Manufacturing Rebound in Michigan: New Insights into Job Transitions

State of Michigan

Department of Technology, Management, and Budget

Bureau of Labor Market Information and Strategic Initiatives

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http://milmi.org
Main Objective of the Presentation

Use the new J2J flows data series to provide insights into where workers employed in the manufacturing sector are coming from as the sector is rebounding and jobs are being created:

- are hires coming from the pool of non-employed?
- job poaching from other industry sectors - which ones?
- job poaching from other states - which ones?
The LED Data Refinery

State Partners

Census.gov/LED Lodes Intro
Job-to-Job Flows (J2J) Data

- New Statistics on job mobility from the U.S. Census Bureau with Statistics on
  1. job-to-job transition rate
  2. hires and separations to and from employment
  3. characteristics of origin and destination jobs

Data is available at National and State level
Global Recession, Credit Crisis and gas prices exceeding $4 a gallon in 2008 affected the Detroit 3 adversely.

Auto Sales dropped by 18% in 2008 (6.3 million sales in 2008).

April 30th 2009, Chrysler was under Chapter 1, emerged June 10, 2009.

GM filed Bankruptcy June 1, 2009, emerged early July 2009.
Job To Job Flows
US Census Bureau, LEHD, MiDTMB

Job2Job Hires:

Job2Job Separations:

Hires from Persistent Nonemployment:

Separations to Persistent Nonemployment:
Main J2J Flows Indicators in MFG

• When Hires are greater than Separations it means the sector is poaching employees either from other industries or States.

• (Data Note: Annual SA data, J2JHire, J2JSep.)
Main J2J Flows Indicators in MFG

- Hires from non-employment are stable.
- Separations to persistent non-employment have also declined post bankruptcy (2010).

(Data Note: Annual SA, NEPersist, ENPersist)
Manufacturing Total J2J Flows

Manufacturing J2J Flows

- J2JSep
- J2JHire
- SEP to Persistent Nonemployment
- Hires from Persistent Nonemployment
Michigan – Total Net J2J Flows*

- Net job flows from MI were the largest (-35,200) in 2007.

- Between 2001 and 2009 job inflows dropped by 51 percent and have picked up by 87 percent between 2009 and 2014.

- Job outflows dropped by 50 percent during the same period. They have gone up by 81 percent from 2009 to 2014.

*Includes In-State Flows
**Michigan – Net Job Flows**

- This Data excludes J2J flows for Michigan from the National data.

- In 2009 Job Inflows dropped by 32 percent while outflows dropped by 18 percent showing a lack of job mobility.

- Net job outflows reached a peak in 2007 with 35,200 jobs outflow.

- Since 2009 Inflows have gone up by 51 percent, while outflows have increased by 27 percent reflecting greater job mobility.
J2J Flows within MI and In-Flows from Out-of-State

- J2J Flows (Job Mobility) in MI dropped by 53 percent between 2001 and 2009.

- J2J flows from Out of State dropped by 32 percent during the same period.

- In 2014 Flows in MI picked up by 92 percent since 2009. Flows from Out of State picked up by 51 percent.

- Nearly 90 percent of the job flows are from within MI.
• J2J flows in MFG within MI dropped by 67 percent in 2009. They are still 29 percent below 2001 levels.

• J2J flows from other industries excluding MFG also dropped by 66 percent in 2009. They are now 35 percent above the 2001 level.

• Which other Industries are businesses in MFG poaching workers from?
Job Poaching in Manufacturing

**Flows to Manufacturing from other Industries**

**Industry Breakdown**

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<thead>
<tr>
<th>Industry</th>
<th>2001</th>
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<tr>
<td>Accommodation &amp; Food Services</td>
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<td>All others</td>
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<td>18.7</td>
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<td>Administrative &amp; Support Services</td>
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Job to Job Flows out of Manufacturing

Job Flows from Manufacturing to other Industries

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<th>Industry Breakdown</th>
<th>2001</th>
<th>2014</th>
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<td>All Others</td>
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<tr>
<td>Administrative &amp; Support Services</td>
<td>16.7</td>
<td>23.9</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>31.8</td>
<td>32.9</td>
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## Net Flows into MFG by Industry Sector

### Net Flows into MFG (2001 to 2014)

<table>
<thead>
<tr>
<th>Industry Sector</th>
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<th>Flows out</th>
<th>Net Flows</th>
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<td>Utilities</td>
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<td>Education</td>
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<td>11,757</td>
<td>102</td>
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<td>Real Estate, Rental &amp; Leasing</td>
<td>5,970</td>
<td>5,698</td>
<td>272</td>
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<tr>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>6,287</td>
<td>5,507</td>
<td>780</td>
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<td>Arts, Entertainment, Recreation</td>
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<td>Other Services</td>
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<tr>
<td>Professional &amp; Technical Services</td>
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<td>4,176</td>
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<tr>
<td>Retail Trade</td>
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<td>49,481</td>
<td>16,489</td>
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<td>Leisure &amp; Hospitality</td>
<td>52,148</td>
<td>33,713</td>
<td>18,435</td>
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<tr>
<td>Professional &amp; Business Services</td>
<td>294,099</td>
<td>134,636</td>
<td>159,463</td>
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</tbody>
</table>

| **Net Flows into MFG**                                       | **848,180**| **661,015**| **187,165**|
| **MFG to MFG**                                              | **227,215**| **227,215**| **0**      |
Inflow and Outflow of MI MFG Workers
Based on largest Net Outflows (2001-2014)

Net J2J Outflows to Other States:
- 31,173

<table>
<thead>
<tr>
<th>STATE</th>
<th>Outflows</th>
<th>Inflows</th>
<th>Net Outflows</th>
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</thead>
<tbody>
<tr>
<td>Florida</td>
<td>7,771</td>
<td>4,282</td>
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<td>Texas</td>
<td>7,833</td>
<td>4,793</td>
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<td>Indiana</td>
<td>18,469</td>
<td>15,933</td>
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<td>California</td>
<td>5,357</td>
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<td>Tennessee</td>
<td>4,444</td>
<td>2,999</td>
<td>-1,445</td>
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</table>
The chart shows what percent of total outflows to these States are Manufacturing jobs.

- The largest percent (about 60%) is for Indiana.

- The share of manufacturing jobs going to TX and TN has increased since 2007. TN experienced the largest increase, but dropped in 2013.
J2J Flows

Inflows from Out of State

Out of State Inflows
MFG to MFG

- This chart looks at the percent of MFG workers from out of state moving into a MFG job in Michigan.

- CA looks to be on an upward trend over the last couple of years.
Source of Job Gains

Business Employment Dynamics, Seasonally Adjusted Data

Job Gains and Losses from Expanding and Contracting Manufacturing Establishments
Source of Job Gains

Job Gains and Losses from Opening and Closing Manufacturing Establishments

Gains from Openings
Losses from Closings

Business Employment Dynamics, Seasonally Adjusted Data
Role of Transportation Equipment Mfg

- TEM employment as percent of MFG has remained flat post bankruptcy.

Source: QWI Explorer
Motor Vehicle Production and Employment

Michigan Vehicle Production fell 20.9 percent in 2008 and dropped 37.9 percent in 2009.
Insights Gained

- J2J Flows in Manufacturing are mainly from Administrative and Support Services and job hopping in the Manufacturing sector.
- The largest J2J flows are to and from the neighboring states of Illinois, Indiana and Ohio.
- The largest net outflows of manufacturing jobs are to Florida, Texas and Indiana, Tennessee and California.
- BED data shows that the source of job gains in Manufacturing is primarily from business expansions.
- More research needs to be done on demographics and education.
J2J Flows DATA Extraction

Website: lehd.ces.census.gov/data/
J2J Flows DATA Extraction

Longitudinal Employer-Household Dynamics

Applications
- QWI Explorer
- OnTheMap
- OnTheMap for Emergency Management
- LED/Extraction Tool

Useful Links
- Center for Economic Studies
- QWI Data
- LODES Data
- LED Workshop

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

Workers often build their careers through job-hopping. Job-to-job movers are a primary means by which workers move from low-paying to better-paying employers, from dead-end jobs to new career ladders. Similarly, employers often seek experienced workers for jobs—workers who are often currently working at other firms. These flows of workers across employers, industries, and labor markets are subsequently quite large—about 1/2 of hires and separations in 2000 were job-to-job flows. Yet until now, they represented a gap in the set of available statistics on employment dynamics.

Job-to-Job Flows (J2J) is a beta release from the U.S. Census Bureau of new national statistics on job mobility in the United States. The data include new statistics on: (1) the job-to-job transition rate, (2) hires and separations to and from employment, and (3) characteristics of origin and destination jobs for job-to-job transitions. These statistics are available nationally and at the state level, by industry and worker characteristics. More information about the data and how they are generated is available in the documentation links provided on this page. More detailed tabulations are planned in later releases.

These data are beta and will become available via the LED Extraction Tool at a later date.

Description of Available J2J Data

J2J Data Series: These files contain count data about job-to-job flows as well as flows to/from unemployment, nationally and by state. Data is available for all firms and workers as well as by firm characteristics (industry, age, size) and by worker demographics (sex by age, sex by education, race by ethnicity).

J2J Data Series: These files contain rate data about job-to-job flows as well as flows to/from unemployment, nationally and by state. Data is available for all firms and workers as well as by firm characteristics (industry, age, size) and by worker demographics (sex by age, sex by education, race by ethnicity).

Line charts showing national trends of the rate data series are provided below:

Contact Information

Email: CES-Local Employment Dynamics
   CES-LED@cdc.gov
   Or call us at 202-395-6750
   Further contact information can be seen at LED reading list

Download J2J data:

Use the selector tool below to choose and download files. Note: .xls format is available only for smaller files.
J2J Flows DATA Extraction

Download J2J data:
Use the selector tool below to choose and download files. Note: .xls format is available only for smaller files.

Version: R2019Q1  State/Territory: United States  Type: [ ]  Format: CSV  [ ]

View Files

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 along with the content and size should subsequently appear with two links centered above it. Click on the link below.

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

[TYPE]_[GEOH1]_[CHAR]_[FAS]_[GEO]_[IND]_[OWN]_[SA]_[EXT]

Description of Filename Components

Series type [TYPE]
- [2] = Count data
- [R] = Rate data
- [Od] = Origin-destination job characteristics data

Geographical unit of analysis [GEOH1]
- us = Nation
- st = Any 2-digit state postal code identifier

Demographic characteristics [CHAR]
- d = No demographic detail
- rh = Tabulations by race & ethnicity
- sa = Tabulations by sex & age
- se = Tabulations by sex & education

Firm Age/Size [FAS]
- f = No firm size or age detail
- fa = Tabulations by firm age
- fs = Tabulations by firm size

Geography [GEO]
- gn = National
- gs = States

Industry detail [IND]
- n = All NAICS sectors
- ns = Tabulations by NAICS sectors

Ownership [OWN]
- oclp = State, local, and private ownership categories (BLS codes: 2-35, QWI code A00)

Seasonal Adjustment [SA]
- s = Seasonally adjusted
- u = Not seasonally adjusted

Available file formats [EXT]:
- .xlsx = Excel file (not available for larger files)
- .csv = Comma delimited file

For example, the filename "J2J-ts$_us2[sa]_201903.xls" is for an Excel file that contains J2J count data for the US with tabulations by sex & education for all firms and NAICS sectors in the nation, all of which has been seasonally adjusted.

J2J (Beta) Help
Learn more about J2J (Beta) by choosing one of the links below:
- Job-to-Job Flows: Quick Start Guide (105 KB)
- Job-to-Job Flows: New Statistics on Worker Reallocation and Job Turnover (179 KB)
- Job-to-Job Flows: Data Dictionary and Schema
J2JOD Flows DATA Extraction
J2JOD Flows DATA Extraction
By State and Industry Sector
J2J Flows DATA Extraction

- Saves the data in a csv.gz format
- Use 7 zip or any other software to unzip it
Conversion to Excel

- Delete all columns that are not needed.
- I used (EE+AQ) variables for employment flows.
- Filter based on origin and destination states and industry sectors.
Filtering Data in Excel

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</tbody>
</table>

- Filter the excel chart based on the origin state and origin industry.
- Filter/change the geography and industry level to what you want.
Data Manipulation

Once the data is retrieved you can use various tools to analyze it:

- Excel - Pivot Tables or the Filtering tool
- Access or
- Any Data Visualization software like Tableau or R
Mapping the Job Losses and Gains
Mapping the Flows to States

Percentage of Total Manufacturing Inflows (2001-2013)

Percentage of Total Manufacturing Outflows (2001-2013)
Net Manufacturing J2J Flows to States
Thank You!
Aneesa I. Rashid, Ph.D.
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Bureau of Labor Market Information and Strategic Initiatives/QCEW

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www.michigan.gov/lmi