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Kansas City, KS-MO Metropolitan Statistical Area

Entrepreneurial Ecosystem Metrics: Summary

We applied metrics from publicly available data sources to the entrepreneurial ecosystems indicators suggested by Stangler & Bell-Masterson (2015) for the Kansas City, KS-MO metropolitan statistical area (MSA). We assessed the metro's entrepreneurial vibrancy based on its Density, Fluidity, Connectivity, and Diversity of entrepreneurship.

Density: The Kansas City, KS-MO metropolitan area has an average concentration of new and young firms and the metro's share of employment in the young firms has been declining.

Fluidity: The metro's migration rates are relatively high and job creation and destruction is stable. The churn of workers across jobs is high and has had an upward trend.

Connectivity: The metro is under-represented on the CrunchBase network and there are relatively few business and professional associations.

Diversity: The Kansas City, KS-MO metropolitan area has the fewest specialized sectors of the metros in this study with only three specialized 4-digit NAICS sectors. Female and foreign-born representation in self-employment lags that of the other metros. The metro also shows low economic mobility and opportunity for residents.

Introduction

We are interested in seeing how well a metropolitan's entrepreneurial ecosystem sustains opportunity for individuals as well as firms. Entrepreneurship occurs across all sectors of the economy and the four indicators discussed in this report capture various dimensions of entrepreneurial activity. We consider regional industrial and occupational compositions, population and labor flows, and regional networks to assess entrepreneurial opportunity. We also consider entrepreneurial outcome-based measures of self-employment rates, firm entry and exit dynamics, and socio-economic opportunity to assess metropolitan entrepreneurial vibrancy.

We evaluated the Kansas City, KS-MO MSA's entrepreneurial vibrancy using both self-employment rates[1] as well as the share of new and young firms[2] normalized by the resident population. The Kansas City, KS-MO metropolitan area has a lagging but possibly growing entrepreneurial ecosystem. While self-employment rates are below the national rates during the study period, incorporated self-employment is growing despite national declines. The number of new and young firms per thousand people in the metro is below the national rate over the study period.

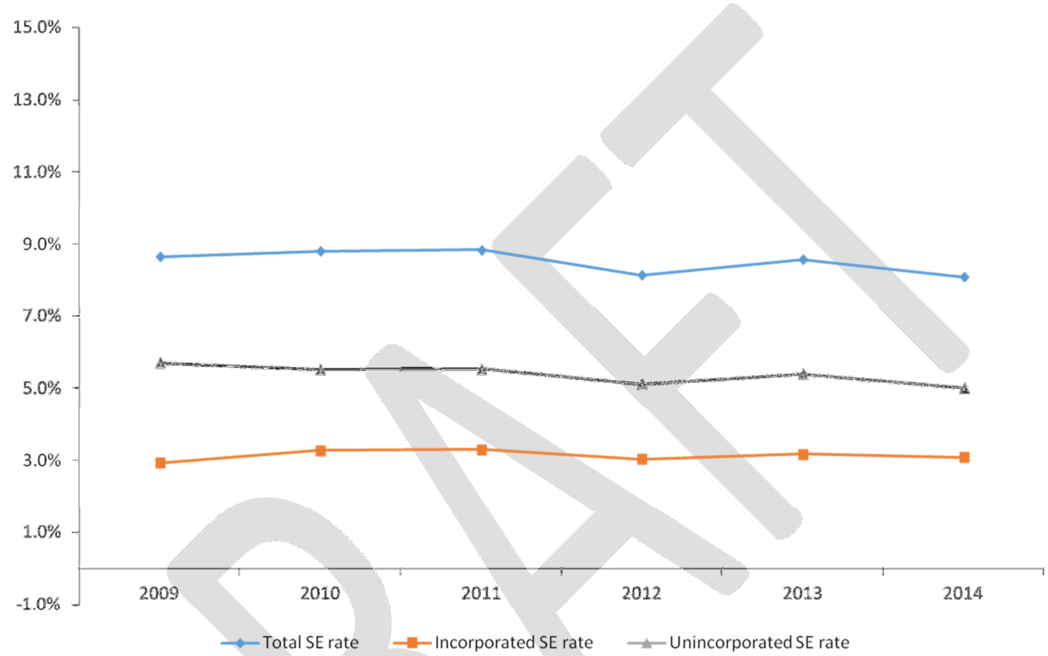
The Kansas City, KS-MO metropolitan area's self-employment rate averaged 8.5 percent between 2009 and 2014, lower than the national average of 9.8 percent over the same period (figure

[1] The self-employment rate provides a broader measure of entrepreneurial activity as it is estimated by surveying individuals. It includes both incorporated as well as unincorporated self-employment.

[2] A region's share of new and young firms per 1,000 residents is more adequate for assessing entrepreneurial activity at the firm-level and is representative of employer-type entrepreneurship.

1).[3] During this time, total self-employment fell from 8.6 percent to 8.1 percent. This decline was driven entirely by a decline in unincorporated self-employment which fell from 5.7 percent in 2009 to 5.0 percent in 2014.[4] Incorporated self-employment, on the other hand, increased from 2.9 percent in2009 to 3.1 percent. Kansas City has a lower proportion of workers engaged in running a business than the nation, but ranks second in this study, behind only Albuquerque, NM, in terms of incorporated self-employment growth.

Figure 1: Kansas City, KS-MO MSA Self-employment rate 2009 -2014 by type



Source: Author's estimates of American Community Survey 1-year estimates from 2009 to 2014.

Entrepreneurial activity as measure by the number of new and young firms per 1,000 people in the Kansas City, KS-MO metropolitan area lags the nation as a whole. The metro began the study period (2009) with 6.2 firms per 1,000 people, 1 firm per 1,000 people below the national rate. This metric declined to 5.2 firms per 1,000 people in 2013 but was only 0.9 firms per 1,000 people below the national rate. Although both the rate of new and young firms, as well as self-employment, lag behind the nation, the entrepreneurial ecosystem of the Kansas City, KS-MO metropolitan area shows signs of growth and incorporated self-employment growth is second only to Albuquerque, NM.

[3] The national self-employment rates include self-employment activity in agriculture and natural resource mining, both of which are under-represented in metropolitan areas.

[4] Unincorporated self-employment is associated with non-employer types of businesses and proprietorships that often provide secondary incomes to households.

Structure of Kansas City's Economy

The Kansas City metro's labor force is the most dispersed across the broad industries of the six metros considered. For instance, only 55 percent of the metro's workers are employed in the five largest broad NAICS categories by employment. These include Health care and social assistance (14.7%); Retail trade (12.8%); Accommodation and food services (10.3%); Professional and technical services (8.9%); and, Manufacturing (8.6%). By contrast, the top five sectors account for nearly 75 percent of workers in the Burlington, VT metro and about 60 percent in Nashville, TN metro. Among detailed NAICS sectors, the Kansas City metro area has employment concentrations of establishments in Support activities for rail transportation (LQ=4.2); Reinsurance carriers (LQ=3.8); and Wholesale activity for trade agents and brokers, office supplies, and paint and supplies.

Yet, as of 2014 the Kansas City metro area had only three 4-digit NAICS sectors with establishment LQs over 2.0 and at least 10 establishments.[5,6] Compared to other metros, this is very low, putting the Kansas City metro in the last place across all six metros in this study. However, we also estimated this specialization measure for metro areas not included in this study, and found the Kansas City metro specialization is similar to that of the San Francisco metro area. Therefore, we should use caution when interpreting this low level of specialization to mean that the metro is under-diversified. For instance, the Kansas City metro area is home to many large corporations employing many workers such as Cerner Corporation; AT&T; General Motors; Honeywell; Ford Motor Company; and Miller-Coors. These large corporations span many different sectors including healthcare and pharmaceutical technologies, telecommunications, and automotive and parts manufacturing. Yet, entrepreneurial opportunity in the Kansas City metro lags other metros in terms of number of different clusters based on establishments.

The occupational concentrations of the metro's workforce also reveal different regional characteristics.[7] For instance, the Kansas City metro has high detailed occupational LQs for Artists and related workers (LQ=10.3); Actuaries (LQ=5.37); and Umpires, referees, and other sports officials (LQ=3.9).

Although the time period analyzed here is relatively short, the indicators assessed in this study are informative of the structure of the metro's entrepreneurial ecosystem and its current trajectory. While we have highlighted some of the key features above, a closer analysis of the each of the metrics in the composite indicators is pursued below.

<u>Ecosystem Density</u>:

The Kansas City, KS-MO metropolitan area metropolitan area has an average concentration of new and young firms and the metro's share of employment in the young firms has also been declining.

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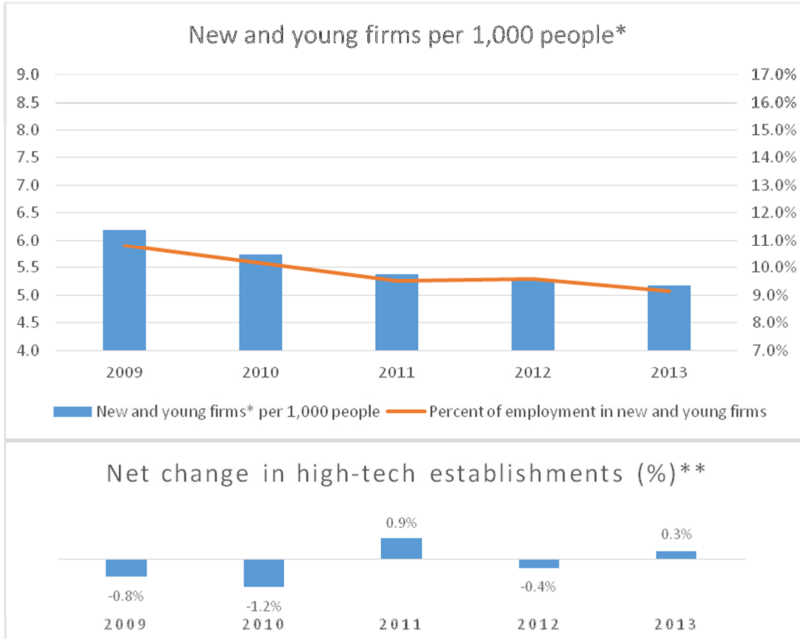
[5] We defined comparative advantage as having an establishment location quotient over 2.5.

[6] Establishment LQs provide a very different picture than employment LQs. In terms of employment LQs at the 4-digit NAICS level, Kansas City MSA was specialized in 13 different sectors as of 2013. As this study's primary focus is entrepreneurship, we focused on establishment clusters and accordingly establishment LQs.

[7] A list of the top 10 occupations by location quotient and employment at the detailed SOC level is provided in the appendix.

Figure 2: Kansas City, KS-MO MSA Entrepreneurial Ecosystem Density



*Firms 5 years of age or less.
** High-technology NAICS sector definition follows Hecker (2005) with updated definitions.
Source: Author's estimates based on the BDS and QCEW 2009 – 2013.

The entrepreneurial density of the Kansas City, MO metropolitan area is consistent with the nation as a whole. The number of new and young firms per 1,000 residents was 6.2 firms in 2009 and declined to 5.2 in 2013, lagging the nation as a whole by about 1 firm per 1,000 people over the period (figure 2). The total number of new and young firms decreased 14 percent from 12,360 in 2009 to 10,646 in 2013.

In 2009, new and young firms in the Kansas City, MO metropolitan area employed 10.8 percent of the workforce but by 2013, these firms employed 9.2 percent of the workforce. Despite the decrease, this share remained approximately 2 percentage points below the national rate during this time period. The declines in both in the number of firms and their employment were steady, and neither had substantial year-over-year increases. The total number of people employed by new and young firms decreased 14 percent from 95,911 in 2009 to 82,030 in 2013. The number of new and young firms and the number of people employed by these firms declined at the same rate, which led to a relatively stable average firm size; the average employment declined only by 1 percent from 2009 to 2013.

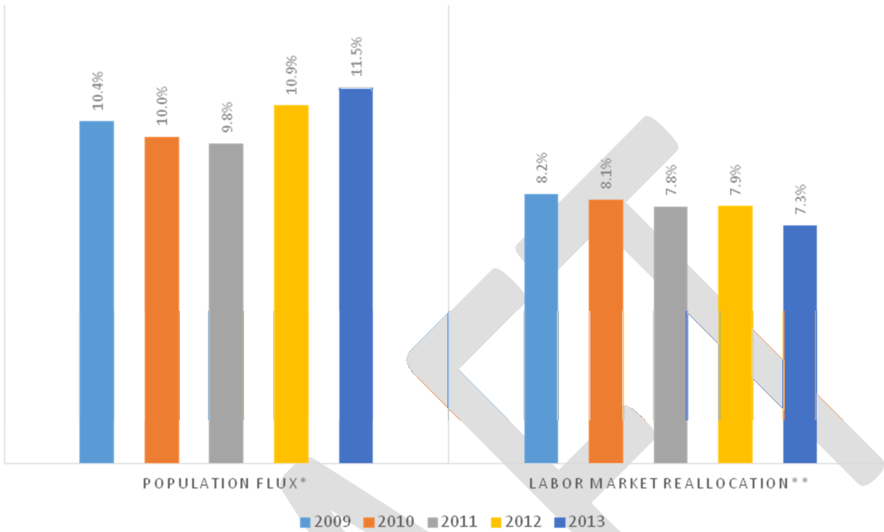
The net change in high-tech firms was volatile as with the other metros examined.[8] While two years saw increases in high-tech establishments, 2011 and 2013, these increases were offset by three years of slightly larger decreases. The average annual net change in high-tech establishments from 2009 to 2013 was -0.2 percent and was the smallest average change of the six cities examined here.

[8] High-technology NAICS sector definition follows Hecker (2005) and were updated for most recent NAICS codes.

Ecosystem Fluidity:

The metro's migration rates were relatively high and the region had stable job creation and destruction rates. The churn of workers between jobs is also high and has trended upwards.

Figure 3: Kansas City, KS-MO MSA Entrepreneurial Ecosystem Fluidity

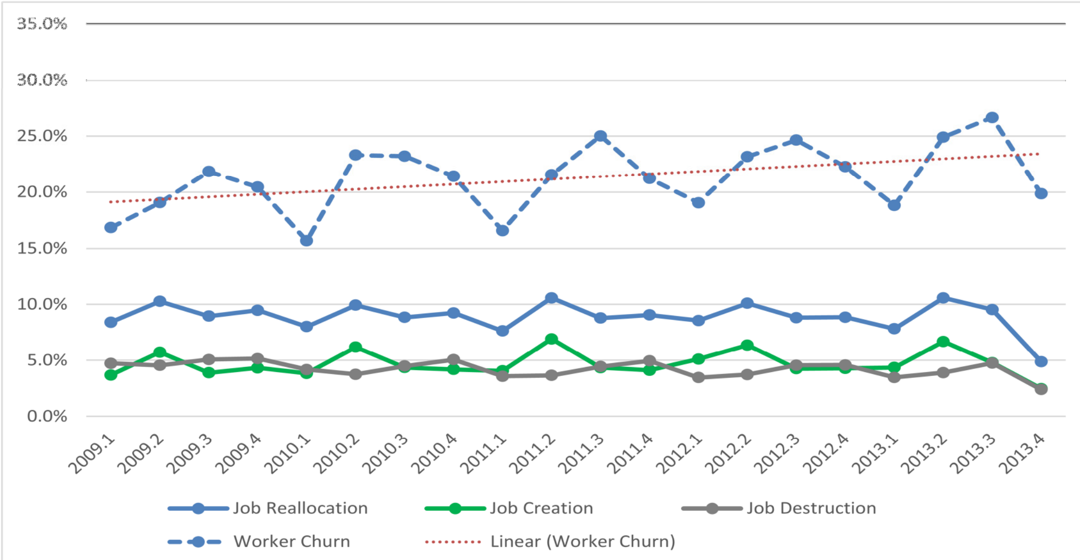


* Gross Migration as percent of population.
** Annual averages of excess job reallocation.
Source: Author's estimates from IRS SOT data and Quarterly Workforce Indicators.

While gross migration rates[9] for the Kansas City, KS-MO metropolitan area declined steadily from 2009 to 2011, they rose sharply thereafter, resulting in a 1.0 percentage point increase between 2009 and 2013 (figure 3). The metro-to-metro migration flows draw heavily from nearby areas including Lawrence, KS; St. Louis, MO-IL; Springfield, MO; Wichita, KS; and Dallas-Fort Worth-Arlington, TX. In contrast to peers such as Albuquerque and Nashville, Central America was a relatively low source of gross migration. Asia was the leading foreign source of gross migration flows.

[9] Gross migration rate was calculated as the sum of inflows and outflows of migrants in the metro divided by metro population.

Figure 4: Kansas City, KS-MO MSA Labor Market Reallocation



Source: Author's estimates from Quarterly Workforce Indicators.

Gross job reallocation in the Kansas City, KS-MO metropolitan area has been relatively stable over most of the study period (figure 4). But in the fourth quarter of 2013, gross job reallocation declined abruptly to a rate of 4.9 percent, the lowest quarterly estimate for any metropolitan area studied here. The Kansas City, KS-MO metropolitan area had the second lowest quarterly average gross job reallocation between 2009 to 2013 at 8.9 percent, 0.2 percentage points above Nashville, TN. Consistent with the other metros in the study, the job creation rate in the second quarter of each year increased because of seasonal factors, and this seasonal increase accounts for much of the variation during these five years.

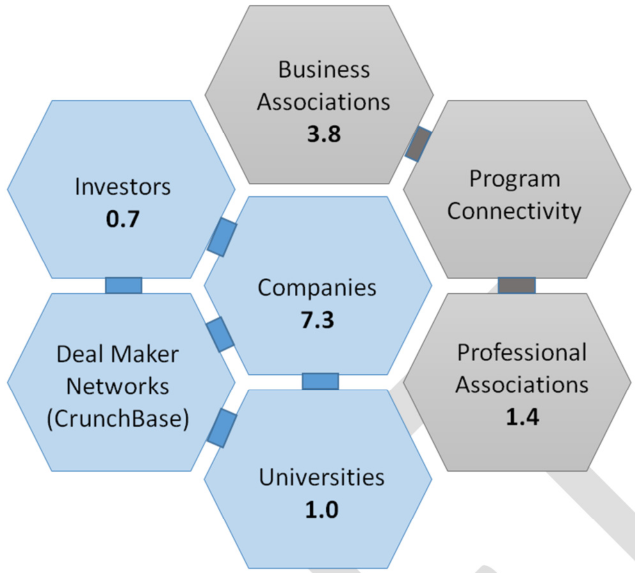
Although cyclical, the linear trend for worker churn[10] was increasing from the beginning of 2009 to the end of 2013. Worker churn in the Kansas City Metro Area averaged 21.3 percent per quarter from 2009 through 2013 and was second only to the Nashville metro of the six cities studied.

Ecosystem Connectivity:

The metro is under-represented on the CrunchBase network and has relatively few business and professional associations.

[10] Worker churn is the dynamic movement of workers between jobs other than new job creation or job destruction and is used here as a proxy for information spillovers within the metro area.

Figure 5: Kansas City, KS-MO MSA Entrepreneurial Ecosystem Connectivity



* All estimates normalized per 1,000 firms.
Source: Author's estimates from the CrunchBase database; QCEW 2014 annual averages.

The economy of the Kansas City, KS-MO metropolitan area was composed of 35,473 firms that collectively employed 895,976 workers in 2013. Data from the Quarterly Census of Earnings and Wages reveals that there were 134 business associations and 49 professional associations. Normalizing by number of firms, there are 3.8 business associations and 1.4 professional associations per 1,000 firms (figure 5). The Kansas City, KS-MO metropolitan area ranks third in business associations per firm and fourth in professional associations per 1,000 firms of the six cities studied.

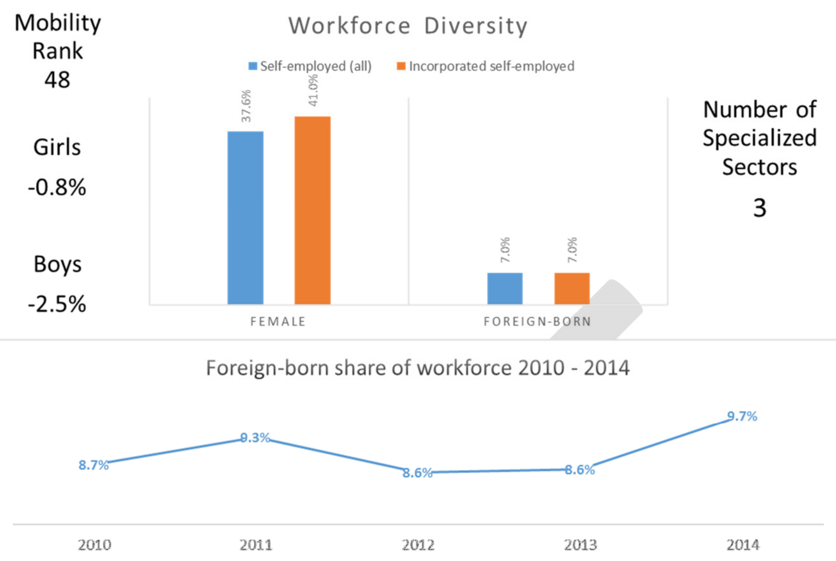
The Kansas City, KS-MO metropolitan area ranks similarly when using data from the CrunchBase database.[11] Kansas City has 258 companies, 26 investors, and 36 schools in the CrunchBase database. Normalized by the number of firms, Kansas City ranks in the middle of the six metros for each of these categories. The members in the CrunchBase database are diverse; however, there are a large number of mobile firms and web-based services that span advertising, applications, IT services and monitoring. Other companies in the database include those in the legal, finance, energy, HVAC software sectors.

Ecosystem Diversity:

The Kansas City, KS-MO metropolitan area has the fewest specialized sectors of the metros in this study at the 4-digit NAICS level. Self-employment is also less demographically diverse than other metros and foreign-born and female representation is below that in the other metros. The metro also provides low economic mobility and opportunity for residents.

[11] The CrunchBase database is biased in favor of the technology sector. Yet, it does provide some indication of an ecosystem's connectedness in the absence of better publicly available regional metrics.

Figure 6: Kansas City, KS-MO MSA Entrepreneurial Ecosystem Diversity



*Specialized sectors have employment location quotients >= 2.0 at the 4-Digit NAICS level.
**Mobility shows the percent change in income for a child from low-income family growing up to age 26.
Source: Author's estimates from ACS 2009 – 2014; QCEW 2012 – 2014; and Equality of Opportunity Project.

Among the metros in the study with data, the Kansas City metro ranks second for mobility. As with the majority of the metros, mobility is better for girls than it is for boys; however, the change in income is negative for both low income boys and girls (figure 6). General economic opportunity in the Kansas City metro is relatively high. The median income for the population over 16 years old is $36,278, ranking second of the six metros. This is second only to the Washington, D.C. metropolitan area. The median earnings of incorporated self-employed and the unincorporated self-employed is $51,995 and $21,608, respectively.

The self-employment diversity in the Kansas City metro is low, but fares relatively better for women than for foreign born. The share of female self-employment ranks in the middle of the six cities studied, and 37.6 percent of all self-employed workers were female while 41 percent of all incorporated self-employed workers were female in 2013. The share of foreign-born self-employed workers ranked fifth, ahead of only Burlington. The foreign-born share of both total self-employment and incorporated self-employment was 7 percent in 2013.

Conclusion

The entrepreneurial ecosystem of the Kansas City, KS-MO metropolitan area underperforms relative to the nation. The self-employment rate and the share of new and young firms are below national rates. A low share of foreign-born self-employment and average levels of professional and business associations and CrunchBase participation also indicate a poorly developed entrepreneurial ecosystem. Despite these indicators, there are areas of vibrancy: high median incomes for the overall population 16 years and older and for incorporated self-employed workers. Further, the growth in incorporated self-employment rate reflects some recent improvements. While there is some evidence that the Kansas

City, KS-MO metropolitan area has a functioning entrepreneurial ecosystem, the majority of measures used here indicate that the metro lags the nation.

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APPENDIX: Kansas City, KS-MO Metropolitan Statistical Area

Table 3A. Kansas City, KS-MO MSA Top Five Major Industry Sectors by Employment 2014

Kansas City, KS-MO	Employment	% of Total	Avg. Wage ($s)
Health care and social assistance	122,434	14.7%	$46,496
Retail trade	106,481	12.8%	$27,228
Accommodation and food services*	85,921	10.3%	$17,024
Professional and technical services	74,316	8.9%	$79,352
Manufacturing	71,537	8.6%	$58,631
Total Private Employment	**830,984**	**100.0%**	**$49,453**

*Estimate based on most recent available quarters

Source: Quarterly Census of Employment and Wages 2014

Table 3B. Kansas City, KS-MO MSA Top 10 Detailed Industries by Establishment LQs 2014

Kansas City, MO	Establishments	LQ
Wholesale trade agents and brokers	2,913	2.0
Telemarketing and other contact centers	101	2.3
Office supplies merchant wholesalers	55	2.2
Support activities for rail transportation	41	4.2
Paint and supplies merchant wholesalers	39	2.8
Commodity contracts brokerage	25	2.5
Reinsurance carriers	18	3.8
Apprenticeship training	18	2.1
Crushed and broken limestone mining	15	2.1
Soybean farming	14	2.5
Total Private Establishments	**57,152**	**1.0**

*Only establishments with LQ>2.0 included

Source: Quarterly Census of Employment and Wages 2014

Table 3C. Kansas City, KS-MO MSA Top 5 Major Occupations by Employment 2014

Kansas City, MO	Employment	% of Total	Median Wage
Office and Administrative Support Occupations	180,470	17.9%	$33,310
Sales and Related Occupations	101,920	10.1%	$26,070
Food Preparation and Serving Related Occupations	91,330	9.1%	$18,840
Transportation and Material Moving Occupations	67,550	6.7%	$30,350
Business and Financial Operations Occupations	61,640	6.1%	$62,150
Total Occupations	1,006,620	100.0%	$36,500

Source: Occupational Employment Statistics 2014 Annual Estimates.

Table 3D. Kansas City, KS-MO MSA Top 10 Detailed Occupations by Location Quotients 2014

Kansas City, MO	LQ	Employment	Median Wage
Artists and Related Workers, All Other	10.3	590	$72,760
Actuaries	5.4	860	$136,940
Umpires, Referees, and Other Sports Officials	3.9	500	$22,420
Tax Examiners and Collectors, and Revenue Agents	3.0	1,430	$41,800
Respiratory Therapy Technicians	2.9	230	$51,890
Insurance Appraisers, Auto Damage	2.7	270	$64,450
Art Directors	2.6	630	$94,030
Forensic Science Technicians	2.5	260	$42,480
Animal Trainers	2.5	210	$21,760
Museum Technicians and Conservators	2.3	170	$35,810
Total Occupations (All)	**1.0**	**1,006,620**	**$36,500**

Source: Occupational Employment Statistics 2014 Annual Estimates.