Discussion of
"The Great Increase in Relative Volatility of
Real Wages in the United States"
by Julien Champagne and André Kurmann

Michael Reiter, IHS, Vienna

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The paper

- ▶ Carefully documents a reduction in the ratio of wage volatility to GDP volatility post 1984 versus pre 1984
- ▶ Shows that a change in the variability of the usual shocks is not the explanation
- ▶ Shows that a change in wage rigidity due to institutional factors (less unionization, more performance pay) explains almost 40% of this change.

Empirical findings

Compare Post-84 to Pre-84.

- ▶ Output volatility decreases by factor 2.
- ▶ Real wage volatility increases by factor 1.6.
- ▶ Main data source is LPC. Covers 98% of US jobs. Result is broad, not just driven by top earners or stock options.
- ▶ Result is robust across different measures of wages.

Empirical findings, ctd.

Exception to robustness: wage volatility as reported in CES drops sharply after 84.

This data set is a sample representing production and non-supervisory workers (who are 80% of private sector employment, get 60% of compensation.)

Authors find:

► CES has some data problems (change in composition).

► Production and non-supervisory workers are different; their wage volatility decreases considerably after 1984.
This is a bit puzzling: does not de-unionization affect them most?

Shortcoming of empirical analysis

No distinction is made between wages of new hires and of ongoing jobs.
(Probably due to data limitations).

Institutional Changes

- Union density decreased from 16% to 8% between 1970 and 2005
- Incidence of performance-pay increased from 38% to 46% between 1975 and 2000.

Unions

Empirical evidence (Lemieux et.al.) suggests that union wage contracts are more rigid (3-year contracts) than non-union contracts.

Reaction to local shocks:

- Wages of union workers with performance pay reacts least
- Employment of this group reacts most.

Comments:

- Not surprising that reaction to local shocks is low (unions are probably not local).
- Reaction to aggregate shocks could be much higher. Check evidence that they contracts are really rigid.

Wage setting in the model

- Workers offer differentiated labor services
- Union labor and non-union labor are imperfect substitutes
- Workers fix wages (Calvo style, with partial indexing to inflation) through contracts with duration
  - union: 12 quarters
  - non-union: 6 quarters
- firm decides labor input

Performance pay

$$\frac{W}{P} = (1 + const.markup)MRS(C, N) \qquad (1)$$

Why?
More natural:

- ▶ Performance pay contract fixes wage per output
- ▶ Non-performance pay contract fixes wage per hour

Explaining the changes

	Data		Model			
	Pre84	Post84	Pre84	ΔShock	ΔCali	ΔBoth
$\sigma(y)$	2.56	1.28	2.55	1.65	2.12	1.39
$\sigma(n)/\sigma(y)$	0.78	1.15	0.86	0.93	0.73	0.83
$\sigma(w)/\sigma(y)$	0.24	0.80	0.26	0.25	0.40	0.43
$\sigma(y/n)/\sigma(y)$	0.49	0.59	0.32	0.33	0.44	0.43
$\sigma(W^n)/\sigma(y)$	0.37	0.82	0.29	0.28	0.42	0.45
$\rho(y,w)$	0.36	-0.14	0.64	0.65	0.78	0.74
$\rho(y,y/n)$	0.65	0.01	0.55	0.36	0.76	0.57
$\rho(n,y/n)$	0.21	-0.50	0.27	0.03	0.44	0.17
$\rho(W^n,P)$	0.81	0.28	0.63	0.50	0.41	0.28

Shocks vs. institutions

- ▶ Data suggest: RBC world Pre84, but not Post84 ($\rho(w, y) \approx 0$)
- ▶ Paper:
  - ▶ technology
  - ▶ consumption Euler equation
- ▶ Appendix
  - ▶ labor supply
  - ▶ monetary policy
  - ▶ government spending
- ▶ None of the changes in shocks captures this
- ▶ Suggestion: combination technology shocks $\rho(w, y) > 0$ and "wage markup shocks" $\rho(w, y) < 0$?

Conclusions

- ▶ Very interesting stylized fact.
- ▶ Think about why production and non-supervisory workers are different.
- ▶ Analysis of institutional changes successful.
- ▶ Analysis of changes in shock composition needs to replicate $\rho(n, y/n) = -0.5$ post-84 to be convincing.