

New Evidence on Cyclical and Structural Sources of Unemployment

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16 February 2012

What the Authors Do

- CKLT revive a useful but dormant approach to the study of structural sources of unemployment
 - Use dispersion of industry stock price changes
- Contributions include:
 - Updates of previous work to include recent experience, including Great Recession and slump
 - An out-of-sample test of conclusions in earlier work
 - Separate treatment of short-duration and long-duration unemployment
 - Simultaneous consideration of dispersion shocks and uncertainty shocks
 - Extension of empirical analysis to other countries

Table 1

Forecast-error variance decomposition for the unemployment rate

Horizon (Quarters)	Growth	Market Return	Unemployment Rate	Inflation	Fed Funds Rate	Dispersion
5	49.2%	15.0%	31.6%	2.4%	1.2%	0.5%
10	35.7%	17.0%	14.0%	11.8%	4.6%	16.9%
20	22.6%	10.8%	8.8%	27.6%	6.6%	23.5%

Table 2

Forecast-error variance decomposition for the long-term unemployment rate

Horizon (Quarters)	Growth	Market Return	Long-Term Unemployment Rate	Inflation	Fed Funds Rate	Dispersion
5	37.0%	3.3%	57.1%	0.2%	0.2%	2.2%
10	39.9%	10.7%	27.6%	1.8%	0.6%	19.5%
20	31.1%	6.3%	18.5%	5.1%	0.8%	38.3%

A Maintained Assumption

- Maintained assumption underlying the construction and use of the stock return dispersion measure: Bad news for capitalists (equity holders) in an industry is also bad news for workers in that industry
 - Plausible, but it's easy to think of circumstances in which capital benefits at the expense of labor, or vice versa
 - Empirically, the covariance between equity returns and the value of human capital is surprisingly small (e.g., Davis and Willen, 2000 and 2002).
 - A bit of a puzzle: Why does the stock return dispersion measure work as well as it does?

Directional Dispersion Shocks

- Current dispersion shocks can reverse or reinforce recent past dispersion shocks.
- Shock direction matters (Davis, 1987):
 - Capital and labor inputs that remain idled by a previous dispersion shock are available for production in the wake of a reversing shock
 - Specific skills remain “callable” even after a worker switches sector or location.
 - Reinforcing shocks bite more deeply into the infra marginal regions of distributions over specific capital and mobility costs → Adjustment to a given current dispersion shock is harder if it reinforces the direction of recent past shocks

Measuring Shock Direction, 1

- The authors measure the cross-industry dispersion of industry stock returns at time t as

$$Dispersion_t = \left[\sum_{i=1}^n W_i (R_{it} - R_t)^2 \right]^{1/2}$$

- To measure how the current dispersion pattern relates to direction and magnitude of past return patterns, construct time-series measures for the covariance between current and past industry stock returns

Measuring Shock Direction, 2

- E.g., consider the covariance between period- t returns and average returns from $t-1-h$ to $t-1$:

$$\sigma_t^h = \sum_{i=1}^n W_i (R_{it} - R_t) (\overline{R_{i,t-1}^h} - \overline{R_{t-1}^h})$$

$\overline{R_{i,t-1}^h}$ = Mean Return for Industry i from $t-1-h$ to t

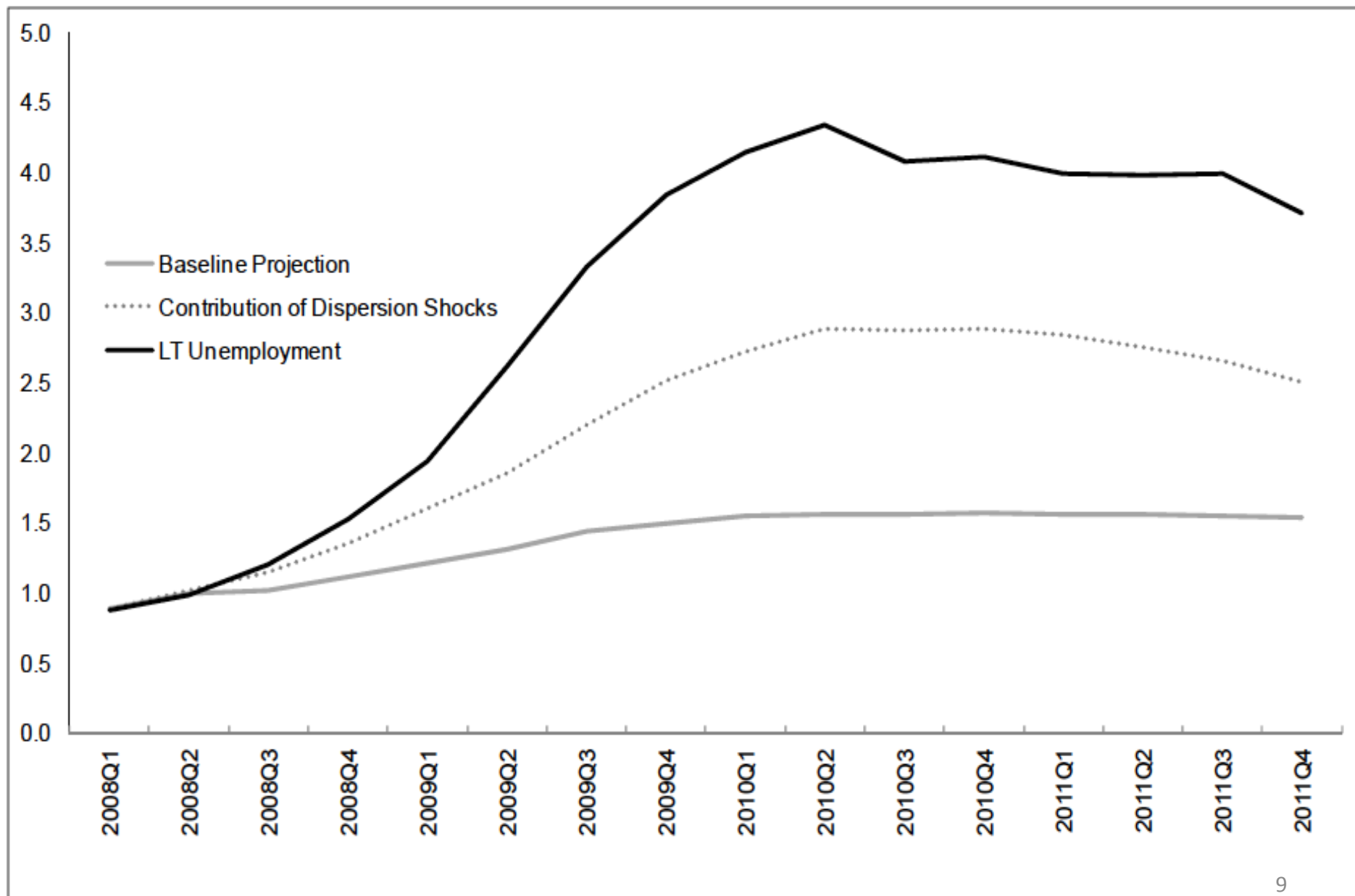
$\overline{R_{t-1}^h}$ = Mean Market Return from $t-1-h$ to t

- Choice of look-back horizon h can be treated as an empirical issue

Why Consider Direction?

- To test the authors' interpretation for estimated effects of the stock-return dispersion index
 - σ_t^h has positive effect on the unemployment rate
- If directional effects are important, the current study may misstate the contribution of structural shocks (e.g., Figure 10 variance decompositions)
- Even if direction matters little for the contribution of dispersion shocks to the overall variation in unemployment (because reinforcing and reversing shocks tend to average out over time), inclusion of directional measures may alter the estimated role of structural shocks in particular cyclical episodes (e.g., Figure 11)

Figure 11 - Decomposition of Long-Term Unemployment During the Great Recession



Measuring Shock Direction, 3

- Another approach to directional measures focuses on the interaction between cyclical factors and trends in labor market structure:
- Basic idea: Cyclical shocks that reinforce long-term trends are harder to accommodate than those that counteract trends:

$$\sigma_t^{Trend} = \sum_{i=1}^n W_i (R_{it} - R_t)(g_i - \bar{g})$$

g_i = Industry i trend growth rate

\bar{g} = Overall trend growth rate

Dispersion Shocks vs. Uncertainty Shocks

Table 3

Forecast-error variance decomposition for the long-term unemployment rate -

Augmented system

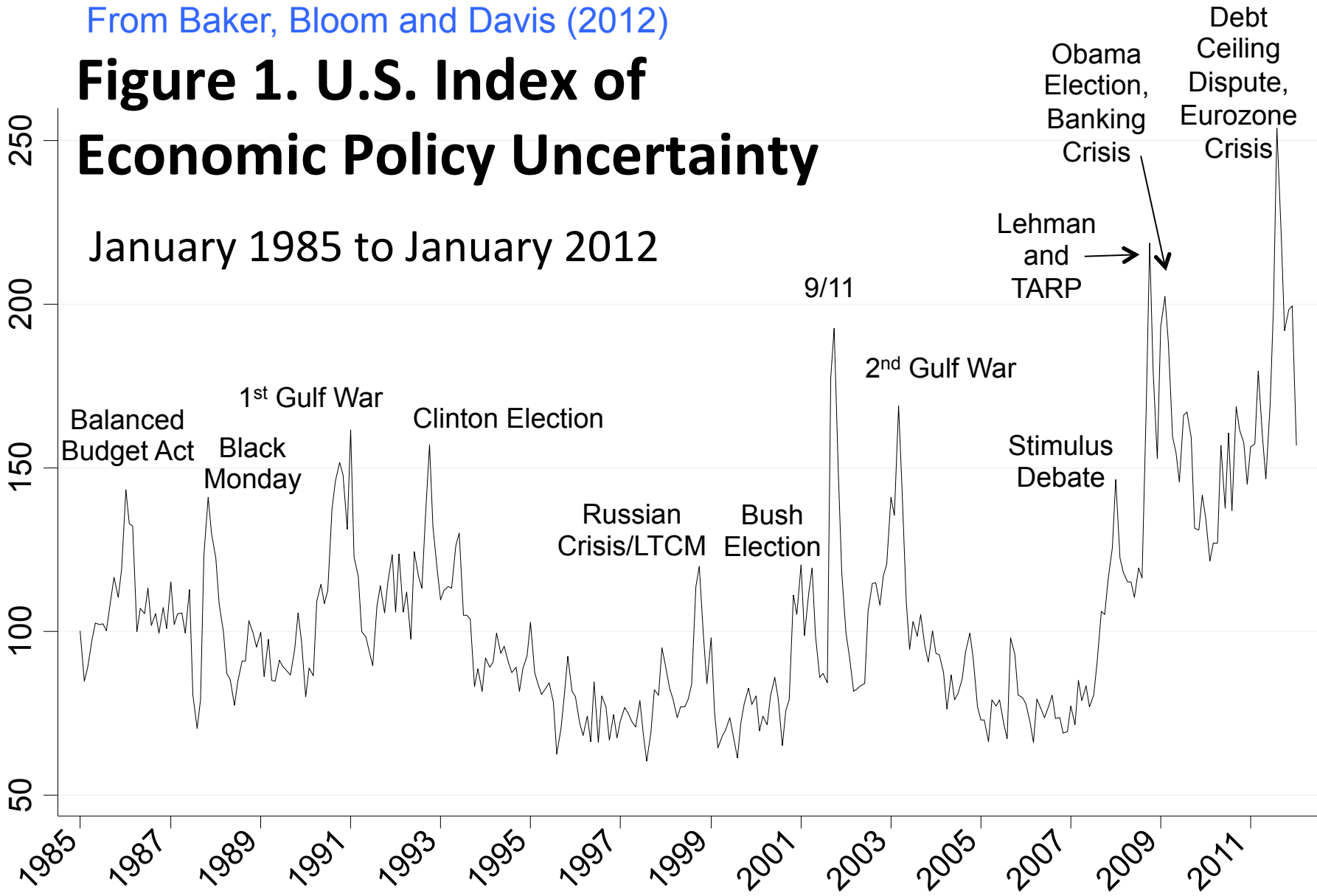
Horizon (Quarters)	Growth	Market Return	Long-Term Unemployment Rate	Inflation	Fed Funds Rate	Uncertainty	Dispersion
5	24.1%	4.2%	48.5%	0.6%	0.2%	19.9%	2.4%
10	25.1%	13.0%	23.1%	2.2%	0.4%	8.1%	28.2%
20	18.3%	9.6%	16.9%	9.3%	2.3%	5.7%	37.9%

From Baker, Bloom and Davis (2012)

Figure 1. U.S. Index of Economic Policy Uncertainty

January 1985 to January 2012

Policy Uncertainty Index



Notes: Index of Policy-Related Economic Uncertainty composed of 4 series: monthly news articles containing uncertain or uncertainty, economic or economy, and policy relevant terms (scaled by the smoothed number of articles containing 'today'); the number of tax laws expiring in coming years, and a composite of IQ ranges for quarterly forecasts of federal, state, and local government expenditures and 1-year CPI from the Phil. Fed Survey of Forecasters. Weights: 1/2 News-based, 1/6 tax expirations, 1/6 CPI disagreement, 1/6 expenditures disagreement after each index normalized to have a standard-deviation of 1. News query run Jan 16, 2011. Index normalized mean 100 from 1985-2009. Data at www.policyuncertainty.com

References

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