A Preliminary Investigation into the Metro Area Job-to-Job Flows and Earnings Data in the Manufacturing Sector
October 21, 2020

Coordinator: Welcome and thank you for standing by. At this time, all participants are in listen-only mode until the question-and-answer session of today's conference. At that time, you may press Star 1 on your phone to ask a question. I would like to inform all parties that today's conference is being recorded. If you have any objections, you may disconnect at this time. I would now like to turn the conference over to your host, Earlene Dowell. Thank you. You may begin.

(Earlene Dowell): Thank you, Danielle. And thank you to (Lisa West) from the Census Bureau for hosting our Webinar. Good afternoon, everyone.

In light of the recent transition to 100% telework, we are utilizing technology off-site to continue operations. We aim to minimize interruptions as much as possible, but we appreciate your patience if we experience any technical delays. Please utilize the chat feature to notify us of issues should any arise, and we will do our best to address them. All Webinars and Q&A sessions are recorded and will be accessible from the Census Academy of Webinars tab once the recording and transcripts are available. Please go to www.census.gov/academy.

Please save all your questions to the end of the presentation and thank you for your continued support of our outreach and education efforts. On behalf of the US Census Bureau and the Local Employment Dynamic Partnership in collaboration with the Council for Community and Economic Research and the Labor Market Information Institute, welcome to the October LED Webinar, a Preliminary Investigation into the Metro Area Job-to-Job Flows

and Earnings Data in the Manufacturing Sector with our presenter, Dylan Schafer.

This presentation will look at hires and separation rates in Detroit from job-to-job flows and flows from and to persistent non-employment from 2001 to 2017. Earnings at the origin job and destination job, track job flows into and out of the Detroit Metropolitan area and industry sectors and analyze workers in greater depth by age, education and gender to offer more insight.

Dylan Schafer graduated from Michigan State University with a BS in economics since 2015. Dylan has been working with the Bureau of Labor Market Information and Strategic Initiatives in the Bureau's Detroit Office.

He first started his work under the Occupational Employment Statistics Program where he focused on analyzing job vacancy data and has since moved into the Quarterly Census of Employment and Wages where his focus is the collection and analysis of industry employment and wages.

He is the regional contact for the East Michigan Prosperity Region where he provides all sources of labor market data for Michigan's regional customers.

With that, I hand it over to (Dylan).

(Dylan Schafer): Hi. Thank you for that great introduction. Hi, everyone. I'm Dylan Schafer. I'm an economic analyst with the Bureau of Labor Market Information and Strategic Initiatives in Michigan.

I am here to present to you a brief presentation on the Job-to-Job Flows and Earnings Data for the Manufacturing sector. Specifically, in Detroit Warren-Dearborn Metropolitan, the fiscal area.

So, the content of the presentation, it was created in collaboration with my since retired colleague, Dr. Aneesa Rashid. So, I just want to acknowledge her in that.

So, the main objective of this project was to gain insight into job and earnings behaviors within the manufacturing sector in the Detroit MSA. So we did so by creating graphs and data visualizations that were used to track hire and separation rates, flows from and to persistent non-employment, both into and out of the manufacturing sector, along with job-to-job flows by age, education and gender.

But we also looked at earnings changes for workers, for those switching industries and for those moving across metro areas. Just to give you some insight and understanding of the manufacturing sector in the Detroit MSA, here's a chart showing total private employment using data from the Quarterly Census of Employment and Wages from 2001 until 2019.

A most recent annual data is only available through 2019 where employment totaled around 254,000. Looking at the chart, you can see that we are nearly back to pre-recession rate employment levels from 2007 where there was more than 255,000 employed in the sector. These are private sector jobs.

The Detroit MSA, it was chosen as the central focus because of its relevance to our state's labor market. To give you context, the Detroit MSA accounts for nearly 47% of all private employment according to industry data.

And we focused on the manufacturing sector because it is the state's large industry is looking at private employment. The Detroit MSA contains nearly 41% of all manufacturing employment in the state.

So, for this presentation we're not just looking at, you know, job-to-job flows to attract growth. We're instead using the data to look at job movement from one job to another or from non-employment within the manufacturing sector.

Just to kind of free face a little bit, if you wanted to quickly access job-to-job data, you can do so using the job-to-job explorer tool. That's currently available on the Census website.

It's an interesting tool that provides analysis and visualizations for the construction of tables, maps and charts to help compare, aggregate and analyze flows by worker and firm characteristics.

The data in this slide doesn't come directly from the J2J explorer. Instead, we use the raw data files that are available to download on the Census Website. I'll be going over how to access those files later during the presentation if you want to do so.

All right. So, starting off, we're going to be going into job-to-job flows, focusing on hires and separations data.

Just to give you some additional insight into the variables that we've been looking at for portions of the presentation, I'll be giving a brief description of each.

Our first term here is job-to-job hires, which tracks an individual who moved from one job to another whether short or no observe non-employment spell and we also have job-to-job separations, which are those - which are jobs - job moves with short to no non-employment between jobs, but the separation is either voluntary or not voluntary.

Then we have hires from persistent non-employment, which is where an individual is hired into a position following a period of persistent non-employment, which is where the individual is not working for a minimum of three months.

And finally, separation to persistent non-employment, which is when an individual is separated into - I'm sorry - is separated from the job and goes into a period of persistent non-employment.

And now, let's start looking at the data. Within this presentation, as I said before, we're going to be focusing on just the manufacturing sector in some way. We will first go into hires and separations data for the manufacturing sector within the Detroit MSA.

Looking at the first chart to the left, you can see that it shows a job-to-job hires and separations rate with the dark green line being hires and the light green being separations.

Now, the separation rate and hire rate is calculated by dividing the number of job-to-job hires to separations by the number of jobs. When looking at the chart, we can see that job-to-job hire rates are greater than separation rates, which means that workers are likely job hopping from other industries and areas and moving into the manufacturing sectors in the Detroit MSA.

The chart on the right shows job-to-job hires from persistent non-employment and separation to persistent non-employment with the light green being hires and dark green, again, being separations.

Looking at the chart on the right, you can see that from 2007 to 2009 there was a sudden surge in separation to persistent non-employment. During that period, many individuals not just in the manufacturing sector experienced a period of long-term unemployment.

During the same period, hires from persistent non-employment dipped slightly through 2009. Looking at the graph, you can see that in 2010 job movement peaked at the bankruptcy and has since declined.

This means that there are less individuals who are being separated from their job and going into persistent non-employment. So since the recession these rates have stabilized.

All right. So now, let's go into our earnings data. Okay. So using job-to-job data, we were able to find which industries had the most job-to-job flows into and from the manufacturing industry.

The job-to-job flows column you see here, that top chart is showing stable employment flows. Stable employment, of course, is when an individual received earnings from an employer in the given quarter along with the previous and following quarter.

So looking at the top five industries with the most job-to-job flows into manufacturing, you can see that there's been a noticeable increase in the overall flows from 2007 to 2017 and this is for the second quarter.

For each of the - for each of these industries, we can see that on average individuals who move from one of these industries and into manufacturing have seen an overall increase in their earnings from their origin job to their destination job.

Individuals moving into the manufacturing sector could expect a similar increase in earnings in 2007 as they would in 2017.

In 2007, individuals moving from retail trade to manufacturing saw a near 46% increase in earnings while in 2017 their earnings increased by 47%. So for that top - so that bottom chart we're going to move into the top five industries with the most job-to-job flows throughout manufacturing.

Top of that list in both 2007 and 2017 was administrative and support in waste management with a total of 282 total job-to-job flows in 2007 and that being 352 in 2017.

In all but one of these instances we can see that earnings declined when comparing earnings at their origin job - which would've been in the manufacturing sector - to earnings in their destination job, which is one of the industries shown on the second table.

So let's move on to some more earnings data. So this chart here shows the overall change in earnings for the moving - for those moving from the manufacturing sector to another industry in the Detroit MSA.

The light green line is origin earnings. The gray line is best in nation earnings. And the dark green line is our - dark green bar is the percent change in earnings between the two.

Looking at the chart, we can see that best in nation earnings were trending higher than origin earnings in recent years until we saw a drop in 2017. Many of the years leading up to the recession, origin earnings were typically greater than destination earnings for those moving out of the manufacturing sector.

The largest disparity in change in earnings was in 2007 where those moving from manufacturing sectors to another industry saw a 17.7% decline in earnings, which is a pretty big drop.

And in 2009, we had the second highest drop of 15.6%. In many of the years following a recession, earnings, you know, appeared to improve. There's an overall positive net change.

Let's look at the change in earnings for those moving into the manufacturing sector from other industries.

So the lines are the same as the last chart and right off the bat we can see that there's a significant gap between earnings made at the origin job and earnings made at the destination job.

We can see that in all the years minus 2008 individuals moving from one industry into the manufacturing sector had experienced an overall earnings gain.

This shows that people are moving from job-to-job likely because they know they can make more at a new job, which in this case is a new job in the manufacturing sector.

This next chart shows another earnings comparison, but this time for those moving from job-to-job within the manufacturing sector itself. So this is moving from one job in manufacturing to another job in the same sector.

So looking at the percent change, we can see that in recent years individuals moving from one job in the manufacturing sector to another job have earned more by doing so across the board overall.

So barring a decline and percent change from 2011 to 2012, since then both earnings have been steadily increasing. This may be reflective of our overall tight labor market where employers want to retain their employees. Therefore, they offer higher paying positions within their market.

Now, let's move into a comparison of earnings from one MSA to another. So this chart shows a list of the top five metropolitan areas in Michigan who have the most job-to-job flows within - sorry - job flows within the manufacturing sector from the Detroit Metropolitan area during the second quarter of 2017.

So in this list we have Ann Arbor, Flint, Grand Rapids, Lansing, East Lansing and the Monroe MSA. What's interesting is that of these five MSAs with the most movement, three of them had a slight decline in earnings when comparing their earnings in Detroit to their earnings in their new MSA.

For example, in the Lansing/East Lansing MSA, origin earnings were $14,724 the second quarter of 2017 and that's for those moving from the manufacturing sector in Detroit to Lansing compared to their destination earnings, which fell 7.6% down to just $13,680 for the quarter. All right. Now, let's move on.

So here we're looking at the overall job-to-job flows within the manufacturing sector from the Detroit MSA to other MSAs. From 2007 until 2009, we can see that overall job flows declined during the recession and likely due to individuals not wanting to change jobs due to uncertainty in the job market at the time.

So in recent years, we have seen a slight uptick in the number of job-to-job flows and from 2011 to 2012, there's a large spike in the number of jobs - job-to-job flows out of the Detroit MSA, which then slowed the following year in 2013.

So I thought this was a cool visualization. So this is a - if you're not too familiar with Michigan and its metropolitan areas, here's the map showing the movement from the Detroit MSA to other metropolitan areas.

So, of course, the vast majority of job-to-job flows were strictly within the Detroit MSA and staying within it, which accounted for 78.5% of all job flows, 2.5% of all job-to-job flows were from individuals who went from Detroit to Grand Rapids. Detroit being, of course, the largest manufacturing subset in terms of employment and Grand Rapids being the second largest. Followed by Ann Arbor with 2.4% and Lansing with 2%. And just to kind of show you how concentrated manufacturing really is, within MSAs only 4% of all job flows out of the Detroit MSA work from non-metropolitan areas.

That's it for that topic right now. We can move into other subsets like, say, age. So using the log job-to-job data files, you can desegregate the data by age groups, which is showing here.

So we're looking at the overall net job-to-job flows within the manufacturing sector as usual. This may be a little difficult to see and I will be going over individual age groups shortly, but the top line is job flows for those age 14 to 18 and the second line is for those 19 to 21, followed by 22, 24 and so on.

Just glancing at it, you can see that those three age groups have a much higher rate of job-to-job flows than other age groups shown. Therefore, we could say

the higher the age, the more stable with less job hopping. The younger the age group, the more job hopping.

You may be wondering why there are so many job flows for those aged 14 to 18 and you would probably assume not a lot would be in the labor market during that segment, but my best guess for this group is that a lot of students age 16 to 18 who are working in an internship program within the manufacturing sector. So you would often see a lot of job hopping because of that. So we can go a little further into age groups from here. So now, we're going to look at those aged 22, 24 and those aged 35 to 44.

So the LEHD data lodged a pool of data by individual age groups with the one on the left being the 22 to 24 while the right is 35 to 44. The dark green line shows net job-to-job flows with little or no non-employment while the light green line is net job flows with persistent non-employment.

The gray line is the net growth, which is the combination of the two rates. And so for those aged 22 to 24, for many of the years from 2001 to 2017, job movement from non-employment was typically greater than job movement for those who experienced little or no non-employment.

This makes sense for an age group because within it, they're likely still in college and therefore, non-employed.

The chart to the right tells a different story. Within this slightly of the older age group of 35 to 44, the rate of job movement from non-employment has been lower than job movement from one job to another. This could potentially imply that employers are not always hiring from the unemployed or non-employed pool.

Therefore, those being hired from persistent - therefore, those who are being hired are from persistent non-employed, which is lower. So this next slide focuses on an older pool of individuals.

The chart to the left shows those aged 45 to 54 and the one on the right shows 55 to 64. So in both of these charts you can see that job-to-job movement had outweighed the rate of movement for those who have expand persistent non-employment.

One caveat is that for those aged 45 to 54 in 2010 flows from persistent non-employment did outpace job-to-job flows for little to no non-employment. Overall look at the data, the net growth rate is stable in recent years for those aged 25 and older.

So the files from LEHD also allow you to view job flows by sex and age at the same time. This chart shows - the chart above is just to show you a brief glimpse of job-to-job flows for females by age in manufacturing sectors.

So similar to a few slides ago where I showed you all the age groups, but this is for all sexes as dated. So this tells an overall similar story. The rate of job-to-job flows have been relatively, you know, steady in recent years for females aged 25 and older.

It is the younger female population that has seen a sudden change in the rates. All right. Now, let's talk about job-to-job flows in earnings by education. So first, let's look at job-to-job flows.

The chart above shows you how the data can be disaggregated into educational employment by industry and metropolitan area. So this chart

shows you job-to-job flows by educational obtainment in the manufacturing sector, again, within the Detroit Metropolitan area.

Instead of showing you all of the years from 2001 to 2017, I have chosen 5 years that seem relevant. So the level of job-to-job growth was in the manufacturing sector in 2017.

Has returned to near 2001 levels for all of the levels of education. By the end of the recession in 2009, flows were minimum, but by 2010 we could see that there was a noticeable increase, which shows that individuals may had been more confident in job changes at the time compared to the year prior.

Those who possessed a high school diploma or equivalent with no college - yes, who had no college and those with some college or associate's degree have shown they have consistently had the most job-to-job flows given the manufacturing sector.

All right. So now, we can talk a little more about earnings. So this slide shows you the earnings by origin destination for those who have a bachelor's degree and higher in the manufacturing sector.

There's been a steady climb in earnings in recent years. Looking at the chart in recent years, you can see that those moving from job-to-job in the manufacturing sector with a bachelor's degree or higher, they typically earn less at their new job.

The most notable difference is in origin destination earnings was in 2007 at the start of the recession. During this year, those who possessed a bachelor's degree or higher who moved jobs within the manufacturing sector saw a decent decline in earnings by doing so.

As we go further into the data and start looking at those with some college and associate's degree, so unlike those moving from job-to-job in the manufacturing sector with a bachelor's degree, those with some college or an associate's degree have (unintelligible) more at their new job than they did at their old one.

Also, we can see that there's been a healthy increase in earnings over the years for individuals within this subset. All right. So that was fun, right? Well, that's the majority of what I wanted to go over with the data.

Now, let's recap a little bit. So here's a list of some of the what I thought were some key takeaways from the data, first being in the Detroit Metropolitan area job flows have been steady after the recession and bankruptcy.

Second, the largest job transitions for - to the manufacturing sector are from the administrative and support in waste management sector. Third, job movement into the manufacturing sector from other industries brings in higher earnings.

Fourth, younger workers have a higher rate of job flows. The rates decline as worker age increases and finally, five earnings for those with some college and associate's degree have typically been higher at the destination job compared to that of bachelor's degree or higher it's just lower.

So I want to go over briefly how to download the data to access everything I've been showing within this presentation. So in order to download the job-to-job data, you want to go to the link above that's at the top of the slide.

You can choose your period, region and file type and format. For the file type dropdown, you can choose whether you want account data, rate data and origin destination job characteristics data.

We have used all these files when putting together this presentation. There's also some helpful documents on the side bar that give breakdowns on what they're able to meet.

Believe me, that's very helpful because if you're looking at this - these data files, there are so many variables. So if you're looking at (NCD) to find data pertaining to a specific metropolitan area, once you submit the file claim, you can choose either at the statewide level or MSA level.

Now, here is just a description on job-to-job data. I won't go through this, but you have access to it on the presentation after this. There's some more additional information on data available. Again, this is for your own use. And that's it. All right.

So that is all I had for my presentation. I hope you did enjoy some of the introductory research that Dr. (Aneesa Rashid) and I put together for this presentation. And thank you.

(Earlene Dowell): So (Danielle), we're ready for questions.

Coordinator: All right. Thank you so much. We will now begin the question and answer session. If you'd like to ask a question, please press Star 1, unmute your phone and record your name clearly when prompted. Your name is required so we can introduce you for your question. If you need to cancel your question for any reason, please press Star 2. Should take just a moment for

some questions to come through. Again, if you'd like to ask a question, please press Star 1.

(Earlene Dowell): Thank you, (Danielle). And while we're waiting, please keep your questions pertaining to the presentation with one follow-up question. And if you have any questions pertaining to the 2020 Census, please go to 2020Census.gov.

(Dylan), while you were presenting, we did have one question that I was unable to answer. The question is long-term unemployment is classified as three months; is that correct?

(Dylan Schafer): Sorry. I may have mis-spoke before. I believe it's actually three quarters. So it's the actual quarter that's in reference following the - and the preceding quarter as well and they have to be employed the quarter following. So they should have non-employed then following.

I may have misquoted that. I can look it up real quick.

(Earlene Dowell): So while we're waiting, some of the questions that did come through, (Dylan), were - that I answered were about where the data comes from. So I just let the attendees through the chat, know that the data comes from unemployment insurance wage records and the QCEW.

All states send us their administrative records and then LEHC combines that with censuses and surveys to create this very rich data source for our users.

(Dylan Schafer): Yes, that's a great overview of where it all comes from and it's, of course, varying levels of what the data covers too. So, like, for example, the data doesn't cover those who are actually from U.I. coverage among the private sector, like, say, independent contractors or those self-employed.

It doesn't include federal and government jobs. They're not covered by state UI's and that all doesn't get shown in the job-to-job flows data, but overall, it's a very comprehensive data set.

(Earlene Dowell): And then there was one other question that I answered and just to make sure that I answered that correctly too was do the actual numbers shown on the early figures report actual numbers or numbers in thousands?

So I answered that that it was actual numbers because I'm - I don't know job-to-job flows or any of our data to be in the thousands. Is that correct, (Dylan)?

(Dylan Schafer): Yes, that's exactly correct. So we were just looking at a specific geography level and industry. So it's not always a huge number within a quarter for job flows, but it can vary by industry.

In that situation, yes, you're only seeing a few hundred coming from specific industries - which may not seem like a lot - but it does add up if you look at the overall totals for job flows within an industry.

(Earlene Dowell): Great. (Danielle), are there any questions on the phone?

Coordinator: There are. Our first question today comes from (Joe Darden) with Michigan State University. Go ahead, (Joe). Your line is open.

(Joe Darden): Thank you very much. I appreciated the presentation, (Dylan). My question is whether all of the information you provided also exists for racial groups.

(Dylan Schafer): Yes, that's a great question. So actually you can find documentation out there for this data set and it does actually give a breakdown of what levels of race and ethnicity is available for, but it should be the majority of the major fields.

(Joe Darden): Okay. So the answer's yes?

(Dylan Schafer): Yes. Easy enough. Yes.

(Joe Darden): Okay. Thank you.

Coordinator: As a reminder for our participants if you would like to ask a question, please dial Star 1 and record your name when prompted. Our next question comes from (Melva Franklin). Go ahead. Your line is open.

(Melva Franklin): Hi. Good - great presentation, (Dylan). Thank you for sharing. Very insightful. I've got kind of a two-part question and the first is with apologies because I missed the beginning of the presentation, whether the incomes that were reflected were actual annual incomes or was that a representation of the change in annual income.

And then secondarily, does - are you able to make some statement about the current economic status for those populations that you studied? Is that - if you follow. The - was there any substantial change in economic status for that - those populations of people?

(Dylan Schafer): Yes. So I'll cover the first of theses right now regarding the earnings data. So this earnings data is only showing quarterly earnings. So it - I was displaying it typically for the 2017 quarter 2 just because at that time that was what was available when this presentation was originally put together.

Since then we've had more current data. I believe we're going until 2019 quarter 3, I think, now is available right now.

(Melva Franklin): Okay.

(Dylan Schafer): But as per the…

(Earlene Dowell): I think that's correct. Sorry, (Dylan). Yes.

(Dylan Schafer): Yes. Going into the second part of your question, I haven't done an update on this presentation with newer data. I am actually very interested in looking at the data for once - any 2020 data is available because I would love to compare what I'm seeing within my - our current research to what's going to be happening during this year.

I know - I don't - I can't speak to when 2020 data will be available using LEHD data, but I am very interested to see what kind of flows data is out there.

(Melva Franklin): Will you be posting it once you've had a chance to look at that?

(Dylan Schafer): We've had some discussions about possibly doing some research projects about it, but I can't say for sure that is in the pipeline just yet.

(Melva Franklin): Okay.

(Dylan Schafer): But feel free to reach out to me via my email and I can send you it if we ever do or you can actually sign-up to our subscription service on our Website to receive any updates on any employment or unemployment-related data.

(Melva Franklin): Okay. So I'm very curious about how families are faring in this economic decline compared to previous recessions and previous increases of the period just prior to 2016 compared to now.

(Dylan Schafer): Yes, believe me. I know that's going to be a hot topic here coming soon or already is really. Yes, I think it's going to be a point of research for a lot of us using this data because it is a fantastic resource to track origin destinations for individuals within states or metropolitan levels.

(Melva Franklin): Yes. What you're seeing here it looks like most people are really struggling, but what you hear in certain populations is that that's not the case. So yes. I'll send you - I'll try and reach out to you via email.

(Dylan Schafer): Yes, please do.

(Melva Franklin): Will do.

Coordinator: We show no further questions in queue at this time. Speakers, you may proceed.

(Earlene Dowell): Okay. Well, thank you so much, (Danielle), and thank you, everyone, for your questions. I would just like to close out with we appreciate everyone joining us this afternoon and to join us next month on Wednesday, November 18 at 1:30 pm Eastern Standard Time when (Matthew Staiger) presents Job-to-Job Flows and the Consequences of Job Separation.

Until then, enjoy the rest of your day and stay safe.

Coordinator: That concludes today's conference. Thank you for participating. You may disconnect at this time.

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