# On the Columbia Economy: A Comparison across Missouri and across Companies

**A report on Missouri Economic Conditions by**

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## Executive Summary

In this report, we examine the Missouri economy at a more granular geographic level. We look at the four largest metropolitan areas in Missouri, quantifying economic growth in production and employment since 2001. These four metro areas, or MSAs, account for 70 percent of the total production in the Missouri economy. For the four largest Missouri MSAs, there is dispersion in terms of the annual average growth rate. Columbia is the only one of the four MSAs that reports an average annual growth rate of real GDP that is greater than what is reported for the United States. The follow-up question is straightforward: Why is Columbia growing so fast? In this report, we examine the growth at the company level, thereby identifying the key innovators operating in the Columbia economy.

- Since 2001, the Columbia, MO MSA has reported the highest average annual growth rate among the four largest metropolitan areas in Missouri. Indeed, the Columbia metropolitan area is the only of the four Missouri MSAs in which the economic growth rate has *exceeded* the average annual growth rate of the United States.

- To verify this assertion, note that payroll employment in Missouri increased at an average annual rate of 0.78 percent between 1990 and July 2018. During the same time period, payroll employment in the Columbia MSA increased at a 2 percent average annual rate. So, Columbia MSA's growth rate was more than double the rate reported statewide.

- Columbia's share of state employment the share of payroll employees in private companies has risen roughly seven percentage points since 2000.

- Veterans United Home Loans has recorded a 79-percent cumulative increase in payroll employment between 2013 and 2017. Of the largest employers in Columbia, Columbia Public Schools has recorded the next largest increase over the five-year period, showing a 17-percent cumulative employment increase.

- In the Columbia economy, Veterans United Home Loans hired nearly one of every five new payroll employees in the Columbia MSA between 2006 and the end of 2017. Over the same period, University of Missouri and University Hospitals and Clinics each accounted for roughly one in nine of the new payroll employees. Columbia Public Schools accounted for about one in twenty of the new payroll employees between 2006 and 2017.

- Overall, the Columbia economy is the fastest growing metropolitan area in Missouri since 2001. The expansion is a combination of private companies, especially one that has recorded extraordinary growth, and public enterprises. Looking forward, it is the basic research and human capital investment provided by the largest public enterprises that are important for future private companies to maintain, or even raise, the region's economic trajectory.

## 1. Introduction

In this report, we examine the Missouri economy at a more granular geographic level. We look at the four largest metropolitan areas in Missouri, quantifying economic growth in production and employment since 2001. These four metro areas, or MSAs, account for 70 percent of the total production in the Missouri economy. We present evidence indicating that the Columbia metropolitan area is the only of the four Missouri MSAs in which the economic growth rate has *exceeded* the average annual growth rate of the United States.

This leads us to the second part of our report. Specifically, we focus on company-level data to assess why the Columbia economy is growing relatively faster than the rest of Missouri. Why is Columbia the brightest economic spot in the state? Because the University of Missouri is the largest employer in the region, it is often believed to be the driving force of the Columbia economy; in short, as MU goes, so goes Columbia. MU is big employer. However, the evidence suggests the story reflects a greater diversity is acting on the Columbia economy. Since 2006, employment growth owes chiefly to four companies. Interestingly, Veterans United Home Loans, a privately owned mortgage company, accounts for roughly one of five of the average number of new payroll employees added each year in the Columbia MSA. University of Missouri-Columbia and University Hospitals and Clinics accounted for roughly one in nine new payroll employees added during the same period. The other notable contributor was Columbia Public Schools, who accounted for one in twenty of the new payroll employees between 2006 and 2017. Thus, the four largest employers in the Columbia MSA added nearly 49 percent of new payroll employees during that time with one private employer contributing 20 percent.

The bottom line is that the Columbia economy is home to an employment base that is a combination of public and private enterprises. In the Columbia region, the economic growth is a product of both types of enterprises. Because the University produces basic research and human capital investment, it will provide the seeds for future economic growth locally and nationally. There is evidence that these seeds are taking root and blossoming in the local economy via successful private companies.

## 2. The Missouri Economy

For the United States, real GDP increased at a 1.69 percent average annual rate between 2001 and 2016. In this report, we compare the average annual growth rate in Missouri’s four largest metropolitan areas, or MSAs, to the national annual average growth rate.

Table 1 reports the average annual growth rate for Missouri’s four largest metropolitan areas for the period 2001 through 2016. Together, the Missouri counties in these four metropolitan statistical areas

(MSAs) account for nearly 70 percent of the population in the State of Missouri in 2016.[1] The evidence indicates that not all parts of the state are growing at the same rate. Indeed, of the four largest MSAs,

**Table 1**

**Average Annual Growth Rates of Real GDP**

**For the Four Largest MSAs in Missouri, 2001-16**

| MSA | Avg Annual Growth Rate |
|---|---|
| **St. Louis (MO only)** | 0.72% |
| **Kansas City (MO only)** | 1.18% |
| **Springfield** | 1.30% |
| **Columbia** | 1.81% |

Source: Bureau of Economic Analysis

only the Columbia MSA has reported average annual growth greater than that reported for the United States as a whole.[2] Springfield and Kansas City reported average annual growth rates that are 51 and 73 basis points less than the Columbia average annual growth rate, respectively. Meanwhile, St. Louis reported an average annual growth rate more than one percentage point less than Columbia's. Thus, the evidence from 15 years of real GDP growth suggests that the Columbia economy's performance was one of the strongest within the state.

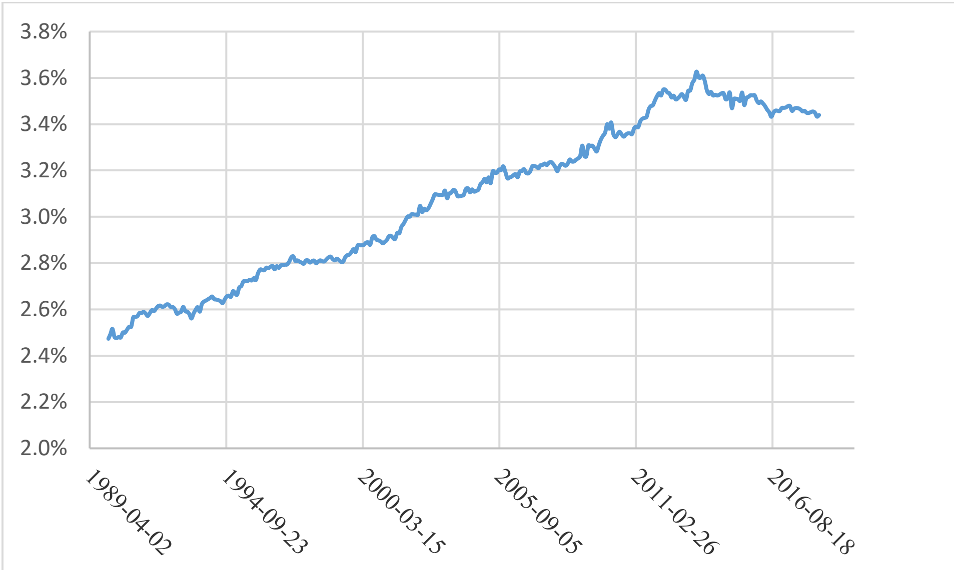
Do other measures of economic activity suggest that Columbia was growing relatively faster than other parts of the State of Missouri? Figure 2 plots payroll employment in the Columbia MSA as a share of payroll employment for the State of Missouri. The data go back to 1991 and are monthly. Figure 2 shows that the Columbia MSA's share has been steadily increasing, rising from just below 2.5 percent of total Missouri employment to more than 3.5 percent by 2012. Over the past five years, the share of employment in the Columbia MSA has hovered around 3.5 percent.

[1] Both St. Louis and Kansas City MSAs straddle state borders. We excluded the counties in Illinois (St. Louis MSA) and Kansas (Kansas City MSA) when constructing the Missouri contribution to the state's population.

[2] Here, we compute the Missouri portion of the St. Louis MSA and the Kansas City MSA by following the method developed in Podgursky, Michael and Nick Pretnar, 2016. "Weak Economic Growth in Missouri's Largest Cities is Holding Down Statewide Growth Rates", April. They used personal income at the county level. They allocate real GDP within the metropolitan area by using county-level personal income data. More precisely, they sum the personal income for counties on the Missouri-side of the MSA and divide that by personal income for all the counties in the MSA. This fraction is then used to compute the Missouri-only portion of real GDP in St. Louis and Kansas City. With the Missouri-only value of real GDP, the growth rate is computed for the Missouri portion of MSA real GDP.

**Figure 2**

**Columbia MSA Share of Missouri Employment, 1991-2018**




Source: FRED database, Federal Reserve Bank of St. Louis

The evidence indicates that employment has been growing at a faster rate in the Columbia MSA compared with the rest of Missouri. To verify this assertion, note that payroll employment in Missouri increased at an average annual rate of 0.78 percent between 1990 and July 2018. During the same time period, payroll employment in the Columbia MSA increased at a 2 percent average annual rate. So, Columbia MSA's growth rate was more than double the rate reported statewide.

Overall, there is a clear picture of the Missouri economy. Aggregate economic measures suggest that the economy is growing slower than the rest of the country. Here, we present evidence from total, final production and employment. In both cases, the underperformance relative to the average outcome across states is at least several decades long. That said, there is also evidence that things within Missouri are not equal. By final production, the evidence indicates that the Columbia economy has outperformed the national average. Indeed, at the state level, Columbia's employment growth is enough to raise its share of employment by more than one percentage point over the past three decades.

Of the largest metropolitan areas, the Columbia economy stands out as the brightest spot within the State of Missouri. In the next section of this report, we focus our attention on describing some of the changes in the makeup of the Columbia economy that would help to account for its economic growth.

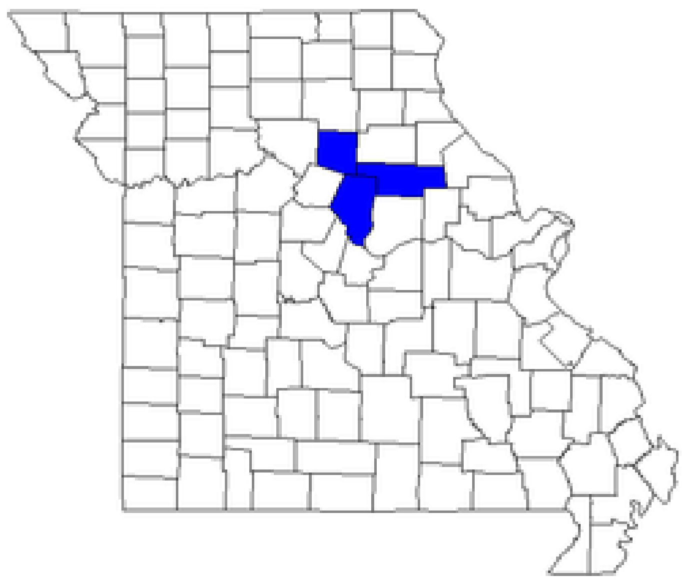
### 3. A Closer Look at the Columbia Economy

With Columbia being the brightest spot in the Missouri economy, it is important to better understand why.

Before we look at the data, it is useful to characterize the Columbia MSA. Figure 1 is a map of Missouri with three shaded counties. Specifically, the Columbia MSA consists of Boone, Audrain, and Randolph counties.

**Figure 1**

**Map of Columbia MSA**



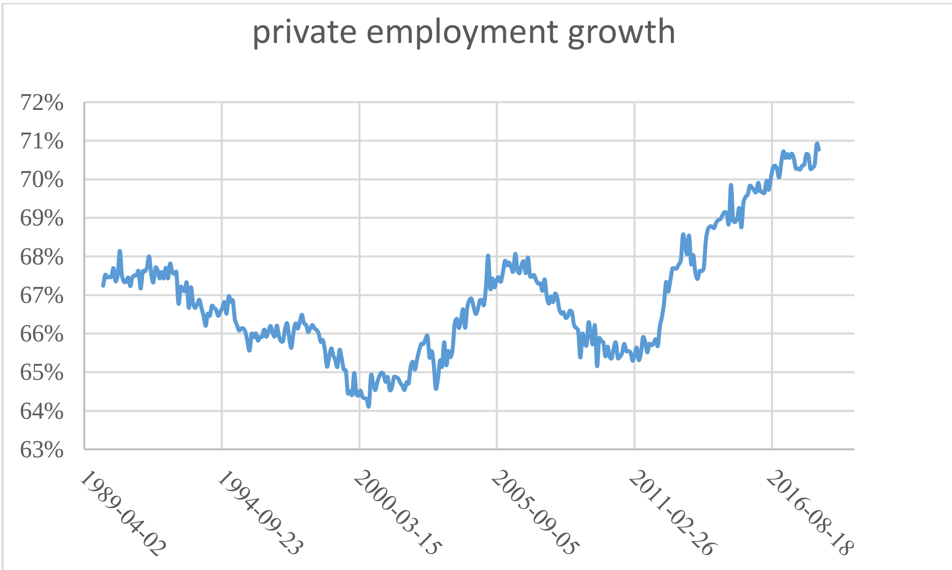
Columbia owes a tremendous debt to the location of the flagship campus of the University of Missouri System. The University of Missouri-Columbia (MU) is a large, stable employer. However, MU's scale does not necessarily imply that it can account for the growth in the Columbia economy. Because MU and the associated University Hospitals and Clinics are public institutions, it is reasonable to look at Columbia's share of privately employed payroll employees over time. Figure 2 plots the ratio of private, nonfarm payroll employees to total nonfarm payroll employees for the period spanning January 1990 to July 2018. Since public, nonfarm payroll employees are the difference between total and private, the ratio is interpreted as the share of Columbia's employment that is not employed by a public institution.

Figure 2 shows that since 1990, the share of Columbia's payroll employment in private companies has fluctuated between 64 percent and 71 percent. The data depict two cycles. The first cycle occurs between 1990 and 2005. The data show that private employment generally declined as a fraction

**Figure 2**

**Ratio of Private to Total Payroll Employment,**

**Columbia MSA, 1990 – 2018**




Source: FRED database, Federal Reserve Bank of St. Louis

of Columbia employment during the 1990s. Between 2000 and 2005, the downturn in the share of private employment stopped. Sometime around 2006, the share of private employment started a period of decline that lasted until 2011. Since 2001, there is a clear upward trend in the fraction of total employment in Columbia's private companies. Indeed, the share of payroll employees in private companies has risen roughly seven percentage points since 2000. The path has been uneven, but Columbia's economy is evidently less reliant on public institutions during the period in which total production was growing faster than the national average.

Based on the evidence in Figure 2, the performance of the Columbia MSA economy cannot be accounted for by expanding employment at MU or University Hospitals and Clinics.

After ruling out an expanding set of public employers as an important factor for Columbia's economic growth, there is an obvious next step. Who were the employers that grew fastest over the past decade or so? Data on individual employers in the Columbia MSA are obtained from Columbia's Regional Economic Development, Inc. (REDI). Specifically, REDI produces an annual Factbook that lists the largest employment in the region. The data span the period 2006 through 2017 and identify the largest employers in the Columbia region. Table 2 reports the ten largest employers for each year. In Table 2, an empty cell indicates that the employer was not one of the top ten in that particular year.

Table 2 shows that there are six employers who have been top ten employers in each of the twelve years represented. Five of the six largest Columbia employers are public or government institutions: University of Missouri-Columbia, University Hospitals and Clinics, Columbia Public Schools, Boone Hospital Center, and the City of Columbia. In addition, there is a federal agency—the U.S. Department of Veterans Affairs—that is consistently one of the top ten employers. Of the largest Columbia employers, the private companies are State Farm Insurance, Shelter Insurance, MBS, and most recently, Veterans United Home Loans.

Table 2 represents the top ten employers over time, but is not the easiest way to represent the trajectory of these companies.[3] Our primary story is as follows: The Columbia economy is one of the strongest performing metropolitan areas since 2000 within Missouri. The next question is why is Columbia performing relative well? The evidence indicates that Columbia's performance is tied to the performance of Veterans United Home Loans.

Figure 3 represents the top employers with the level of employment indexed to 100 in 2013. The indexation scheme allows one to see how the relative performance of the different large employers has transpired over time. The results indicate that most of the employers hovered between 90 and 110 for the 2006 through 2017 period. University of Missouri, for example, stood at 89 in 2006,

[3] Note that the data on Boone Hospital Center are provided as full-time equivalent employees (FTEs). The source is Boone Hospital Center. For all other data, we report employment levels from REDI Factbooks.

**Table 2**

**Ten Largest Employers in the Columbia Region, 2006-17**

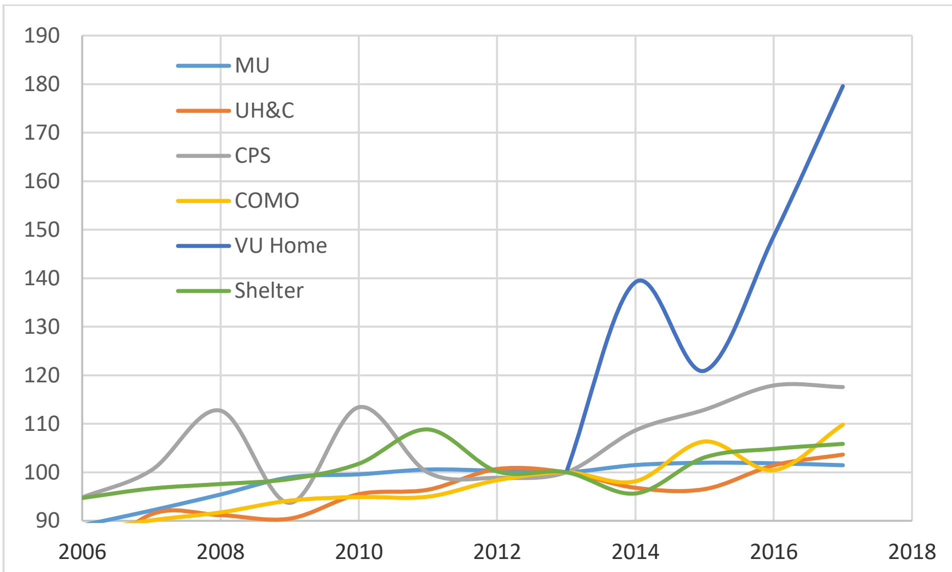
| Employer | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **University of Missouri-Columbia** | 8,706 | 8,740 | 8,750 | 8,709 | 8,581 | 8,608 | 8,630 | 8,545 | 8,491 | 8,188 | 7,905 | 7,642 |
| **University Hospital and Clinics** | 4,600 | 4,502 | 4,284 | 4,296 | 4,438 | 4,468 | 4,279 | 4,238 | 4,014 | 4,046 | 4,054 | 3,551 |
| **Columbia Public Schools** | 2,517 | 2,524 | 2,417 | 2,326 | 2,141 | 2,117 | 2,140 | 2,428 | 2,006 | 2,413 | 2,150 | 2,030 |
| **Veterans United Home Loans** | 1,742 | 1,442 | 1,173 | 1,350 | 970 | | | | | | | |
| **City of Columbia** | 1,487 | 1,360 | 1,440 | 1,329 | 1,354 | 1,332 | 1,286 | 1,285 | 1,275 | 1,242 | 1,220 | 1,187 |
| **Boone Hosepital Center** | 1,467 | 1,484 | 1,512 | 1,495 | 1,507 | 1,588 | 1,582 | 1,536 | 1,549 | 1,628 | 1,652 | 1,628 |
| **US Department of Veterans Affairs** | 1,341 | 1,400 | 1,276 | 1,350 | 1,374 | 1,278 | 1,250 | 1,250 | 1,206 | 1,086 | 910 | 924 |
| **Shelter Insurance Companies** | 1,139 | 1,128 | 1,109 | 1,029 | 1,076 | 1,078 | 1,171 | 1,095 | 1,061 | 1,050 | 1,040 | 1,019 |
| **Joe Machens Dealerships** | 882 | | | | | | | | | | | |
| **MBS Textbook** | 827 | 851 | 863 | 1,100 | 950 | 1,239 | 1,084 | 1,269 | 1,314 | 1,170 | 947 | 935 |
| **State Farm Insurance Companies** | | 850 | | 1,200 | 1,168 | 1,063 | 1,043 | 1,104 | 1,145 | 1,149 | 1,151 | 1,079 |
| **Federal Government (excluding Veterans' Affairs)** | | | | | | | | | | | | 1,002 |
| **Hubbell Power Systems** | | | | | | 758 | 680 | | | | 910 | |

reaching 101 in 2017. To make this more concrete, MU reported an eleven percent cumulative increase in employment between 2006 and 2013. Since 2013, however, MU is reporting a 1.5 percent cumulative increase between 2013 and 2017.[4]

**Figure 3**

**Indexed Employment Growth,**

**Columbia Largest Employers, 20016-17**




Source: REDI Factbooks, various issues;

The other public employers also reported modest employment growth. Since 2013, UH&C reported a 3.7 percent increase in cumulative employment. City employee growth was faster with COMO reporting a 9.8 percent cumulative increase in employment growth since 2013 and CPS realizing a 17.6 percent cumulative increase. The largest increase over the five-year period, however, is reported by Veterans United Home Loans. Indeed, the cumulative increase in employment was 79.6 percent between 2013 and 2017.

Because of the cumulative growth rate associated with Veterans United Home Loans over the past few years, we take a step back and ask how much Veterans United Home Loans has contributed to the

[4] Put another way, MU's employment increased at a 0.4 percent average annual growth between 2013 and 2017.

Columbia MSA's growth. Specifically, how much did Veterans United Home Loans contribute to employment changes in the Columbia MSA during the past decade? We use the December payroll employment numbers for the Columbia MSA obtained from the United States' Bureau of Statistics and employment reported by Veterans United Home Loans. The annual change in payroll employment is the difference between payroll employment level in a given year and the level in the previous year. Thus, for example, the change in employment for 2010 is the December 2010 level minus the December 2009 level. We compute the annual change in employees for Columbia MSA and Veterans United Home Loans for each year covered by the period 2006 through 2017. Even though it started in 2003, it did not surpass 50 employees until 2006. For the eleven observations from the Columbia MSA and from Veterans United Home Loans, we compute the average annual change in payroll employment for the 2006 through 2017 period. For these eleven observations, the average annual change in Columbia MSA employment was 818 workers a year. On average, Veterans United Home Loans added slightly more than 158 workers per year. Over the 2006-2017 period, it accounted for 19.3 percent of the average increase in workers. Thus, Veterans United Home Loans hired nearly one of every five new payroll employees in the Columbia MSA between 2006 and the end of 2017.

To provide a comparison with the other large employers in Columbia, we look at the change in employment between 2006 and 2017 for University of Missouri, University Hospital and Clinics and Columbia Public Schools. Using the data provided by REDI, University of Missouri's employment increased by 1,064 workers between 2006 and 2017. During the same period, University Hospital and Clinics and Columbia Public Schools reported employment gains of 1,049 and 487 workers, respectively. On an annual average, University of Missouri, University Hospital and Clinics, and Columbia Public Schools reported employment increases equal to 97 workers, 95 workers, and 44 workers, respectively. Thus, University of Missouri accounted for 11.9 percent, University Hospital and Clinics accounted for 11.6 percent, and Columbia Public Schools accounted for 5.4 percent of the average annual employment increases in the Columbia MSA between 2006 and 2017.

Another way to assess the quantitative impact that Veterans United Home Loans has had on the Columbia economy is to examine the impact on the average annual growth rate over a long time. Typically, one would not examine the contribution of a single company on employment growth over an entire MSA during a decade. With this approach, the contribution of Veterans United Home Loans to employment growth is stretched out over a decade. As the reader will see, it is precisely because Veterans United Home Loans grew so fast during this decade that such a calculation is meaningful. For our calculation, we suppose Veterans United Home Loans had never existed. Without its employment, the Columbia MSA employment level is estimated to have been equal to the December 2017 level less the

December 2017 number of Veterans United Home Loans' payroll workers. Under these assumptions, the average annual rate of employment growth would fall from 0.87 percent over the 2006-17 period with Veterans United Home Loans to 0.7 percent without it – a decrease of 19.5 percent. Over the decade, the mortgage lender has contributed 17 basis points to the average annual employment growth in the Columbia MSA.

Finally, one can assess the impact by quantifying the effect on one year's employment growth. Here, we assume that it did exist and was operating at the end of 2017, but the counterfactual is that Veterans United Home Loans stops operating at the end of 2017. Between the end of 2016 and the end of 2017, the Columbia MSA reported that employment decreased at a 1.78 percent annual rate with Veterans United Home Loans operating. However, by releasing all employees, we subtract Veterans United Home Loans' December 2017 payroll employment from the December 2017 Columbia MSA payroll employment level. By freeing up all the employees, Columbia MSA's payroll employment would have *decreased* at a 3.54 percent rate between December 2016 and December 2017. If employment at Veterans United Home Loans had not occurred, employment decrease would have been nearly two percentage points larger in the Columbia MSA compared with what actually occurred with Veterans United Home Loans operations.

**3. Summary**

The purpose of this report is to describe the trajectory of the Missouri economy over the past two decades. In particular, how disperse is the economic growth within the State of Missouri? We examine data from the four largest metropolitan areas: St. Louis, Kansas City, Springfield, and Columbia.

The evidence indicates that economic growth is uneven across Missouri. Here, the results indicate that within Missouri, the Columbia MSA is the only one that has recorded above-national-average economic growth with Springfield growing about 30 basis points lower than the national average, Kansas City about 50 basis point lower and St. Louis growing nearly one percentage point lower than the national average.

Given that Columbia is a relatively bright spot within the Missouri economy, look at specific company's performances over the last decade. The largest employers in the Columbia MSA are public institutions, such as the University of Missouri-Columbia, University Hospitals and Clinics, Columbia Public Schools, Columbia City Government, the Truman VA Hospital, and Boone Hospital Center. MBS, State Farm Insurance, Shelter Insurance and most recently, Veterans United Home Loans are the largest private employers.

Growth is about the rate of change over time. What we see from the employer standpoint is that the public institutions are not the main contributors to economic growth in the Columbia MSA. Except for Columbia Public Schools, the cumulative growth rate between 2013 and 2017 was less than ten percent for the other public employers. Nearly half of new payroll employees in the Columbia MSA were added by its four largest employers, with approximately one in five employees being added by the largest private employer, Veterans United Home Loans.