

**2020 LED Webinar Series: "Analyzing Job-to-Job Flows in the
Houston Metropolitan Area Using LEHD J2JData"
July 22, 2020**

Coordinator: Thanks for standing by. At this time all participants are in a listen-only mode until the question-and-answer session of today's conference. This conference is being recorded. If you have any objections please disconnect your line at this time. I would like now to turn the conference over to Earlene Dowell. Thank you. You may begin.

Earlene Dowell: Thank you Olin. Good afternoon everyone. On behalf of the U.S. 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 July LED Webinar, Analyzing Job-to-Job Growth in the Houston Metropolitan Area Using LEHD Job-to-Job Data with our presenter, Dr. Pramod Sambidi.

The Longitudinal Employer Household Dynamic or LEHD Job-to-Job flows data set provides new insight to the changing demographic and socioeconomic characteristics of a region's population by identifying the demographic of workers moving in and out of Houston metropolitan area as well as the origin destination information on location and industry sector changes regional planners can better predict migration scenarios and employment structures.

Dr. Pramod Sambidi is a Social Economic Modeling Program Manager at the Houston Galveston Area Council. He leads efforts in the developing long range demographic economic and land use forecasts for the greater Houston region. He also leads efforts in designing and developing interactive Web mapping applications and tools to assist local government, planners, researchers and businesses in effective decision-making process. Dr. Sambidi

has more than 15 years of experience in modeling regional and urban economics and data management. He holds a PhD in Agriculture Economics from Louisiana State University. With that I welcome back a previous LED Webinar and workshop presenter, Dr. Sambidi.

Pramod Sambidi: Thank you Earlene. Good afternoon everyone and thank you for your interest in the Webinar. Today I will be talking about how LEHD's Job-to-Job data can be utilized in understanding the regional job migration patterns. Before I go into the J2J data, I would like to give you a brief overview of the Houston regions population and employment trends and cover some of the impacts related to COVID-19.

In the Houston Galveston Area Council our studying 13 counties and 134 cities and the region has a population of 7 million people and 3 million jobs. And we also show as the 8 county MPO region colored in red.

So, if you look at the historic trend of Houston population, the regions population increase from 4.7 million to 7 million in the last 19 years. On an average national increase accounts for 50% of region's population growth but international migration accounts for 30% and domestic migration accounts for 20%.

And you can see that here in 2006 the migration, domestic-led migration accounted for 50% and that's because of a hurricane Rita, so people moving from New Orleans and Louisiana to Houston, Texas. And you can also see that during 2013 to 2015 there's a lot of migration happening. That's when the Houston energy industry is booming and Houston economy is booming. However since 2017 the Houston energy industry is down and that resulted in a decrease in people migration. So you can see a net domestic migration for 2017 and 2018.

And this is with respect to the employment. As you can see the employment increase from 2.2 million people to 3 million people in the last 19 years. And you can see the inclusion of unemployment during the recession has a large increase in unemployment during the Houston energy downturn that happened in 2015 to 2016.

And here the industry breakdown for Houston as you can see healthcare accounts for 12%, retail trade accounts for 10% and Houston space industry is mining accounts for 2.85% but even though the unemployment is small it is a industry that's holding the Houston economy. And as we can see manufacturing accounts for 7.6%.

So because we are in the pandemic situation I thought it would be appropriate to share some of the impacts of COVID-19 on Houston region because I believe that what's happening now will change the way we work in the future as well. So here is a look at the unemployment rate for the Houston during the pandemic. It costs around 14% in the April and now it is around 9.9% for But Texas it is around 8.9% and for U.S. it is down 9.2%. This is for June 2020.

And similarly this graph kind of introducing an idea of how the office space is going to be impacted. And as you can see the current vacancy rate during the second quarter of 2020 is 21.6.

That is significantly high compared to the last 15 years. And also if you look at the absorption it is negative. So and we expect that this is going to continue in the near future as well.

And here is some Google mobility report and this is during the February 16 to March 29. And as you can see because of the stay-at-home orders and the

social distancing and some of the businesses are closed like restaurants so the travel is down by 45% for retail and recreation and groceries as you can see there is a peak before the stay-at-home orders were issued and then it went down. And similarly the parks are down by 27% jobs are down by 36%.

However you see an increase in essential travel is 13% and these are related to the food delivery and grocery delivery services. And Google updated it - the data recently and this is related to May 22 to July 3 and we can see retail and recreation are still down by 15%. However travel to groceries has increased by 7%. And also travel to parks has increased by 13% compared to the base here which is pre-COVID-19.

And now since most of the places and are potential closed, so people are going out doors like into the parks or walking and jogging. And similarly the workplace, travel to workplaces are still down by 56% compared with pre-COVID-19. And residential travel patterns have increased to 17% so people are still buying from home or home, buying online and the food and groceries are being delivered to their home.

So this is how what's happening now and we assume that because most of the companies are now believing the teleworking is working well so maybe in the future as well there will be all teleworking compared to pre-COVID-19. And this will also will impact Job-to-Job migrations for the U.S. in the future.

So I just noticed today that U.S. Census has released the 2018 and 2019 J2J data and that's - this happened **Tuesday** morning so I was not able to update that. So what I'm going to show you is data from 2000 to 2017 and how that's has impact the U.S. in Houston region like how - what - well how the Houston region understand the migration patterns.

So when J2J was released in 2018 for the metros the data was enormous and we were trying to understand what it is trying to tell us. So we looked at the data and come up with some questions that we are trying to answer using this data. So said what magnitude are the workers moving across industries and geographies and what industries are attracting workers from outside the region?

And who are coming into the region, who are leaving the region and what is impact of labor mobility and earnings, and how resilient are some of our industries in the region? So all these questions we are trying to get an answer of these J2J data and here's what we found out.

So most of the flows into the region we think this from MSA. So Job-to-Job flows in the Houston MSA Houston account for 61% as compared to 27% job growth coming from outside Texas - I mean outside the region, but we think Texas around 12% of the job flows are coming from outside Texas.

So for those who move from outside the MSA most are from other areas from Texas. So Dallas, Fort Worth, Austin and San Antonio metropolitan areas are the top three regions metros making up are more than 50% of job flows in the Houston MSA. And similarly you can see people going between Dallas and Austin and San Antonio from Houston regions so you can see that more or less the numbers are the same.

And this slide shows the job flows to and from Houston MSA it excludes job flows within Houston MSA. Given the great recession, you can see the job flows are well down but however you can see - still see the job employees rather than job outflows. And similarly during the Houston booming period which is from 2011 to 2015 job inflows outpaced the job outflows. But since the energy downturn back in 2015 you can see that job outflows are more than

job inflows.

And here is the demographics of job inflows to the Houston region. And as you can see 57% of the workers coming into the Houston MSA are 35 years old. So you can combine these two so it's 50 some percent. And you can also see that 62% of the people coming into the region are male compared to 38% female. And this is mainly because of the Houston industry dynamics because most of the people coming in are coming into mining, manufacturing and construction. So this is significant for Houston as compared to nation. Where it is 53% male and 47% female.

And this is for the job outflows. As you can see, the job inflows and outflows have almost the same demographic breakdowns. So all the members for here around 55% are less than 34 years old and the male and female those two data's are similar as rate and ethnicity as well as education. So there is not much difference in the demographics of job inflows and outflows to the Houston economy.

And here is the - this is 2017. It indicates the time period when the Houston energy industry is down. So you can see that most of the industry job outflows dominate job inflows except for administration which has more inflows compared to the outflows. You can also note that even during the energy downturn Houston's attracting more people than the people that are leaving the industry. So that indicates - shows the dominance of Houston in the energy industry.

And here I included the job flows during 2014 which is the period in Houston economy at its peak. And as you can see for most of the industries job inflows are greater than job outflows except for I think it's most of the industry except for maybe one or two. So the energy industry is doing well. There's lot people

coming into the region for work so even different industries.

And here is the chart showing the Annual Average Earnings Change. And as you can see the people coming into the region earn more as compared to people going outside and what is going out of the region. This is significant and most of these is related to the high paying mining industry jobs.

Again so here you can see the destination industry is mining so people, workers coming from other industries always earn more when they move a job from one industry to the mining industry. For example someone in accommodation moving into mining industry sees a 96% increase in the salary. Similarly from retail the mining it is 52%. So, people going from mining to other industries always see a decrease in salary.

And here is an example of destination industries accommodation and as you can see people coming from different industries to accommodations always see a decline in wages or earnings. So for example people coming from mining see a decrease of 28% and people coming from like public administration see a decrease 21% of their earnings when they move to the accommodation industry.

And here we show the Earnings Change by Age Groups. So we have a tool where you can look at education, ethnicity, race, and sex group. successful. But here this slide shows that the age group and as you can see ages below 25 see an increase of 25% and over \$1200 in earnings. And that's because most of the workers that are less than 25 years old are doing - going from a part-time employment to a full-time employment. And as you can see the demographics of about 54 see a small increase in their salaries as compared to the other ones.

And in here the median earnings seeing the job inflows Houston MSA by geography. So people workers coming from outside Texas is significant increase in earnings at around close to 20% as compared to people moving, workers moving between the Houston region or workers moving from outside the region but live in Texas. So there is a dynamic difference between where workers are coming from in the earnings.

And this is regarding Job Mobility. And as you can see construction, administration, and accommodation have a job, a lot of job mobility, so people are moving in and out because most of these jobs are contract based and they are based on the demands so there's a lot of job mobility in these industries. However if you look at public administration and if you look at education, job mobility is really small, around three or 2% or 3% - less than 3%. That's because these jobs are mostly secure and they're - so people tend to be staying longer in these particular industries. And again, so job mobility is measured by job flows divided by total employment counts within each industry.

And here we are looking at Regional Competitiveness. And this is measured by job flows from other regions divided by total job flows. And as you can see the original competitiveness of mining industry is significant. So 50% of the jobs are occupied by people coming outside the region. And that is really significant as compared to other industries.

So compared to those in low paying industries a large portion of job inflows to high paid industries come from outside the MSA. So for example if you look at the college and higher from - so around 36% come from non-Texas major metros as compared to people coming within Houston or moving jobs within Houston or from Texas are mostly low-skilled or mostly high school graduates compared to people coming from outside Texas who are mostly

educated or college graduates. And similarly there is similar breakdown for by age and sex.

So here we are looking at Resilience During Crisis. So if you look at the job-mid-job inflows in the Houston MSA by industry and recession period you see that before the recession job flows to construction was 30%. As compared to during our recession it was less than 10%. And once the recession is over you can see that construction - is net job flows to construction has increased to 40%.

And here is similar flows to the manufacturing industry during the crisis. And so before recession it was 40% and during the recession it is around 25% and after the recession it picked up. And similarly we see for the retail industry and as you can see the retail is still down because most of the retail industries are now going online so there's a lot of less retail jobs compared to before like 2010.

And here is the one industry that has thrived during the recession and that's the healthcare industry. So during the recession there was 30% net job into the healthcare but as during the recession there was a little over 40% and it went down again after the recession.

And here's the Percentage of Data Job Inflows by Demographics. And as you can see mostly the African-Americans were impacted by the recession as shown by the net job flows. As you can see here before recession it was 21% and during the recession it was 12% to 17% and after recession it picked up but as for other places it is up even during the recession.

So here are some more of the conclusions so from what we understand. So most of the job changes in the Houston MSA are workers changing jobs

within the region. However we see an increase in the inflows from outside the region. And job flows in Houston MSA reflect again a racially diverse workforce. However we see that the demographics of workers coming into the region and demographics of workers coming - going out of the region are still the same.

And in terms of job mobility administration and construction industries have the highest job mobilities whereas education and public administration have the least because those jobs are mostly secure. And workers from outside of Texas have a higher education and we see the highest salaries increment as compared to workers moving within the Houston area and workers moving from other parts of the Texas metros and that's because most of these are jobs are tied to the mining industry. And job inflows to mining industry it will be in manufacturing industries are always - almost always associated with raise in earnings. So we can always see an increase in earnings when people move from one industry to either mining or the manufacturing industry.

And based on the J2J data that we have realized that energy industry is still the core of Houston MSA's attractiveness. So whenever the energy industry is doing good we see an increase in jobs not only in the energy industry but across the Houston economy in different industries as well. But when the energy industry is down you see a decrease in employment in other industries as well. So Houston economy is still a lot dependent on the energy industry.

Here so we also we have a track to report the Job-to-Job data from LEHD. So here are the links to that and try to report as well as the explorer. We also have a tool that looks at the data for different years. And here is my email address and I would like to acknowledge my staff working on these and working on other projects as well. So thank you all and open for questions now.

Earlene Dowell: Operator we're ready for questions please.

Coordinator: Absolutely. At this time we're moving into the question answer session of today's call. If you would like to ask a question please press Star 1, unmute your phone and record your name clearly. Your name is required to introduce your question. If you need to withdraw your question press Star 2. Again to ask your question please press Star 1. It will take a few moments for questions to come through. Please stand by.

Earlene Dowell: Thank you. And while we're waiting for questions please keep your questions pertaining to the presentation. All other questions regarding the 2020 Census should be directed to 2020census.gov. Also please keep your questions to one question with one follow-up question. Thank you.

And while we wait again I had a few questions come in through the chat. One of the questions was, "What factors contribute to such apparent resiliency to both - in both these sectors?"

Pramod Sambidi: Pardon me, can you repeat the question please?

Earlene Dowell: Yes. So it says - oh I'm sorry there was two parts to that. Okay, "Dr. Pramod regarding the resiliency data can you say more about the apparent resiliency in both manufacturing and healthcare?" And then it went on to say, "What factors contribute to such apparent resiliencies in both these sectors?"

Pramod Sambidi: So we looked at the job inflows to the - so we summarize the job inflows to the - each industry during, before and after recession and during recession and so whenever the recession people tend to lose jobs mainly in the base industry whereas the population serving jobs still and we need the population serving industry still need to be continued because people need services. So that's

why we see that the healthcare industry is still up. But as other base industries like construction, manufacturing, and mining see a decreasing employment given the recession.

Earlene Dowell: There's one more question from the chat and it's regarding, "Why are African-Americans more impacted during recession than other groups?"

Pramod Sambidi: I am not sure about that. Maybe we need to dig deep into the data. So that's something we find out and we still need to do some research on that.

And also I think it would be better to compare if the fact of similar with other metros as well if that's the same then we need to figure out why it's happening or if it's different then why it's happening just in Houston region.

Earlene Dowell: And I have one more question. "With the loss of jobs in retail sector in the pandemic and rise of online retailing what percent of jobs are expected to come back post COVID?"

Pramod Sambidi: We are still not sure. There have been studies still going on and prediction, a lot of predictions but we will definitely see a decrease in employment, retail employment. And also I mean I don't have the first dates but it will be maybe around 5% today. But I think reason is not only the retail industry is impacted but it - the pandemic is also going to change the way we work. So now a lot of the businesses are - I mean, like the staff are doing teleworking and seems like the teleworking productivity is compared to be better with pre-COVID-19. A lot of other companies and businesses are planning on to do more teleworking then pre-COVID-19 so there will be some significant shifts in the - we work post pandemic.

Earlene Dowell: So there's more - it seems like there's questions in the chat then on the phone

right now. "Can you share your thoughts about the effects of Hurricane Harvey on the local economy?"

Pramod Sambidi: So the impacts of hurricane Harvey so I mean there was a lot of impact on the economy during Harvey especially regarding the sales as well as there are people that are out of homes and they're - they have been out of homes for a long time, maybe one or two years. So Houston currently is working on trying to make the region more resilient to this flooding event, because the flooding has happened - the frequency of flooding has increased in the past few years. So now the Houston and Harris County and some of the local governments have taken measures to mitigate these losses to related to the flooding.

Earlene Dowell: And Dr. Pramod asked if you could put on the slide that has all of the links.

Pramod Sambidi: Yes, I can share that presentation with you and you can post it.

Coordinator: We have a question from Tom. Tom your line is now open.

(Tom): Hi. I was just wondering if there was any - you're feeling if this data would project forward to where we are as of the beginning of 2020? And then any - do you think the kind of the profile that were seeing would be reflected through the COVID-19, through this period of COVID-19? And I know you don't, it's really an opinion question if you think basically these project the results you're showing would hold true as the different industries are affected due to COVID-19?

Pramod Sambidi: Right so there were a lot of assumptions on the impacts of industries so I had some other presentation where we looked at some of the data impacts by industry that especially as it relates to the sale. So the main industries that are impacted are retail, leisure and hospitality. This includes accommodation and

food services. So they're...

...they are going to be delivering packages. And however, we'll probably see an increase in employment of like delivery services. So depending on how long this pandemic goes but it's definitely going to impact some of the business won't be able to come back because of COVID.

(Tom): Okay and just a follow-up. I'm in New Orleans going through the same thing and in - I'm in real estate development. And what I think just paying attention to what's going on over in the Houston, Texas area I would think the real issue is not only do we have COVID-19 but just also the impact of in general, the whole energy sector.

And just neither of those two seem like they could be good for the general economy of Houston with the potential I would think maybe of healthcare being, you know, potentially a bright spot just because people still get sick or they are getting sicker whether the energy is good or bad, whether - and with COVID being obviously a health issue I would think healthcare may be a segment that keeps as many jobs, you know, maybe the best sector to keep jobs. I'm saying that's more as a question I guess, but it's kind of my opinion.

Pramod Sambidi: Right. Yes I mean so even though healthcare in Houston has more number of jobs compared to any other industry, if you look at the population and look at the location absorption, it is still less than one. So there is still more still for healthcare employment in the Houston region. However having said that we - most of the economists in Houston still think that the energy industry will be still the leading industry in the future growth of the Houston.

(Tom): Makes sense, makes sense. Well thank you very much. I'm one - just I'm a sole proprietor and trying to use the census data more and more just because

it's a free source. But I find the data there's so much there it's always hard to pull information from it that I find useful. So thank you for this type of presentation it's very helpful.

Pramod Sambidi: Thank you.

Coordinator: As a reminder Star 1 to ask a question. I'm currently showing no calls or questions in queue at this time.

Earlene Dowell: I have one more question. "By looking at the job flows into energy and out of energy are we able to identify related industries in the region similar to what we find from an input output table? Could we use data J2J flows to use as a regional supplement to national I/O data? I'm specifically thinking about the relationship between manufacturing and energy in Houston where employment in the sector massively declined in regions not attached to energy which doesn't necessarily follow the business cycle."

Pramod Sambidi: Yes I've indicated in one of the couple of slides so even when the energy industry is down when the energy industry is down there you can see the job outflows from other industries have increased compared to the job inflows. However when the energy industry is doing good, you see an increase in job inflows compared to outflows for all of the industries.

So it is, it gives - it validates the assumptions that energy industry what's happening in the energy industry and dictates the other industries growth of their in the industry in the Houston region. So mining - I mean mining, manufacturing, construction this - these are all tied to the energy industry and these are the base industries and what happens in the base industries dictates what happens in the population serving industries. So yes I mean this data is really helpful and if you - I mean there is still more information that we need

to dig deep and to identify how the data is related to one another because we're still continuing to do more research using this data.

Earlene Dowell: Operator there any more questions yet on the phone?

Coordinator: I have no questions on the phone.

Earlene Dowell: Okay great. So let's all go ahead and close out our Webinar at this time. So thank you for joining us this afternoon and thank you to Dr. Sambidi for such a great presentation. Join us next month on August 19 at 1:30 pm Eastern Standard Time when Cameron Macht presents Providing Perspective During COVID-19 Using Census Data. Until then on behalf of the U.S. Census Bureau have a wonderful day.

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

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