BENCHMARKING REPORT - HALIFAX

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 Halifax. 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 Halifax 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 the metropolitan area of Lexington is Halifax's closest city-region among the MSAs in the United States as indicated by the computed Overall Index. Lexington (8th) is also the closest to Halifax in terms of the Occupational Structure indicator. Based on Human Capital the closest is San Luis Obispo (2nd) and on Industrial Structure the closest is Fargo (7th). It is noticeable that all the scores of the top 10 MSAs for Population Size are quite high indicating that these MSAs are quite "far" from Halifax in terms of population size.

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

Metropolitan Statistical Areas		Indicators				Overall Index
		Population Size	Human Capital	Occupational Structure	Industrial Structure	
Lexington	KY	41	51	8	83	1
Tallahassee	FL	26	49	23	96	2
Spokane	WA	46	74	59	19	3
Lansing	MI	50	87	33	58	4
Olympia	WA	86	61	39	51	5
Lincoln	NE	54	123	36	33	6
Manchester	NH	21	101	11	116	7
Harrisburg	PA	98	43	108	23	8
Fargo	ND	129	89	58	7	9
San Luis Obispo	CA	69	2	124	135	10

Table 2 below shows the top 10 most similar MSAs to Halifax by indicator. In terms of Population Size, the top 3 closest MSAs to Halifax are Peoria, Huntsville and Trenton. Considering the Human Capital indicator, the metropolitan area of Kingston is the closest to Halifax followed by San Luis Obispo and Springfield. For Occupational Structure, the most similar MSA is Boston and for Industrial Structure the closest is Albany.

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

Rank	Population			Human Capital		Occupational Structure		Industrial Structure	
	Halifax	**NS**	**(372,860)**						
1	Peoria	IL	(370,336)	Kingston	NY	Boston	MA	Albany	NY
2	Huntsville	AL	(376,753)	San Luis Obispo	CA	Madison	WI	New Orleans	LA
3	Trenton	NJ	(367,605)	Springfield	MA	Baltimore	MD	Pittsburgh	PA
4	Beaumont	TX	(378,793)	Salisbury	MD	Albany	NY	Baltimore	MD
5	Davenport	IA	(379,853)	Richmond	VA	Philadelphia	PA	Boston	MA
6	Montgomery	AL	(362,319)	Eugene	OR	Hartford	CT	Mobile	AL
7	Salem	OR	(384,600)	Bowling Green	KY	Torrington	CT	Fargo	ND
8	Hickory	NC	(359,856)	Nashville	TN	Lexington	KY	Miami	FL
9	Anchorage	AK	(359,180)	Greensboro	NC	San Francisco	CA	Indianapolis	IN
10	Brownsville	TX	(387,717)	East Stroudsburg	PA	Poughkeepsie	NY	Syracuse	NY

B. Population Similarity

Figure 1 below shows the 2006 population size of Halifax and its top 10 closest MSAs by Overall Index. As also shown in Table 1 above, Manchester is the most similar MSA to Halifax in terms of population size which can be clearly seen in Figure 1 and close behind is the metropolitan area of Tallahassee. We can further observe that the metropolitan areas of Fargo and Harrisburg are quite "far" from Halifax.

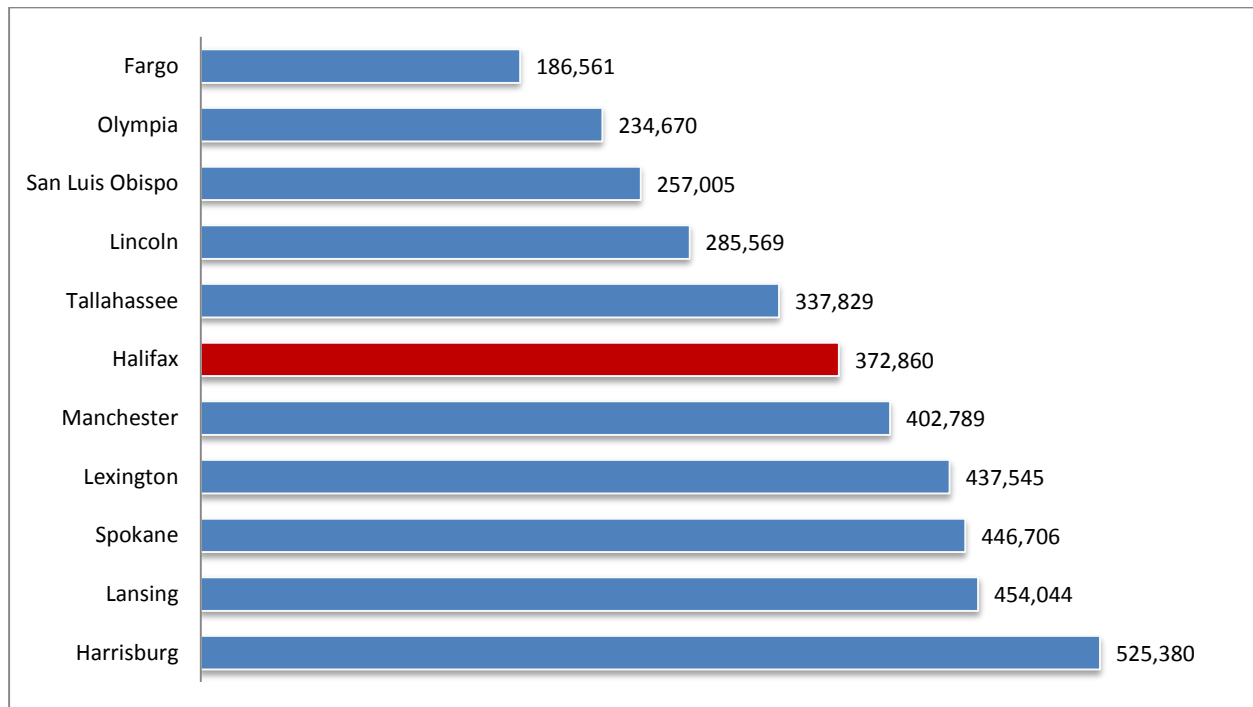| MSA	Population
Fargo	186,561
Olympia	234,670
San Luis Obispo	257,005
Lincoln	285,569
Tallahassee	337,829
Halifax	372,860
Manchester	402,789
Lexington	437,545
Spokane	446,706
Lansing	454,044
Harrisburg	525,380

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

In the next three sub-sections the actual data on the three indicators for Halifax 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 Halifax 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 Lexington, Tallahassee, Spokane, Lansing and Olympia. Note that in the graphs for sections C, D and E, a red line is used in plotting the data for Halifax 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 top 5 MSAs generally appear to have a distribution of the variables considered under Human Capital that closely resembles that of Halifax.

- Among the educational attainment considered these MSAs have higher percentage of individuals with at least BS degree educational attainment.

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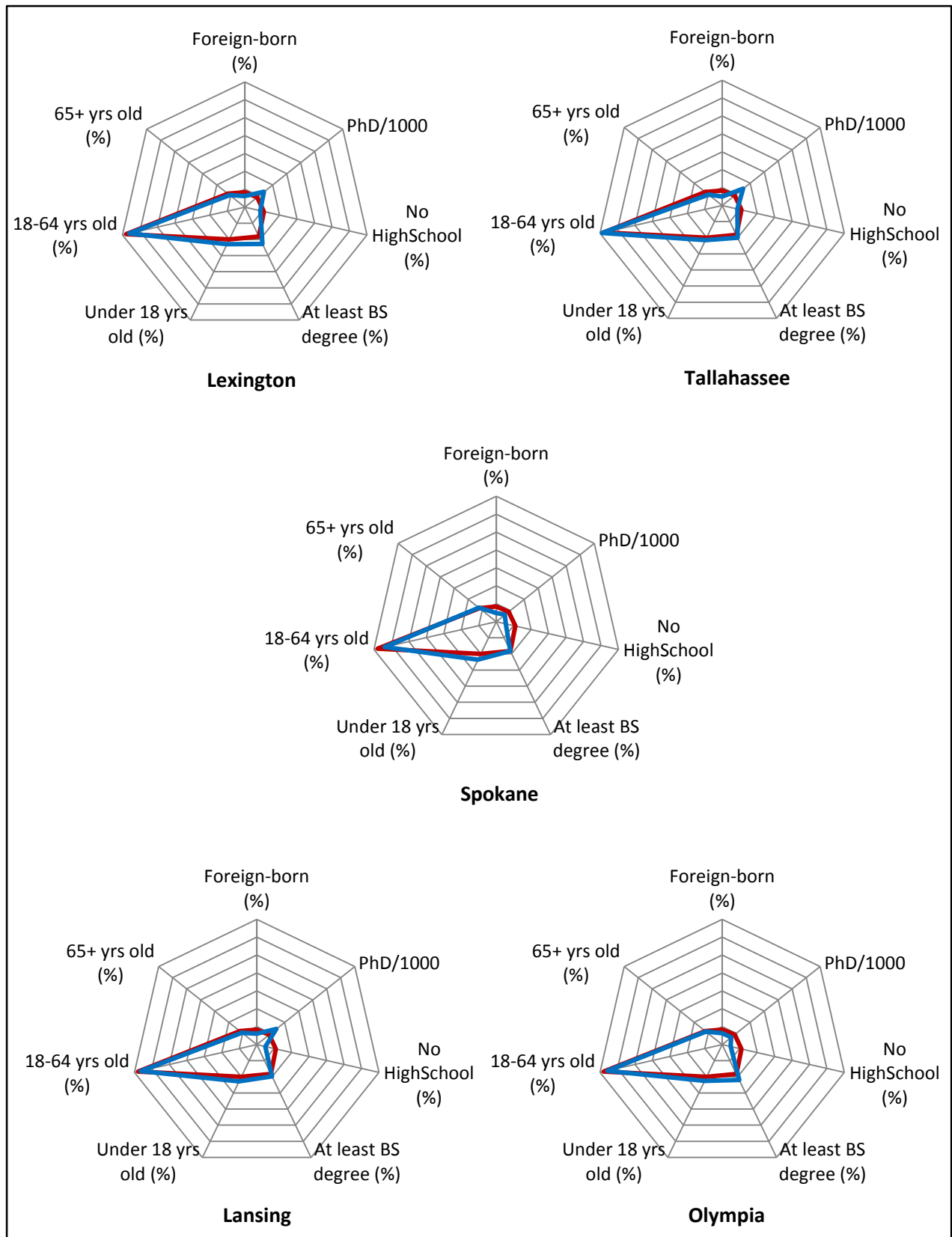
Figure 2: The actual data on the Human Capital indicator for Halifax and its top 5 most similar MSAs

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 the various occupational groups of the 5 MSAs closely resembles that of Halifax.

- Similar to Halifax, 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).

- The majority of the MSAs tend to have a lower percentage of individuals in the Professional and Related Occupations (OC15) than Halifax.
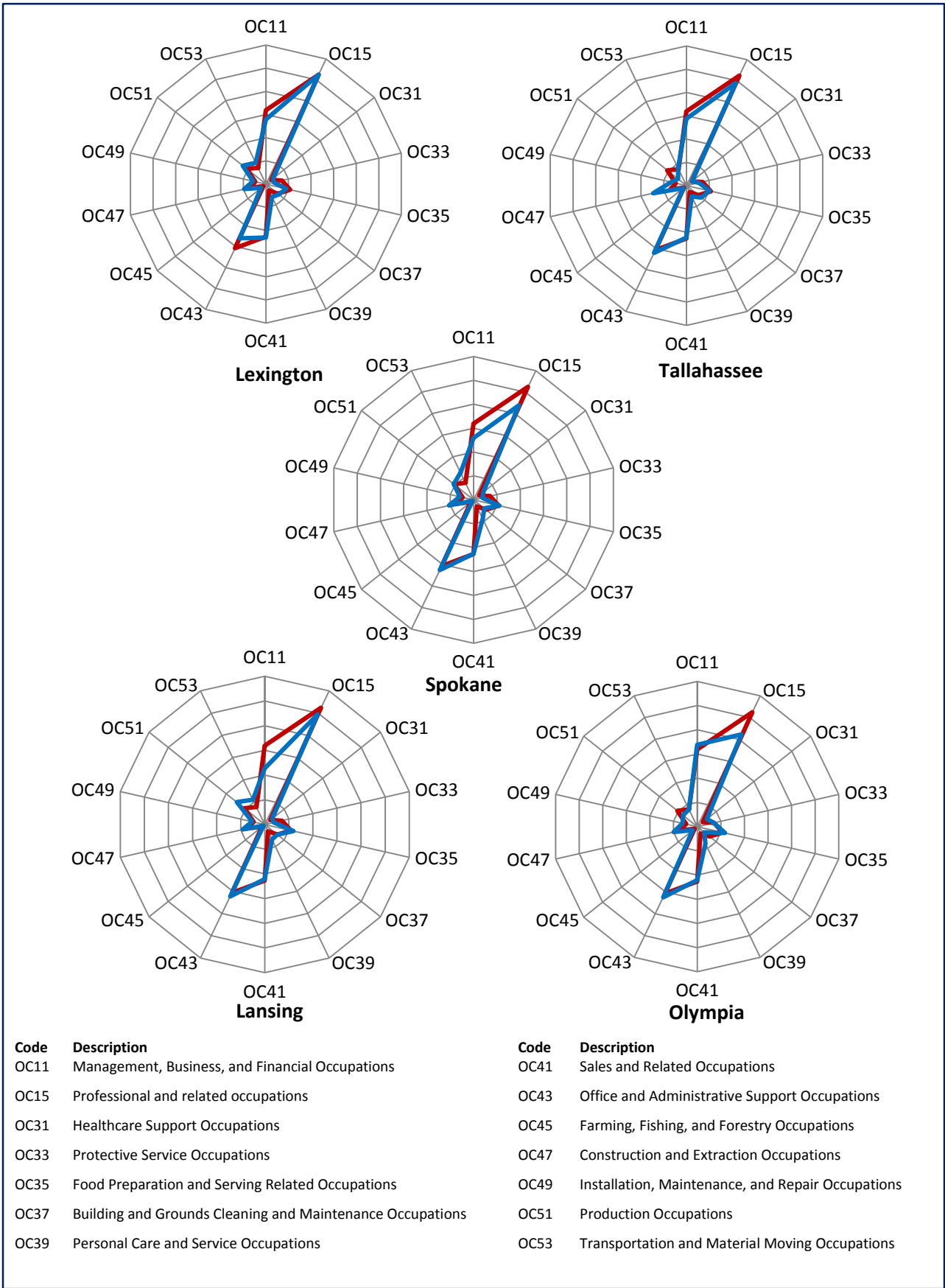
Figure 3: The actual data on Occupational Structure for Halifax and its top 5 most similar MSAs

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

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, Spokane has the most comparable distribution of employment level in various industries to Halifax.

- The majority of the MSAs appear to be similar to Halifax in terms of having a higher employment level in Retail Trade (44), Healthcare and Social Assistance (62) and Accommodation and Food Services (72).

- Halifax has a significantly higher employment level in Educational Services (61) than all the MSAs.
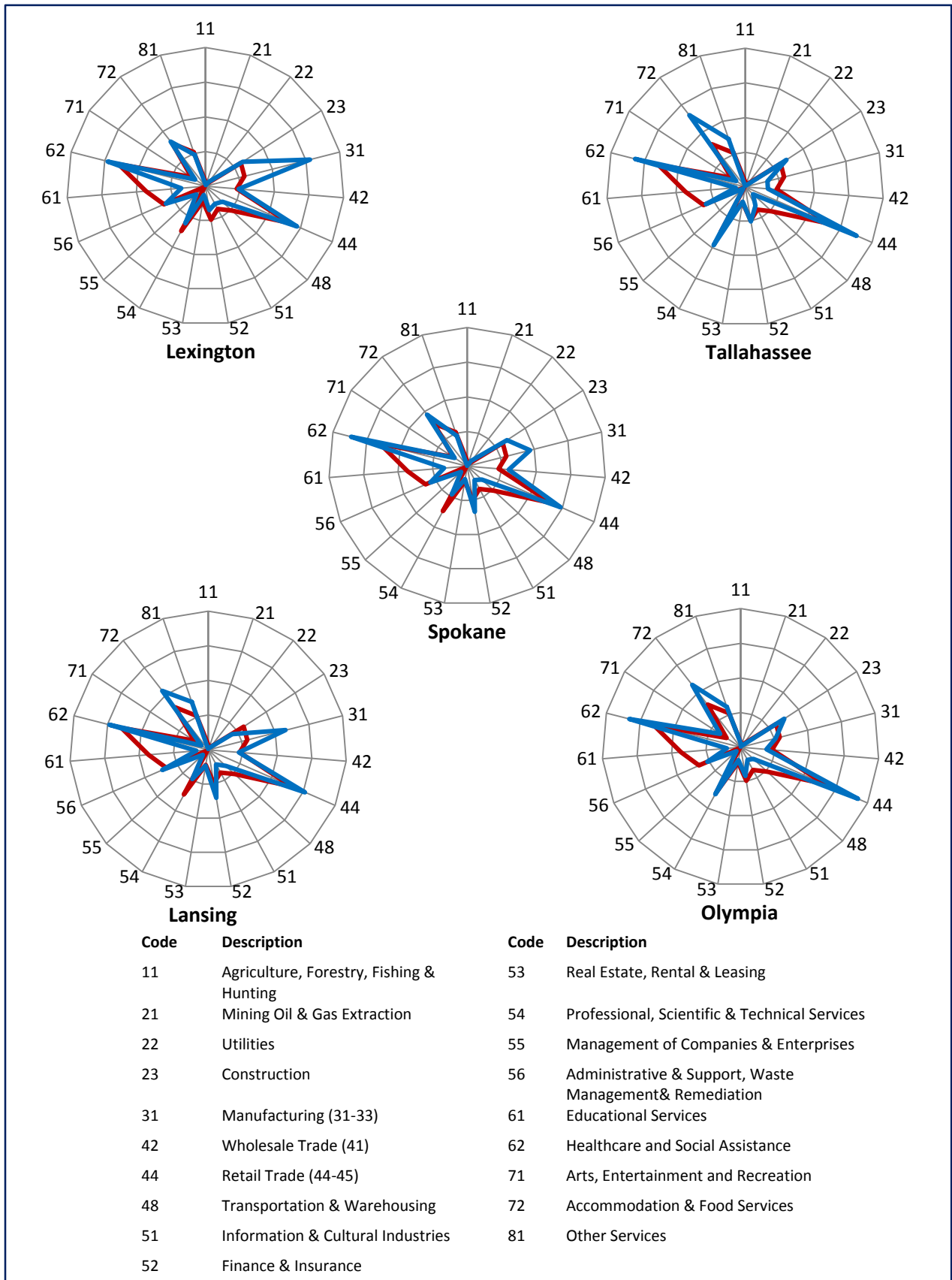
Code	Description	Code	Description
11	Agriculture, Forestry, Fishing & Hunting	53	Real Estate, Rental & Leasing
21	Mining Oil & Gas Extraction	54	Professional, Scientific & Technical Services
22	Utilities	55	Management of Companies & Enterprises
23	Construction	56	Administrative & Support, Waste Management& 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 Halifax 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 Halifax 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:

- The metropolitan area of Halifax is doing well economically compared to its closest neighbours. The city ranks third in employment growth rate and employment income. It is also the second among those with the lowest unemployment rate.

- Considering the median employment income of the city-regions, Manchester is leading the group with its median earnings about 35 thousand US dollars in 2010.

- Among Halifax's closet neighbours, Fargo is among those that are performing well. It has the highest employment growth rate and lowest unemployment rate.

Table 3: Benchmarking survey for the city of Halifax

City-Regions (CMAs/MSAs)		Employment Growth Rate (2003-2009)		Employment Income in USD (2010)		Unemployment Rate (2010)	
Halifax	**NS**	**1.87%**	**(3)**	**$31,068**	**(3)**	**6.3%**	**(2)**
Lexington	KY	-0.06%	(7)	$25,032	(10)	10.9%	(7)
Tallahassee	FL	-0.72%	(10)	$25,343	(9)	11.7%	(10)
Spokane	WA	1.04%	(4)	$27,717	(5)	11.2%	(8)
Lansing	MI	-1.93%	(11)	$22,329	(11)	11.2%	(8)
Olympia	WA	2.11%	(2)	$35,667	(2)	9.9%	(6)
Lincoln	NE	-0.26%	(8)	$25,766	(8)	7.2%	(4)
Manchester	NH	0.58%	(5)	$35,973	(1)	8.1%	(5)
Harrisburg	PA	-0.41%	(9)	$31,067	(4)	6.8%	(3)
Fargo	ND	3.41%	(1)	$27,359	(6)	4.1%	(1)
San Luis Obispo	CA	-0.04%	(6)	$25,863	(7)	11.8%	(11)