

## **BENCHMARKING REPORT – EDMONTON**

### **I. INTRODUCTION**

We conducted an international benchmarking analysis for the members of the Consider Canada City Alliance Inc., consisting of 11 (C11) large Canadian cities or Census Metropolitan Areas (CMAs). This analysis used information from both Canada and the United States which are available in the Local IDEAS database. The database includes an extensive set of social and economic indicators for all the city-regions in both countries.

International benchmarking of cities is generally more complicated than benchmarking within countries. The differences in the definition of indicators and data availability between the two countries imply that the information needed for benchmarking is not necessarily directly comparable. In this analysis, tables of concordance for all the required variables were integrated to the Local IDEAS database to facilitate cross-border comparability.

Benchmarking is one of the effective tools that could be used to provide more meaningful interpretation of data on various indicators available in the city-regions. In benchmarking analysis an appropriate data is created so that more accurate comparisons can be made. For example, if the reported current unemployment rate in the city of Toronto is 8%, with a suitable data or measure to compare to; more precise conclusion regarding its acceptability could be easily deduced. The results of this benchmarking analysis could help local governments generate important assessment of their city's social and economic status, thereby gaining vital information that could lead to improving their performance.

### **II. METHOD**

The primary source of data used for this benchmarking analysis is the Local IDEAS database which includes data from various government and private agencies in Canada and the United States. The data from Canada were mainly taken from Statistics Canada such as the 2006 Census of Population, Labour Force Survey (2003-2010) and the 2006 Canadian Business Patterns database. For the United States, the data sources include the American Community Survey (2003-2010) and the 2006 County Business Patterns.

The idea behind this benchmarking exercise is to compare each of the CMAs' economic performance against a group of "similar" American Metropolitan Statistical Areas (MSAs). The group of similar MSAs was determined by conducting an analysis which involves developing a set of indicators (population size, human capital, occupational structure and industrial structure) and then using a measure of "distance" or "similarity" to identify the 10 closest neighbours or most similar MSAs for each of the CMAs.

The human capital index includes population characteristics such as educational status; age distribution and immigration status. Information on educational status specifically includes: (1) proportion of individuals with less than High School educational attainment, (2) percentage with at least Bachelor of Science degree, and (3) number of PhDs per 1000. The age distribution of the population includes proportion of individuals: (1) under 18 years old, (2) 18-64 years old and (3) 65 year old and over. For immigration status, we used data on proportion of foreign-born individuals.

The occupational and industrial structures include the set of categories that are comparable in both countries. We identified 14 comparable occupational categories in the National Occupational Classification (NOC) and Standard Occupational Classification (SOC) and 19 comparable industrial classifications in the two-digit level North American Industry Classification System (NAICS). Details of these occupational and industrial groups are shown in Figures 3 and 4, respectively.

Using the group of similar MSAs, a detailed benchmarking analysis was performed on each of the C11 member CMAs. The key variables included as measures of economic performance are employment income, employment growth and unemployment level which may be updated annually depending on data availability.

### III. RESULTS

#### A. Similarity (Nearest Neighbour) Analysis

Presented in Table 1 is the result of the analysis conducted for Edmonton. It contains the ranking of the MSAs based on the individual indicators and the overall index, with the lower numbers indicating “more similar” or “closer” to Edmonton and higher numbers indicating “less similar” or “farther”. The overall index is basically the rank of each MSA based on the total score from all the four indicators.

We can see from Table 1 that Oxnard is Edmonton’s closest city-region among the MSAs in the United States as indicated by the computed Overall Index. Among these top 10 MSAs; New Orleans is the most similar to Edmonton in terms of Population Size and Industrial Structure with its score ranking second in both indicators. Based on Human Capital Oxnard (8<sup>th</sup>) is the closest and for Occupational Structure the closest is Worcester (4<sup>th</sup>).

Table 1: Top 10 most “similar MSAs” to Edmonton by Overall Index

Metropolitan Statistical Areas		Indicators			Overall Index	
		Population Size	Human Capital	Occupational Structure		Industrial Structure
Oxnard	CA	23	8	43	49	1
Providence	RI	70	19	10	69	2
Poughkeepsie	NY	37	25	44	73	3
New Orleans	LA	2	91	87	2	4
New Haven	CT	17	56	18	93	5
Albuquerque	NM	20	59	59	48	6
Oklahoma City	OK	11	69	88	24	7
Worcester	MA	25	58	4	107	8
Salt Lake City	UT	3	77	97	41	9
Tucson	AZ	6	33	114	70	10

Table 2 below shows the top 10 most similar MSAs to Edmonton by indicator. In terms of Population Size, the top 3 closest MSAs to Edmonton are Rochester, New Orleans and Salt Lake City with population around 1 million. For Human Capital, the metropolitan area of Las Vegas ranks the closest. Considering the Occupational Structure indicator, the closest is Cedar Rapids while for Industrial Structure, the closest is Houston.

Table 2: Top 10 most “similar MSAs” to Edmonton by Indicator

Rank	Population			Human Capital		Occupational Structure		Industrial Structure	
	<b>Edmonton</b>	<b>AB</b>	<b>(1,034,940)</b>						
1	Rochester	NY	(1,035,435)	Las Vegas	NV	Cedar Rapids	IA	Houston	TX
2	New Orleans	LA	(1,024,678)	Vallejo	CA	Portland	OR	New Orleans	LA
3	Salt Lake City	UT	(1,067,190)	Reno	NV	Kalamazoo	MI	Mobile	AL
4	Raleigh	NC	(995,662)	Atlantic City	NJ	Worcester	MA	Portland	OR
5	Birmingham	AL	(1,089,883)	Santa Rosa	CA	Tyler	TX	Fresno	CA
6	Tucson	AZ	(946,362)	Houston	TX	Manchester	NH	Indianapolis	IN
7	Buffalo	NY	(1,137,520)	Orlando	FL	Lincoln	NE	Baltimore	MD
8	Bridgeport	CT	(900,440)	Oxnard	CA	Indianapolis	IN	Seattle	WA
9	Tulsa	OK	(896,974)	Sacramento	CA	Columbia	SC	Pittsburgh	PA
10	Oklahoma City	OK	(1,173,632)	Dallas	TX	Providence	RI	Fargo	ND

**B. Population Similarity**

Figure 1 below shows the 2006 population size of Edmonton and its top 10 closest MSAs by Overall Index. As pointed out in the previous Section, New Orleans is the most similar MSA to Edmonton in terms of population size which can be clearly seen in Figure 1. Salt Lake City is the next closest with a population size almost the same as New Orleans and Edmonton. We can further observe that the metropolitan area of Poughkeepsie is the “farthest” to Edmonton among the MSAs.

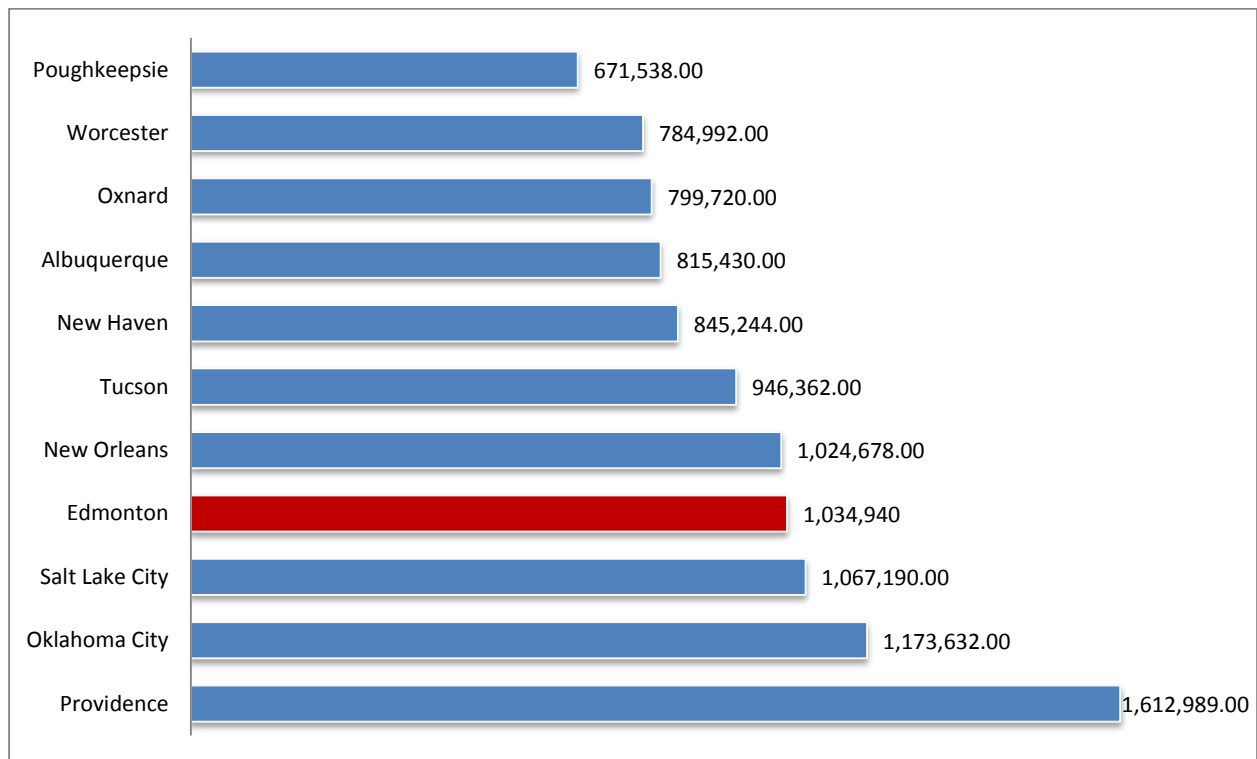


Figure 1: Population Size (2006) of Edmonton with its top 10 closest MSAs by Overall Index

In the next three sub-sections the actual data on the three indicators for Edmonton and its top 5 closest MSAs are plotted in radial diagrams. These diagrams will give us an overview of the degree of closeness of the top 5 closest MSAs to Edmonton in terms of Human Capital, Occupational Structure and Industrial Structure. As shown in Table 1, the top 5 closest city-regions based on the Overall Index include Oxnard, Providence, Poughkeepsie, New Orleans and New Haven. Note that in the graphs for sections C, D and E, a red line is used in plotting the data for Edmonton and a blue line for the other 5 city-regions.

### **C. Human Capital Similarity**

The Human Capital index as described in the methodology section includes three population characteristics: educational attainment, immigration level and age distribution. All of these are in percent except for the number of PhDs per 1000 population.

The following information can be deduced from Figure 2:

- We can see that the majority of the top 5 closest MSAs have noticeably lower percentage of foreign-born individuals compared to Edmonton.
- Excluding the percentage of foreign-born individuals in the set of indicators, the top 5 MSAs in general appear to have a similar distribution to Edmonton.
- In terms of the educational attainment categories considered, these MSAs tend to have a higher percentage of individuals with at least Bachelor of Science degrees which is also slightly higher than that of Edmonton's.
- Considering the various age groups, these city-regions are similar to Edmonton with a higher percentage of individuals in the 18-64 years old age group.

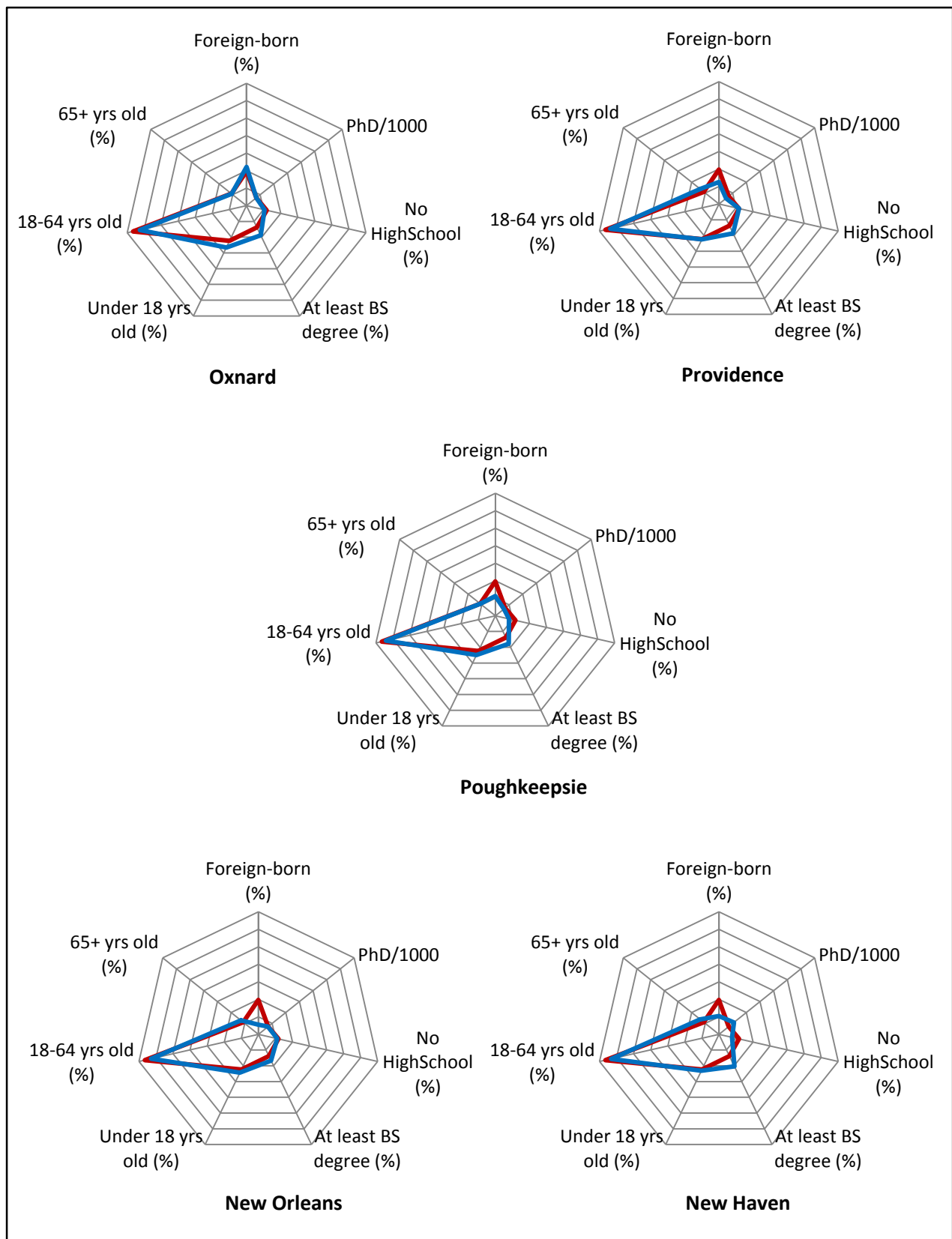


Figure 2: The actual data on the Human Capital indicator for Edmonton and its top 5 most similar MSAs

#### **D. Occupational Similarity**

The Occupational Structure covers 14 occupational categories which are comparable for both Canada and the United States. The list of occupational categories is included in Figure 3 below.

We can see from the radial diagrams in Figure 3 that:

- The distribution of the employment level in various occupational groups of the metropolitan area of Providence appears to be the closest to Edmonton among the top 5 MSAs.
- Except for Edmonton's slightly higher percentage of individuals employed in Productions Occupations (OC51), it generally appears to have a similar to the top 5 MSAs in terms of the distribution of employment levels in various occupational groups.
- Similar to Edmonton, the five MSAs tend to have a higher proportion of individuals in the Professional and Related Occupations (OC15); Management, Business, Financial Occupations (OC11); Office and Administrative Support Occupations (OC43); and Sales and Related Occupations (OC41). On the other hand, these MSAs have lower proportion of individuals in the Healthcare Support Occupations (OC31) and Farming, Fishing, and Forestry Occupations (OC45).

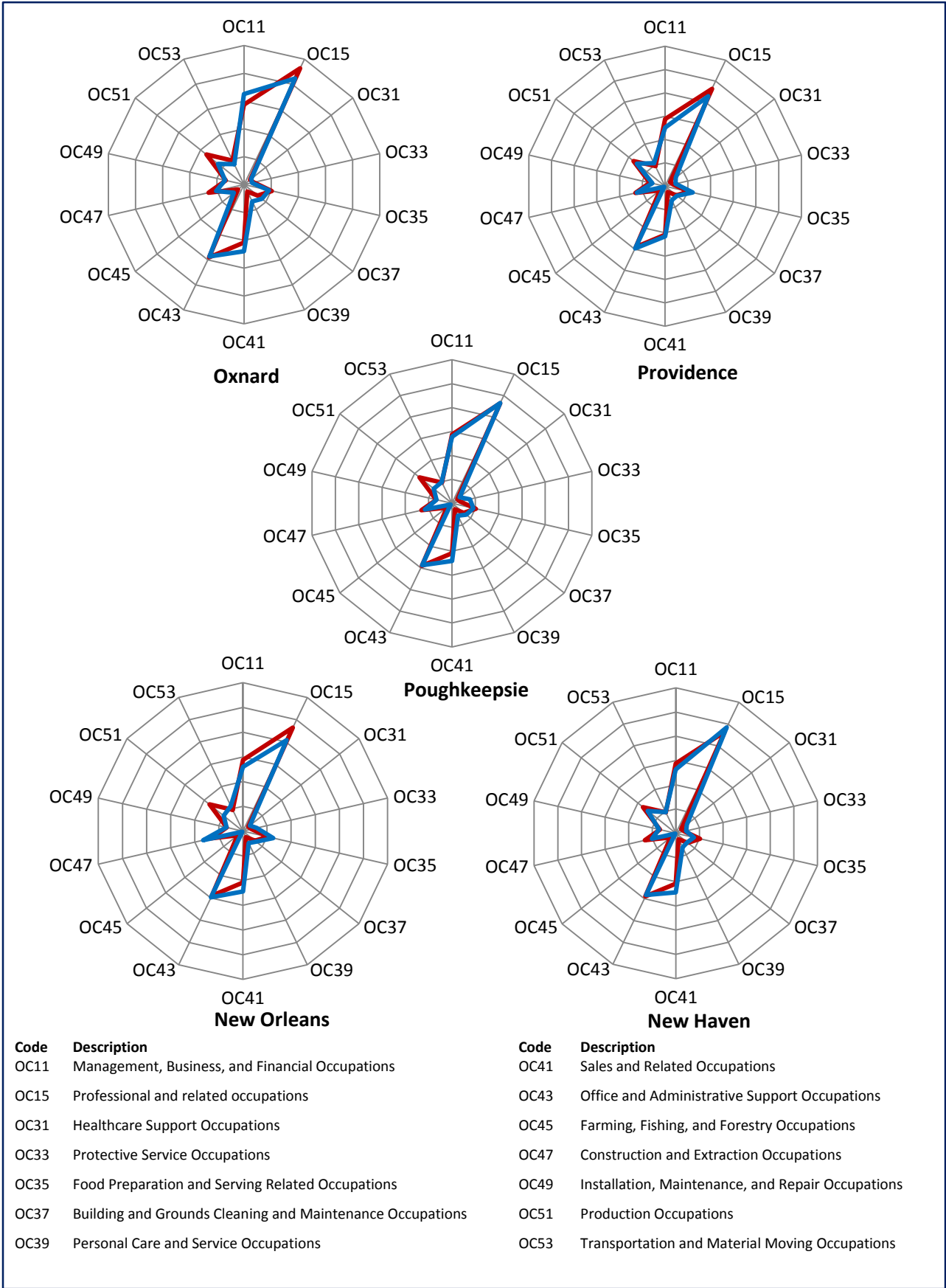


Figure 3: The actual data on Occupational Structure for Edmonton and its top 5 most similar MSAs

## **E. Industrial Similarity**

The Industrial Structure indicator covers the 2-digit level NAICS codes that are comparable in both countries. The list of industrial categories included in the analysis is shown in Figure 4.

From Figure 4 we can observe the following:

- Among the 5 MSAs, New Orleans appears to have the most similar distribution of employment levels in various industries to Edmonton.
- The majority of the MSAs have higher employment levels in Healthcare and Social Assistance (62), Retail Trade (44) and Manufacturing (31) which are significantly higher than that of Edmonton's.
- Edmonton has a noticeably higher percentage of individuals employed in Mining Oil and Gas Extraction (21) compared to the 5 MSAs which generally have a very low percentage.
- We can also observe that Edmonton has a slightly higher percentage of employment in Construction (23) industries compared to the 5 MSAs.



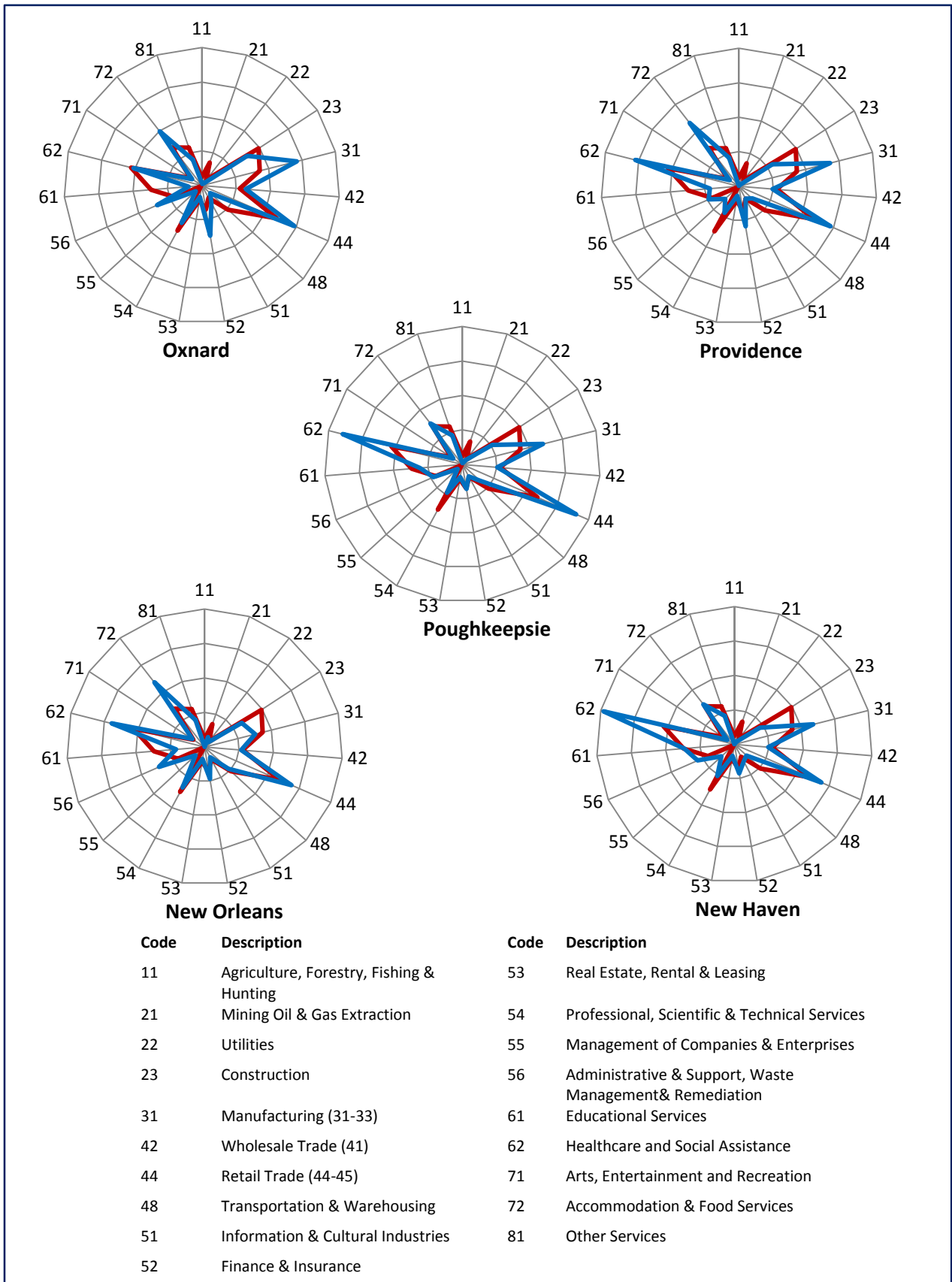


Figure 4: The actual data on the industrial structure for Edmonton and its top 5 most similar MSAs

## F. Benchmarking Analysis

The data on economic measures such as employment growth rate (compound annual growth rate), employment income (median employment earnings) and unemployment rate of the top 10 closest MSAs to Edmonton were gathered and is summarized in Table 3 below. Included in the table are the rankings of the city-regions data which are located on the right side of each value. Based on the information presented in Table 3, we can see that:

- Edmonton performs better than all its closest neighbours. It has the highest in employment growth rate from 2003 to 2009, the lowest unemployment rate and the highest median employment income in 2010.
- Among the closest neighbours of Edmonton, the metropolitan area of Tucson seems to be one of those lagging behind as it has the lowest median employment income and the second highest unemployment rate.
- Aside from Tucson, the metropolitan area of New Orleans also seems to be not performing so well with its very low employment growth rate (rank 11<sup>th</sup>).

Table 3: Benchmarking survey for the city of Edmonton

City-Regions (CMAs/MSAs)		Employment Growth Rate (2003-2009)		Employment Income in USD (2010)		Unemployment Rate (2010)	
<b>Edmonton</b>	<b>AB</b>	<b>2.62%</b>	<b>(1)</b>	<b>\$39,468</b>	<b>(1)</b>	<b>6.7%</b>	<b>(1)</b>
Oxnard	CA	-0.37%	(6)	\$31,062	(5)	10.2%	(6)
Providence	RI	-0.56%	(7)	\$30,692	(6)	11.5%	(10)
Poughkeepsie	NY	-0.66%	(9)	\$33,859	(2)	9.3%	(4)
New Orleans	LA	-2.42%	(11)	\$29,663	(7)	11.1%	(8)
New Haven	CT	-0.64%	(8)	\$32,994	(4)	10.9%	(7)
Albuquerque	NM	0.16%	(5)	\$28,787	(8)	8.6%	(3)
Oklahoma City	OK	1.28%	(3)	\$26,473	(10)	7.7%	(2)
Worcester	MA	-1.19%	(10)	\$33,573	(3)	11.4%	(9)
Salt Lake City	UT	1.74%	(2)	\$27,542	(9)	9.7%	(5)
Tucson	AZ	0.67%	(4)	\$25,226	(11)	11.5%	(10)