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

LEHD Workshop
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Job-to-Job Flows (J2J) fills an important data gap:

In 2000, about ½ 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'

- ½ 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.

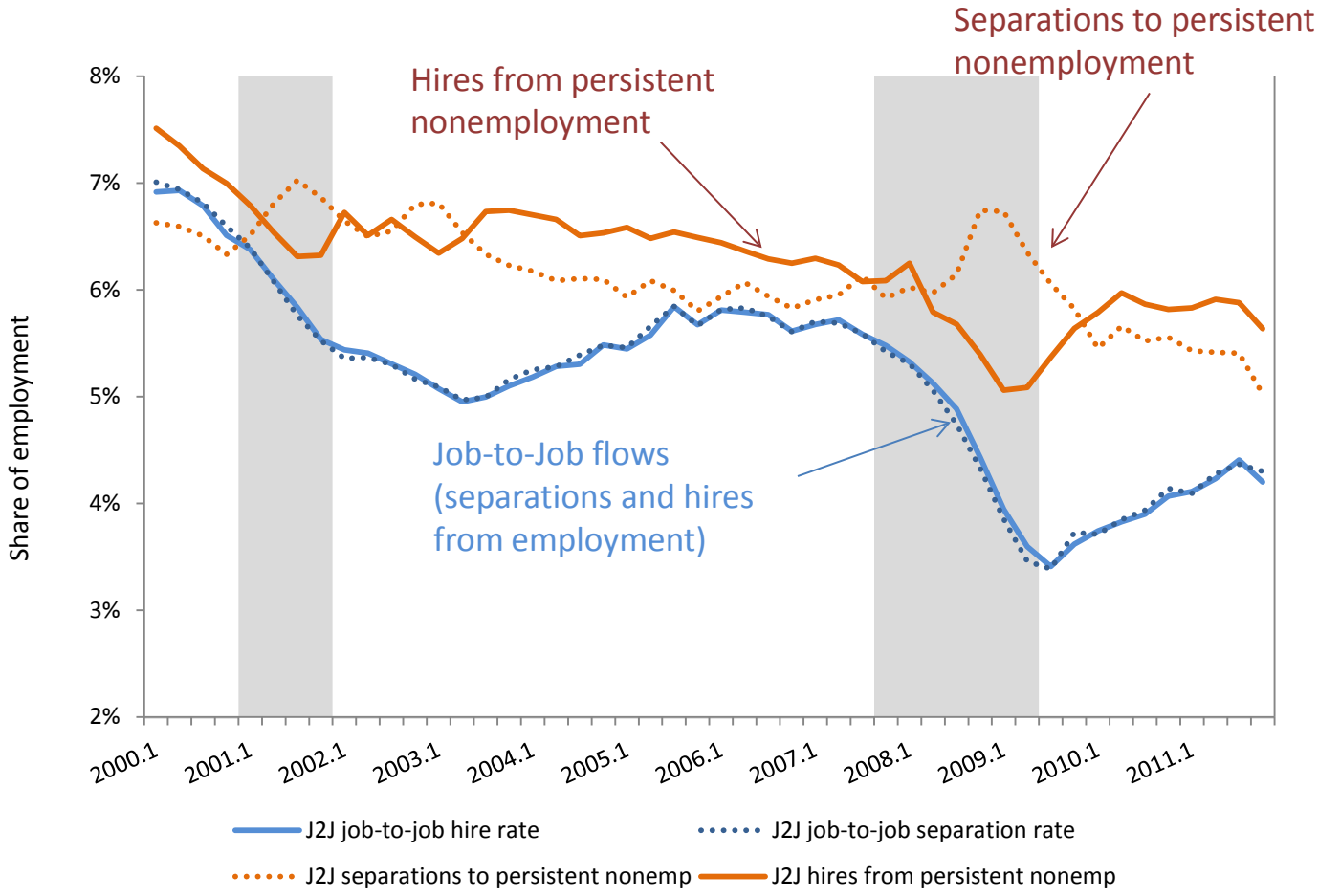
State governors, economic development, and labor market analysts

- 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

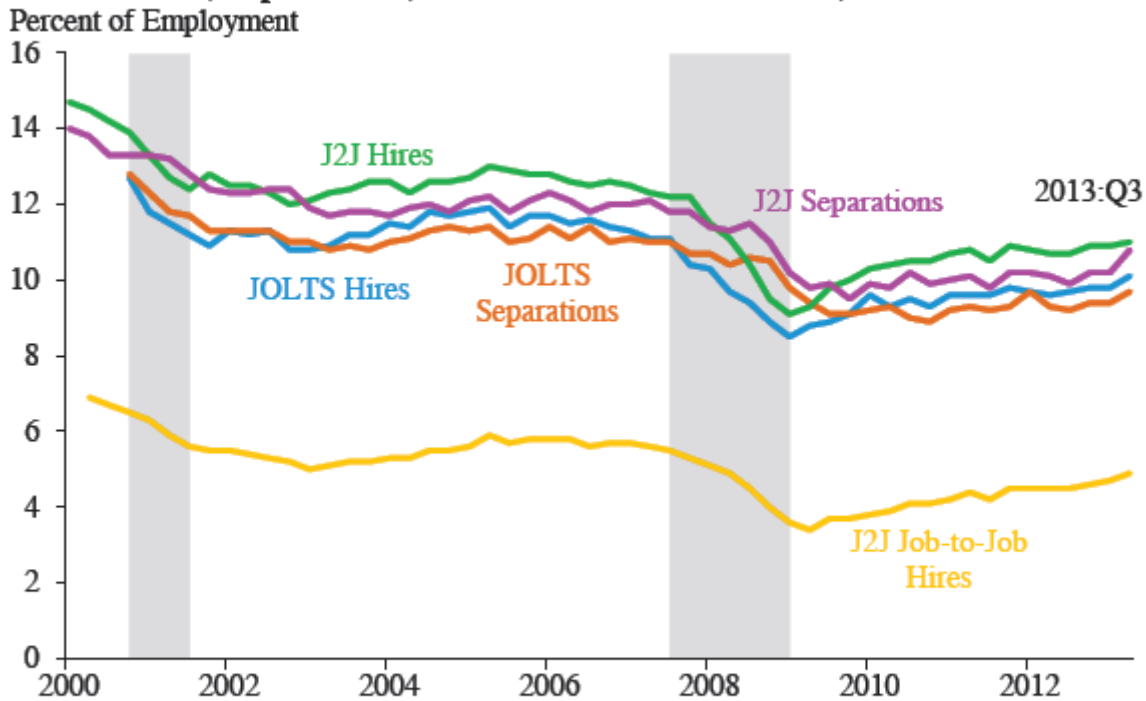


Note: Source: Job-to-Job Flows, national data. Shaded regions indicate NBER recession quarters. All data are seasonally adjusted.

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



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

Source: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey; Census Bureau, Job-to-Job Flows.

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:

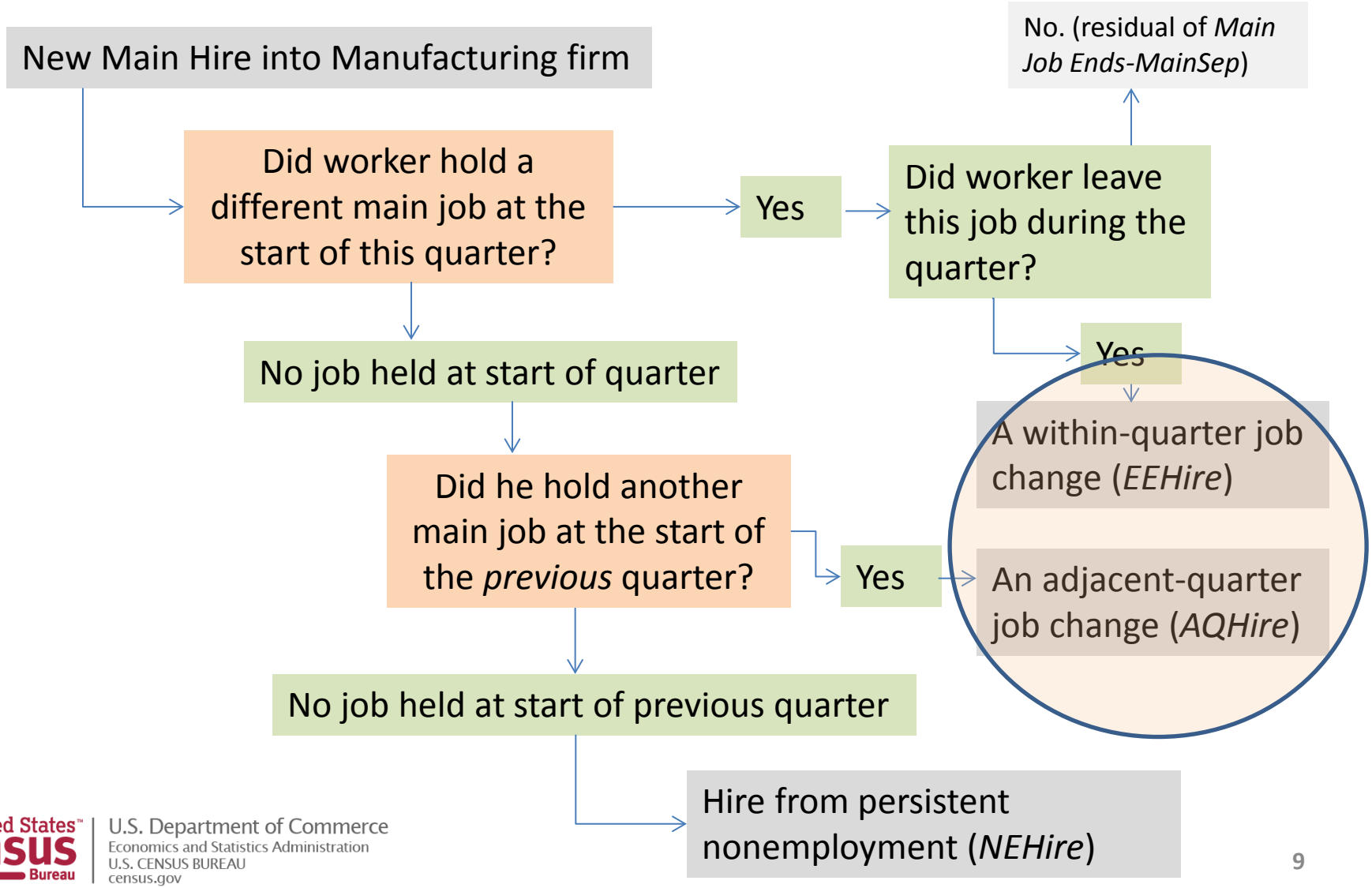
Job-to-job hires/separations:

- 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:

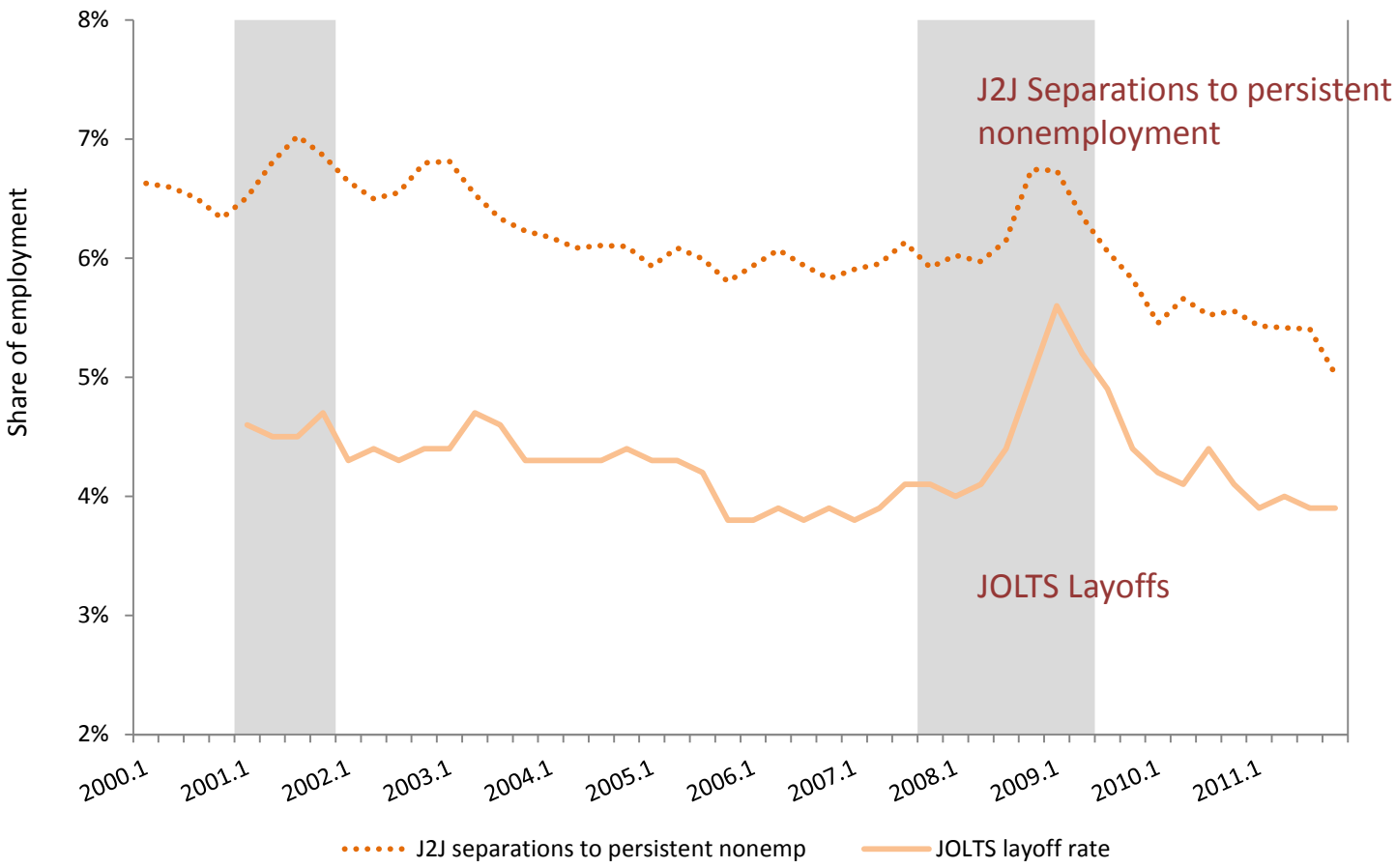
- Hires and separations to/from *longer nonemployment spells*
  - *NEPersist/ENPersist: Hires and separations where worker is not employed at either end of the quarter prior to hire/after separation*
  - *NEFullQ/ENFullQ: Subset of NEPersist/ENPersist, hires and separations where worker is not employed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

Conceptually, a flow chart (hires):



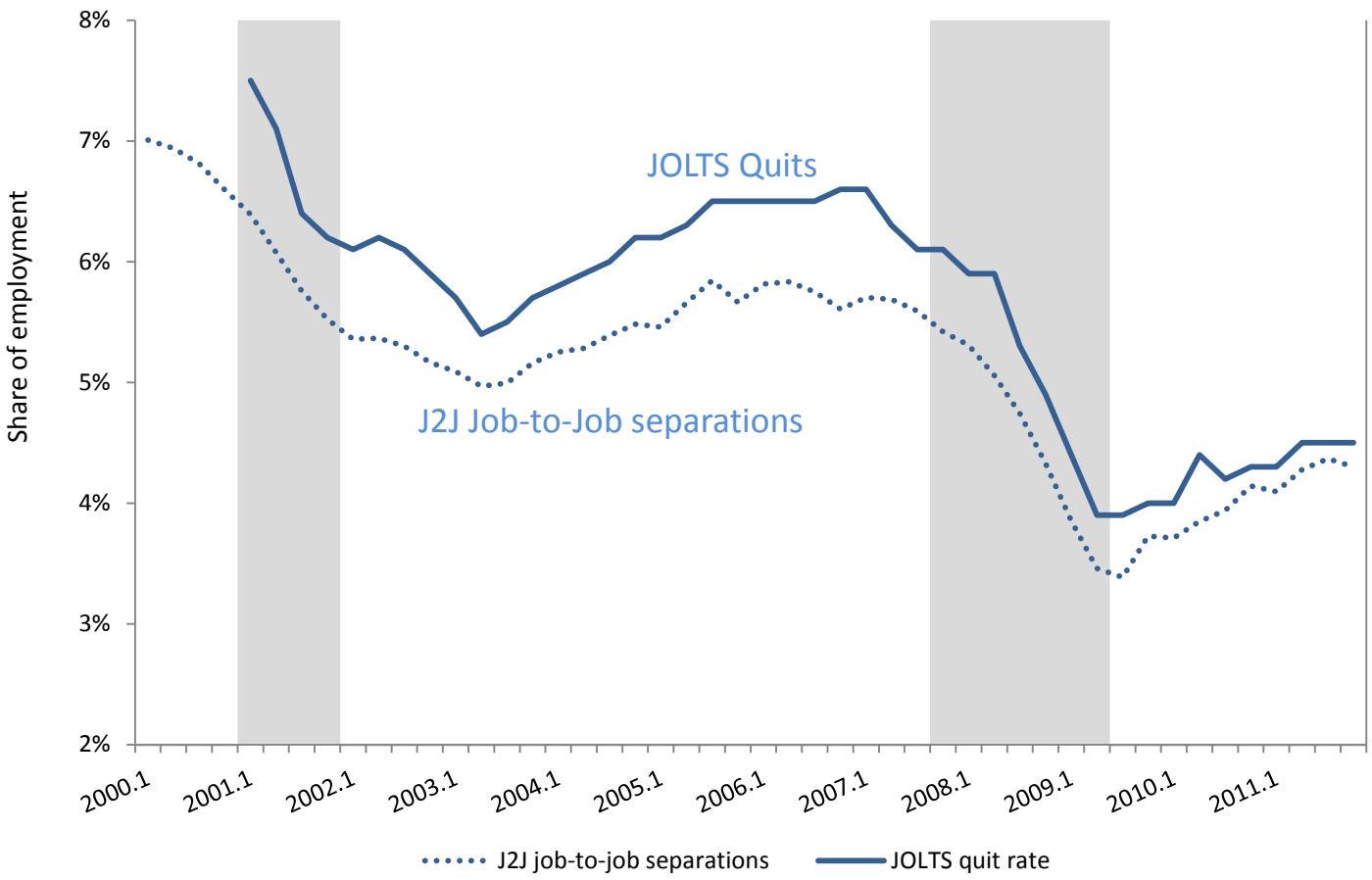
How do J2J compare to other related series?:

Comparison to JOLTS: Layoffs



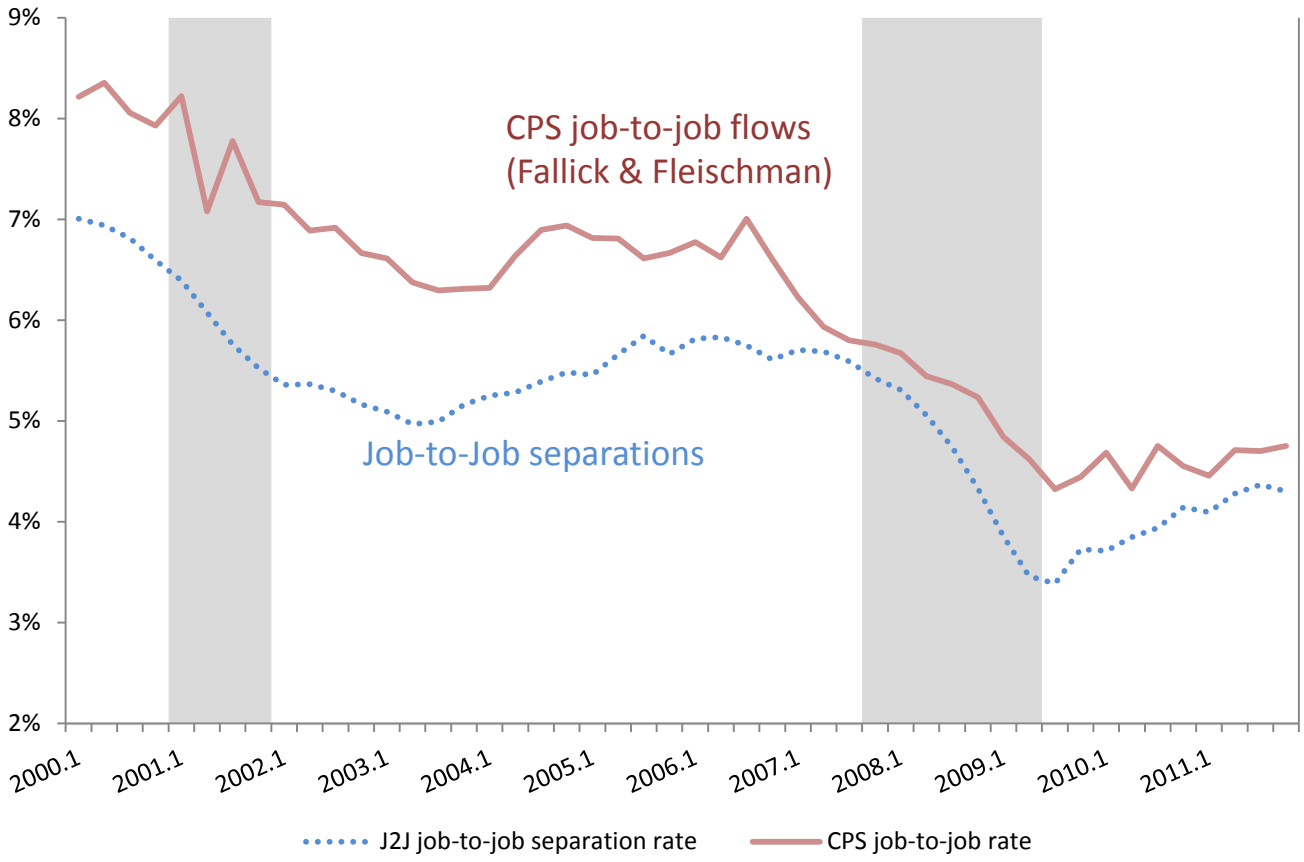
Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

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

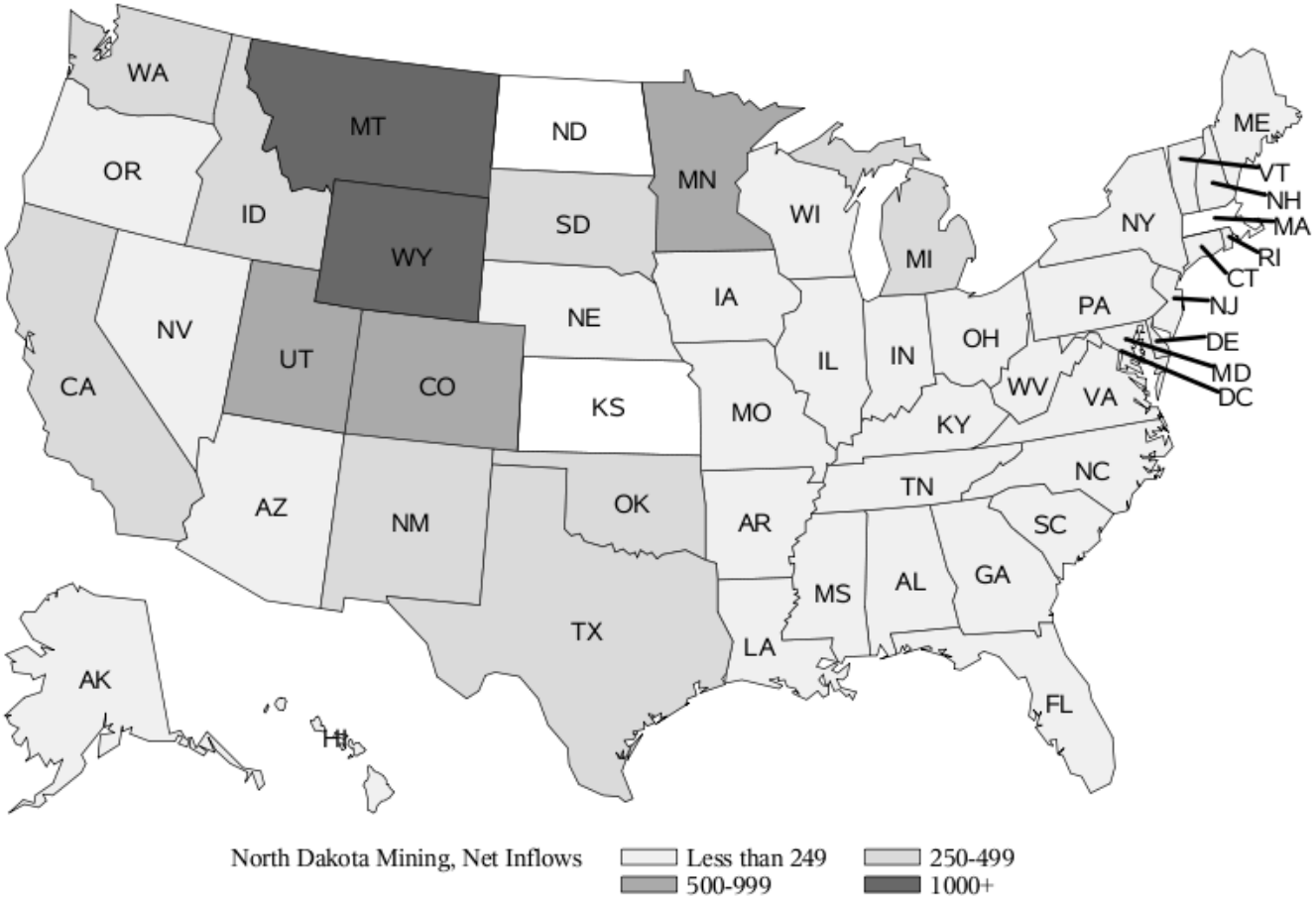


Note: Shaded regions indicate NBER recession quarters. All data are seasonally adjusted. These J2J tabulations do not include planned adjustments to the J2J series to account for partially-missing geography early in the time series.

Taking the J2J data for a drive:

Example 1: Where are North Dakota mining workers coming from?

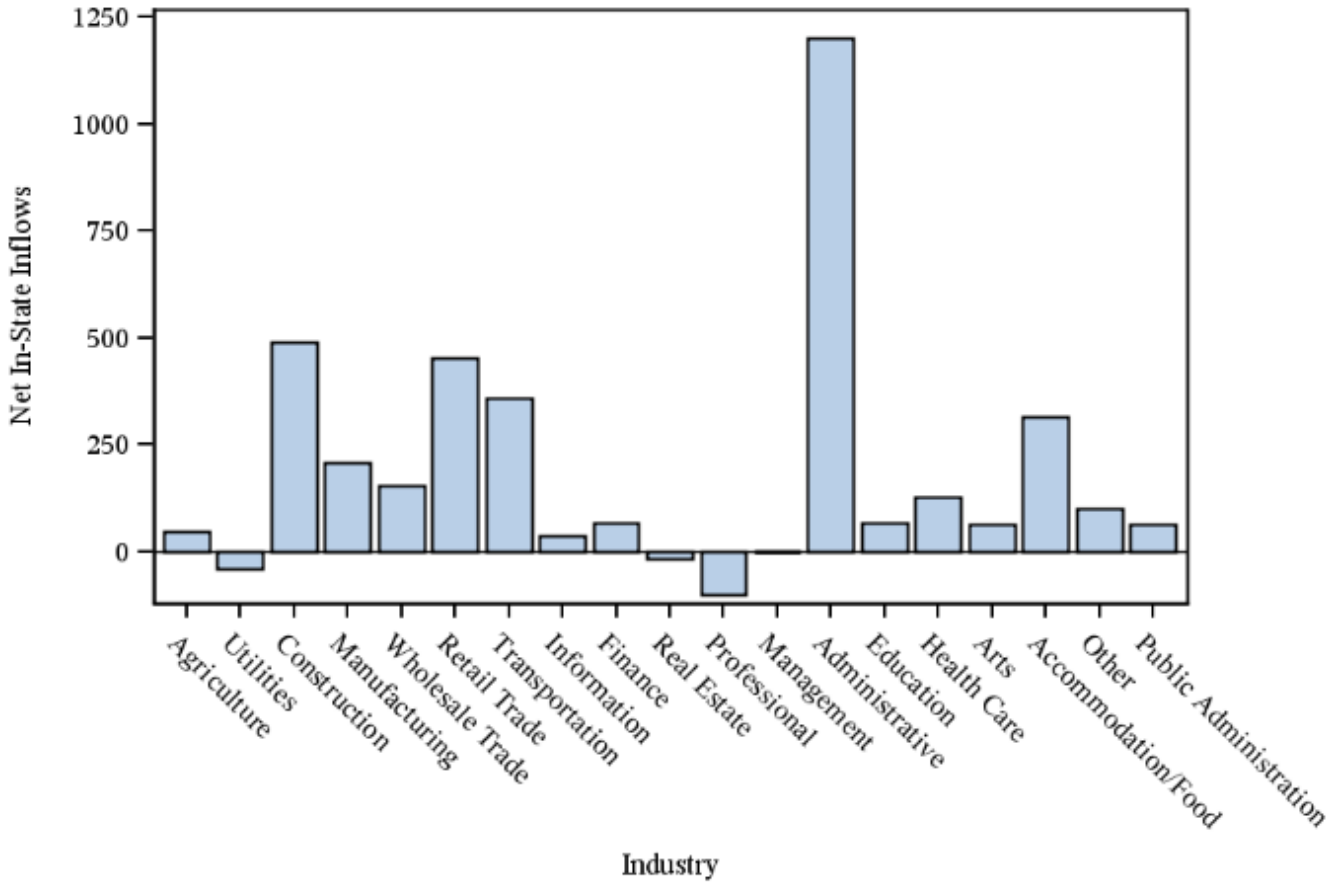
Net migration of out-of-state workers into the North Dakota mining sector: 2010-2014



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.

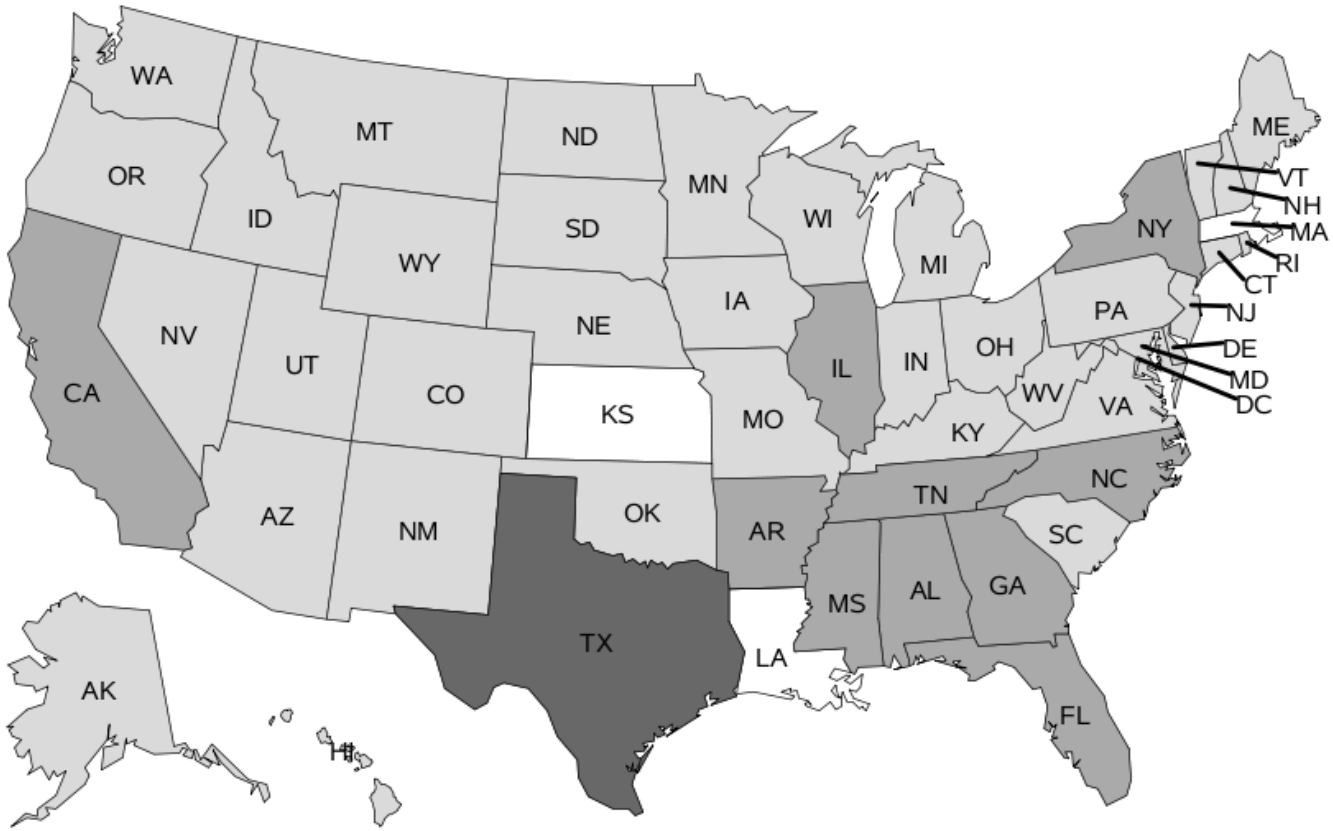
Example 2:

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?

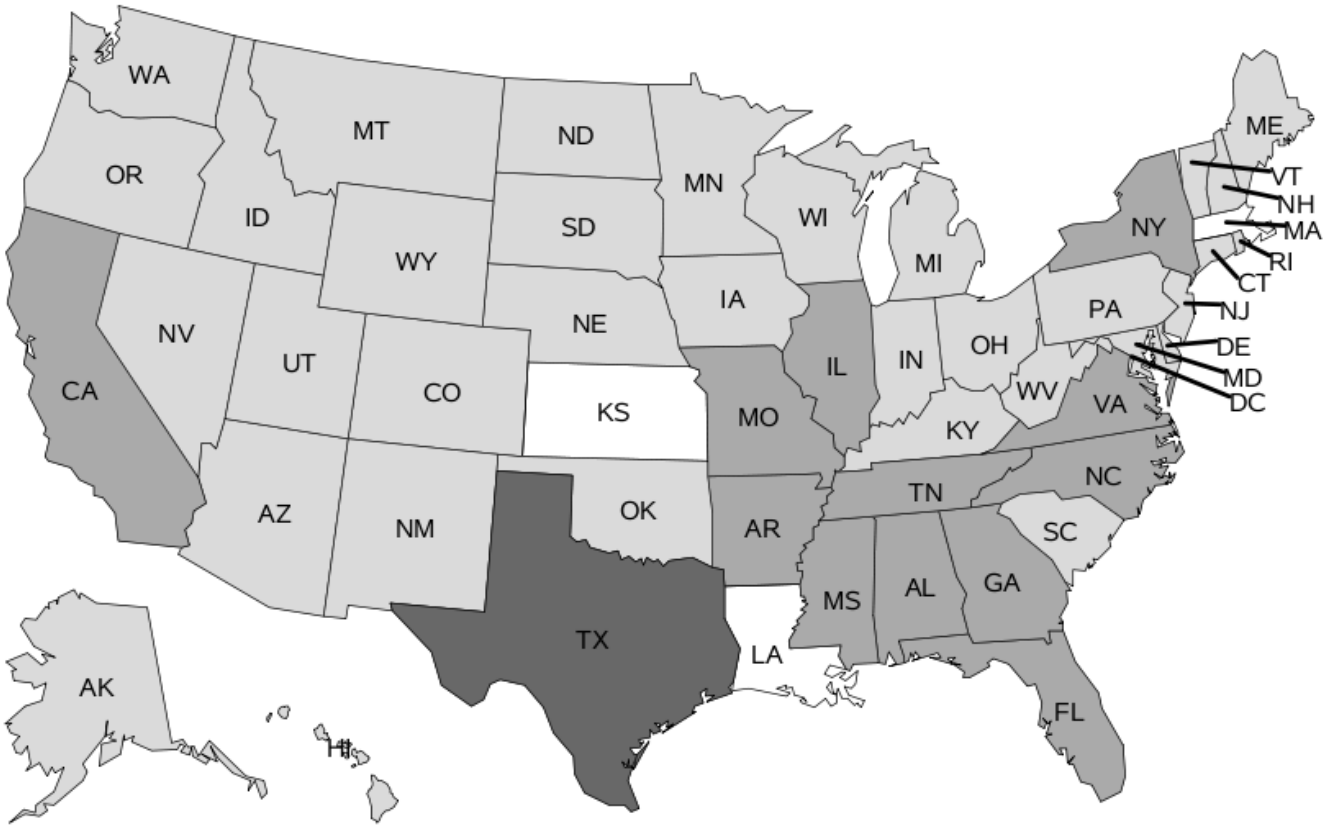
Louisiana education workers leaving to take education jobs out-of-state: 2005.3-2014.2



Source: 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.

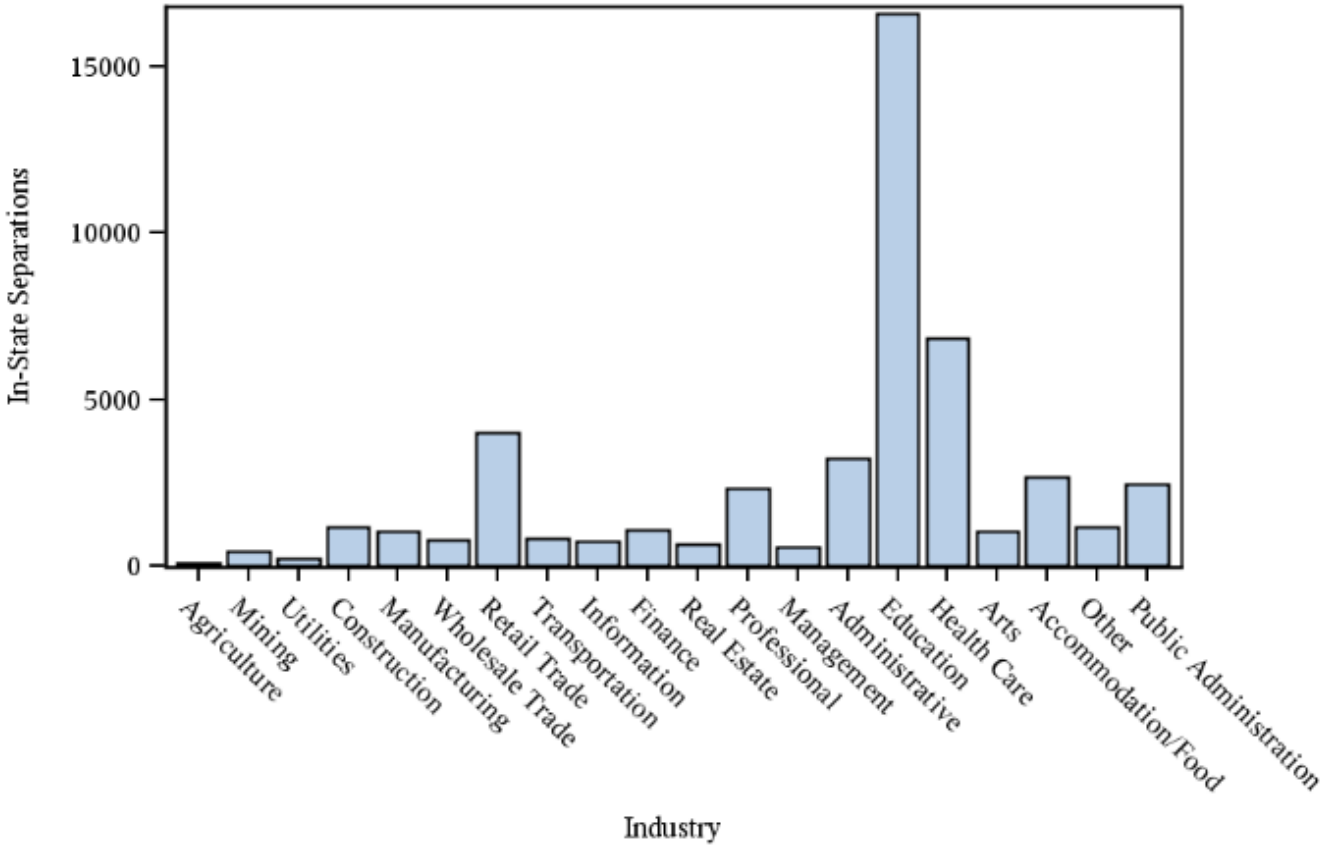
Louisiana education workers leaving to take *non-education* jobs out-of-state: 2005.3-2014.2



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



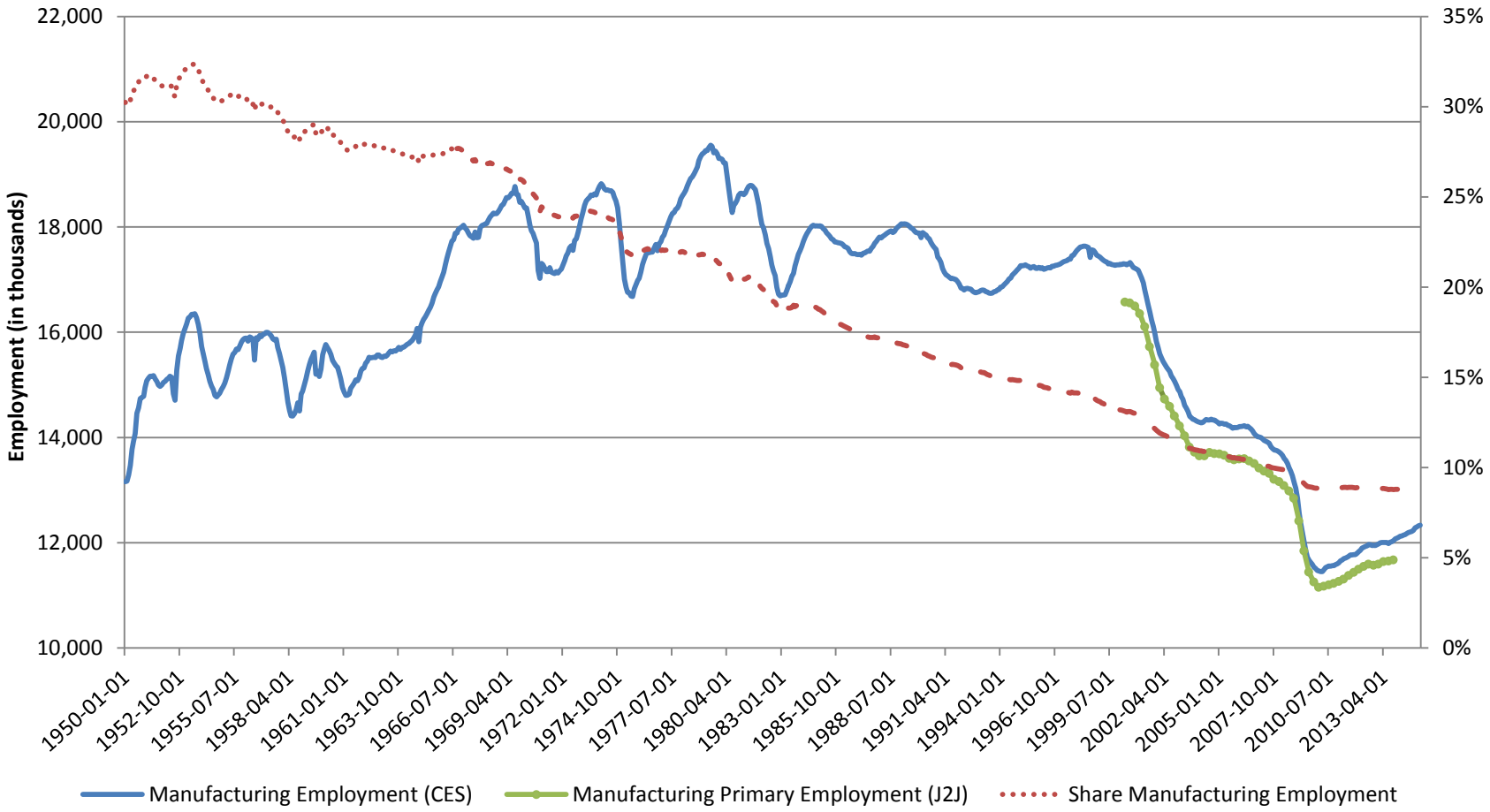
Source: U.S. Bureau of Census, Job-to-Job Flows

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

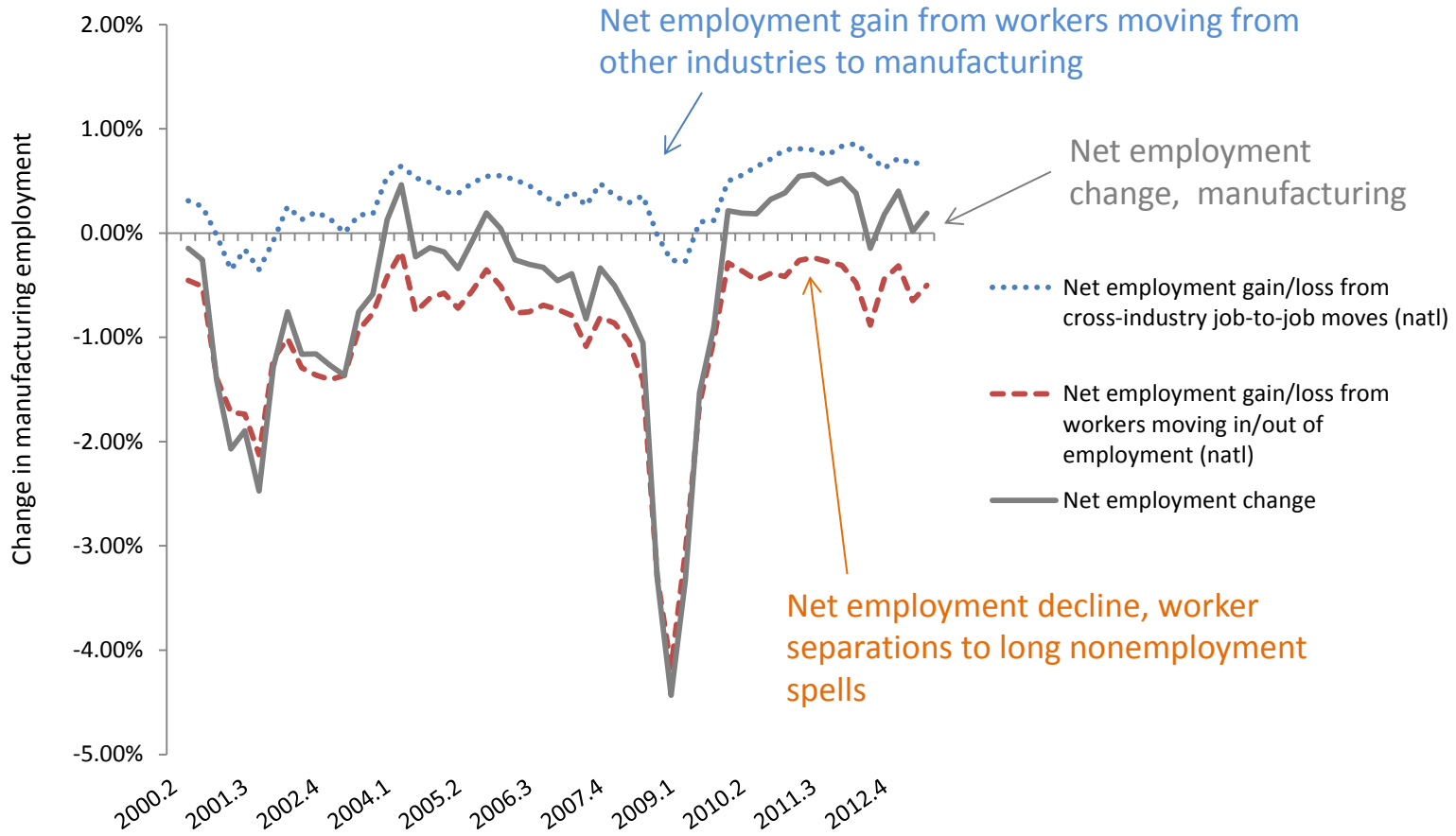
Example 3:

Where did all the manufacturing workers go?

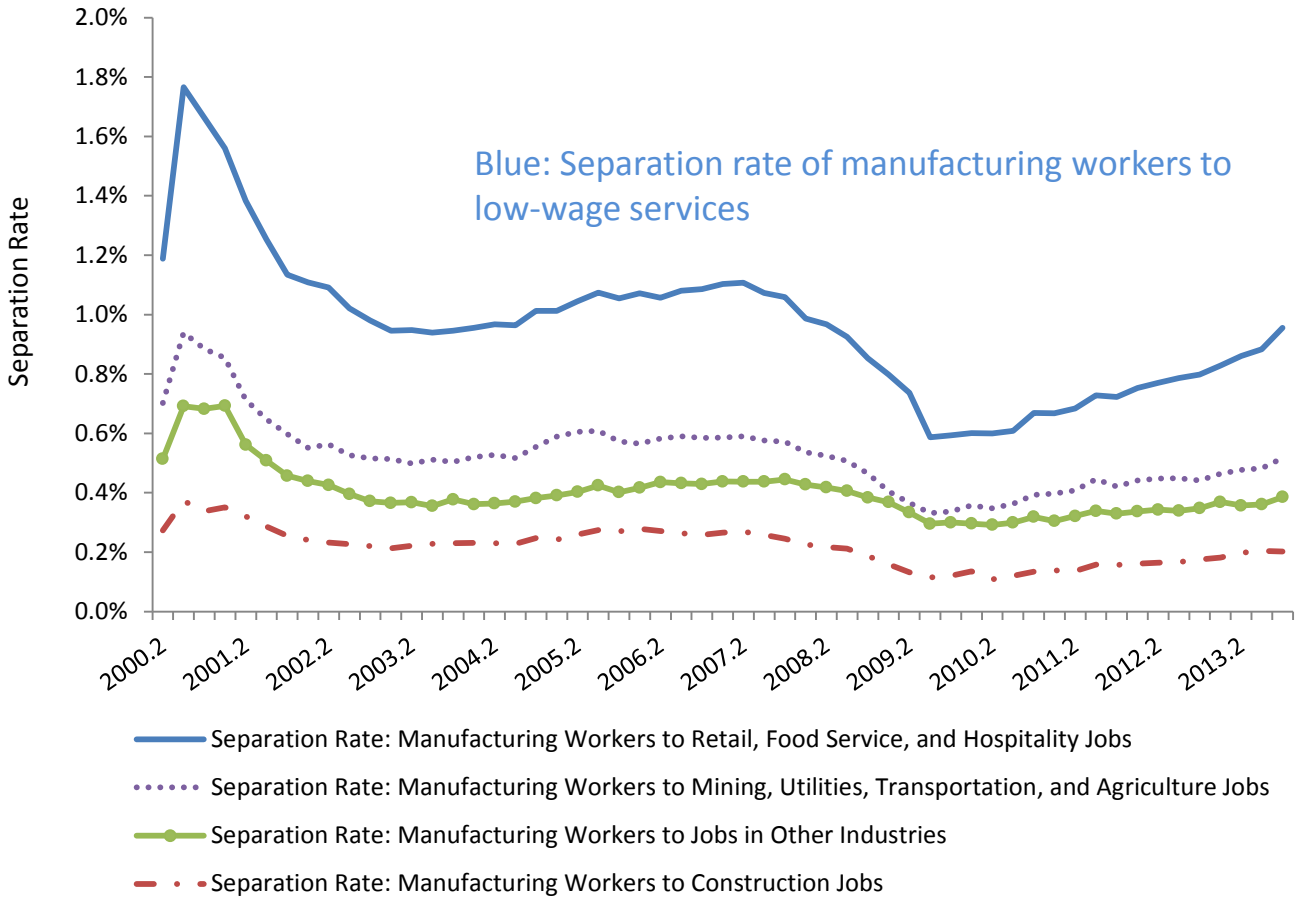
There was a surprisingly swift decline in U.S. manufacturing employment between 2000-2013



J2J: decompose employment decline into flows to other industries vs. flows to long nonemployment spells



Separation rates from manufacturing to other industries



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:

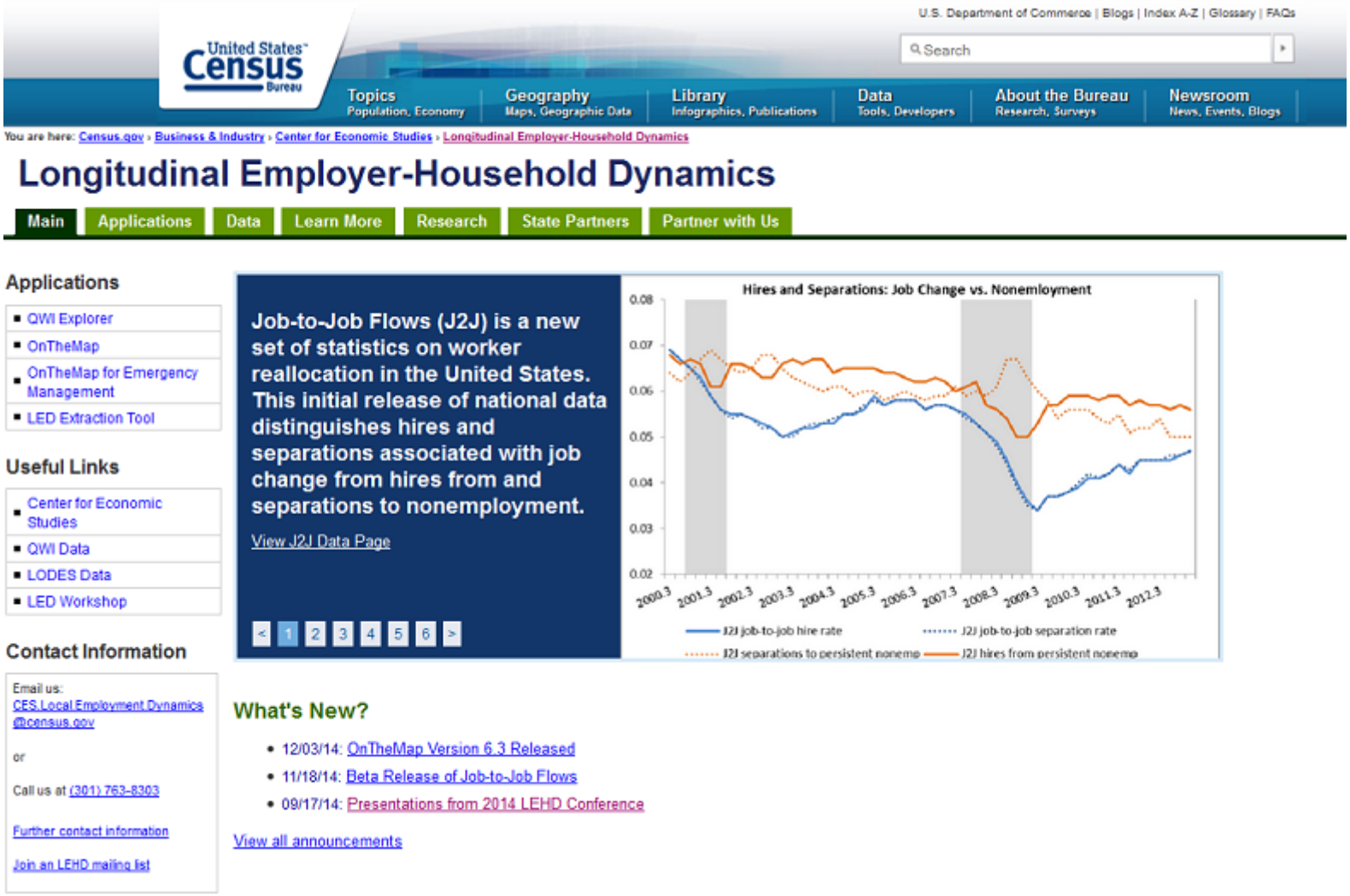
- ~35% recalled to previous employer or found another manufacturing job
- ~45% found jobs in other industries
  - ½ of these after a nonemployment spell of over a year, mostly appear to become general laborers and truck drivers
- ~20% have no subsequent UI-covered employment.

How to do the examples shown here: a walkthrough of how to use the beta data

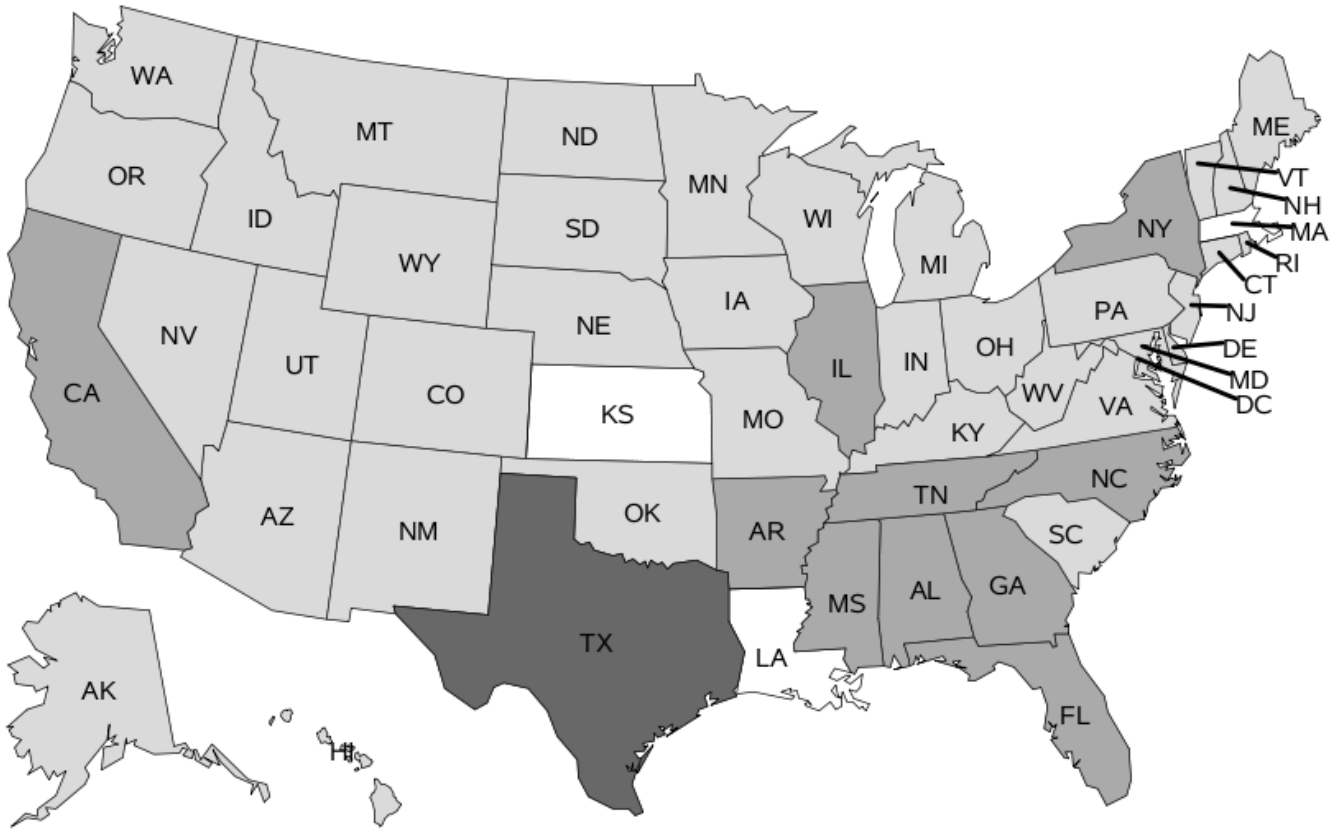
A J2J data application is coming!

But until it's here…things are a bit more basic

To start – how to find the beta J2J data:



Example 1:
How to get the data to make this map



Louisiana Educational Services, Separations 1-199 200-999 1000+

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

First pull the industry sector level data

http://lehd.ces.census.gov/data | Data - Longitudinal Emplo...

File Edit View Favorites Tools Help

J2JOD Data Series: These files contain **origin and destination job characteristics data** of job-to-job flows - specifically, job transitions that take place within the same quarter or in adjacent quarters. Data is available by

- Origin state/destination state (including within-state job-to-job flows)
- Origin state/destination state by worker demographics (sex by age, sex by education, race by
- Origin state/destination state by origin industry/destination industry
- Origin state/destination state by origin firm size/destination firm size
- Origin state/destination state by origin firm age/destination firm age

Select Louisiana

Download J2J data:

Use the selector tool below to choose and download files. Note: .xls format is available only for smaller files.

Select the 'OD' file

Version: R2015Q2 State/Territory: Louisiana Type: j2jod Format: CSV

Select 'CVS' format

View Files

v4.1c-draft | Metadata for LA

j2jod_la_all.csv	18 Aug 2015 12:40	96 MB
j2jod_la_d_f_gs_n_oslp_u.csv		KB
j2jod_la_d_f_gs_ns_oslp_u.csv		MB
j2jod_la_d_fa_gs_n_oslp_u.csv		MB
j2jod_la_d_fs_gs_n_oslp_u.csv	18 Aug 2015 12:44	14 MB
j2jod_la_rh_f_gs_n_oslp_u.csv	18 Aug 2015 12:43	6 MB
j2jod_la_sa_f_gs_n_oslp_u.csv	18 Aug 2015 12:43	9 MB
j2jod_la_se_f_gs_n_oslp_u.csv	18 Aug 2015 12:44	7 MB

Grab the 'industry sector' file

Note about the data schema: Full descriptions of all categorical variables, measure layouts, and more can be found in the data schema. For the latest version, choose the Version, State/Territory, Type and Format of the data series desired and push the "View Files" button in the selector tool above. A list of files should subsequently appear with two links centered above it. Click on the left link. Since the last release, the data schema has been updated from v4.1b-draft to v4.1c-draft.

Note about data file names: Data files have the following filename structure:

J2J (Beta) Help

Learn more about J2J (Beta) by choosing one of the links below.

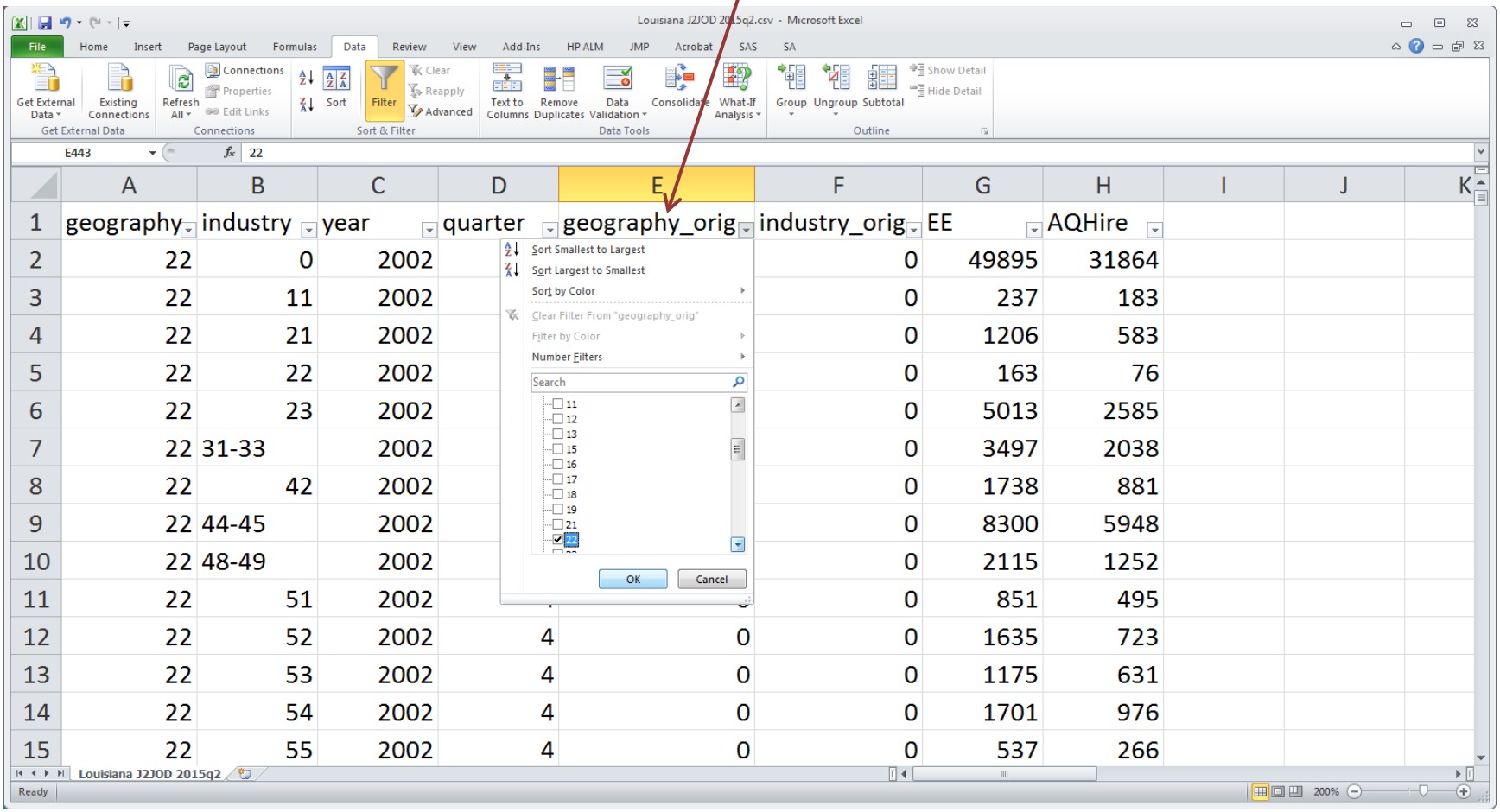
- Job-to-Job Flows: Quick Start Guide (165 KB)

Keep geography, industry, year, quarter, geography_orig, industry_orig, EE, and AQHire. Delete all other columns.

Louisiana J2JOD 2015q2.csv - Microsoft Excel

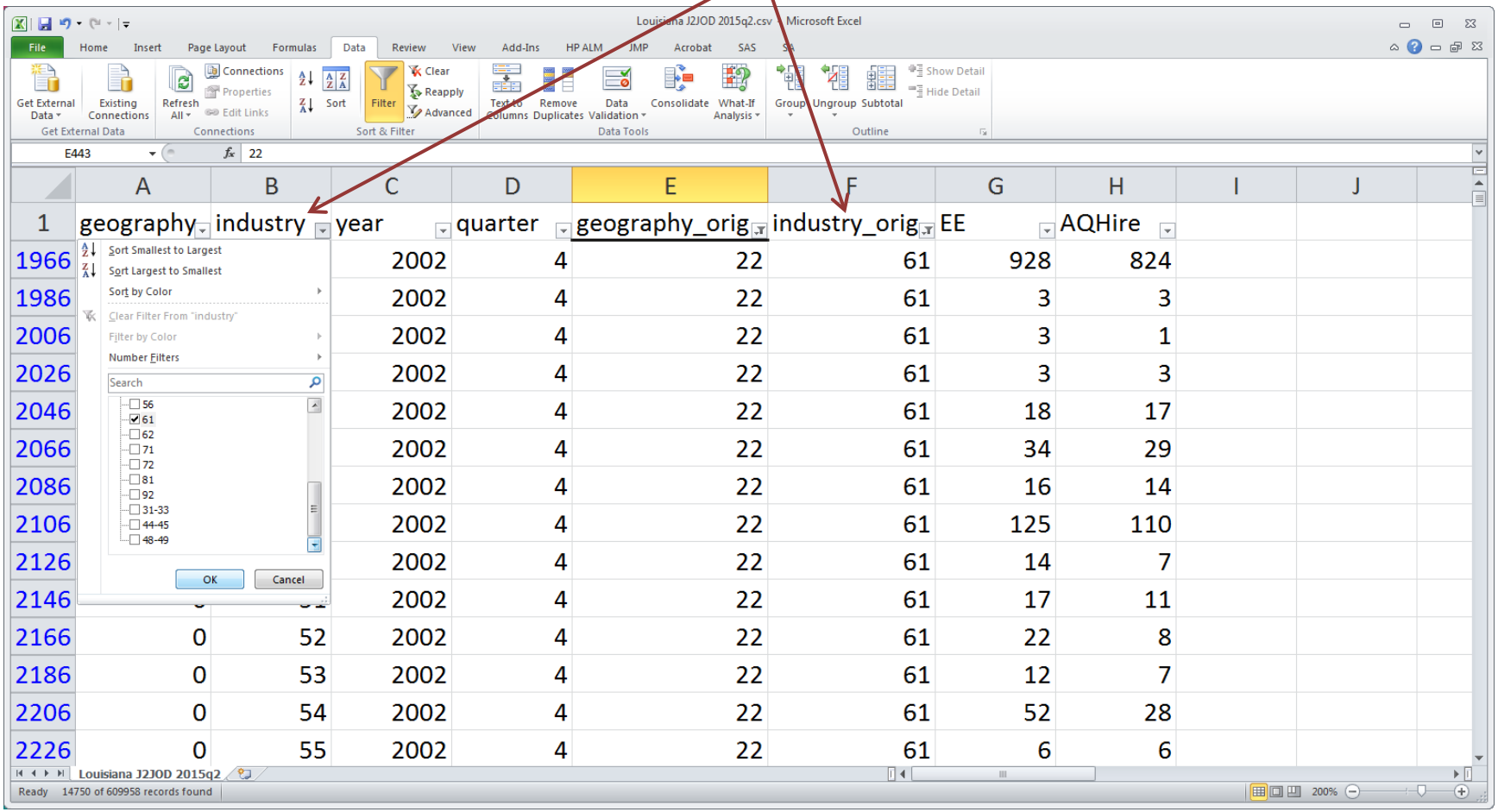
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
1	periodicity	seasonadj	geo_level	geography	ind_level	industry	ownercode	sex	agegrp	race	ethnicity	education	firmage	firmsize	year
2	Q	U	S	22	A	0	A00	0	A00	A0	A0	E0	0	0	
3	Q	U	S	22	S	11	A00	0	A00	A0	A0	E0	0	0	
4	Q	U	S	22	S	21	A00	0	A00	A0	A0	E0	0	0	
5	Q	U	S	22	S	22	A00	0	A00	A0	A0	E0	0	0	
6	Q	U	S	22	S	23	A00	0	A00	A0	A0	E0	0	0	
7	Q	U	S	22	S	31-33	A00	0	A00	A0	A0	E0	0	0	
8	Q	U	S	22	S	42	A00	0	A00	A0	A0	E0	0	0	
9	Q	U	S	22	S	44-45	A00	0	A00	A0	A0	E0	0	0	
10	Q	U	S	22	S	48-49	A00	0	A00	A0	A0	E0	0	0	
11	Q	U	S	22	S	51	A00	0	A00	A0	A0	E0	0	0	
12	Q	U	S	22	S	52	A00	0	A00	A0	A0	E0	0	0	
13	Q	U	S	22	S	53	A00	0	A00	A0	A0	E0	0	0	
14	Q	U	S	22	S	54	A00	0	A00	A0	A0	E0	0	0	
15	Q	U	S	22	S	55	A00	0	A00	A0	A0	E0	0	0	
16	Q	U	S	22	S	56	A00	0	A00	A0	A0	E0	0	0	
17	Q	U	S	22	S	61	A00	0	A00	A0	A0	E0	0	0	
18	Q	U	S	22	S	62	A00	0	A00	A0	A0	E0	0	0	
19	Q	U	S	22	S	71	A00	0	A00	A0	A0	E0	0	0	
20	Q	U	S	22	S	72	A00	0	A00	A0	A0	E0	0	0	

Then filter geography_orig to obtain the origin state of interest.



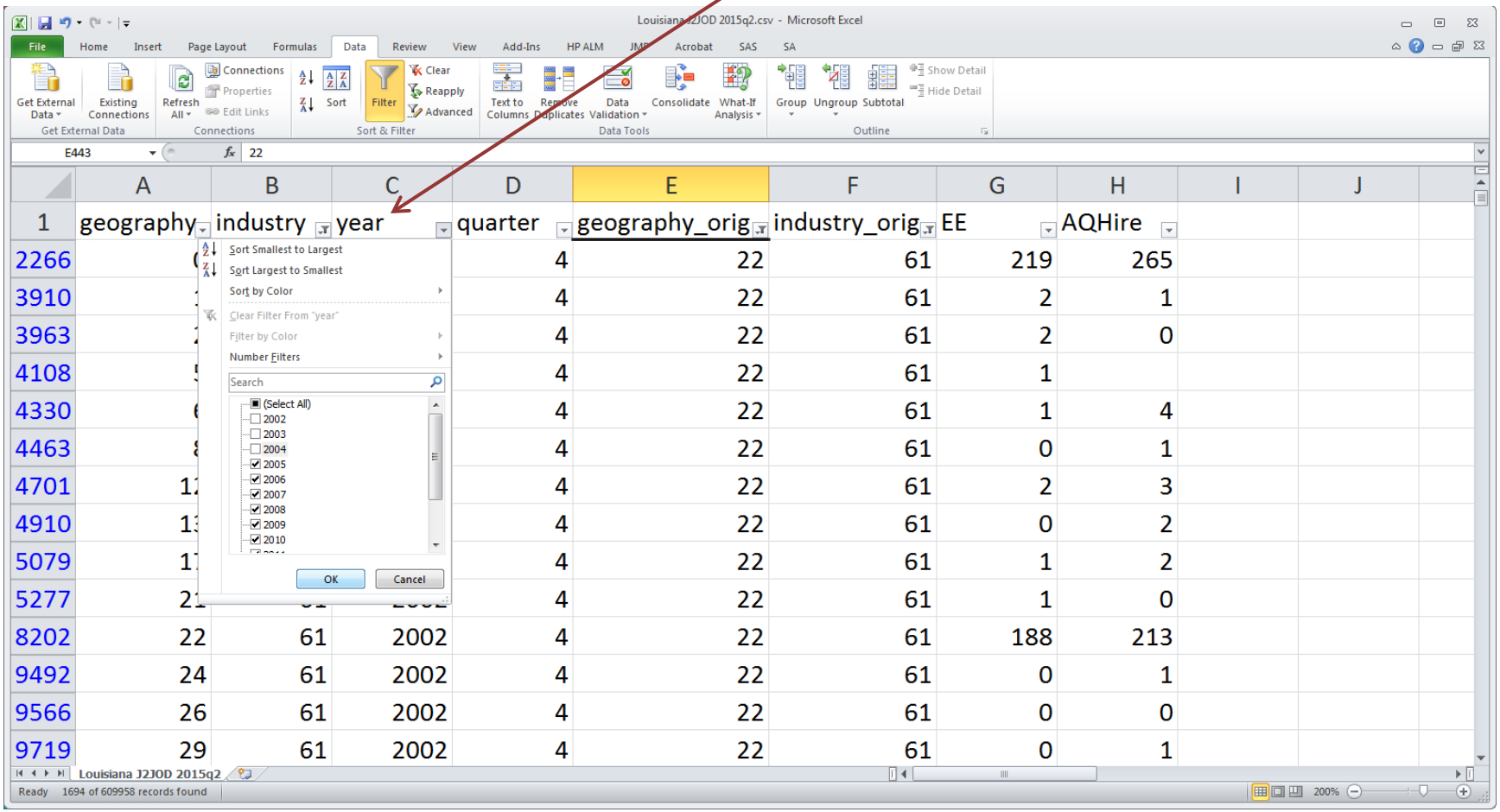
	A	B	C	D	E	F	G	H
1	geography	industry	year	quarter	geography_orig	industry_orig	EE	AQHire
2	22	0	2002			0	49895	31864
3	22	11	2002			0	237	183
4	22	21	2002			0	1206	583
5	22	22	2002			0	163	76
6	22	23	2002			0	5013	2585
7	22	31-33	2002			0	3497	2038
8	22	42	2002			0	1738	881
9	22	44-45	2002			0	8300	5948
10	22	48-49	2002			0	2115	1252
11	22	51	2002			0	851	495
12	22	52	2002	4	0	0	1635	723
13	22	53	2002	4	0	0	1175	631
14	22	54	2002	4	0	0	1701	976
15	22	55	2002	4	0	0	537	266

Then filter industry_orig to obtain the origin industry of interest. Repeat with industry for the destination industry of interest.

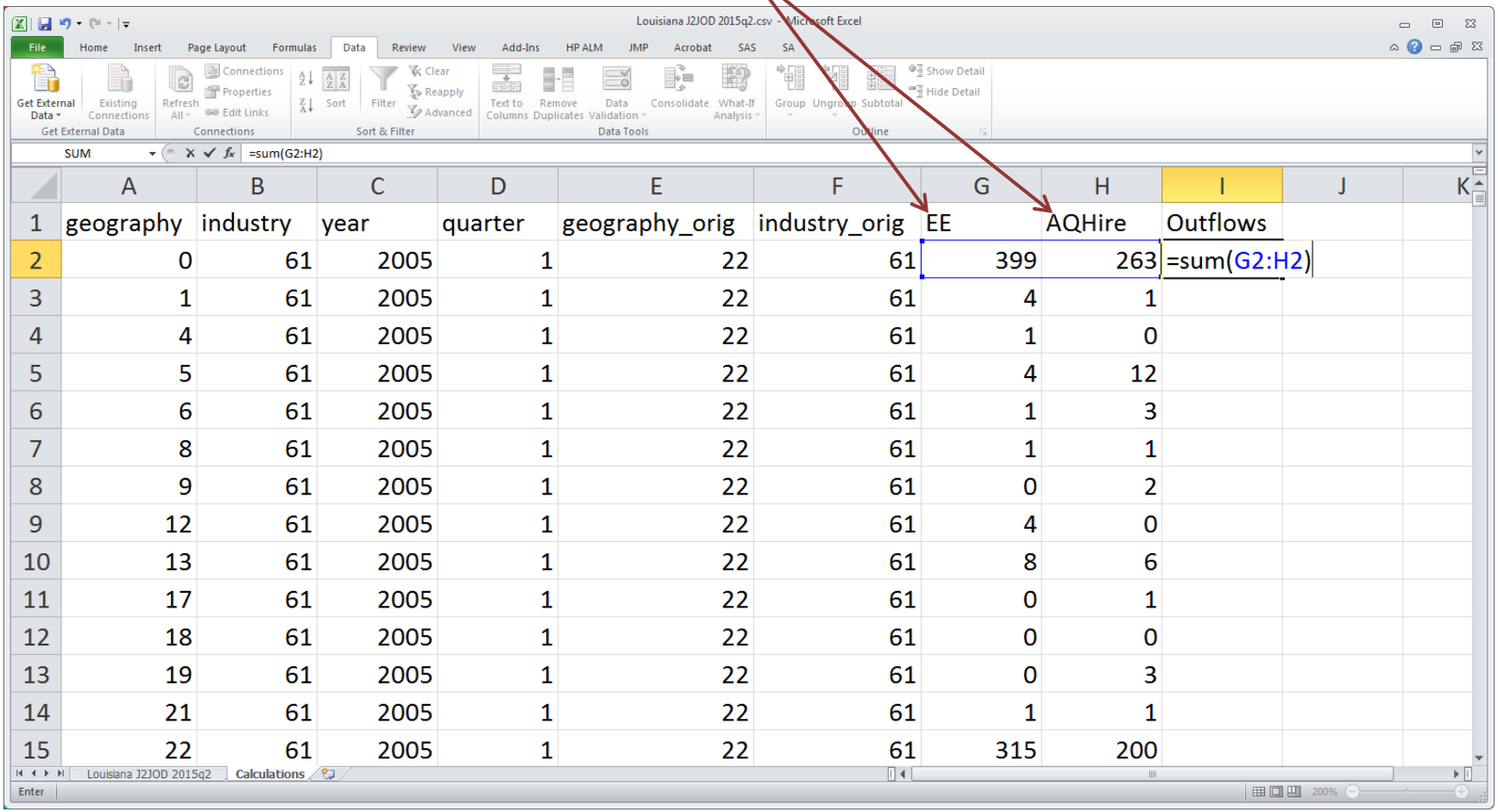


	geography	industry	year	quarter	geography_orig	industry_orig	EE	AQHire
1966			2002	4	22	61	928	824
1986			2002	4	22	61	3	3
2006			2002	4	22	61	3	1
2026			2002	4	22	61	3	3
2046			2002	4	22	61	18	17
2066			2002	4	22	61	34	29
2086			2002	4	22	61	16	14
2106			2002	4	22	61	125	110
2126			2002	4	22	61	14	7
2146			2002	4	22	61	17	11
2166	0	52	2002	4	22	61	22	8
2186	0	53	2002	4	22	61	12	7
2206	0	54	2002	4	22	61	52	28
2226	0	55	2002	4	22	61	6	6

Then filter years to obtain the period of interest. (In the interest of time, let's choose only one quarter: 2005.1)

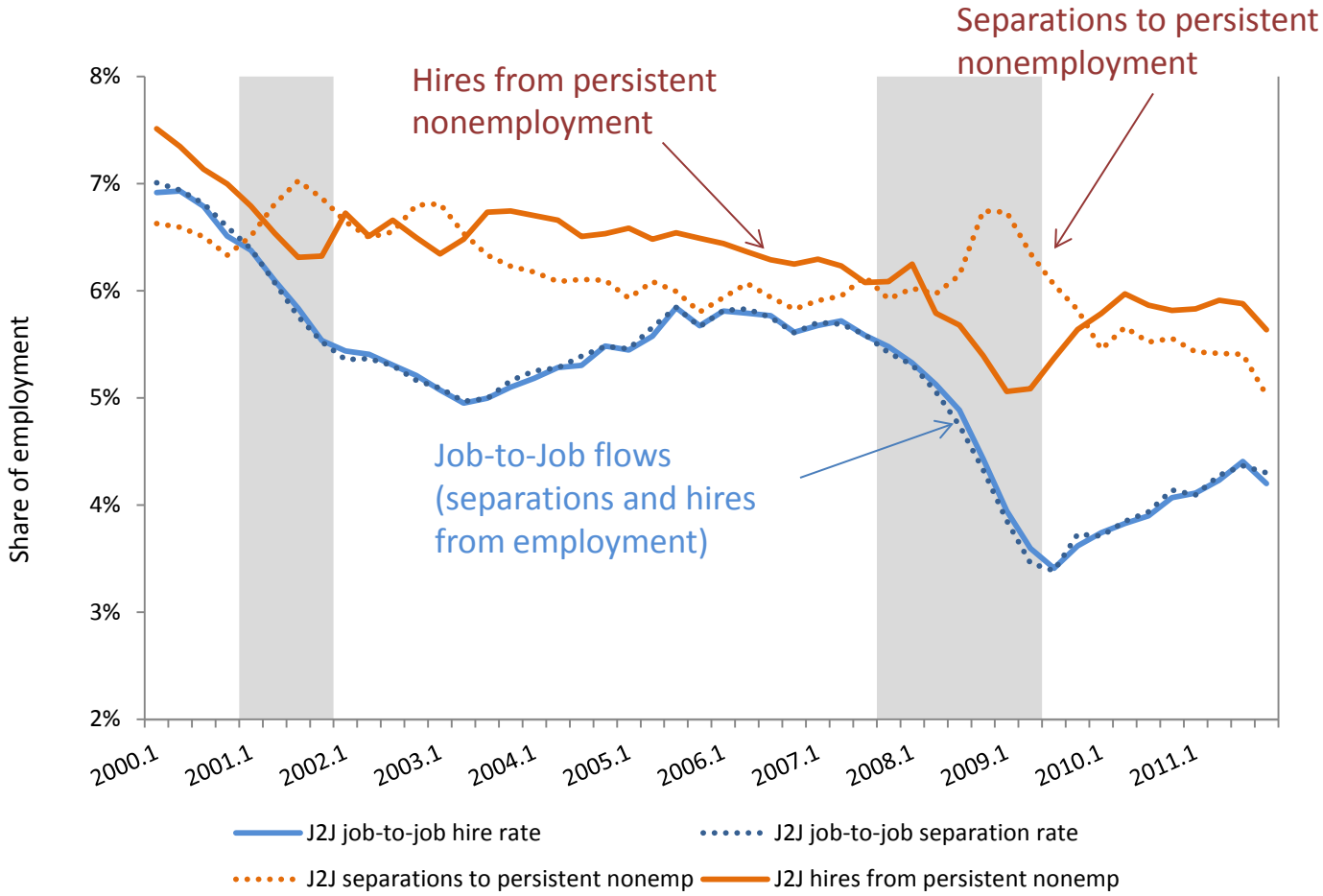


Then sum EE and AQHire to get all Outflows for every state by year and quarter.



	A	B	C	D	E	F	G	H	I
1	geography	industry	year	quarter	geography_orig	industry_orig	EE	AQHire	Outflows
2	0	61	2005	1	22	61	399	263	=sum(G2:H2)
3	1	61	2005	1	22	61	4	1	
4	4	61	2005	1	22	61	1	0	
5	5	61	2005	1	22	61	4	12	
6	6	61	2005	1	22	61	1	3	
7	8	61	2005	1	22	61	1	1	
8	9	61	2005	1	22	61	0	2	
9	12	61	2005	1	22	61	4	0	
10	13	61	2005	1	22	61	8	6	
11	17	61	2005	1	22	61	0	1	
12	18	61	2005	1	22	61	0	0	
13	19	61	2005	1	22	61	0	3	
14	21	61	2005	1	22	61	1	1	
15	22	61	2005	1	22	61	315	200	

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

Longitudinal Employer-House... | Data - Longitudinal Employer-...

lehd.ces.census.gov/data/j2j_beta.html

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- LODES Data
- LED Workshop

Contact Information

Email us: CES.Local.Employment.Dynamics@census.gov

or

Call us at (301) 763-8303

Further contact information

Job-to-Job Flows (J2J) Data (Beta)

This is a beta release from the U.S. Census Bureau of new national statistics on worker reallocation in the United States constructed from the LEHD data. This new data distinguishes hires and separations associated with job changes from hires from and separations to nonemployment. A separate file provides origin and destination job characteristics of workers changing jobs. This new data allows a comprehensive look at the reallocation of workers across different sectors of the U.S. economy. Moreover, it allows examination of the flows of workers across state lines, by demographic characteristics such as age and education. Earnings changes associated with job change, another new feature of the J2J statistics, can help analysts better understand the nature of job ladders and lifetime earnings growth.

These data are ... r. 'Coming ... me. These data will become available via the LED Extraction ...

Job-to-Job Fl...

These files contain national- and state-level data on job change - by firm industry, age, and size as well as by worker sex/age, sex/education, and race/ethnicity - from the second quarter of 2000 to the latest quarter of available data. Use the selector tool below to choose and download files.

Download J2J data:

Version: R2014Q3 | State/Territory: United States | Type: j2jr | Format: XLS

View Files

v4.1-draft | Metadata for US

j2jr_us_all.xls	07 Nov 2014 14:47	6 MB
j2jr_us_d_f_gn_n_s.xls	07 Nov 2014 14:47	59 KB
j2jr_us_d_f_gn_n_u.xls		59 KB
j2jr_us_d_f_gn_ns_s.xls		21 KB

We're using national data this time

Grab the 'rates' file

Grab 'all demographics, all industries, all firm size/age, seasonally adjusted' file

j2jr_us_d_f_gn_n_s.xls [Compatibility Mode] - Microsoft E

File | Home | Insert | Page Layout | Formulas | Data | Review | View | Add-Ins | Smart View | HP ALM | JMP | Acrobat | SAS | SA

Paste | Cut | Copy | Format Painter | Clipboard | Arial | 14 | Font | Wrap Text | Merge & Center | Alignment | General | Number | Conditional Formatting | Format as Table | Normal | Bad | Check Cell | Explanatory ... | St

IDX | Job-to-Job Flow Rates

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)

Confirm grabbed the correct file for your analysis

periodicity	seasonadj	geo_level	geography	ind_level	industry	ownercode	sex	agegrp	race	ethnicity	education	firmage	firm
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
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Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
Q	S	N	00	A	00	A00	0	A00	A0	A0	E0	0	0
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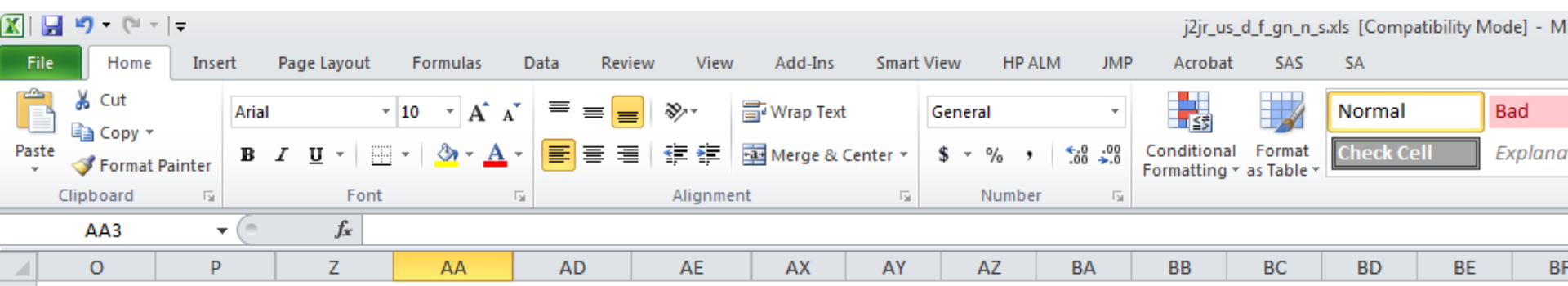
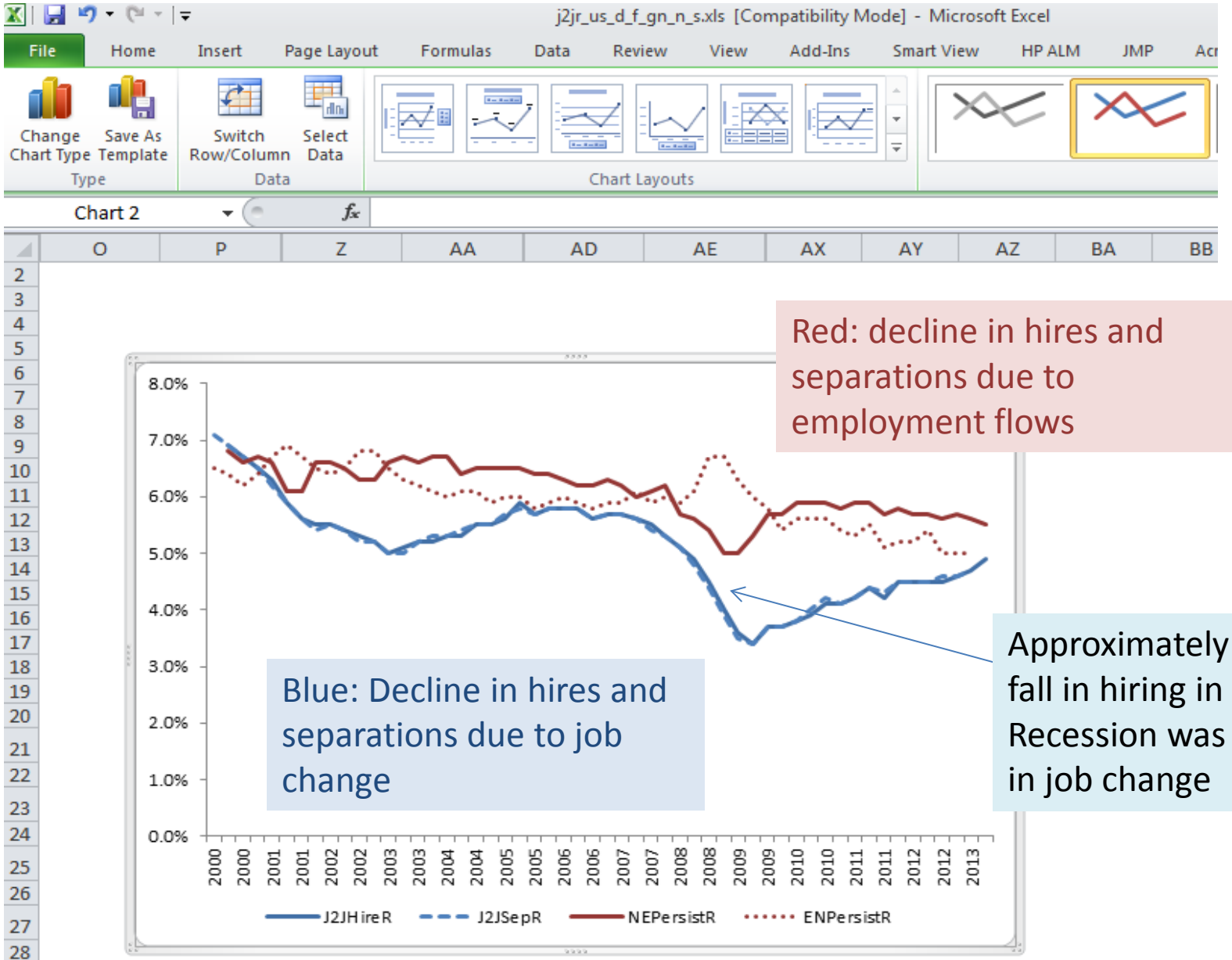


Hide everything except the variables you want to graph

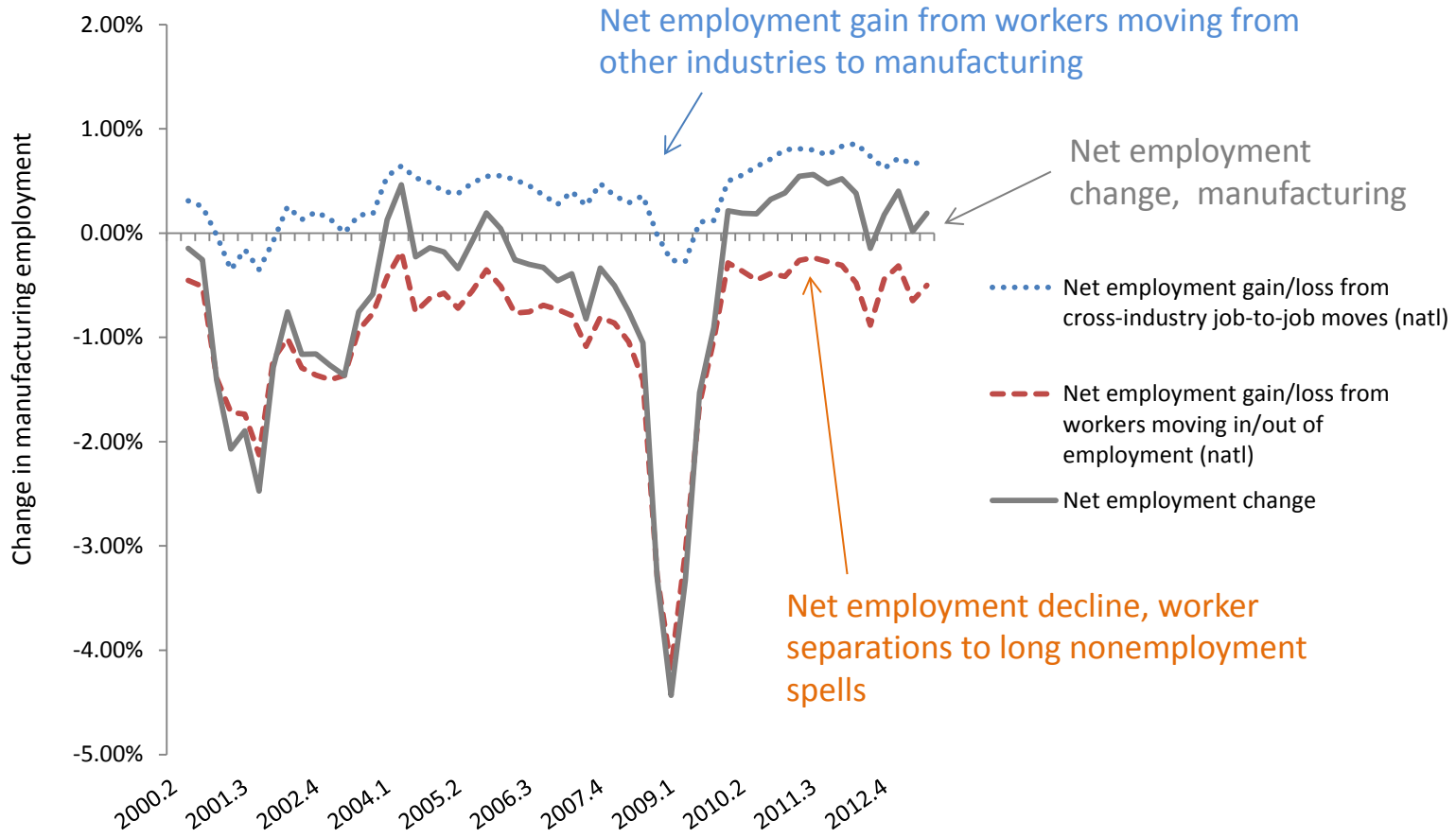
year	quarter	J2JHireR	J2JSepR	NEPersistR	ENPersistR
2000	2	.	0.071	.	0.065
2000	3	0.069	0.069	0.068	0.064
2000	4	0.067	0.067	0.066	0.062
2001	1	0.065	0.065	0.067	0.064
2001	2	0.063	0.062	0.066	0.067
2001	3	0.059	0.059	0.061	0.069
2001	4	0.056	0.056	0.061	0.067
2002	1	0.055	0.054	0.066	0.065
2002	2	0.055	0.055	0.066	0.064
2002	3	0.054	0.054	0.065	0.065
2002	4	0.053	0.052	0.063	0.068
2003	1	0.052	0.052	0.063	0.068
2003	2	0.05	0.05	0.066	0.065
2003	3	0.051	0.05	0.067	0.063
2003	4	0.052	0.052	0.066	0.062
2004	1	0.052	0.053	0.067	0.061
2004	2	0.053	0.053	0.067	0.06
2004	3	0.053	0.054	0.064	0.061
2004	4	0.055	0.055	0.065	0.061
2005	1	0.055	0.055	0.065	0.059
2005	2	0.056	0.057	0.065	0.06

Recall that Main Hires is the sum of:
*J2JHire (hires of workers changing jobs)
*NEPersist (hires of workers from persistent nonemployment spells)



year	quarter	J2JHireR	J2JSepR	NEPersistR	ENPersistR
2000	2		7.1%		6.5%
2000	3	6.9%	6.9%	6.8%	6.4%

Example 3:
How to make this graph



First pull the industry sector level data

Longitudinal Employer-House... | Data - Longitudinal Employer-...

lehd.ces.census.gov/data/j2j_beta.html

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Longitudinal Employer-Household Dynamics

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or

Call us at (301) 763-8303

Further contact information

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Job-to-Job Fl...

These files con... try, age, and size as well as by worker sex/age, sex/education, and race/ethnicity - from the second quarter of 2000 to the lat... ose and download files.

We're using national but state files also available

Grab the 'rates' file

Download J2J data:

Version: R2014Q3 | State/Territory: United States | Type: j2jr | Format: XLS

View Files

v4.1-draft | Metadata for US

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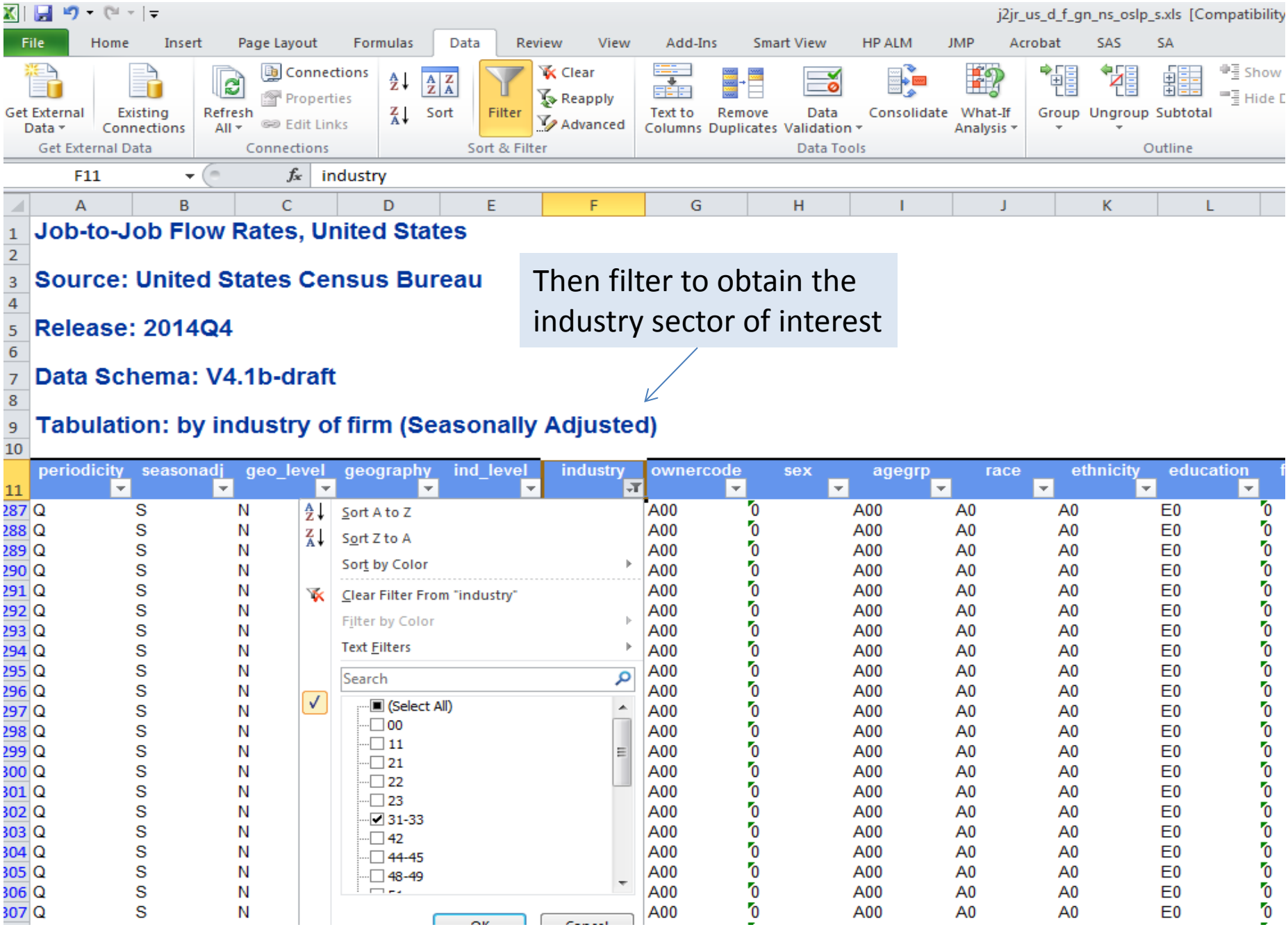
j2jr_us_d_f_gn_n_u.xls		59 KB
j2jr_us_d_f_gn_ns_s.xls		21 KB

This time, grab the 'industry sector' file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Add-Ins
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Properties
Edit Links
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Ungroup
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industry
Job-to-Job Flow Rates, United States
Source: United States Census Bureau
Release: 2014Q4
Data Schema: V4.1b-draft
Tabulation: by industry of firm (Seasonally Adjusted)
Then filter to obtain the industry sector of interest
periodicity
seasonadj
geo_level
geography
ind_level
industry
ownercode
sex
agegrp
race
ethnicity
education
Sort A to Z
Sort Z to A
Sort by Color
Clear Filter From "industry"
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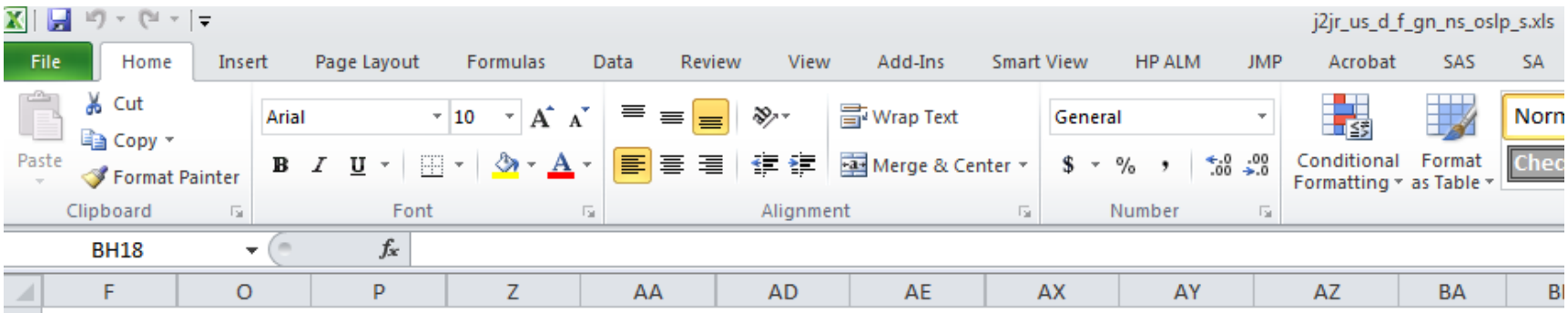
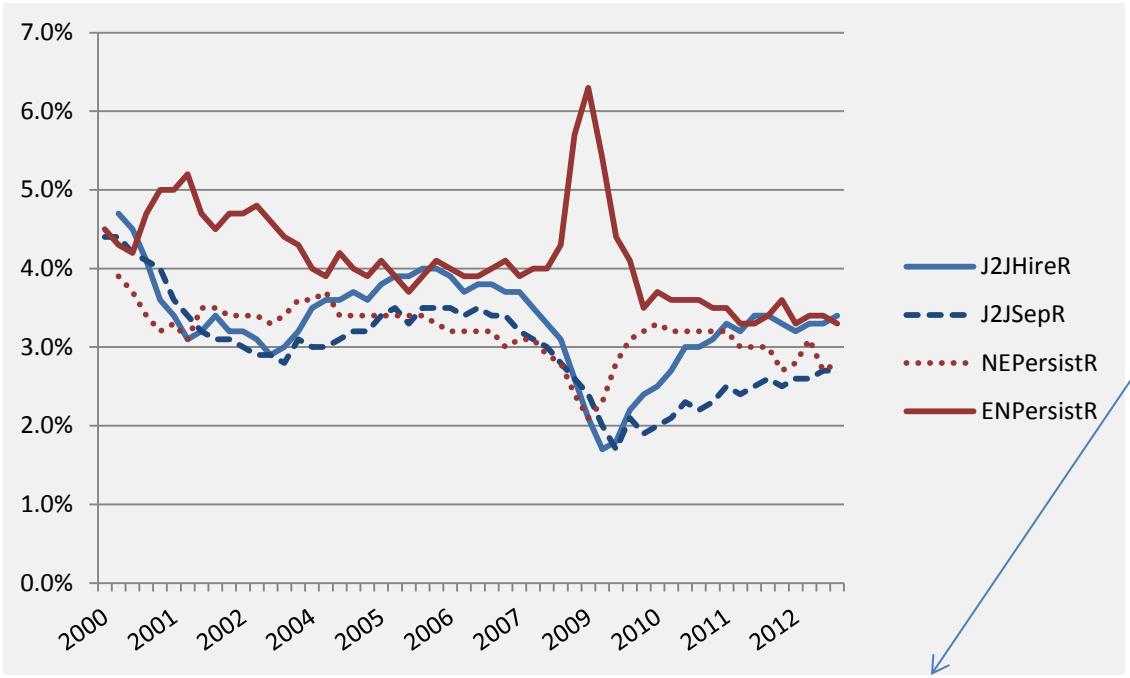


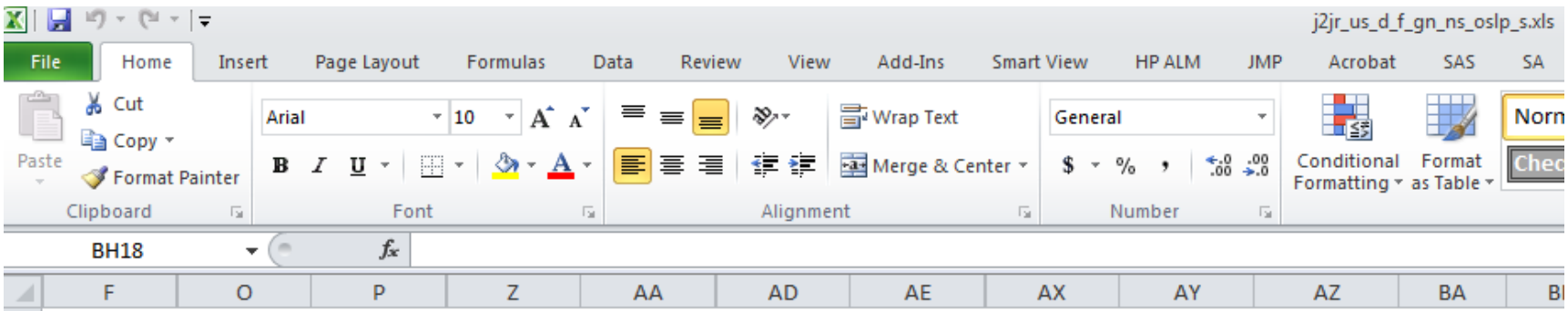


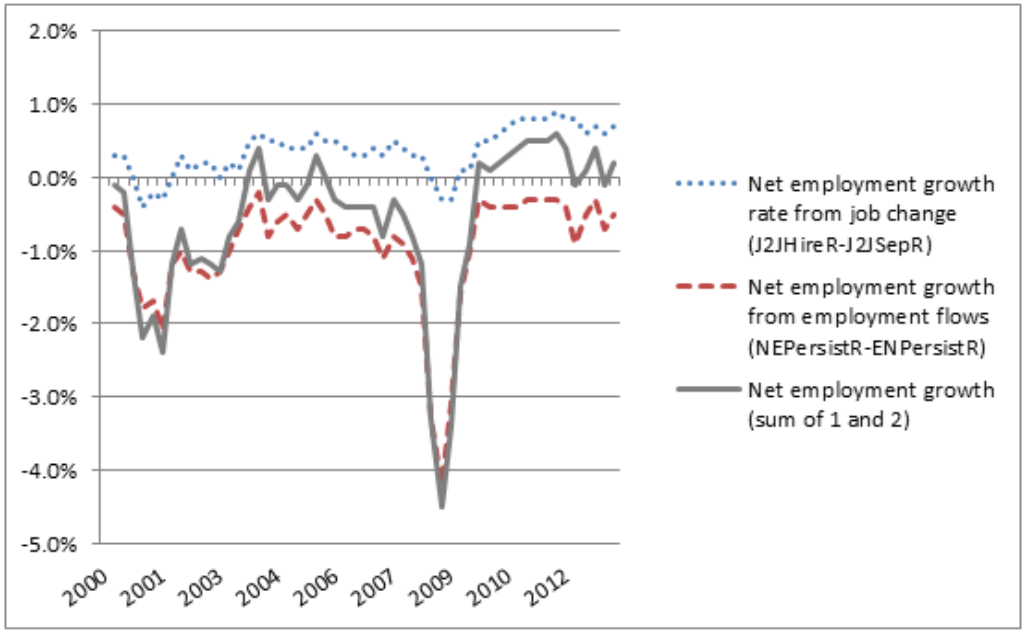
We are using the same four variables as before

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

industry	year	quarter	J2JHireR	J2JSepR	NEPersistR	ENPersistR	1 Net employment growth rate from job change (J2JHireR-J2JSepR)	2 Net employment growth from employment flows (NEPersistR-ENPersistR)	3 Net employment growth (sum of 1 and 2)
31-33				0.044		0.045			
31-33	2000	3	0.047	0.044	0.039	0.043	0.003	-0.004	-0.001
31-33	2000	4	0.045	0.042	0.037	0.042	0.003	-0.005	-0.002
31-33	2001	1	0.041	0.041	0.034	0.047	0	-0.013	-0.013
31-33	2001	2	0.036	0.04	0.032	0.05	-0.004	-0.018	-0.022





Net employment growth in industry = Net growth from industry switching + net growth from employment flows

	industry	year	quarter	J2JHireR	J2JSepR	NEPersistR	ENPersistR	1 Net employment growth rate from job change (J2JHireR-J2JSepR)	2 Net employment growth from employment flows (NEPersistR-ENPersistR)	3 Net employment growth (sum of 1 and 2)
298	31-33	2000	2	.	0.044	.	0.045			
299	31-33	2000	3	0.047	0.044	0.039	0.043	0.003	-0.004	-0.001
300	31-33	2000	4	0.045	0.042	0.037	0.042	0.003	-0.005	-0.002
301	31-33	2001	1	0.041	0.041	0.034	0.047	0	-0.013	-0.013
302	31-33	2001	2	0.036	0.04	0.032	0.05	-0.004	-0.018	-0.022

Questions or comments:

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