Job-to-Job Flows (J2J):
New public use data on worker flows across jobs

LEHD Workshop
March 2016

Erika McEntarfer
Lead Economist
Longitudinal Household Dynamics (LEHD) Program
Center for Economic Studies
U.S. Census Bureau

Joyce Hahn
Analyst
Abt. Associates
& LEHD Program
U.S Census Bureau
Job-to-Job Flows (J2J) fills an important data gap:

In 2000, about $\frac{1}{2}$ of all hires were workers moving from one job to another.

- Most job vacancies are not for entry-level workers

Most job moves are moves ‘up the job ladder’

- $\frac{1}{2}$ of wage growth for young workers is from job change (Topel & Ward, 1992).
- Procyclical worker reallocation from lower paying to higher paying firms (Haltiwanger, Hyatt, & McEntarfer, 2015; Kahn & McEntarfer, 2014).

Better understanding of worker moves across industries and labor markets
Anticipated J2J data users:

Federal policy makers interested in the overall health of the labor market
  - 70% of decline in hires in Great Recession was decline in job-to-job moves.

State governors, economic development, and labor market analysts
  - concerned about losing workers to job opportunities in other states, more information about own in-migrants
  - better targeting trade adjustment labor training

Academic and non-profit researchers
  - interested in the reallocation of workers in response to demand shocks
National Job-to-Job Flows: Steep decline in job change in last two recessions

Note: Source: Job-to-Job Flows, national data. Shaded regions indicate NBER recession quarters. All data are seasonally adjusted.
Within months of initial beta release, J2J appeared in the 2015 Economic Report of the President:

**Figure 3-19**

*Hires, Separations, and Job-to-Job Flow Rates, 2000–2013*

Percent of Employment

2013:Q3

Note: J2J job-to-job hires are generally equal to J2J job-to-job separations (not shown). Shading denotes recession.

Overview of Presentation:

Introduction to Job-to-Job Flows (J2J)

Key J2J statistics and how they compare to other available data

Taking the data for a drive:
- Where are North Dakota mining workers coming from?
- Where are Louisiana teachers going?
- Where did all the manufacturing workers go?

Walkthrough of how to generate examples above
Key J2J Files:

Count and rate files:
- Hires and separations, by whether or not the hire/separation was a job-to-job flow or an employment flow. Currently available by (more detailed tabs forthcoming in later releases):
  - National and state
  - By worker demographics
  - By industry sector, firm age and size
  - Seasonally adjusted and not seasonally adjusted data

Origin-Destination (OD) files:
- For job-to-job flows only: characteristics of origin and destination jobs. Currently available by (more detailed tabs forthcoming in later releases):
  - Origin State and Industry by Destination State and Industry
  - Origin State to Destination State by worker demographics
  - Origin State and (Age/Size) by Destination State and (Age/Size)
Key J2J Statistics:

Job-to-job hires/separations:
- Hires and separations from one job to another, with little or no nonemployment between job spells
  - EEHire/EESep: Hires and separations, job change occurs within the quarter
  - AQHire/AQSep: Hires and separations, job change occurs across the quarter
  - J2JHire/J2JSep: Sum of EE and AQ, our preferred measure of hires/separations associated with job change

Hires/separations from/to persistent nonemployment:
- Hires and separations to/from longer nonemployment spells
  - NEPersist/ENPersist: Hires and separations where worker is not employed at either end of the quarter prior to hire/after separation
  - NEFullQ/ENFullQ: Subset of NEPersist/ENPersist, hires and separations where worker is not employed for the entire quarter prior to hire/after separation
Conceptually, a flow chart (hires):

New Main Hire into Manufacturing firm

Did worker hold a different main job at the start of this quarter?

No job held at start of quarter

Did he hold another main job at the start of the previous quarter?

No job held at start of previous quarter

Did worker leave this job during the quarter?

Yes

A within-quarter job change (EEHire)

Yes

An adjacent-quarter job change (AQHire)

No. (residual of Main Job Ends-MainSep)

Yes

Hire from persistent nonemployment (NEHire)
How do J2J compare to other related series?
Comparison to JOLTS: Layoffs

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.
Comparison to JOLTS: Quits

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.
Taking the J2J data for a drive:

Example 1: Where are North Dakota mining workers coming from?
Net migration of out-of-state workers into the North Dakota mining sector: 2010-2014

Source: U.S. Bureau of Census, Job-to-Job Flows

Source: J2J prototype origin-destination data. J2J data is not yet available for Massachusetts and Kansas, data for all other states is present. Net migration of out-of-state workers is hires into the North Dakota mining sector of workers who recently held a job in a different state, minus flows of North Dakota mining workers to jobs in that state.
Net in-state inflows into the North Dakota mining sector: 2010-2014

Source: U.S. Bureau of Census, Job-to-Job Flows

Source: J2J prototype origin-destination data. Net in-state inflows is hires into the North Dakota mining sector of workers who recently held a job in a different industry in North Dakota, minus flows of North Dakota mining workers to jobs in that industry in North Dakota.
Example 2:

Where are Louisiana’s teachers going?
Joyce was in AmeriCorps in the Baton Rouge area after Katrina...

- She worked in the local schools
- There were serious problems with teacher retention
  - There were concerns that Katrina evacuees that were teachers weren’t coming back to Louisiana
  - That they found jobs and stayed put
- So in this example, we look at the J2J data to answer the question Joyce had back in 2007
  - How many teachers are leaving Louisiana for other education jobs?
Louisiana education workers leaving to take education jobs out-of-state: 2005.3-2014.2

Source: J2J prototype origin-destination data. J2J data is not yet available for Massachusetts and Kansas, data for all other states is present.
Louisiana education workers leaving to take non-education jobs out-of-state: 2005.3-2014.2

Source: U.S. Bureau of Census, Job-to-Job Flows

Source: J2J prototype origin-destination data. J2J data is not yet available for Massachusetts and Kansas, data for all other states is present.
In-state separations from the Louisiana education sector: 2005.3-2014.2

Source: J2J prototype origin-destination data. In-state separations is flows of Louisiana education sector workers to jobs in a different industry in Louisiana.
Example 3:

Where did all the manufacturing workers go?
There was a surprisingly swift decline in U.S. manufacturing employment between 2000-2013.
J2J: decompose employment decline into flows to other industries vs. flows to long nonemployment spells

Net employment change, manufacturing

Net employment gain/loss from cross-industry job-to-job moves (natl)

Net employment gain from workers moving from other industries to manufacturing

Net employment decline, worker separations to long nonemployment spells
Separation rates from manufacturing to other industries

Blue: Separation rate of manufacturing workers to low-wage services

Red: Separation rate of manufacturing workers to construction jobs

Separation rates from manufacturing to other industries:
- Manufacturing Workers to Retail, Food Service, and Hospitality Jobs
- Manufacturing Workers to Mining, Utilities, Transportation, and Agriculture Jobs
- Manufacturing Workers to Jobs in Other Industries
- Manufacturing Workers to Construction Jobs
What happened to downsized manufacturing workers who experienced longer nonemployment spells?:

J2J OD currently available only for workers with less than 4-6 months of nonemployment between job spells.

We hope to be able to release OD data for workers with longer nonemployment spells in later releases.

For now, I can tell you a little about what happened to them: For the 2000-2003 separators:

- ~35% recalled to previous employer or found another manufacturing job
- ~45% found jobs in other industries
  - ½ of these after a nonemployment spell of over a year, mostly appear to become general laborers and truck drivers
- ~20% have no subsequent UI-covered employment.
How to do the examples shown here: a walkthrough of how to use the beta data

A J2J data application is coming!

But until it’s here...things are a bit more basic
To start – how to find the beta J2J data:

Job-to-Job Flows (J2J) is a new set of statistics on worker reallocation in the United States. This initial release of national data distinguishes hires and separations associated with job change from hires from and separations to nonemployment.

View J2J Data Page

What’s New?

- 12/03/14: OnTheMap Version 6.3 Released
- 11/18/14: Beta Release of Job-to-Job Flows
- 09/17/14: Presentations from 2014 LEHD Conference

View all announcements
Example 1:
How to get the data to make this map

Louisiana Educational Services, Separations

Source: U.S. Bureau of Census, Job-to-Job Flows
First pull the industry sector level data

Select Louisiana
Select the ‘OD’ file
Select ‘CVS’ format
Grab the ‘industry sector’ file
Keep geography, industry, year, quarter, geography_orig, industry_orig, EE, and AQHire. Delete all other columns.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>periodicity</td>
<td>seasonadj</td>
<td>geo_level</td>
<td>geography</td>
<td>ind_level</td>
<td>industry</td>
<td>ownercode</td>
<td>sex</td>
<td>agegrp</td>
<td>race</td>
<td>ethnicity</td>
<td>education</td>
<td>firmage</td>
<td>firmsize</td>
</tr>
<tr>
<td>2</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>A</td>
<td>0</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>11</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>21</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>22</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>23</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>31-33</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>42</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>44-45</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>48-49</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>51</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>52</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>13</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>53</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>54</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>55</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>56</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>17</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>61</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>62</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>71</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>Q</td>
<td>U</td>
<td>S</td>
<td>22</td>
<td>S</td>
<td>72</td>
<td>A00</td>
<td>0</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
</tr>
</tbody>
</table>
Then filter geography_orig to obtain the origin state of interest.
Then filter industry_orig to obtain the origin industry of interest. Repeat with industry for the destination industry of interest.
Then filter years to obtain the period of interest. (In the interest of time, let’s choose only one quarter: 2005.1)
Then sum EE and AQHire to get all Outflows for every state by year and quarter.
Example 2: How to make this graph

Note: Source: Job-to-Job Flows, national data. Shaded regions indicate NBER recession quarters. All data are seasonally adjusted.
First access the data

Grab the 'rates' file

We’re using national data this time

Grab ‘all demographics, all industries, all firm size/age, seasonally adjusted’ file
Job-to-Job Flow Rates

Source: United States Census Bureau

Release: 2014Q3

Data Schema version: V4.1-draft

National rates, all firms, all workers (Seasonally Adjusted)

<table>
<thead>
<tr>
<th>periodicity</th>
<th>seasonadj</th>
<th>geo_level</th>
<th>geography</th>
<th>ind_level</th>
<th>industry</th>
<th>ownercode</th>
<th>sex</th>
<th>agegrp</th>
<th>race</th>
<th>ethnicity</th>
<th>education</th>
<th>firmage</th>
<th>firm</th>
<th>firm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>S</td>
<td>N</td>
<td>00</td>
<td>A</td>
<td>00</td>
<td>A00</td>
<td>A0</td>
<td>A0</td>
<td>A0</td>
<td>E0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Confirm grabbed the correct file for your analysis
Recall that Main Hires is the sum of:

* J2JHire (hires of workers changing jobs)
* NEPersist (hires of workers from persistent nonemployment spells)

Hide everything except the variables you want to graph.

<table>
<thead>
<tr>
<th>year</th>
<th>quarter</th>
<th>J2JHire</th>
<th>J2JSep</th>
<th>NEPersist</th>
<th>NEPersist</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>2</td>
<td>0.069</td>
<td>0.071</td>
<td>0.068</td>
<td>0.065</td>
</tr>
<tr>
<td>2000</td>
<td>3</td>
<td>0.067</td>
<td>0.069</td>
<td>0.066</td>
<td>0.064</td>
</tr>
<tr>
<td>2000</td>
<td>4</td>
<td>0.067</td>
<td>0.067</td>
<td>0.066</td>
<td>0.062</td>
</tr>
<tr>
<td>2001</td>
<td>1</td>
<td>0.065</td>
<td>0.065</td>
<td>0.067</td>
<td>0.064</td>
</tr>
<tr>
<td>2001</td>
<td>2</td>
<td>0.063</td>
<td>0.062</td>
<td>0.066</td>
<td>0.067</td>
</tr>
<tr>
<td>2001</td>
<td>3</td>
<td>0.059</td>
<td>0.059</td>
<td>0.061</td>
<td>0.069</td>
</tr>
<tr>
<td>2001</td>
<td>4</td>
<td>0.056</td>
<td>0.056</td>
<td>0.061</td>
<td>0.069</td>
</tr>
<tr>
<td>2002</td>
<td>1</td>
<td>0.055</td>
<td>0.054</td>
<td>0.066</td>
<td>0.065</td>
</tr>
<tr>
<td>2002</td>
<td>2</td>
<td>0.055</td>
<td>0.055</td>
<td>0.066</td>
<td>0.064</td>
</tr>
<tr>
<td>2002</td>
<td>3</td>
<td>0.054</td>
<td>0.054</td>
<td>0.065</td>
<td>0.065</td>
</tr>
<tr>
<td>2002</td>
<td>4</td>
<td>0.053</td>
<td>0.052</td>
<td>0.063</td>
<td>0.068</td>
</tr>
<tr>
<td>2003</td>
<td>1</td>
<td>0.052</td>
<td>0.052</td>
<td>0.063</td>
<td>0.068</td>
</tr>
<tr>
<td>2003</td>
<td>2</td>
<td>0.05</td>
<td>0.05</td>
<td>0.066</td>
<td>0.065</td>
</tr>
<tr>
<td>2003</td>
<td>3</td>
<td>0.051</td>
<td>0.05</td>
<td>0.067</td>
<td>0.063</td>
</tr>
<tr>
<td>2003</td>
<td>4</td>
<td>0.052</td>
<td>0.052</td>
<td>0.066</td>
<td>0.062</td>
</tr>
<tr>
<td>2004</td>
<td>1</td>
<td>0.052</td>
<td>0.053</td>
<td>0.067</td>
<td>0.061</td>
</tr>
<tr>
<td>2004</td>
<td>2</td>
<td>0.053</td>
<td>0.054</td>
<td>0.064</td>
<td>0.061</td>
</tr>
<tr>
<td>2004</td>
<td>3</td>
<td>0.053</td>
<td>0.054</td>
<td>0.064</td>
<td>0.061</td>
</tr>
<tr>
<td>2004</td>
<td>4</td>
<td>0.055</td>
<td>0.056</td>
<td>0.065</td>
<td>0.061</td>
</tr>
<tr>
<td>2005</td>
<td>1</td>
<td>0.055</td>
<td>0.055</td>
<td>0.065</td>
<td>0.059</td>
</tr>
<tr>
<td>2005</td>
<td>2</td>
<td>0.056</td>
<td>0.057</td>
<td>0.065</td>
<td>0.06</td>
</tr>
</tbody>
</table>
Approximately 70% of the fall in hiring in the Great Recession was due to a fall in job change.

Blue: Decline in hires and separations due to job change

Red: Decline in hires and separations due to employment flows
Example 3: How to make this graph

- Net employment gain from workers moving from other industries to manufacturing
- Net employment change, manufacturing
- Net employment gain/loss from cross-industry job-to-job moves (natl)
- Net employment gain/loss from workers moving in/out of employment (natl)
- Net employment change
- Net employment decline, worker separations to long nonemployment spells
First pull the industry sector level data

We’re using national but state files also available

Grab the ‘rates’ file

This time, grab the ‘industry sector’ file
Then filter to obtain the industry sector of interest.
We are using the same four variables as before.

Can make same graph as before, but may not be the most effective way to display the information.

At national level, J2JHire/J2JSep cancel out but not here.
Net employment growth in industry = Net growth from industry switching + net growth from employment flows
Questions or comments:

Erika McEntarfer
erika.mcentarfer@census.gov

Joyce Hahn
joyce.key.hahn@census.gov