BENCHMARKING REPORT – SASKATOON

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 Saskatoon. 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 Saskatoon 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 observe from Table 1 that Waco is Saskatoon's closest city-region among the MSAs in the United States as indicated by the computed Overall Index.   The city of Waco (11th) is also the closest to Saskatoon in terms of Population Size. In terms of Human Capital the closest is Lubbock (17th), for Occupational Structure the closest is Tyler (14th)   and for Industrial Structure the closest is Fargo (5th). We can observe that the majority of the scores in the each of the indicators are greater than 10 which signify a "considerable distance" of the MSAs from Saskatoon.

Table 1: Top 10 most "similar MSAs" to Saskatoon by Overall Index

Metropolitan Statistical Areas		Indicators				Overall Index
		Population Size	Human Capital	Occupational Structure	Industrial Structure	
Waco	TX	11	28	185	9	1
Tyler	TX	45	52	14	151	2
Lubbock	TX	31	17	83	176	3
Roanoke	VA	76	47	116	76	4
Lafayette	LA	24	152	123	50	5
Lincoln	NE	64	248	16	28	6
Binghamton	NY	18	89	41	211	7
South Bend	IN	111	18	218	19	8
Kalamazoo	MI	116	68	15	170	9
Fargo	ND	57	290	30	5	10

Table 2 below shows the top 10 most similar MSAs to Saskatoon by indicator. In terms of Population Size, the top 3 closest MSAs to Saskatoon are Olympia, Yakima and Laredo with population around 230 thousand. For Human Capital, the metropolitan area of Greensboro ranks the closest. Considering the Occupational and Industrial Structure indicators, the most similar MSAs to Saskatoon are Greenville and Pittsburgh, respectively.

Table 2: Top 10 most "similar MSAs" to Saskatoon by Indicator

Rank	Population			Human Capital		Occupational Structure		Industrial Structure	
	Saskatoon	**SK**	**(233,930)**						
1	Olympia	WA	(234,670)	Greensboro	NC	Greenville	NC	Pittsburgh	PA
2	Yakima	WA	(233,105)	Bowling Green	KY	Springfield	MA	Syracuse	NY
3	Laredo	TX	(231,470)	Winston	NC	Rochester	NY	New Orleans	LA
4	Greeley	CO	(236,857)	Harrisonburg	VA	Lexington	KY	Mobile	AL
5	Myrtle Beach	SC	(238,493)	Reading	PA	Huntsville	AL	Fargo	ND
6	Topeka	KS	(229,103)	Springfield	MA	Lebanon	NH	Albany	NY
7	Clarksville	TN	(238,760)	Salisbury	MD	Lafayette	IN	New Haven	CT
8	Gulfport	MS	(228,722)	Chico	CA	Athens	GA	Indianapolis	IN
9	Bremerton	WA	(240,604)	New Orleans	LA	Peoria	IL	Waco	TX
10	Amarillo	TX	(240,981)	East Stroudsburg	PA	New Haven	CT	St. Louis	MO

B.   Population Similarity

Figure 1 below shows the 2006 population size of Saskatoon and its top 10 closest MSAs by Overall Index. As pointed out in the previous Section, Waco is the most similar MSA to Saskatoon in terms of population size which can be clearly seen in Figure 1. The city of Binghamton is close behind with a population close to Lafayette. We can further observe that the metropolitan area of South Bend is the "farthest" among the MSAs from Saskatoon.
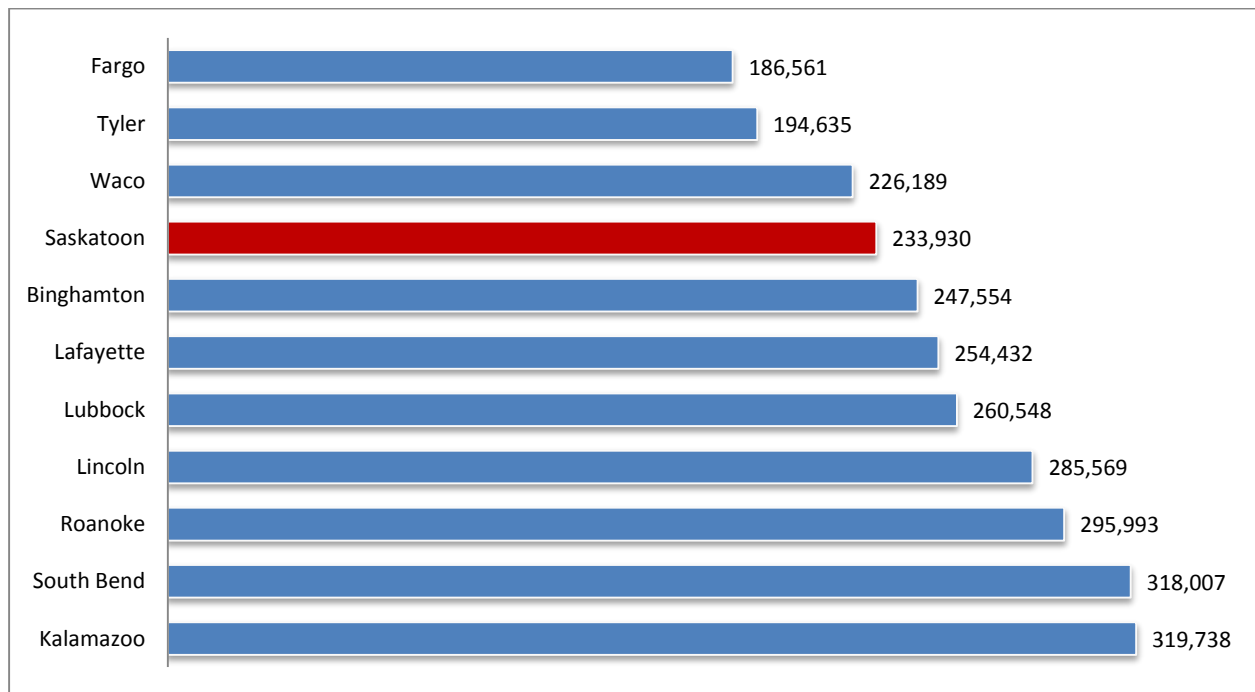

Figure 1: Population Size (2006) of Saskatoon with its top 10 closest MSAs by Overall Index

In the next three sub-sections the actual data on the three indicators for Saskatoon 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 Saskatoon 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 Waco, Tyler, Lubbock, Roanoke and Lafayette. Note that in the graphs for sections C, D and E, a red line is used in plotting the data for Saskatoon 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:

- The MSAs distribution of the variables included in the Human capital Indicator closely resemble that of Saskatoon's.

- We can observe that some MSAs have a slightly lower percentage level than Saskatoon in either the foreign-born individuals or the number of PhD/1000.

- Considering the various age groups, these city-regions are similar to Saskatoon with a higher percentage of individuals in the 18-64 years old age group.
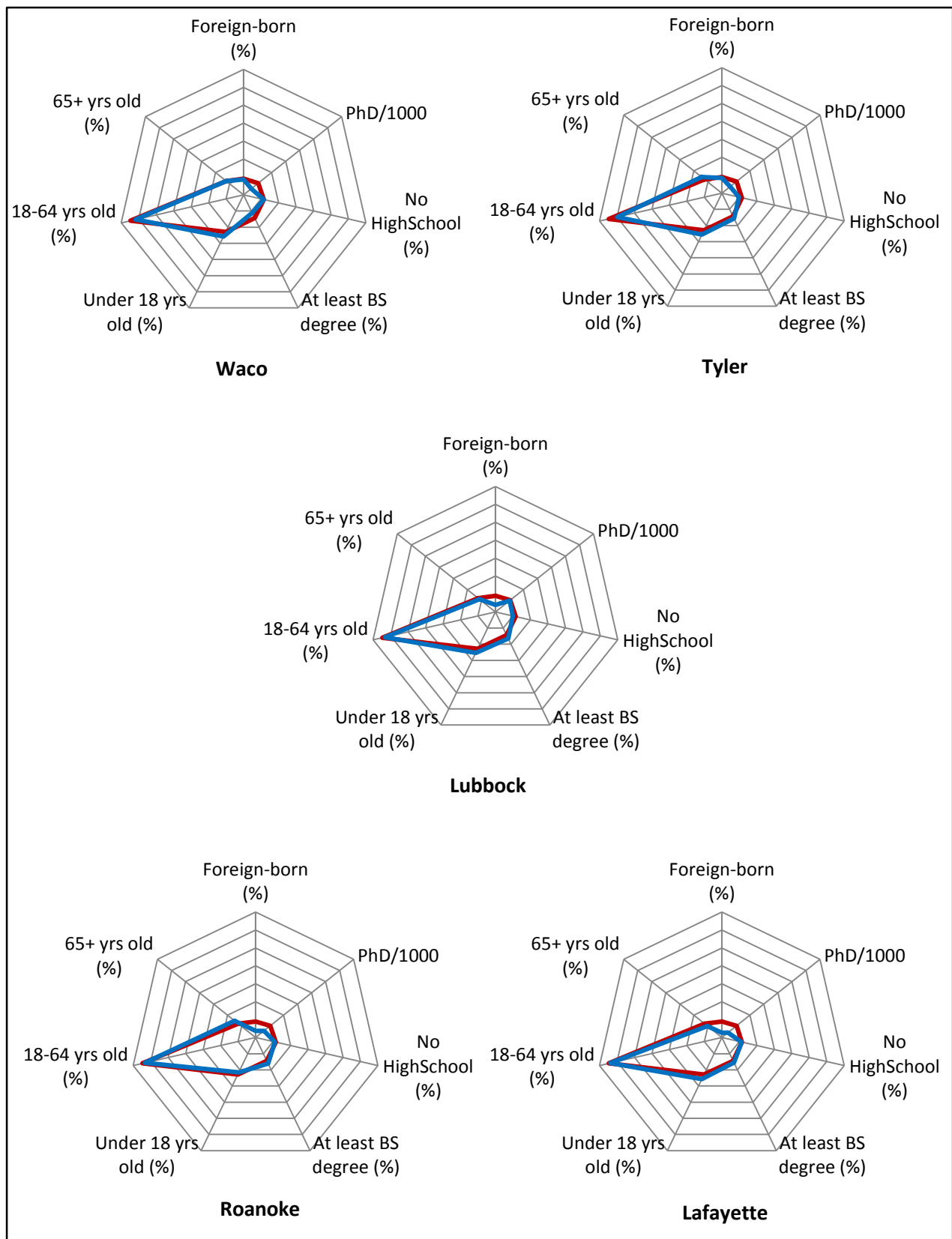
Figure 2: The actual data on the Human Capital indicator for Saskatoon and its top 5 most similar MSAs

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 metropolitan area of Tyler appears to have the closest to Saskatoon in terms of the distribution of the employment levels in various occupational groups.

- Similar to Saskatoon, 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).

- We can also observe that Saskatoon has a slightly higher employment levels compared to most of the MSAs in the Professional and Related Occupations (OC15) and Management, Business, Financial Occupations (OC11).

Waco

Tyler

Lubbock

Roanoke

Lafayette

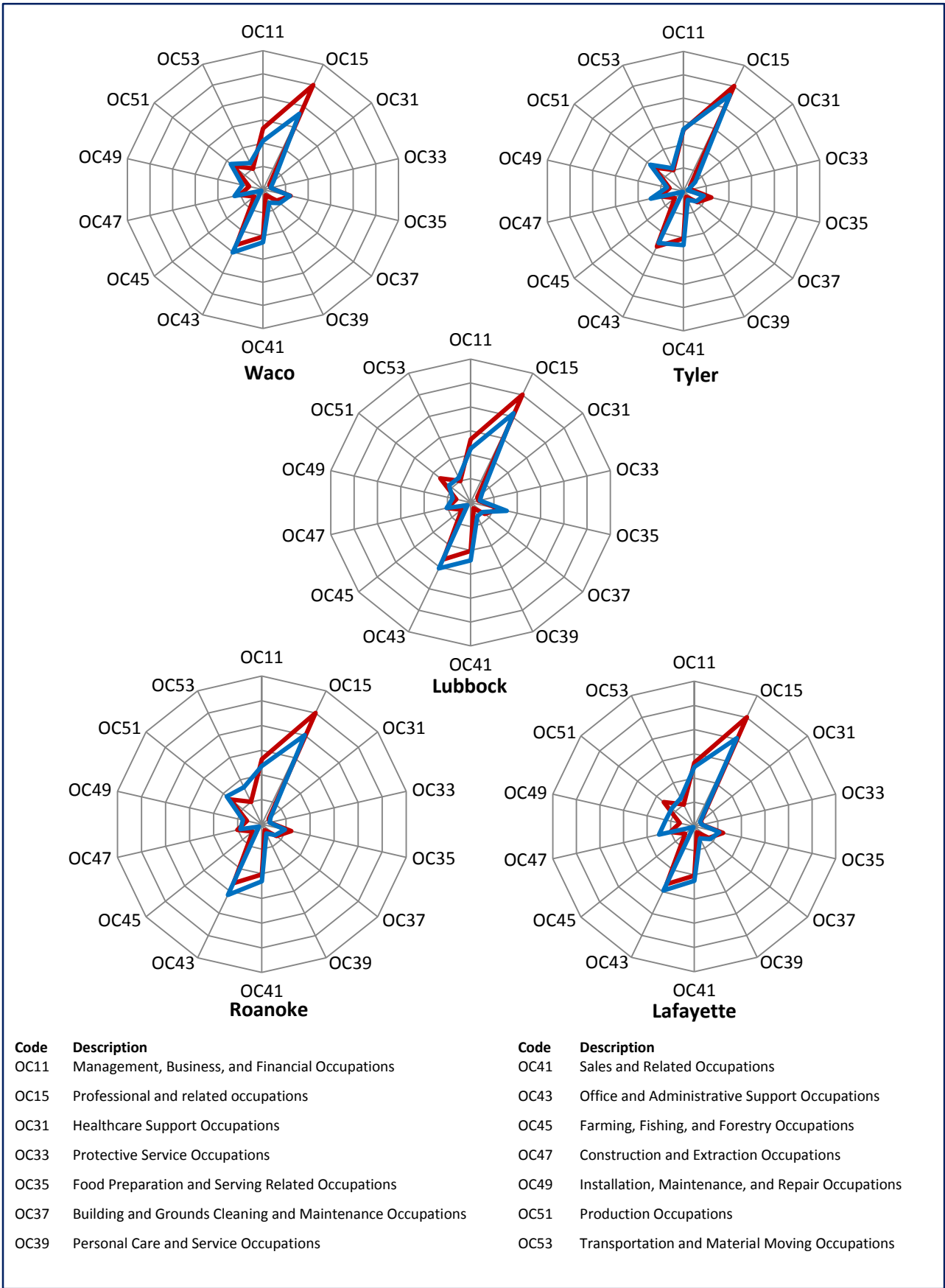| Code	Description	Code	Description
OC11	Management, Business, and Financial Occupations	OC41	Sales and Related Occupations
OC15	Professional and related occupations	OC43	Office and Administrative Support Occupations
OC31	Healthcare Support Occupations	OC45	Farming, Fishing, and Forestry Occupations
OC33	Protective Service Occupations	OC47	Construction and Extraction Occupations
OC35	Food Preparation and Serving Related Occupations	OC49	Installation, Maintenance, and Repair Occupations
OC37	Building and Grounds Cleaning and Maintenance Occupations	OC51	Production Occupations
OC39	Personal Care and Service Occupations	OC53	Transportation and Material Moving Occupations

Figure 3: The actual data on Occupational Structure for Saskatoon 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, Waco appears to have the most similar distribution of employment levels in various industries to Saskatoon.

- The majority of the MSAs appear to be similar to Saskatoon in terms of having a higher employment level in Retail Trade (44), Healthcare and Social Assistance (62) and Accommodation and Food Services (72). We can also observe that most of the MSAs have noticeably higher levels of employment in these three industries.

- We can also observe that Saskatoon has a significantly higher level of employment in Educational Services (61) compared to all of the 5 MSAs.
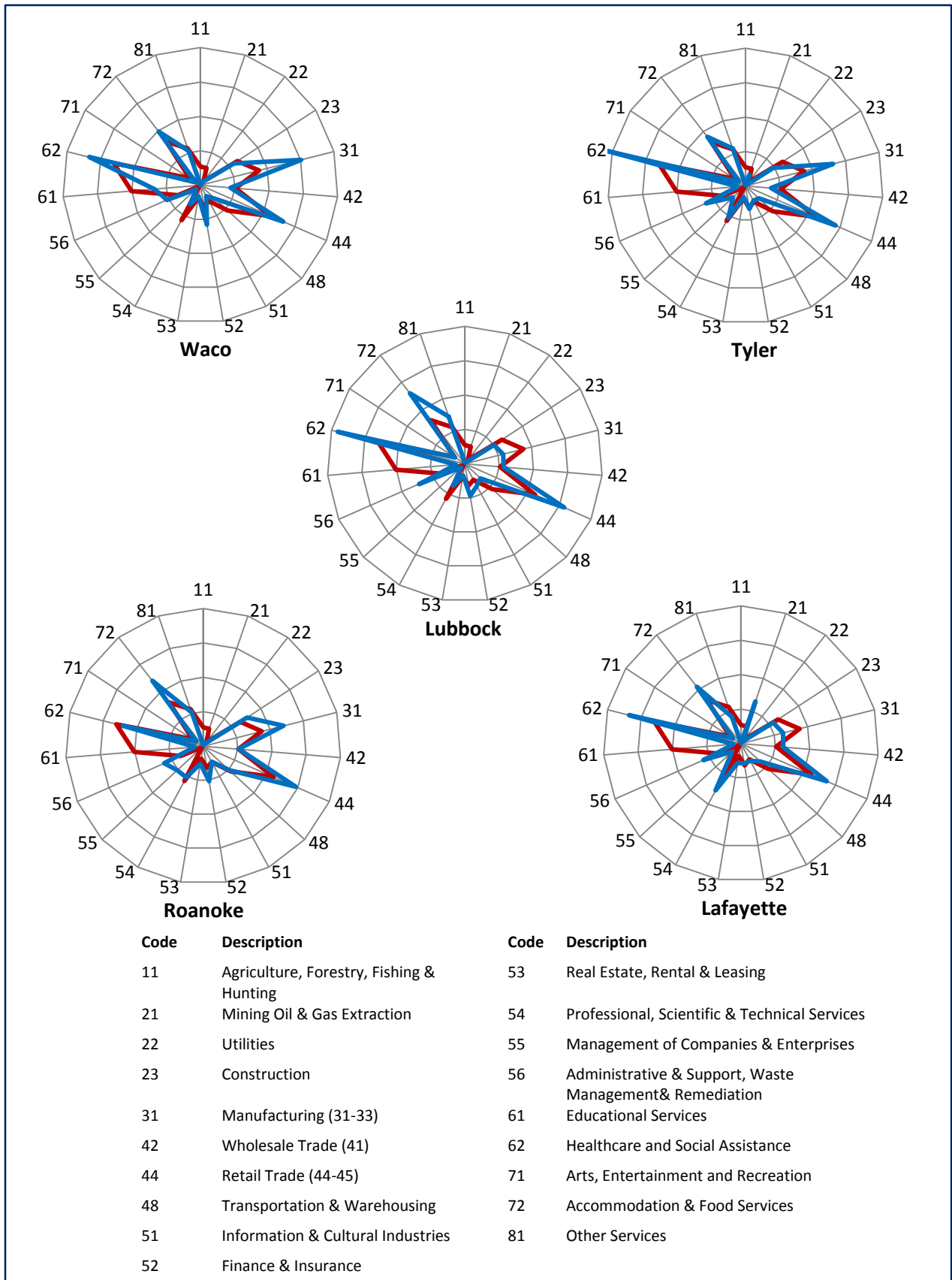
Code	Description	Code	Description
11	Agriculture, Forestry, Fishing & Hunting	53	Real Estate, Rental & Leasing
21	Mining Oil & Gas Extraction	54	Professional, Scientific & Technical Services
22	Utilities	55	Management of Companies & Enterprises
23	Construction	56	Administrative & Support, Waste Management& Remediation
31	Manufacturing (31-33)	61	Educational Services
42	Wholesale Trade (41)	62	Healthcare and Social Assistance
44	Retail Trade (44-45)	71	Arts, Entertainment and Recreation
48	Transportation & Warehousing	72	Accommodation & Food Services
51	Information & Cultural Industries	81	Other Services
52	Finance & Insurance		

Figure 4: The actual data on the industrial structure for Saskatoon 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 Saskatoon 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:

- Saskatoon appears to perform better than its closest neighbours. It has the highest median employment income in 2010 and ranks the second best in both employment growth rate and unemployment rate.

- The metropolitan area of Fargo is among Saskatoon's closest neighbours that are performing well. It has the highest employment growth rate, the lowest unemployment rate and its median income is among the highest (top 4).

- The metropolitan area of Kalamazoo is among those that are lagging behind with the lowest employment growth rate and the second highest unemployment rate.

Table 3: Benchmarking survey for the city of Saskatoon

City-Regions (CMAs/MSAs)		Employment Growth Rate (2003-2009)		Employment Income in USD (2010)		Unemployment Rate (2010)	
Saskatoon	**SK**	**3.11%**	**(2)**	**$30,360**	**(1)**	**5.4%**	**(2)**
Waco	TX	1.41%	(4)	$21,707	(10)	8.7%	(7)
Tyler	TX	1.09%	(5)	$25,266	(7)	8.8%	(8)
Lubbock	TX	0.99%	(6)	$20,514	(11)	7.2%	(3)
Roanoke	VA	0.97%	(7)	$28,814	(2)	7.6%	(6)
Lafayette	LA	2.68%	(3)	$27,560	(3)	7.5%	(5)
Lincoln	NE	-0.26%	(8)	$25,766	(6)	7.2%	(3)
Binghamton	NY	-0.88%	(10)	$26,432	(5)	9.6%	(9)
South Bend	IN	-0.58%	(9)	$24,426	(8)	14.2%	(11)
Kalamazoo	MI	-1.61%	(11)	$23,802	(9)	13.1%	(10)
Fargo	ND	3.41%	(1)	$27,359	(4)	4.1%	(1)