

NWX-US DEPT OF COMMERCE

**Moderator: Lisa Glover West
December 4, 2019
12:30 pm CT**

Coordinator: Welcome and thank you for standing by. At this time all participants will be in a listen only mode until the question and answer session of today's conference. At that time to ask a question from the phone lines, please press star 1 and record your name when prompted. This call is being recorded. If you have any objections please disconnect at this time. I would now like to turn the call over to your host, Earlene Dowell from the U.S. Census Bureau. You may begin.

(Earlene Dowell): Thank you Victor. And thank you to Lisa Glover from the US Census Bureau for hosting our webinar today. On behalf of the U.S. Census Bureau and our partnership with the Council for Community and Economic Research and the Labor Market Information Institute, welcome to our December LED Webinar. It is with great pleasure that I introduce my friend and colleague, Heath Hayward as he presents New Updates to Job-to-Job Flows Explorer on Workers Job Hopping Across Cities.

The US Census Bureau's Job-to-Job Flows Explorer tool is a web-based analysis and interactive visualization data tool. It provides comprehensive access to job flow statistics via an intuitive dashboard interface in orders to provide businesses, researches and policy makers greater insight into labor market shifts and their impact across the economy. Updates include tabulations by metro areas, compare worker earnings, rank industries and geographies, and normalize data on the fly including calculating labor market share.

Heath Hayward is a Geographer and Applications Developer in the Center for Economic Studies with the US Census Bureau. He has worked on the OnTheMap project and the Longitudinal Employer Household Dynamics program since 2006, QWI dissemination since 2012, and Job-to-Job Flows dissemination since 2015. Prior to working at the Census Bureau, Mr. Hayward completed his Master's Degree in Geographic Information Science at the University of Denver and his Bachelor's Degree in Economics from DePauw University in Indiana. With that I hand it over to Heath.

Heath Hayward: Thank you Earlene. Good afternoon and hello to everyone. Thank you for that very nice introduction. Thanks everyone for being here with me today. Let's go ahead and get started. Before I begin, just a quick note that these are my opinions and not representative of the Census Bureau.

So here's the plan for today, first I'll do some background on the LEHD program and how we develop data like the Job-to-Job Flows, and tools like J2J explorer. We'll then discuss the J2J data product and why it's a critical piece to understanding labor market dynamics at national and local levels. I'll talk about the J2J explorer tool, what's in the latest release and then we'll do a live demonstration. I'll leave plenty of time at the end for questions..

Job-to-Job Flows data is produced by the LEHD program through the Local Employment Dynamics partnership. The LEHD program creates linked employer, employee data, using administrative records and other Census data. This creates what we like to call a national frame of jobs from which public - use and research data product can then be produced. This is all made possible through the LED or Local Employment Dynamics partnership. States share administrative record data such as unemployment insurance wage records and the quarterly census of employment and wages. And we in turn provide value add back to the states by developing data products and tools.

Here's a diagram showing how the LEHD programs data infrastructure works. The input to this frame are firm, job and person level data. The QCEW, economics survey data and the business register are inputs for firm characteristics. Unemployment insurance data and federal worker information from OPM feed into the jobs data. And person characteristics come from various federal records and censuses, and surveys.

We protect the data to keep firm and personal information confidential and output our public use data products. These data cover approximately 97% of private employment and are available all the way back to 1990 for some of our data products. Here are the six analysis tools that have been created by the LEHD program in addition to J2J explorer - which we're covering today - there are tools that disseminate the quarterly work force indicators and the post-secondary employment outcomes as well as two versions of OnTheMap. One, for disseminating the LODES data and another for emergency management and preparation. For more information about these tools please check them out on the LEHD Website.

So I'd like to talk a little bit about why Job-to-Job Flows data was developed. Workers often build their careers through job hopping and these job moves are a primary means by which workers move from lower paying to better paying employers going from dead end jobs and up their career ladders. Similarly employers seek experience worker for jobs. Workers who are often currently employed at other firms. These Flows of workers across employers, industries and labor markets are quite large. Approximately half of all hires in separations in the year 2000 were Job-to-Job Flows. And until the J2J data, these Flows were a gap in the available statistics on employment dynamics and our understanding of the fluidity and the resiliency of our labor markets.

Let's take a look at this line chart on the right of the slide. You can see that during the great recession which is the time period with the grey column on the right, hiring from other jobs, hiring from spells of nonemployment and the rate of separations leading to other jobs dropped precipitously. And not surprisingly the rate of separations to persistent spells of nonemployment rose. These data are important because academics, business owners and policy makers need to better understand worker turnover, see the impact of job ladders and to look at economic migration across labor markets.

So we can now answer questions like are separations mostly coming from workers changing jobs or from the workers that are transitioning into nonemployment. When workers change job, do they switch industries? Do they move to new locations? What labor markets are we losing workers to and which workers are they? What are their demographic characteristics?

So what is J2J explorer? It's a web-based analysis tool, it gives access to these innovative statistics on worker reallocation. The tool has been designed for both novice and experienced users. For those that are new to J2J concepts we built the guided entry page as a way for users to ask basic questions and get to the data quickly without being overwhelmed by the full potential and the complexity of the J2J data.

There are six different visualization types - a table view, a line chart view, a bar chart view, a map, a bi-partite chart and then a matrix visualization. These have flexible controls that allow users to build the exact analysis they're interested in. All of the categorical variables available in the raw data such as geography industry, firm age and firm size as well as worker demographics and be selected and then analyzed. Currently we offer Excel and CSV Exports and we plan to develop additional export options in a future release.

The tool is built to inhale and disseminate quarterly updates of the data although currently the production of data is delayed while some administrative hurdles are addressed. Late last month, the 1.0 version of J2J explorer was released. This release made earning measures and metropolitan area tabulations available in the tool. It also opened up the ability for users to cross worker and firm characteristics and we added rankings and normalization functionality as well as several other small bug fixes and functionality improvements.

Users can look at job Flows between metro areas, states, and the nation while also crossing these tabulations by NAICS sector, sex by age, sex by education and race by ethnicity. We do not have seasonally adjusted data and firm age and firm size detail is not currently available for metro area tabulations although we would love to add those in a future release.

In terms of the newly added earnings measures, they're available at the metro area and state level. Research on adding national earnings data is currently in progress. I'd like to note that earnings are available for workers with stable jobs only. And this means the employment with a firm must have lasted at least three quarters.

Here we can see a diagram showing the quarterly timing of the hire and the separation for each of the ten new earnings measures. While this is likely more in the weeds than most users will want to go, I do like to show this diagram just to let people know that this kind of documentation is available and that J2J 1.0 PDF on the LEHD Website, if needed.

And as mentioned before, we've added rankings and normalization functionality. To give an example of the value of this new functionality take a look at the tables that are shown here. You can see how an analysis of

separations from manufacturing in Michigan's metro areas can be improved with these tools. On the left we can see that Detroit dominates the count of separations to nonemployment.

But on the right we can see the top ten metro areas ranked by manufacturing is drastically different once we normalize by the labor market size of each metro area. We can now see that the top metro area is the Niles Benton Harbor area with the value of 0.044 which is a rate that means that a quarterly average of 4.4% of manufacturing employees separated to persistent nonemployment in the four quarters of 2017.

I think that's enough slides for now. So let's go ahead and jump over to do a live demo of the tool. Give me a moment to open up a web browser. So you can get to the J2J explorer application at J2Jexplorer.ces.census.gov or I can show you how to get there from census.gov. So here at census.gov you can get to us from the Employment topic so if you go over and hover over Browse by Topic and then click Employment, we're under Surveys and Programs. And this list is alphabetical so you scroll down a little bit you'll see the Longitudinal Employer Household Dynamics. So if you click on that, that'll take you to the LEHD web page.

Here on the left you can see the different analysis tools that are available. So we can go ahead and click J2J Explorer here to open the tool. The tool aims to provide context for users to better understand these complicated data. The idea is sort of we want to make a data story easier to find. And the first thing you see is the guided entry. On the top left here you can see three dropdowns. These let you frame an analysis question that looks at hires for separations for a geography and or industry. These selections will determine the analysis options that are available on the right side of the page.

On the Origins side, which are these three links, I can look at what states, metro areas or industries hires into DC are coming from. From the Destination side, I can look at what industry those hires are going into. Underneath there's two longitudinal options. The first compares count indicators over time and the second compares earning indicators. Further below there are six recommended analysis links in case you don't know where to start. We'll take a look at several of these later in the demo.

I'd also like to highlight the Help link at the very top right corner as well as these little blue question mark icons that you can click which will pop up some contextual information to give you some more detail on exactly how particular functions work.

In this demo, I'd like to focus on Job-to-Job Flows into the Midland, Texas construction industry. Nationally the construction industry has been growing quickly in recent years compared to other industries. And Midland in particular has a large - relatively large - number of Job-to-Job Flows into construction compared to its labor market size.

So let's go ahead and update our - frame our analysis question. So I'm going to leave this top dropdown as "Hires to." You'll notice that this middle one includes states as well as metro areas but instead of having to search through a long list I can just go ahead and type it in. So I'm going to put in "Midland" - you can see there's both Midland, Michigan and a Midland, Texas. And then for the next sectors, I'm going to select Construction. So you may have noticed that my options here on the right have changed. So right now we can see that these are job Flows that are going to Midland, Texas in construction and so let's see what kind of workers are job hopping from which metro areas they're going.

So I'm going to click this "Which Metro Area" button. This is going to take us to a thematic map. Before diving into the data, let's take a step back and talk about the user interface that we see. There's a lot of options showing up on the screen. So above the map we see the various visualization options that are available. Note that you can click on these at any point but it may change your analysis settings in order to accommodate a new visualization type. But if you do switch to the bar chart or the table, it will always preserve your settings.

Next to those buttons, we have a full screen option and the all-important export data option. So if you click on that you can see the option to export to an Excel spreadsheet or to a zip file that includes a CSV as well as necessary meta data. On the right hand side of the page, a little bit further over you can see this sentence here at the top. It says, "Job-to-Job Flows from 429 origin metro areas to construction in Midland, Texas, 2018 Q1."

So this was created in order to provide users with a succinct description of what they're seeing in the visualization. This will update as you make any change to the settings in your application. Below you can see various dropdowns, you can see the different nine recommended analysis - sorry, nine indicators that are available from hires and separations to earnings. And right underneath we can see a description of what that indicator is. So a Job-to-Job Flow - which is the name of the data product but it's also the name of one of the indicators here - is a job flow with a short or no observed nonemployment spell. So that means that the flow happened either within the same quarter or there was only one quarter in between the separation and the hire.

We also have a geography level dropdown which will allow us to show exactly what we're thematically mapping. Further down we can see the filters. This gives us the option to select a single characteristics by which to filter the

entire analysis that we're looking at. And if more than one filter is selected then the application averages or sums those characteristics as appropriate.

One new feature in the tool is the ability to save and share the URL so that the exact analysis that you're viewing can be shown again. Note that if I refresh my browser - so I'll come up and just refresh this. This unique set of numbers up here will send users directly to the analysis that they were looking at.

So let's go ahead and look at this data. I'm going to go ahead and zoom in on Texas so we can get a closer look. Here we can see this purple outlined area is Midland, Texas. So it wasn't immediately displayed. We removed it from the map because it normally would dominate all of the flows. Let's go ahead and add it back in. So underneath the dropdown for origin metro area it lists all the metro areas that I'm displaying. So if I click on that it will get me to a pop up which lists all of the metro areas so I can just type in "Midland" notice that it needs to be checked and then I add it back in. So now we're looking at all 430 origin metro areas.

So now when I hover over Midland, we can see that there were 184 flows into Midland construction that came - that were interior to Midland. If I look there were 150 coming from nonmetro areas, 106 coming from Odessa, Texas, 82 from the Dallas-Fort Worth metro area and 87 from Houston. Note that we're only looking at a single quarter at this time. So I can click on that and let's say that we think that it'd be more accurate to look at a four-quarter average.

So I'm going to add in 2017 Q2, Q3 and Q4. Note that I can click on any of these green checkboxes to add the entire column or row to quickly select quarters. So I'm going to set that filter. So now we can see we're looking at an average of four quarters. But note that it doesn't really change much from the - in terms of the data that's returned.

Let's click on the Table View to see what this data looks like in table form. So here we can see that the origin metro area are now the rows of my table and we don't have any columns showing. I can click on the column header in order to sort. One click to sort ascending and two to sort descending. So we clearly can see really quickly the top five contributors to Midland construction are Midland itself, nonmetro areas, Odessa, Houston and Dallas.

If we take a look at the column dropdown you can see the full scope of the characteristics that are available to add, to analyze with the Job-to-Job data. We can look at time, origin or destination, industry characteristics, worker characteristics; we can compare different indicators as well as geography. So right now, we're looking at only construction as a destination industry. I can come over to here and decide that I want each column to be an industry. So I'm going to select that and that's going to give us a chance to look at all Job-to-Job Flows into Midland and see them broken out by different industries. So I can click on the Mining industry, descending and we can see exactly how - what the top origin cities are for different industries.

So remember, these were Job-to-Job Flows. So these are workers that came from another firm. And although that is an important source of new workers, companies may also hire a person that is not currently employed. Let's go back to the guided entry and I can do that with this button right here, big yellow one at the top. So let's get back here and create an analysis where we can see the proportion of workers hired to Midland construction from another job versus those that are hired from a period of nonemployment.

So really quickly I'll reset these dropdowns. So we want to look at Midland Construction and then I'm going to click on this link right here. Are hires to jobs in Midland, Texas Construction coming from nonemployment or are they

coming from another job? This takes us to a line chart showing a quarter two time - series comparing all hires - which is this top line here - to Job-to-Job hires, to hires from persistent nonemployment.

So right now we're looking at a quarter two series and if I click under the X-axis here - if I click this list of quarters it'll show that we're looking at those. But I'm going to change this to look at quarter three instead because that's usually the quarter when most construction workers are active. So the results show that workers coming from nonemployment - which again is this bottom line - represent about a 1/3 of all hires in a given quarter. However, beginning in about 2016 Q3 as we can see here - we can see that the share of Job-to-Job hires increases relative to hires from nonemployment. This change could signal a tightening of the local labor market, which forces companies to hire relatively more workers employed at other firms rather than from nonemployment.

And you may have noticed as I navigate around the line chart, that I can hover over a line in order to see it in the legend or vice versa, hover over a legend chip here to show it in the chart. And I can also click in the chart to drop a neat line which allows me to compare a point in time with this handy little companion table.

Let's take this opportunity to look at the normalization function and see how that works. Let's scroll down just a little bit here we can see Normalize is an option under Advanced Functions. I'm going to click this button to pop up the Normalize options. We can see that I have two options. One is share of a total and one of them is labor market size. So if I look at share of total, this option divides the selected category total or if quarters are active - like they are here - it'll index by a single quarter of my choosing.

Alternatively the labor market size normalization divides each data point by the average quarterly employment. So this allows users to remove various size effects from their analysis. Let's go ahead and enable labor market size and click set Normalization. And immediately you can see that the chart has changed. The three lines no longer consistently trend upward from the beginning of the time series until 2017.

So this means that although there have been more construction hires in recent years it's - those hires have been - they happen at the same time as employment growth. So there's been little relative increases due to the steady growth in employment over the last 18 years or so. And here we can also see, if we look at this drop here, this drop - the hiring drop during the great depression during 2009 is even more pronounced then it was before in the nonnormalized graph.

Now let's transition to look at worker earnings. Hiring a worker away from another employer is likely to require a company to pay higher earnings than if they would have hired the same worker from nonemployment. Let's look at the earnings of workers prior to the job flow and compare it to the earnings after the job flow. So to do this I can come over to the Lines dropdown here. Right now we're comparing count indicators but instead I'd like to compare earnings OD indicators - and OD stands for Origin Destination.

So this added all six of the available indicators. I can just click anywhere in this underline text block here and pop up and show the available indicators. I'm going to remove these first four indicators so that we're only looking at earnings prior to Job-to-Job Flows and earnings following Job-to-Job Flows. In the resulting line chart we see evidence to support previous assertion that there could be a tight labor market for construction in Midland, Texas with the exception of right here 2002 Q3. The average quarterly earnings for new hires

for those hires that are at the destination - which is this darker grey line that I'm highlighting - it's always more than the earnings at the previous job. And if we look at the most recent quarter here, 2017 Q3 we can note that the largest difference which is based on this chart here is almost \$3,500. It's in this - the most recent quarter.

So let's look at some other types of analyses that we can do. Let's move away from Midland, Texas and look at a few of the recommended analysis options in the guided entry. So again, I'm going to click this Guided Entry button up here. I do recommend using that as a reorientation. If you ever get lost in the tool, you're seeing something you don't understand and you want to sort of start again, I recommend going back to the guided entry and starting over.

So I'm going to scroll down and we can see that there's six recommended options here. So let's go ahead and click on the first one here called Where Did Information Workers with the Highest Earnings for Job Flows into Seattle Come From? So I'm going to go ahead and click this. This is going to take me to a grouped bar chart comparing origin and destination earnings for different origin cities to information jobs in Seattle.

We can see that New York, San Francisco and Austin, Texas workers that moved to Seattle earned the most prior to the move and interestingly looking at Chicago those information workers actually earned less after they moved to Seattle. If we click on the bar you can see what the average quarterly earnings are so in this case the workers that made this transition from New York information industry to the Seattle information industry, they earned \$92,000.

So you may notice if you look at the title up here where it says we're looking at the top ten origin metros, you can scroll down and we're using the rankings function. So I'm going to click on this link here. This shows us how to use the

rankings functionality. So here you can look at the top or bottom 10, 25 or 50 characteristics. Go ahead and change to the top 25. And note that we can also order it by the different indicators or if we're showing characteristic, let's say that we were - had industries or worker age as our - the category that we're looking at, we can choose whether to rank by any of the different columns or bars that we're showing.

So I'm going to go ahead and click on the destination earnings. I'm going to change this to origin earnings and click, Go. So now, we see the exact same information but now it's presented ordered by the light grey bar. So these are the origin earnings before this job flow happened. So these bars are sorted descending and we can see that workers from San Jose and then San Francisco had the highest information earnings prior to the job hop.

So you might be wondering why we're looking at 2017 Q4 rather than 2018 Q1 data. In a previous example I was using 2018 Q1. So let's go ahead and click on that and we can change it and see what happens. So I'm going to click Set Filter. And you'll see that we get a No Data Error. So this means that we need to change one of our settings in order to display data. And you can see from the list of bullets that are shown here that the problem could be a number of issues ranging from state - level data availability to various measures requiring a leading or lagging quarter in order to be calculated.

In this case the earnings data is not available for the most recent quarter of data. So we'll need to change our quarter - the quarter that we're filtering back, the 2017 Q4. I'd like to note that we do plan on improving this No Data Notification system in a future release. We would like to provide users with information about the exact issues that's causing No Data to appear rather than having them to figure out exactly, you know, what the issue was.

So let's take a look at a couple more examples from the recommended analysis options in the guided entry. So again I'm going to click the Guided Entry up at the top. So let's take a look at the fourth one down in the list. So this one is, Are Construction Workers Who Changed Jobs During the Great Recession Demographically Different from Construction Workers Who Became Persistently Nonemployed?

So let's go ahead and click that one. And we're going to go to see what the bi-partite chart looks like. And we're actually looking at two bi-partite type charts. So this is to be able to compare two different measures and we're looking at the decomposition of sex by age for workers who separated from construction jobs in Phoenix during the great recession. So you can see that we're looking at an average of 2007 Q4 to 2009 Q2.

In the chart on the left where it says Job-to-Job Separations, we're looking at workers who were able to quickly transition to another job. And the chart on the right separation to persistent nonemployment, we're looking at workers who separated to persistent nonemployment. So quick look at the chart shows that females and older workers were far more likely to end up in a spell of - a longer spell of nonemployment. We can see 15.6% of females quickly transitioned versus 21.2 females to persistent nonemployment.

So we hover over it then we can - the chart will dynamically update. I can also click it to lock. So we can see that if we add the bottom two age cohorts together, we can see that over here almost 20% of females that separated to nonemployment were 55 to 99 years of age with only 11% of females that flowed to another job that were in that age group. We switch it over to look at males and we can see a similar pattern. Fifteen-percent of males separated to nonemployment while only 8% found work in the same or subsequent quarter after their separation.

Let's go back and do one final recommended analysis. We haven't looked at the matrix visualization yet. So we're going to look at this bottom link here that says which industries have the highest connectivity in terms of National Job Flows. So let's click this link and it takes us to the matrix. So this is a somewhat unique visualization. Essentially, what this does is it takes the tables visualization and thematically colors all of the cells so that we can visually distinguish trends in the data.

So in this instance, we're looking at National Job Flows from industry to industry. So an origin industry to a destination industry. The darker colored cells indicate more job flows. And not surprisingly the diagonals or the within industry flows have the largest counts. So let's go ahead and toggle those off by clicking this plus button here to exclude the diagonal cells from the thematic mapping.

So now we can see highlighted those industry transitions where people moved. So now we can see particularly this cell here - so if I click it we can see the largest with accommodation in Food Services to Retail Trade. Which I don't think this is really surprising to anyone. Let's look at this one here. This is the Admin Support, Waste Management, and Remediation Services which is an industry sector that I believe also that contains Temp Services. So interestingly going from this Admin Temp Service Industry into Manufacturing is a pretty large flow.

We can also see retail trade to accommodation in Food Services had a lot of job flows. And you can see here this is the - in this column the Administrative here, this is the Temp Services. So we can see that this is a - it's pretty bold column. We can see there were quite a few flows from various industries that

go into that particular NAICS sector. I'd like to note that you can also click on these rows here. So if I click on Manufacturing it will reorder so we can see the smallest number of flows was Manufacturing to Utilities where as the largest was Manufacturing to Admin that temp sector that we were talking about. Interestingly next on the list was Retail Trade, then Construction, then Wholesale Trade.

So that's what I have for the demo today. I'm going to head back now to my slides. There's just a couple more of those and then can finish up with your questions. So here I wanted to share links to some of our One-Page Analysis Guides. So these are PDF documents that I created that will walk you through some of the basics of using the tools and how to interpret the data that you see. So if you're interested in learning more about the application and some of the ways that you can use the data, please take a look at those. They are available at the Help links within the LEHD Home Page. And these are assessable from the Help link that I showed you at the very top right corner of the application.

So there's other ways to access the J2J data besides the J2J explorer. Our strategy for J2J dissemination focuses on providing as many access points for a variety of different user's skill level, user needs as possible. So J2J explorer is really for users that are interested in having an easy to use visual flexible web interface. There's also for more advanced users, there's bulk or single file download from the slash data location or in the Data tab in the LEHD Home Page. And finally, we will be adding the Job-to-Job flows data into the LED Extraction Tool at some point. And the LED extraction tool is a way for users to query the raw data so you can get the exact rows and columns that you're interested in from the raw data without having to download large files and sift through it yourself.

Here's some useful links. The Help pages for J2J explorer, various analysis guides, there is a FAQ page. As we get more feedback from users with different questions, there's questions that we get really frequently we will add additional FAQ's. So that's there for you to look at. The J2J 101 document is really comprehensive. It includes a lot of diagrams on the different measures, how the data is created. There's also Quick Start Guide and data notices. This J2J notices PDF we release every quarter and it includes any information about state level data, anything you need to worry about in terms of data quality, things like that.

And then in terms of contacts, here's the URL for the LEHD Home Page. If you have questions or concerns, comments, please send those to ces.J2J.feedback@census.gov. I monitor that email address as well as several of my other colleagues. And if you'd like to contact me directly, here's my email address.

Now I think we have about 15 min or so for questions. Thank you all for your time and I appreciate you spending an hour with me today.

Coordinator: We will now begin a question and answer session. To ask a question from the phone lines press star 1 and record your name at the prompt. Please keep questions to one question and one follow up. And keep questions pertaining to the presentation. One moment please for incoming questions. And our first question comes from (Jane Maggie White), your line is open.

(Jane Maggie White): I don't have a question. And I'm (Jane Maggie White).

Coordinator: It'll just be one more moment and we do have a few questions coming in. First question comes from (Heidi), your line is open.

(Heidi): Hi there. Thanks very much for the instructive webinar. A few questions on the definitions. I believe you said that Job-to-Jobs - and please correct me if I'm wrong - is a flow that occurs either from one job to another job within the quarter or with the one quarter lag. Can you define what you mean by persistent unemployment versus brief nonemployment? And then the main thing I also wanted to focus on is when we're looking at the geographical flows, are these based on the location of the first job to the location of the second job or is this accounting for worker residence. Thanks.

Heath Hayward: Those are good questions. Thank you. So you're last one first, these are the locations of employment. So these are the not residential information. So I think that gets at the idea of we don't capture teleworkers. So we don't really know of exactly where you live. We don't know that you - whether you work at the employment location. So the flow is really from the employment location before the separation to the employment location after the separation.

So it's possible that someone teleworks, they actually don't physically move their office.

(Heidi): Right, okay.

Heath Hayward: And in terms of persistent nonemployment, that is three quarters after the separation.

(Heidi): Persistent nonemployment is three quarters after the quarter of employment?

Heath Hayward: That's correct. After the quarter of the separation. So we don't, you know, we can't track too far into the future because then we sort of run into the edge of our time series. But I do think it'd be a really interesting expansion of this data to just sort of look at some of those longer spells of nonemployment and sort

of see what happens with workers. Especially earnings after - earnings change if someone is out of the labor force for several quarters in a row.

(Heidi): Okay. And then you said brief nonemployment was what?

Heath Hayward: Brief nonemployment I believe is two quarters. The exact details of that are on the J2J 101 document. I don't...

(Heidi): Okay.

Heath Hayward: I think I have it. And I think one other definition that I used the term quite a bit. It might be useful is nonemployment. And that's something that is I think sounds strange. We're always use to hearing the term unemployment. So nonemployment in the Job-to-Job flow data it's referring to a worker that doesn't appear in our job frame during the time period. So we don't distinguish between whether a person is looking for employment, whether they're informally employed or if they're out of the labor force entirely. So a lot of those older workers, could have just retired. So when you think about unemployment it typically refers to someone - they're not employed but they're actively looking for employment.

(Heidi): Okay, and then just one follow up question with regard to the earnings data. Is there any adjustment for part time versus full time workers or some of the wage figures could be skewed one way or the other depending on the composition of the worker?

Heath Hayward: Right. We don't have hours worked in the submissions that we get from our state partners. That'd be something that we'd love to get because that would give us some indication of that skewing that you're talking about where we don't know - we know someone's earnings but we don't know - you know, I

think we assume that they are full time employees. So that's not something that we have now but we certainly would like to get it in the future.

(Heidi): Okay. And then my real final question even though I said I originally had just one or two. Is there any plan going forward to further breakdown the broad NAICS sectors? So for example, very common but broad sectors is professional and business services. Are there any near-term plans to further show some of those subcategories?

Heath Hayward: I don't think that that's going to be possible. We certainly always want to show as, you know, as much detail as possible. But looking at the confidentiality production mechanisms...

(Heidi): Okay.

Heath Hayward: ...there would just be too many cells would be suppressed...

(Heidi): Okay.

Heath Hayward: to small to dive any deeper.

(Heidi): Okay. Thanks so much for your help. That was a great webinar.

Heath Hayward: You're welcome.

Coordinator: Our next question comes from (Howard Schnyder), your line is open.

(Howard Schnyder): Oh, hi. Thanks very helpful. So I was curious why one of the nice things about QCEW for example is the ability of a county data or if there was any plans or any capacity to drive this down to the county level and relatedly if

someone moves say from a metropolitan area to a rural area, do they just get sort of sucked up in a state level figure at that point or is there any way to understand that?

Heath Hayward: Good question. The - similar to the desire to drill deeper into NAICS three or four digit, the cells just get too small for county flows. There's really not enough people moving to the 3,000 counties. So, you know, we - there are quite a few suppressions in the 430 metro areas because of this issue. So trying to do it for the 3,300 counties, just wouldn't work very well.

And in terms of your other question - what was your other question? I'm sorry what was your other...

(Howard Schnyder): Well it's sort of had to do with the, you know, sort of rural economics.

Heath Hayward: Oh, right.

(Howard Schnyder): If someone, you know, moves from a city and takes a job at a rural area or a nonmetro area. I guess there's no way to really capture that because they would just be in a state level aggregate and nowhere else.

Heath Hayward: Well we do create a remainder so there is a nonmetro area for each state. So it does mean you can do some interesting analysis of sort of looking at flows to and from rural and urban areas by using those nonmetro remainders.

(Howard Schnyder): Okay. Is there a guide to that somewhere in the cheat sheet you referenced there?

Heath Hayward: I don't know that it's explicitly mentioned. You can basically just use the - in the list of metro areas, there is a nonmetro option for every state. And in the

dialogue pop up for the metro area, there is an option to select all nonmetro -
or so you can sort of group them together...

(Howard Schnyder): Yes.

Heath Hayward: ...relatively easily in the application.

(Howard Schnyder): Okay, great. Thank you.

Heath Hayward: You're welcome.

Coordinator: Once again, as a reminder, to ask a question please press star 1 and record your name at the prompt. Please ensure your phone is unmuted prior to recording your name. Also as a reminder please keep questions to one question and one follow up and keep questions pertaining to the presentation. Our next question comes from (David Drews), your line is open.

(David Drews): Hey there. I come from a small state that tends to struggle with some brain drain issues. And I've kind of used this before to look at some of those numbers but I was curious if you had any guidance on like over how many quarters or years that you would want to average those numbers to feel that you'd have a good degree of reliability as you look at either state to state flows or now maybe we can look at some metro to metro flows. Because it looks like you have a fairly sizable time series and I'm just kind of wondering what some guidance would be on the small area data?

Heath Hayward: Yes, so I think it's a very general rule of thumb, I think, to get rid of some of the seasonality to at least do a four-quarter rolling average. I think that a lot of it depends on the industry that you're looking at. I think employment trends in the summer and in the winter can be very different for different types of

workers. You know, like I mentioned with construction workers I think they're generally more active in quarter three. Early summer for retail and trade. You know, the seasonal summer workers come into play.

I think a lot of times you know best about your local economy and the states that provide us with data, they know best about that sort of the quality of the data that they're sending in. And, you know, I would typically general rule it is best to do an average of several quarters. But we don't really have a, you know, there's not really a standard. But I do think that it's - you can use that data and look at a variety of options. You know, look at a fourth quarter average, compare that to a 8-quarter average or a 12-quarter average and see if you're getting something that's different and trying to figure out whether you know of any particular trends in your local area that could be driving differences between those.

(David Drews): Okay, yes. So you could compare different times frames to see how much the numbers move. And those numbers that it's going to output when you have the multiple quarters are always going to be an average of the quarterly figures, is that a correct way to interpret that?

Heath Hayward: That's right. Yes, there are some cases. So if you were the aggregations were sums so if you're doing counts and you're adding in other additional age categories, that will just add to the counts, right, because you're just getting more and more of the, you know, larger universe included in the analysis. In most cases, putting in additional filters will create averages.

(David Drews): Okay, so if you look at separations from a particular state with an education level bachelor's or more, that would effectively get at brain drain, wouldn't you say?

Heath Hayward: I would, yes.

(David Drews): Okay, perfect. Thank you.

Heath Hayward: You're welcome.

Coordinator: Our next question comes from (Sharon Sakwell), your line is open.

(Sharon Sakwell): Hi how are you today? I missed the webinar and I just wanted to know how could I possibly follow up with the webinar? That's it.

Heath Hayward: Okay so, all of these webinars are recorded so there will be a written transcript, slide and a YouTube video and those will be available within ten business days. So if you go to [census.gov/data/academy/webinars.html](https://www.census.gov/data/academy/webinars.html) that's where all of the recordings for these go.

(Sharon Sakwell): Thank you so very much.

Heath Hayward: Yes, you're welcome.

(Sharon Sakwell): Okay, thank you. Bye-bye.

Coordinator: Our next question comes from (Kim Jun), your line is open.

(Kim Jun): Hello?

Heath Hayward: Hello.

(Kim Jun): Hello. Yes, my question is that related to first question, the - I know a lot of the data frame they have the one option to choose at a time which is a key

indicator but it did not specify what is the quarter of, you know, the time actually means. Does it mean the time of the job was actually - the worker found a job or actually the time is a timing the worker lose job or separation? Separation or job quarter? And you mentioned when you answered the first question mentioned are the three quarters after separation. So I don't know what that quarter actually means here.

Second is that related to this one, is that you said within three quarters after the separation quarter that does it mean that it's accumulative within any time within the three quarter if a person finds another job is - will be detected in the system or is there any of the indicator can show if it's a first quarter or same quarter, first quarter, second quarter or third quarter after? So that is my main question. I have some other questions. Not sure if it's allowed to ask.

Yes, I notice one of your slides - your beginning slide when you did the demo you started as hire to(two). You picked industry as construction. But later on when you did some on the right side you changed it back to - the right side shows the destination industry NAICS code is a multiple NAICS code. So I kind of feel - I thought it was started with the hire (two) which should have been the destination NAICS code. Why later on it shows multiple NAICS code in the destination? So I'm kind of curious about that.

Heath Hayward: Okay. So the first one where I said I wanted to look at job flows to construction in Midland so that was a filter. So a single destination NAICS was selected. So there was only one column and that showed all of the counts of job flows into that industry from the different metro areas. When I went to the table, there was the option of adding in columns.

So basically what I did was I took the filter away - which showed a single destination industry - and I made all of the columns destination industries. So

the same information that was initially in the single column was now that information was in the Construction column. And there were all the other Industry columns side by side.

(Kim Jun): Okay.

Heath Hayward: In terms of the timing of the hires and separations, so the quarter that we're showing in the application, we generally call the reference quarter. And the information that we get through our jobs frame, is usually there's a beginning of quarter employment and there's an end of quarter employment. So what we do is we detect whether or not there is employment at the beginning of the quarter and the end of the quarter based on whether there was earnings across these seams.

So just looking at separations, for example, we know that someone had a main job at the beginning of the reference quarter and we know that they were separated when that main job doesn't exist at the end of the reference quarter. Now there's different definitions, different types of indicators. So there's 59 different measures that get at all the different intricacies. And I recommend taking a look at the J2J 101 document. There's pretty detailed documentation and diagrams that show these transitions. Some of them get a little bit complicated.

When we talk about the Job-to-Job Flows - which was the measure that I primarily showed during my demo - that's based off of the timing of the hire. So we know that a Job-to-Job Flow happened at the end of the reference quarter. So the main job happened to occur. We know that they were end of quarter employed at the end of reference quarter (T) for example. So what that means is that a separation could have actually happened at the beginning of that quarter or at the end of the previous quarter. There could have been either

the separation could have happened in quarter (T) or it could have happened in (T) minus 1.

So and I think - please do reach out to the ces.J2J.feedback email address and send me additional - you know, it sounds like you have more additional questions so please feel free to send me more questions. Anyone else that's still listening on the line with more questions, please do reach out and we'll make sure to get back to you.

(Kim Jun): Okay. Yes, my follow up was related to that one is you said earlier when you answered the first-person question is you mentioned within three quarters. But just now you said a separation is like a Q or Q minus 1. Is that a somehow a misinterpreted?

Heath Hayward: So I was looking at separations to persistent nonemployment. So but I was talking about in the T minus 1, that was the Job-to-Job Flow. So that means that what I was talking about is a different measure.

(Kim Jun): Okay. Thank you very much.

Heath Hayward: You're welcome.

Coordinator: Our next question comes from (Jeff Trupin), your line is open.

(Jeff Trupin): So I was just looking at the information NAICS sector. So there is a - it's just an information NAICS sector. Let me see if I can find out exactly what that code is. So we don't have any information on occupation. Sorry to say. So this is all just...

Heath Hayward: So I was just looking at the information NAICS sector. So there is a - it's just an information NAICS sector. Let me see if I can find out exactly what that code is. So we don't have any information on occupation. Sorry to say. So this is all just...

((Crosstalk))

(Jeff Trupin): ...occupational data at all?

Heath Hayward: Correct. It's only the industry in which of the firm that employed the workers.

(Jeff Trupin): Okay. All right, that's - okay. Yes, I'm looking for the two together. The...

Heath Hayward: Yes, it seems like that's sort of the holy grail. Everyone is really interested in combining - getting that sort of linkage between the occupation and the industry.

(Jeff Trupin): Yes. Thank you.

Heath Hayward: Oh, you're welcome.

(Earlene Dowell): (Victor), we'll take - are there any more questions?

Coordinator: Yes, we do have about two more.

(Earlene Dowell): Okay, we'll take those last two questions and then we'll wrap up from there.

Coordinator: Certainly. Our next question comes from (Travis Deeds), your line is open.

(Travis Deeds): Hi is there any way to isolate jobs or I guess hires from say college new hires that were not in the job market previously that have now shifted over?

Heath Hayward: No, we don't have a way to distinguish the different types of nonemployment that might exist. So, you know, whether someone - a reason for someone not in our jobs frame, we just don't know whether they're students, or their retired or there's some other reasons they're not showing up.

(Travis Deeds): Fair enough. I guess...

Heath Hayward: They're not able to...

(Travis Deeds): I guess maybe doing a proxy on the age cohorts that if you isolate maybe that lower age 18 to 24. So maybe that would do it?

Heath Hayward: Yes we do have an educational attainment characteristic and we sort of group - I believe it's under 25 into that category. And we say, we can't really discern their attainment level because it's so volatile during those early time periods. But we haven't - you know, that's a good idea. Something that we can look into in terms of sort of determining, you know, younger workers. Figuring out whether younger workers are, you know, the type of nonemployment that they go to whether they're actually pursuing further education.

(Travis Deeds): No, I appreciate it. This is a great tool. And the reason we're asking about it is just like the last caller, kind of figuring out where brain drain come from because immediately when people graduate they go to a, you know, federal employment sector for the most part. So this is great so far. We really appreciate the work.

Heath Hayward: Okay. I wanted to clarify, there was an earlier caller, I mentioned that asked about separations to persistent nonemployment. And I wanted to correct myself. Just looking at the documentation now, so that particular indicator means that someone was main job employed at the beginning of the reference quarter and they were not employed at the end of the quarter and they were not employed at the end of the next quarters. So it's not a full three quarters, it's just - they're not employed at the end of the reference quarter and the following quarters. So it's really only a two quarter and not three as I mentioned earlier. Sorry for the confusion.

Coordinator: And our final question comes from (Sue Oh), your line is open.

(Sue Oh): Hi there. Could you flash - I have two questions. One, could you flash that email again on the last slide that you have? It's kind of gone from the WebEx slide show thing.

Heath Hayward: Sure.

(Sue Oh): And then - yes that would be helpful. I forgot to take a screenshot of that. And the second thing is, is all of this data that's available on this explorer tool the same that's uploaded as CSV's on your data portal? So there's LEHD.ces.census.gov/data and you have a bunch of CSV's like a go to Job-to-Job Flows. Is all that data the same or is there more in your tool or is there more in this J2J - in the CSV's?

Heath Hayward: Good question. So almost all of the data is now in the tools. There was a previously - the earnings data and then the metro area tabulations, existed as raw data and were not in the tool. So that's one of the major updates as mentioned in this 1.0. So I believe that there are some seasonally adjusted data that exist in the CSV's that are not in the tools. So if that's something that

you're interested in, do check that out in the raw data. And I believe in the next quarter of data that we're going to be releasing the number of aggregation levels that have seasonally adjusted data are going to be expanded. So we're continuing to try to expand that.

I don't have a timeframe for adding that into the application. The seasonally adjusted data only happens for part of the data so it would be a little bit of a difficult(lift)to get that seamlessly into the user interface. But I think that's something that we would like to do down the line.

(Sue Oh): No, that's cool. I was just wondering if there was anything different because I actually do use the CSV's and find them incredibly useful. But thank you for the tool though. This is a great webinar.

Heath Hayward: Great, I'm glad you enjoyed it.

Coordinator: We have no further questions in queue.

(Earlene Dowell): Great. So I would like to thank Heath for this great presentation. Also thank you to our audience for your continuous support throughout the year. We'll be back in 2020 with new and innovative ways our users are utilizing the LED data products. Until then, thank you for your support and happy holidays.

Coordinator: This concludes today's conference. Thank you for your participation. You may disconnect your lines at this time.

END