

Job-to-Job Flows:

New Statistics on Worker Flows Across Jobs and In and Out of Employment

2014 LED Partnership Conference

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Why care about job-to-job flows?

There is an enormous amount of worker reallocation in U.S. economy

- Hires and separations far exceed net job growth – 1/3 to 1/2 are movements directly from one job to another

These worker flows are economically interesting:

- Job change accounts for a significant portion of earnings growth, particularly early in worker's careers
- Indicator of labor market flexibility as workers reallocate from shrinking to growing sectors of the economy

Job-to-Job (J2J): New LED labor statistics

Beta release to begin in Fall 2014.

Will add new dimensions to labor market data:

- Hires/separations for workers moving from job to job
- Hires/separations from longer nonemployment spells
- Origin and destination data on job flows:
 - Industry, geography, size, age of origin and destination jobs
 - Earnings and earnings change associated with job change

How jobs are linked:

Firm A is main job at start of Q2, worker separates from firm A in Q2

No job observed at end of Q2

Fictional LEHD Job History

PIK	SEIN	Q1	Q2	Q3	Q4	Q5
Person1	Firm A	7029	2549	0	0	0
Person1	Firm B	0	0	3098	6049	7001

Worker starts at Firm B during Q3, Firm B is main job held on the end of Q3

J2J links job transitions between main jobs held at start and end of the quarter.

Key J2J statistics (focus of this talk):

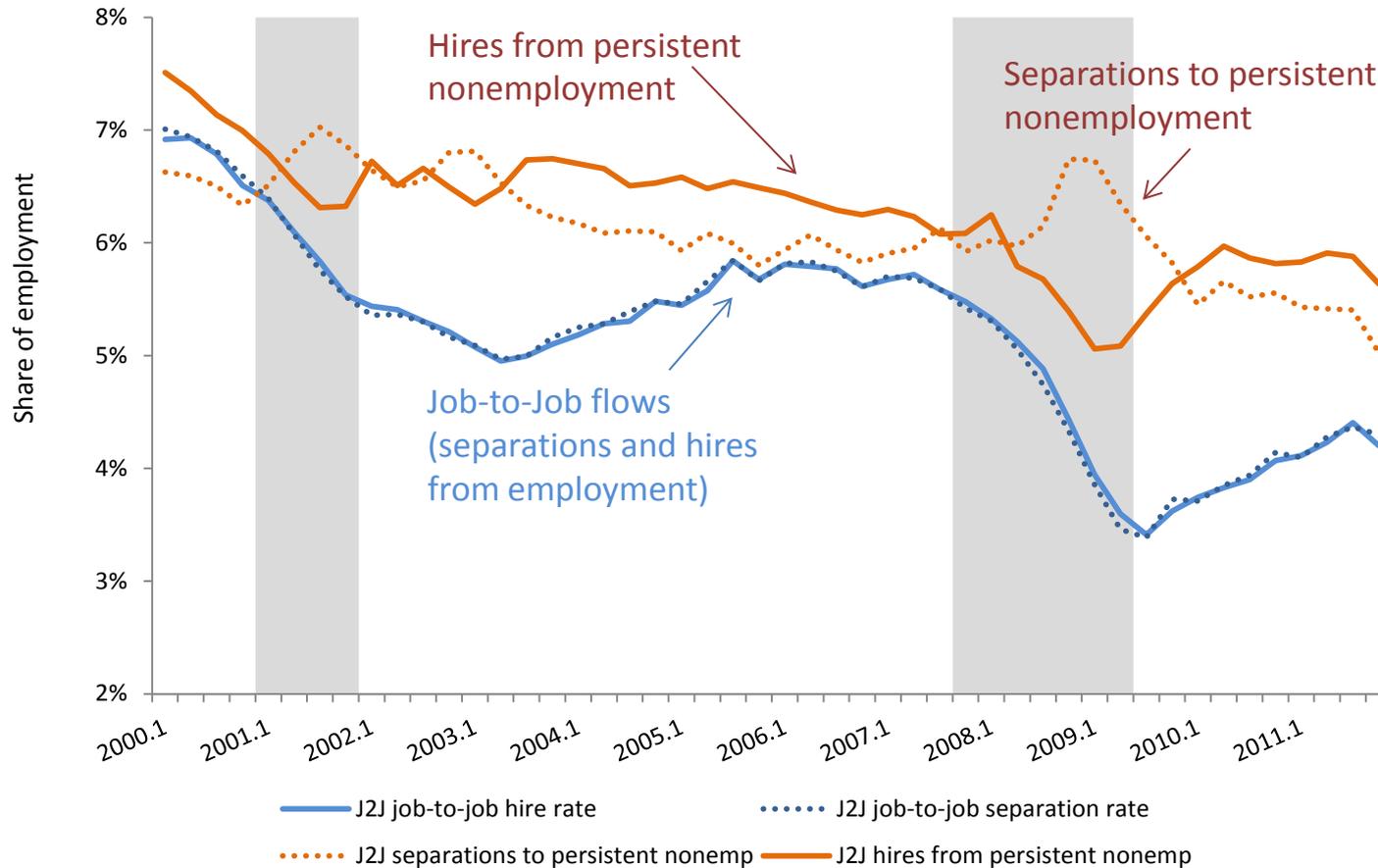
Job-to-job hires/separations:

- Hires and separations from one job to another, with *little or no nonemployment between job spells*

Hires/separations from/to persistent nonemployment:

- Hires and separations to/from *longer nonemployment spells*, typically with zero earnings in the quarter before hired/after separating

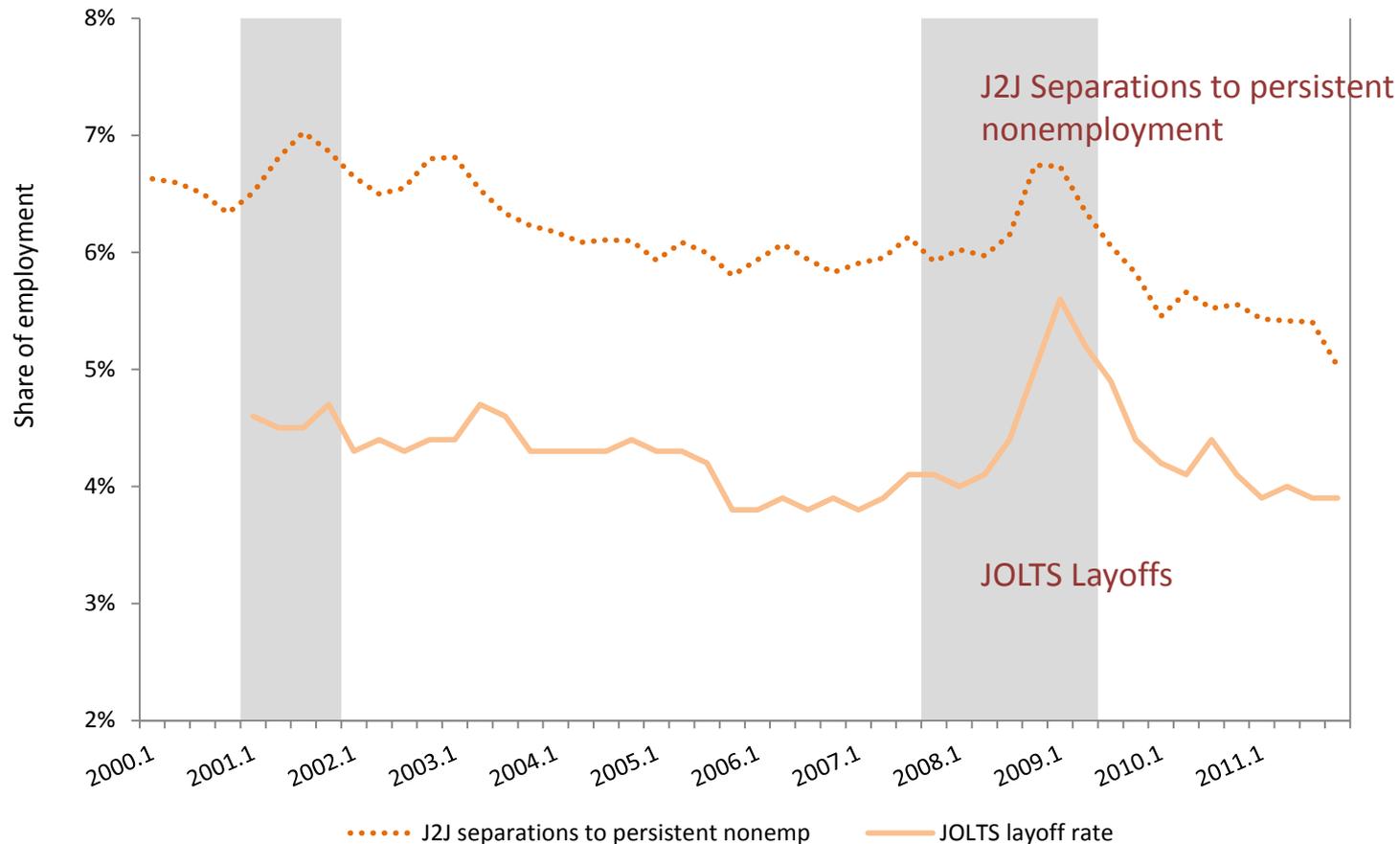
National Job-to-Job (J2J) flows series:



Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

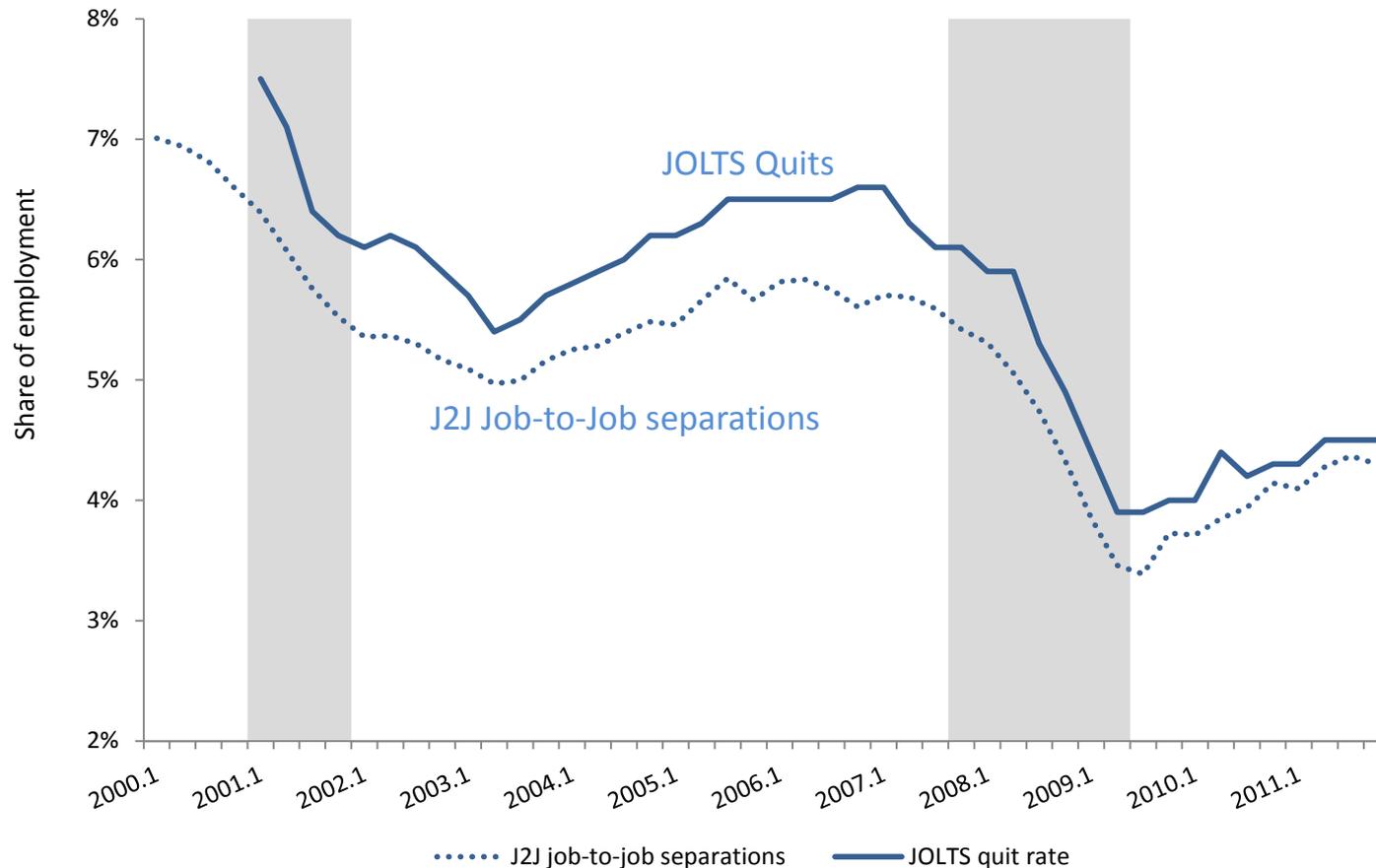
How do J2J compare to other related series?:

Comparison to JOLTS: Layoffs



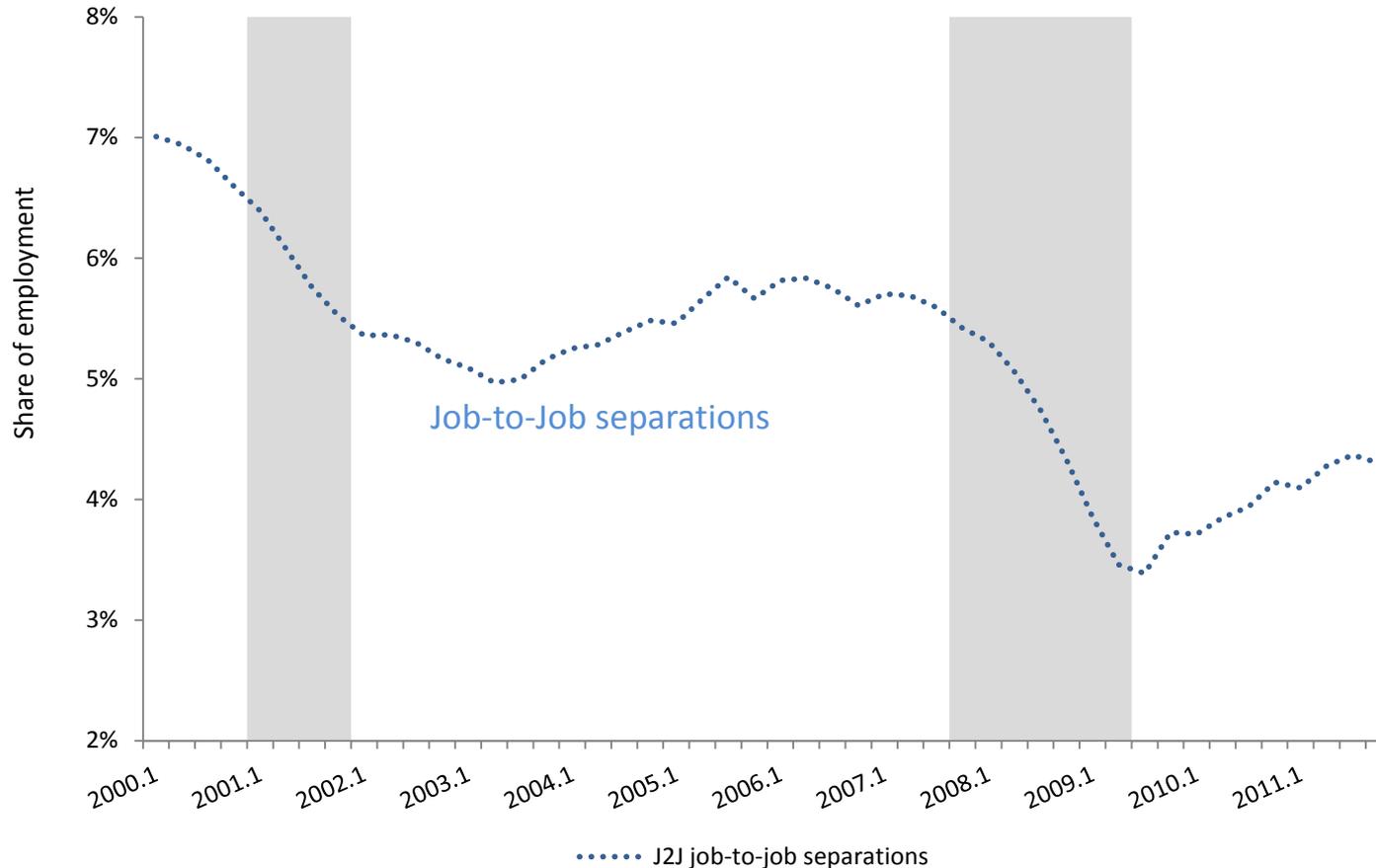
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Comparison to JOLTS: Quits



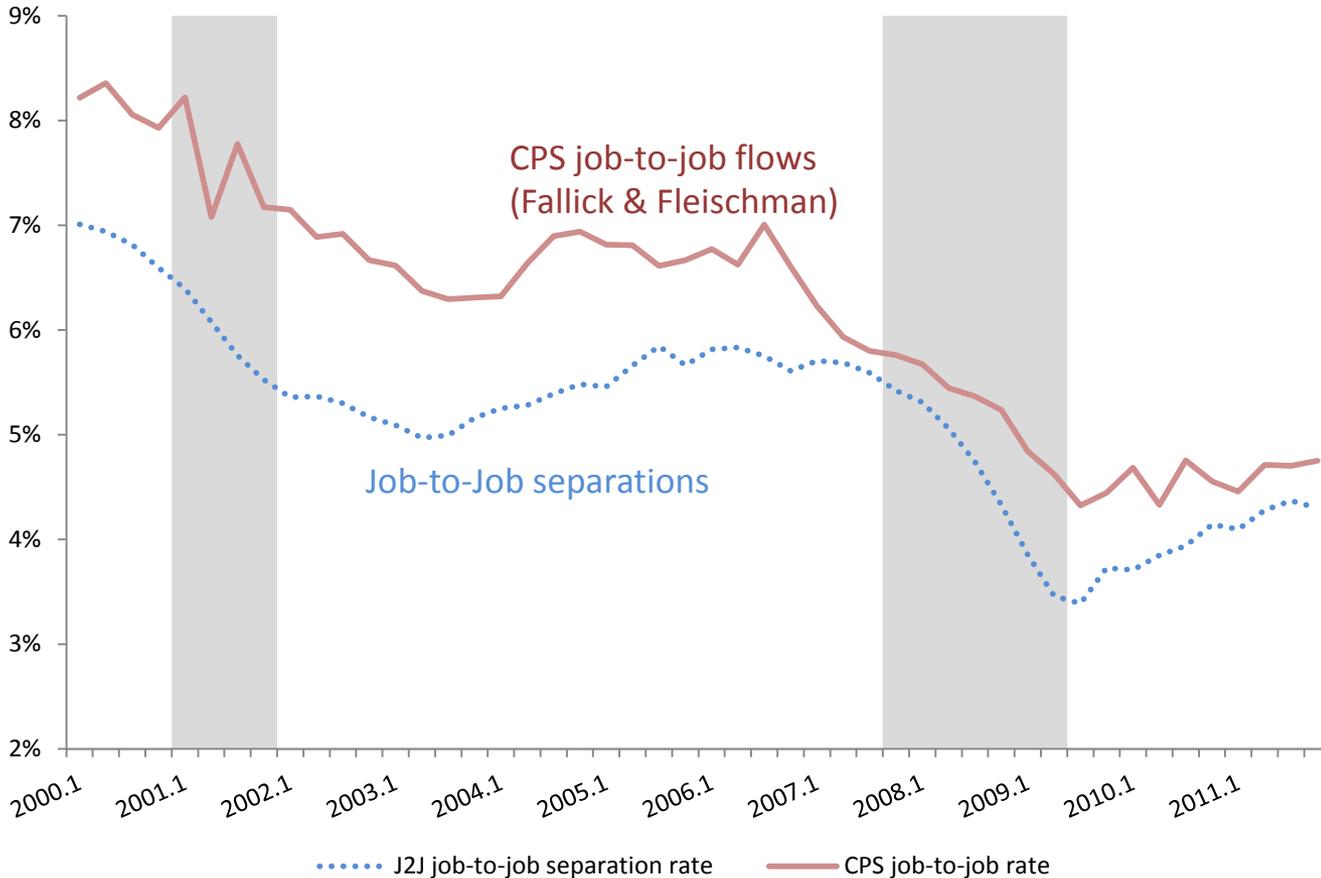
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There is also a related series from the CPS



Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

J2J separations-to-employment vs. CPS employer-to-employer flows



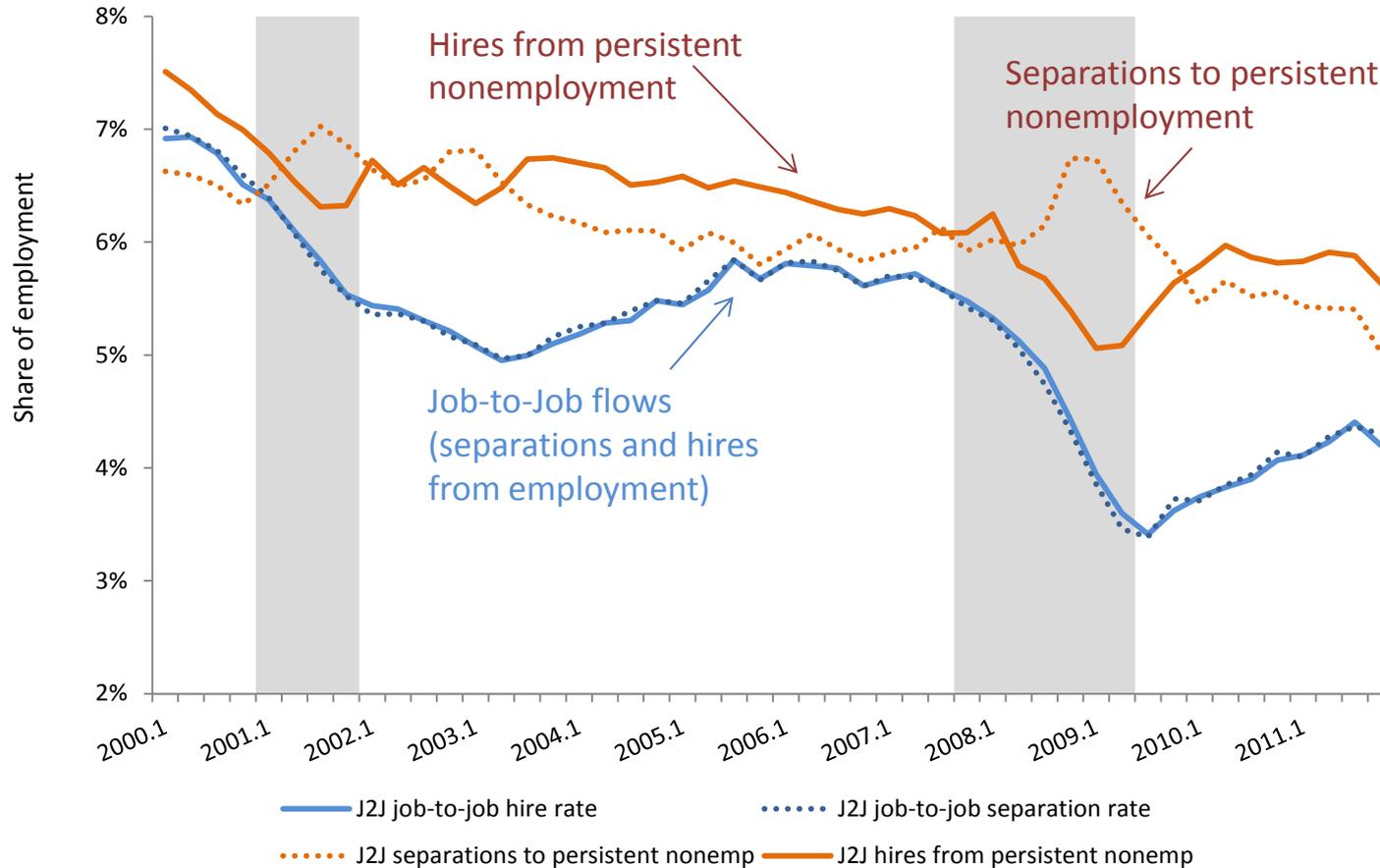
Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

So far, I have not shown anything you could not infer from JOLTS or the CPS:

But now we move to the unique dimensions of the J2J data:

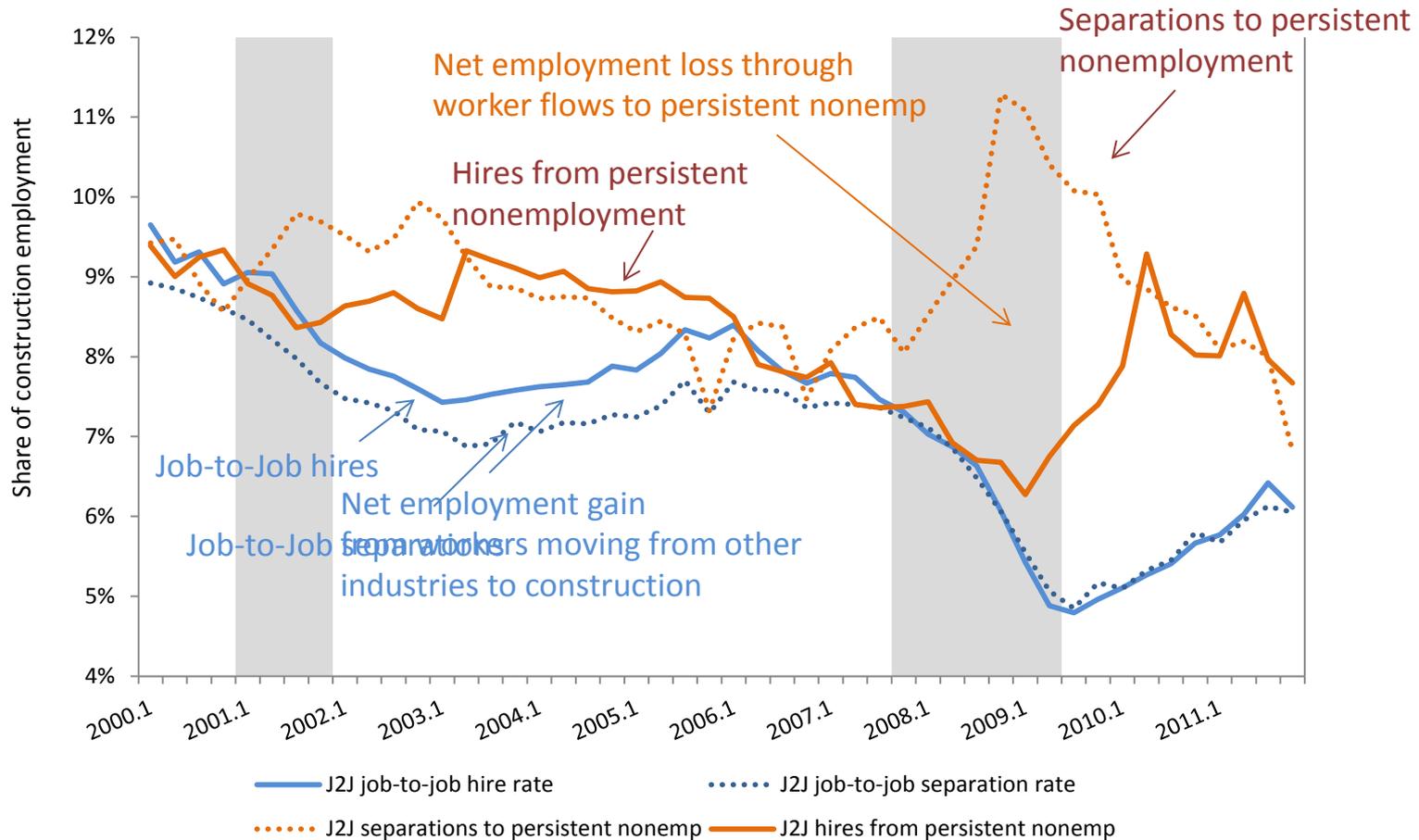
- The ability to decompose employment growth in an industry or state by reallocation of workers across jobs vs. flows to and from nonemployment
- The ability to see the connectedness of industries and the flows of workers across state lines
- Earnings changes associated with job change, by industry, worker age, geography

Recall the national Job-to-Job (J2J) flows series:



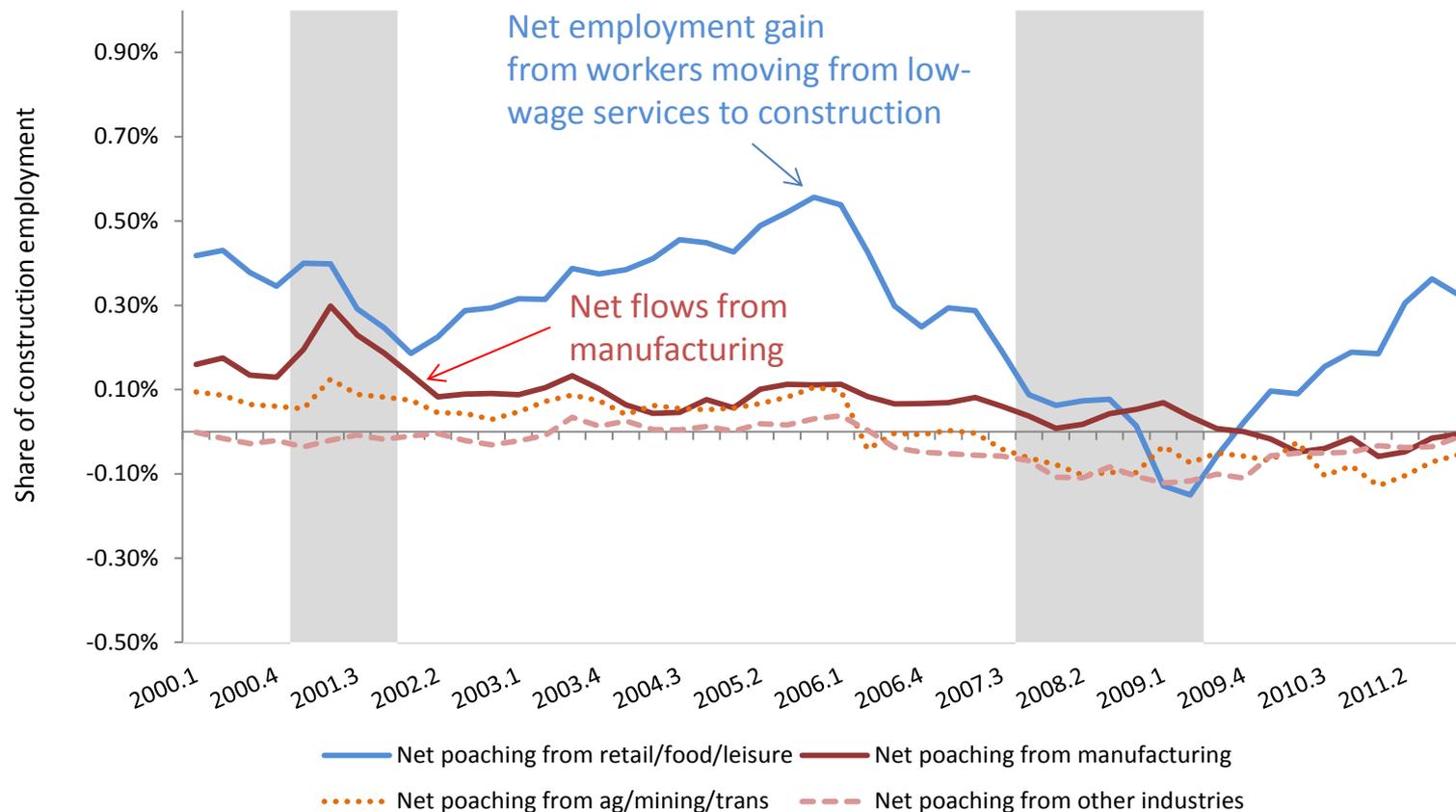
Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

Here is the J2J series for the construction sector:



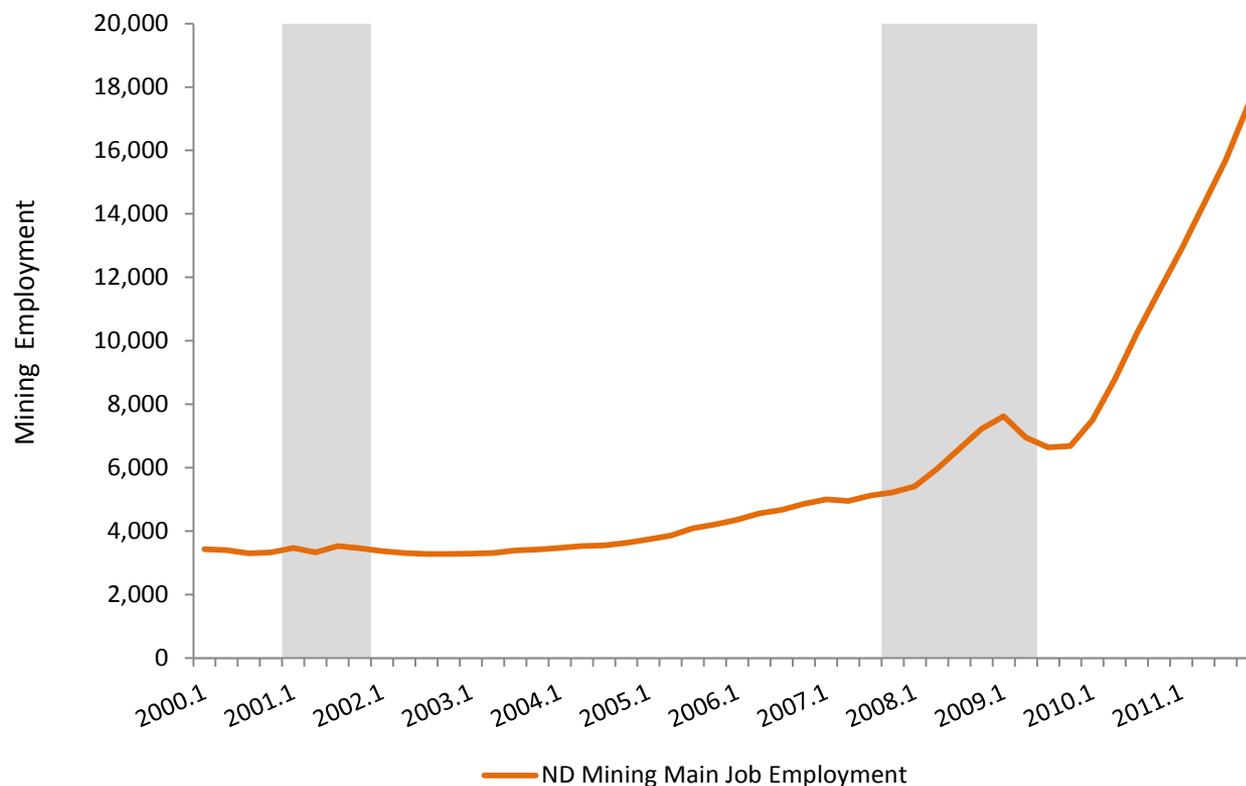
Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

We can then use the OD data to decompose net flows into construction from other industries:



Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

Another example: North Dakota mining: employment growth



Note: Source: J2J flows, dominant beginning of quarter jobs in North Dakota mining sector (NAICS 21). Shaded regions indicate NBER recession quarters. All data are seasonally adjusted.

North Dakota Mining: employment growth via flows from other industries, states, and nonemployment



Note: Shaded regions indicate NBER recession quarters. Some missing state data may bias net nonemployment flows and net flows from other states early in the time series. By 2006, all states except MA are present in the data

AMERICA'S BIGGEST BOOMTOWN

Double your salary in the middle of nowhere, North Dakota

By Blake Ellis October 20, 2011: 9:10 PM ET

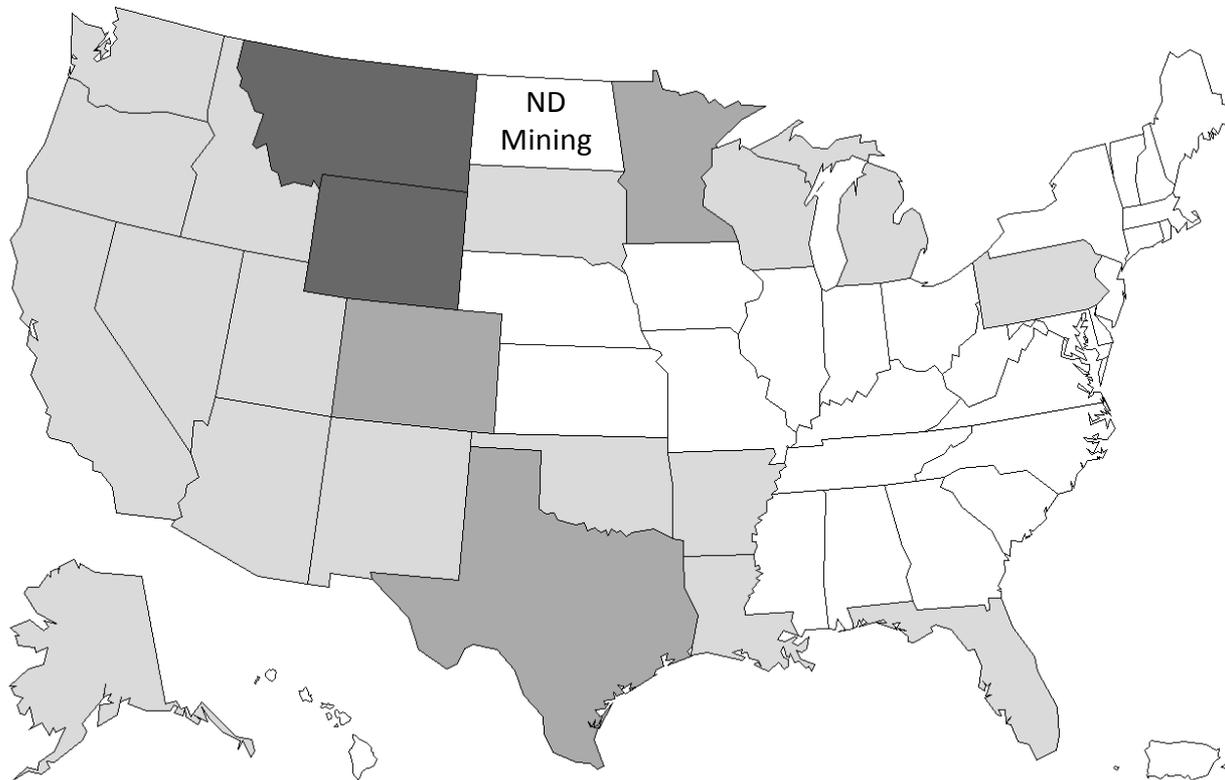


NEW YORK (CNNMoney) – Believe it or not, a place exists where companies are hiring like crazy, and you can make \$15 an hour serving tacos, \$25 an hour waiting tables and \$80,000 a year driving trucks.

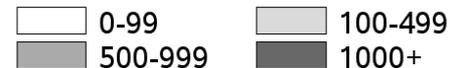
You just have to move to North Dakota. Specifically, to one of the tiny towns surrounding the oil-rich Bakken formation, estimated to hold anywhere between 4 billion and 24 billion barrels of oil.

Where are the out-of-state workers coming from?

Net economic migration into ND mining sector: 2008-2012

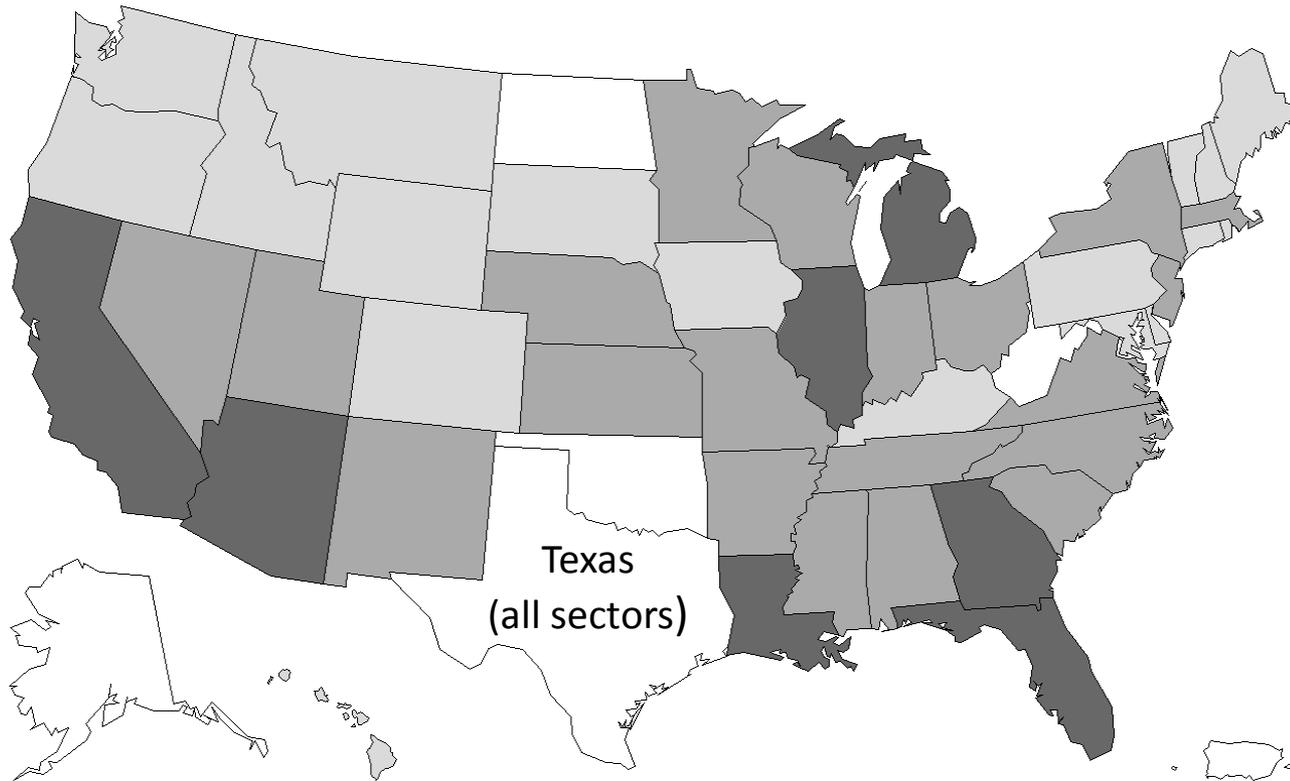


North Dakota Mining, Net Out-of-State Hires: 2008-2012



But don't feel sorry for Texas.....

Net economic migration to Texas: 2008-2012



Texas, Net Out-of-State Hires: 2008-2012

- Out-Migration From TX
- 1-999 Net Migrants
- 1000-4,999 Net Migrants
- 5,000+ Net Migrants

And there's more that I don't have time to show here:

- Earnings changes associated with job change
 - by characteristics of origin and destination jobs
 - By worker characteristics
- Who is hiring the long-term unemployed?
 - by worker characteristics
- Decline in worker turnover by demographics

*Beta J2J statistics will be released
to the public in Fall 2014*

The Job-to-Job flows development team:

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Kevin McKinney

Stephen Tibbets

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Extra Slides

Handling the missing states

National Series:

- Imputation model will adjust national rates and count data
- Will use an approach similar to Abowd and Vilhuber (2011) approach to producing national QWI statistics

State and sub-state series:

- Will be produced subject to data availability
- Some states may be suppressed when other state data is unavailable, if there are enough cross-state job flows to significantly bias the state's J2J series
 - Examples: MA missing until 2010, DC missing until 2006, problematic for New England and Mid-Atlantic releases.

Strengths and limitations of the J2J data

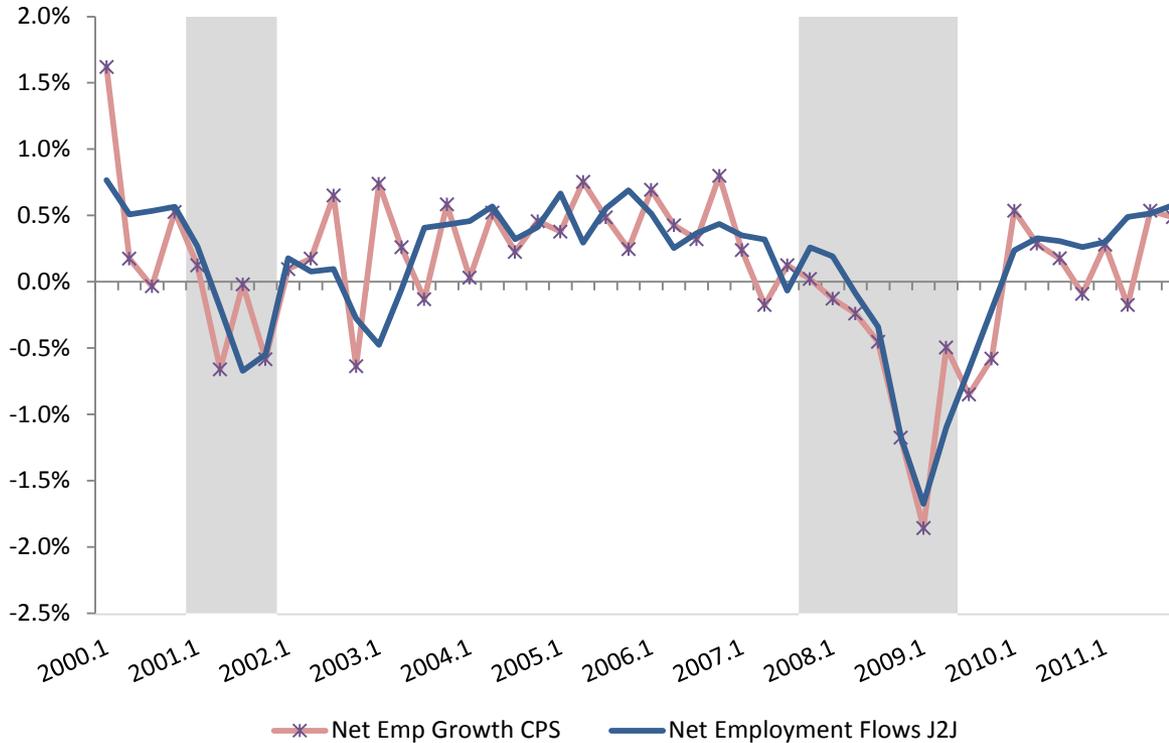
Strengths:

- Can decompose regional/industry/start-up net employment growth into hires to and from nonemployment as well as flows from other sectors and geographies
- Density of administrative data allows job-to-job flows to be examined at much more disaggregated levels – industry, geography, worker demographics - than can be done in surveys such as CPS, NLSY, and SIPP

Limitations:

- Can identify longer nonemployment spells, but not short ones – what we call job-to-job flows can include a short nonemployment spell between jobs
- Only link main jobs held at start of quarter, lose flows between shorter transitory jobs

J2J vs. CPS Net Employment Flows



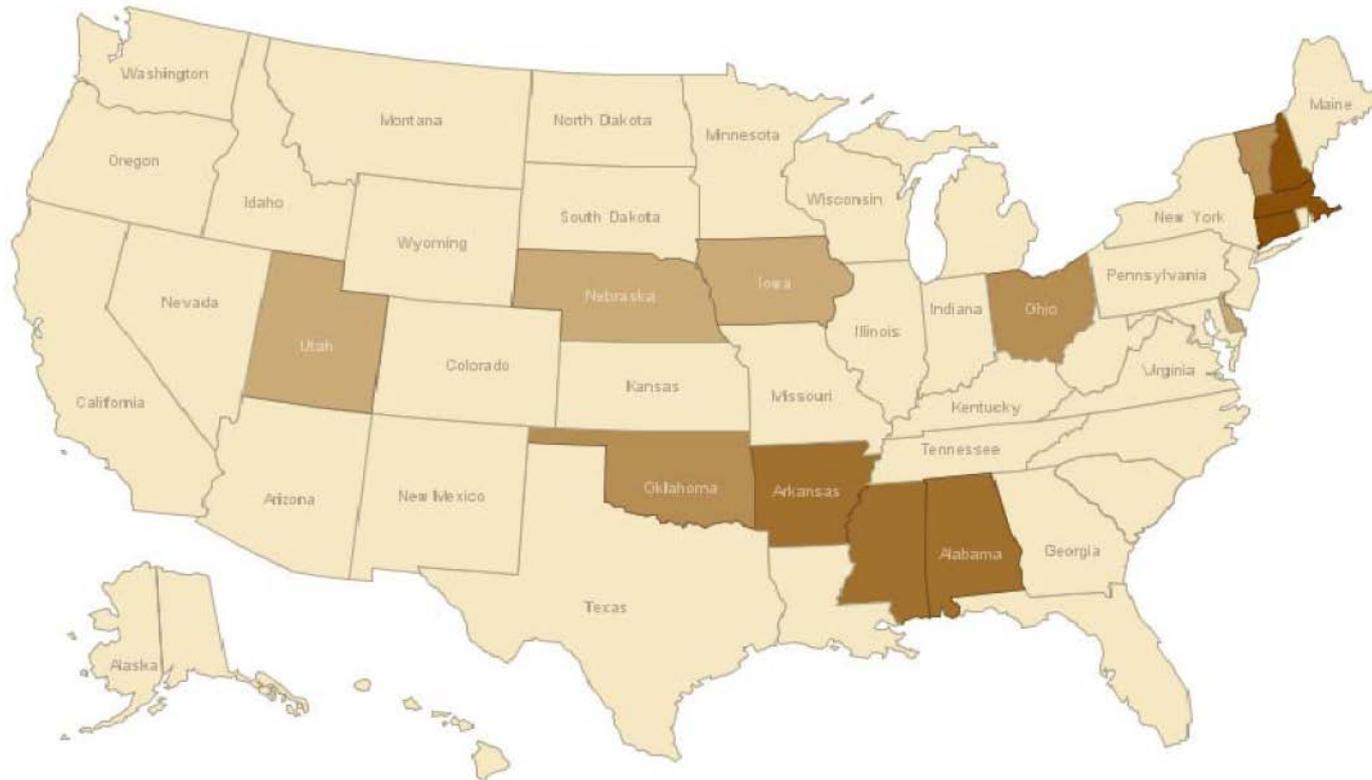
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Disclosure Protection

Use modified **noise infusion**:

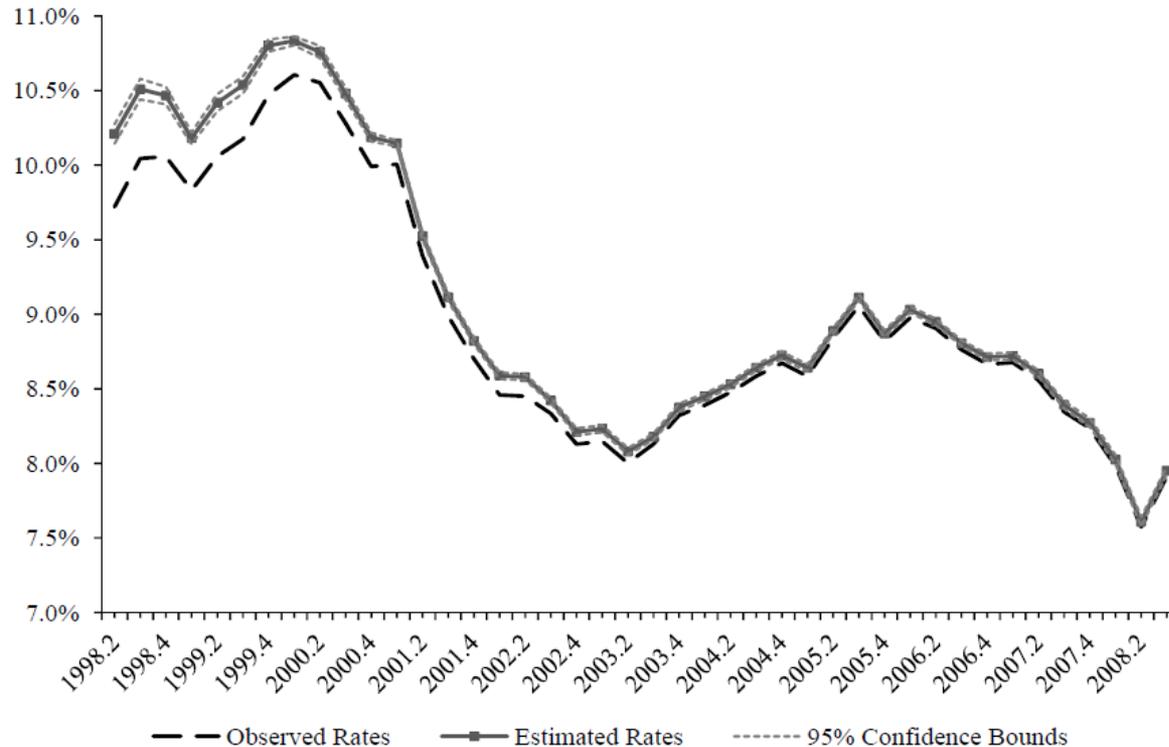
- “Noise Infusion for LEHD Edge Statistics” by Abowd and McKinney (2012)
 - Randomly selects a fuzz factor from either the origin or destination firm
 - For first job / last job, use the fuzz factor from the only job used to compute the measure
- Synthesize small cells
 - Job flows are highly concentrated within certain industries, small geography to small geography moves are also rare
 - Use simple model to fill small cells with synthetic values rather than have many suppressions.

Missing data imputation: states with missing data: 1998-2010



At the national level, missing state bias largely disappears after 2000

Figure 2: Job-to-Job Flow Rates (Within- and Adjacent Quarter Flows), 1998:2 – 2008:3



Notes: Calculations on a 1% sample from the s2008 LEHD snapshot, limited to workers ever employed in state unemployment-insurance taxable employment in CA, FL, GA, IL, KS, MI, NV, NC and ND from 1998-2008. Employment histories of workers are taken from a set of 48 states from 1998-2008. All series are seasonally adjusted. The start year can vary by state, see text for additional details.

Source: Henderson and Hyatt (2012)