)

E) Implications for aggregate markups

♦ Convincing that "constrained" markup up compared to "unconstrained"; but how about in aggregate? (As in model)

♦ Labor share and intermediate share drop a lot during "Great Recession" (especially if define by hours)

♦ But decline starts at end of 2008 (right after relative markup move)
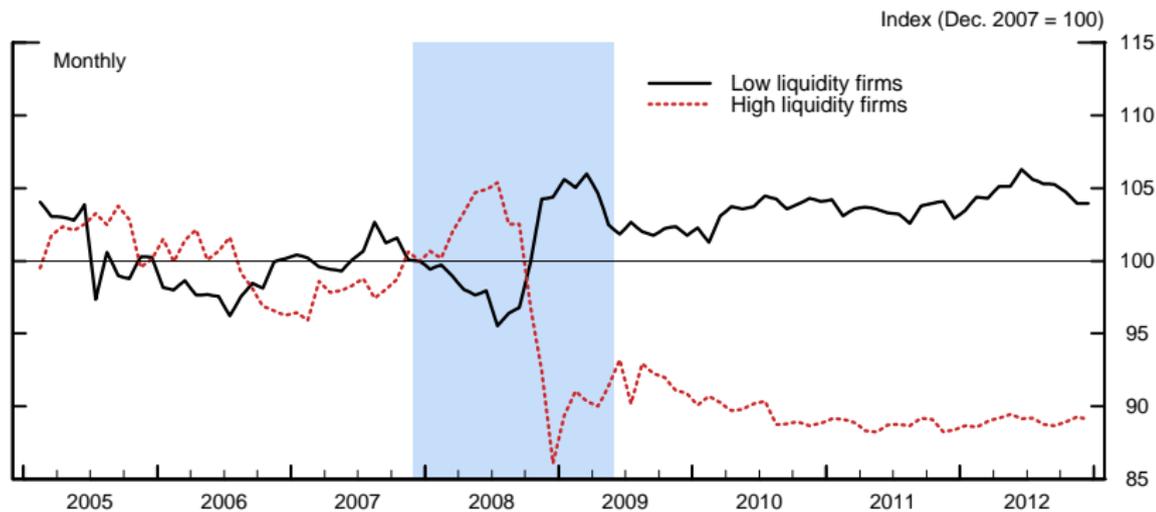
NOTE: Weighted average monthly inflation relative to industry (2-digit NAICS) inflation.

E) Implications for aggregate markups, cont.

♦ Discount rate way up in recession, so intuitively model seems reason for aggregate markup to go up

♦ Less clear if consumers' take into account present-discounted price--then consumers' discount rate may matter as well

♦ Here habit is external, so consumer needn't look forward: $c_{it}^j = \left(\frac{p_{it}}{\tilde{p}_t} \right)^{-\eta} s_{it-1}^{\theta(1-\eta)} x_t^j$

E) Implications for aggregate markups, cont.

♦ Consider alternative:

  ■ Consumer lives 2 periods, values good at v in period 1.
    v distributed Pareto with parameter η, $f(v) = \eta v^{-(\eta+1)}$, for $v \geq 0$, $\eta > 1$

  ■ If don't consume in 1, value 0 in period 2;
    if consume in 1, with probability Γ value at $v(1 + \kappa)$ in period 2,
    with probability $(1 - \Gamma)$ value at 0.

  ■ Consumer purchases if $v\big(1 + \beta\Gamma(1+\kappa)\big) \geq \lambda_1\big(p_1 + \Gamma M_2 p_2\big)$, $M_2 = \lambda_2/\lambda_1$

E) Implications for aggregate markups, cont.

♦ Let X denote share of 1st-period consumers that consume

♦ $\Gamma = 0$, then:

  - $X = \left(\lambda p\right)^{-\eta}$

  - $\dfrac{p-c}{p} = \dfrac{1}{\eta}$

E) Implications for aggregate markups, cont.

♦ $\Gamma > 0$, firm pricing in period 1:

$$max \left((p_1 - c)\left(\Gamma X_0 + X_1 \right) + M_2^f (p_2 - c)\left(\Gamma X_1 + X_2 \right) + ... \right)$$

♦ firm's $f.o.c.$ for p_1:

$$\Gamma X_0 + X_1 + \left((p_1 - c) + \Gamma M_2^f (p_2 - c) \right) \frac{dX_1}{dp_1} = 0$$

E) Implications for aggregate markups, cont.

♦ Suppose consumers myopic, $X_1 = \left(\lambda_1 p_1\right)^{-\eta}$

■ $\dfrac{dX_1/X_1}{dp_1/p_1} = -\eta$

■ $\dfrac{p_1-c}{p_1} = \dfrac{1}{\eta} + \dfrac{\Gamma X_0/X_1}{\eta} - \Gamma M_2^f\left(\dfrac{p_2-c}{p_1}\right)$

■ See role for fall in M^f

E) Implications for aggregate markups, cont.

♦ But if not myopic, $X_1 \sim \left(\lambda_1 p_1\right)^{-\eta} \left(1 + \Gamma M_2 \frac{p_2}{p_1}\right)^{-\eta}$

♦ $\dfrac{d\left(\frac{p_2}{p_1}\right) / \left(\frac{p_2}{p_1}\right)}{dp_1/p_1} = -1 + \left(\dfrac{dp_2/p_2}{dX_1/X_1}\right) \times \left(\dfrac{dX_1/X_1}{dp_1/p_1}\right)$

   ■ Both effects negative

   ■ Both effects weighted by M_2, so fall in M_2 increases elasticity

♦ For aggregate, may hinge more on fall in M_2^f *relative to* M_2

F) Not sure beneficial to put in New Keynesian model

♦ Nominal rigidities do not have much impact

Figure 8: Demand Shocks and the Labor Wedge
(*A Financial Crisis Experiment*)
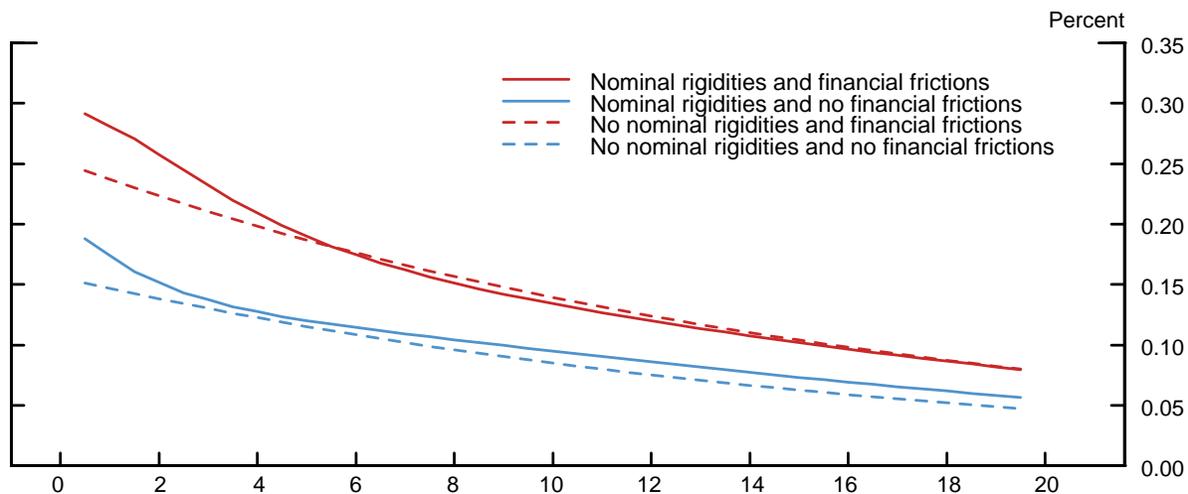
NOTE: The figure depicts the responses of the labor wedge—for different model specifications—to a negative demand shock of 1 standard deviation. The labor wedge is defined as the difference between the marginal product of labor and the household's marginal rate of substitution between consumption and leisure. For models with financial frictions, the degree of financial frictions is calibrated to a crisis situations ($\varphi = 0.5$); models with no nominal rigidities feature perfectly flexible prices and wages. All labor wedges are in deviations from their respective (deterministic) steady-state values (see the text for details).

F) Not sure beneficial to put in New Keynesian model

♦ Nominal rigidities do not have much impact

♦ Impact they have is counterfactual--Wedge is lagging, not leading
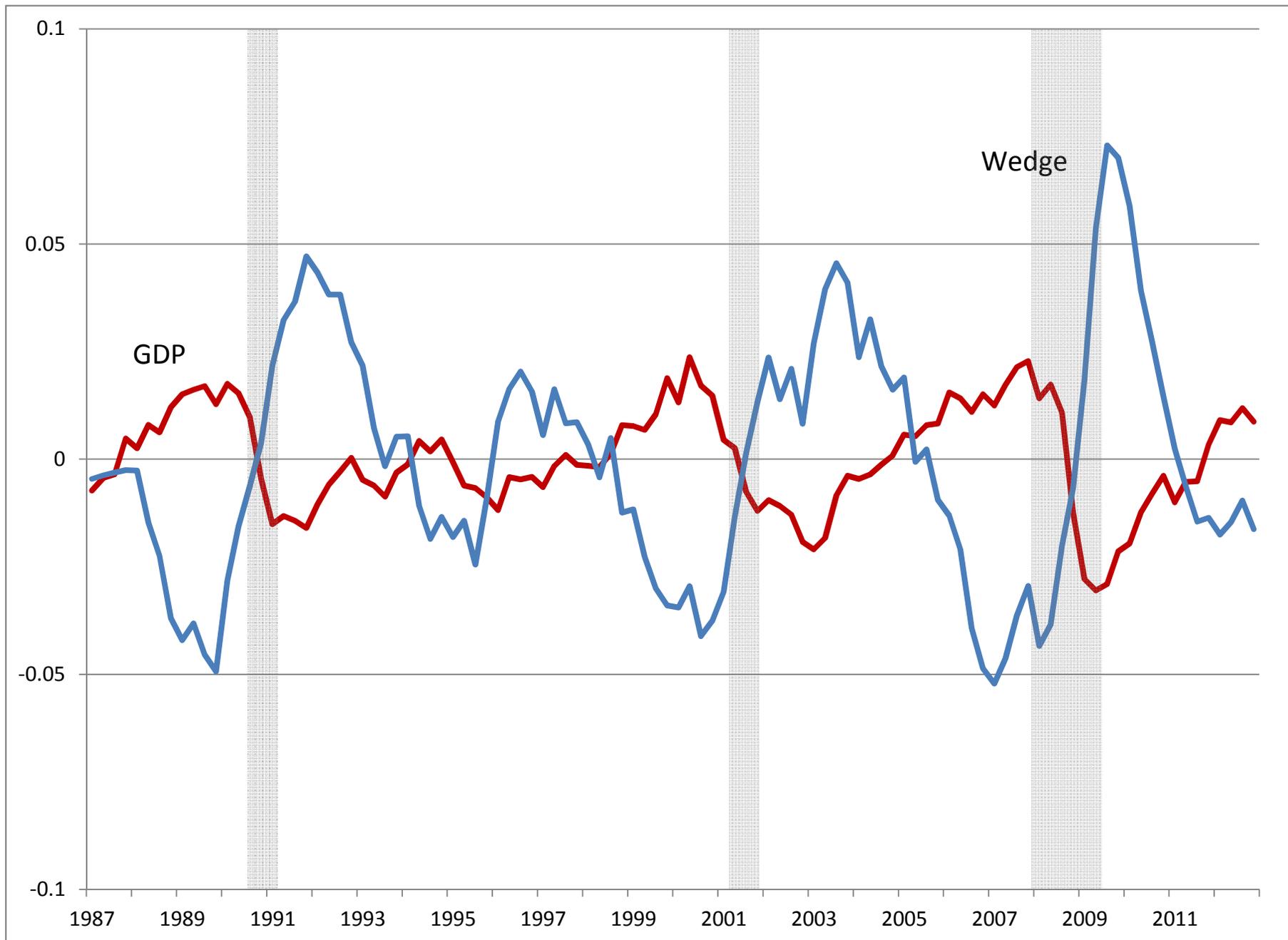
F) Not sure beneficial to put in New Keynesian model

♦ Nominal rigidities do not have much impact

♦ Impact they have is counterfactual--Wedge is lagging, not leading

♦ Paper already taught us price stickiness unimportant, at least for producer prices

G) Conclusions

♦ Important/influential paper

♦ Shows pricing highly reactive

♦ See paper as better served as Keynesian Catalyst