BENCHMARKING REPORT – OTTAWA-GATINEAU

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 Ottawa-Gatineau. 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 Ottawa-Gatineau 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 Raleigh is Ottawa-Gatineau's closest city-region among the MSAs in the United States as indicated by the computed Overall Index. Among these top 10 MSAs, we can see that Raleigh is also the most similar to Ottawa-Gatineau in terms of Population Size (10th). In terms of Human Capital, the closest is Trenton, while San Jose is the closest based on Occupational Structure (3rd) and Albany based on Industrial Structure (4th).

Table 1: Top 10 most "similar MSAs" to Ottawa-Gatineau by Overall Index

Metropolitan Statistical Areas		Indicators				Overall Index
		Population Size	Human Capital	Occupational Structure	Industrial Structure	
Raleigh	NC	10	9	13	5	1
Austin	TX	30	8	27	9	2
Albany	NY	18	50	20	4	3
Trenton	NJ	105	6	4	20	4
Durham	NC	75	38	9	15	5
Madison	WI	58	19	5	68	6
New Haven	CT	19	36	47	56	7
Colorado Springs	CO	50	61	46	7	8
Albuquerque	NM	22	44	53	46	9
San Jose	CA	72	16	3	87	10

Table 2 below shows the top 10 most similar MSAs to Ottawa-Gatineau by indicator. In terms of Population Size, the top 3 closest MSAs to Ottawa-Gatineau are Buffalo, Birmingham and Oklahoma City. In both the Human Capital and Occupational structures indicators, Washington DC ranks the closest to Ottawa-Gatineau. For Industrial Structure, the most similar MSA is Baltimore, followed by Boston and San Francisco.

Table 2: Top 10 most "similar MSAs" to Ottawa-Gatineau by Indicator

Rank	Population			Human Capital		Occupational Structure		Industrial Structure	
	Ottawa-Gatineau	**ON**	**(1,130,765)**						
1	Buffalo	NY	(1,137,520)	Washington	DC	Washington	DC	Baltimore	MD
2	Birmingham	AL	(1,089,883)	Bridgeport	CT	Boulder	CO	Boston	MA
3	Oklahoma City	OK	(1,173,632)	San Francisco	CA	San Jose	CA	San Francisco	CA
4	Hartford	CT	(1,188,841)	Boston	MA	Trenton	NJ	Albany	NY
5	Salt Lake City	UT	(1,067,190)	Santa Fe	NM	Madison	WI	Raleigh	NC
6	Richmond	VA	(1,196,411)	Trenton	NJ	Ann Arbor	MI	Pittsburgh	PA
7	Louisville	KY	(1,220,636)	Santa Cruz	CA	Boston	MA	Colorado Springs	CO
8	Rochester	NY	(1,035,435)	Austin	TX	San Francisco	CA	New Orleans	LA
9	New Orleans	LA	(1,024,678)	Raleigh	NC	Durham	NC	Austin	TX
10	Raleigh	NC	(995,662)	Seattle	WA	Charlottesville	VA	Houston	TX

B. Population Similarity

Figure 1 below shows the 2006 population size of Ottawa-Gatineau and its top 10 closest MSAs by Overall Index. As pointed out in the previous Section, Raleigh is the most similar MSA to Ottawa-Gatineau in terms of population size which can be clearly seen in Figure 1. The metropolitan area of Albany is close behind with a population almost equal to New Haven. We can further observe that the metropolitan areas of Durham and Trenton are quite "farther" from Ottawa-Gatineau with population below half a million.

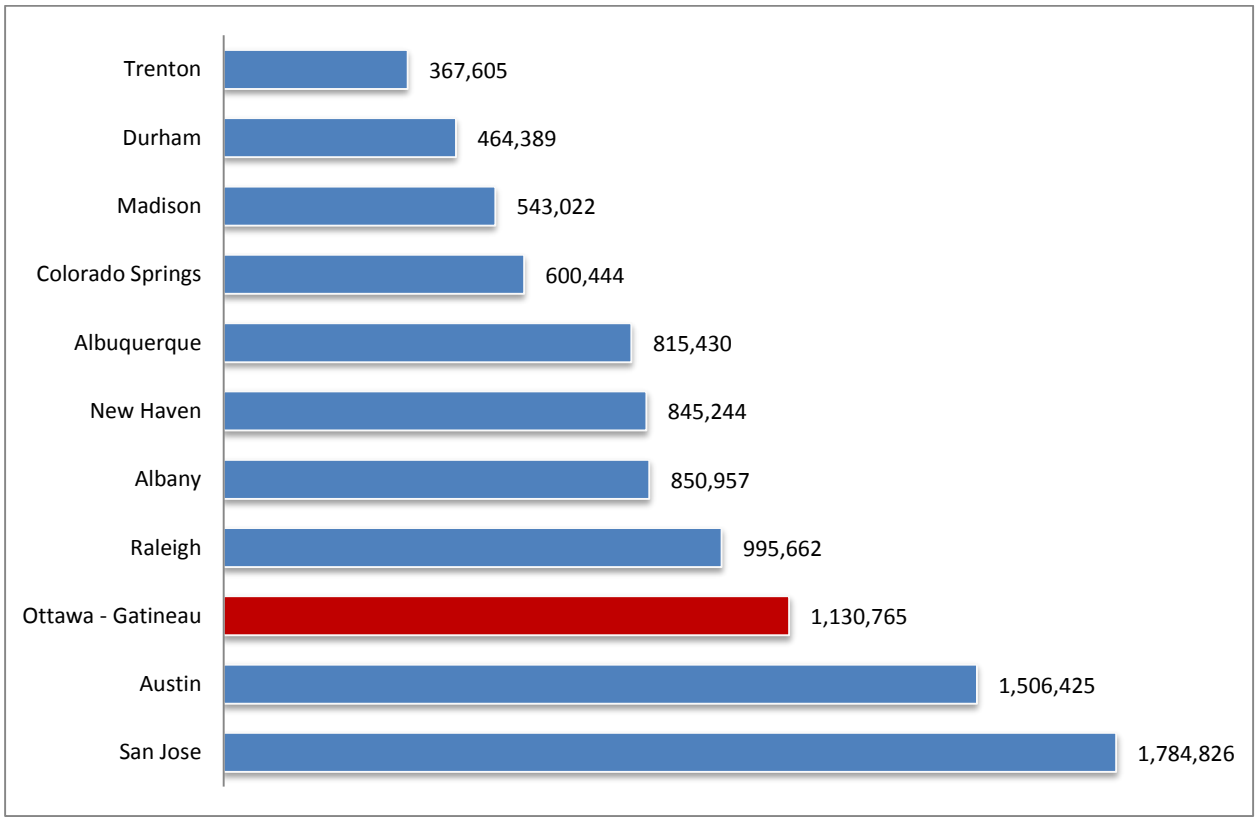


Figure 1: Population Size (2006) of Ottawa-Gatineau with its top 10 closest MSAs by Overall Index

In the next three sub-sections the actual data on the three indicators for Ottawa-Gatineau 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 Ottawa-Gatineau 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 Raleigh, Austin, Albany, Trenton and Durham. Note that in the graphs for sections C, D and E, a red line is used in plotting the data for Ottawa-Gatineau 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 significantly lower percentage of individuals with at least Bachelor of Science degrees and No High School educational attainment compared to Ottawa-Gatineau.

- In terms of the number of PhDs per 1000, the metropolitan area of Durham has the highest among the top 5 MSAs. Its number is also noticeably higher compared to Ottawa-Gatineau.

- Considering the various age groups, these city-regions are similar to Ottawa-Gatineau with a higher percentage of individuals in the 18-64 years old age group.

- Based on the age groups and percentage of foreign-born individuals, the 5 MSAs have distributions that are fairly close to Ottawa-Gatineau.

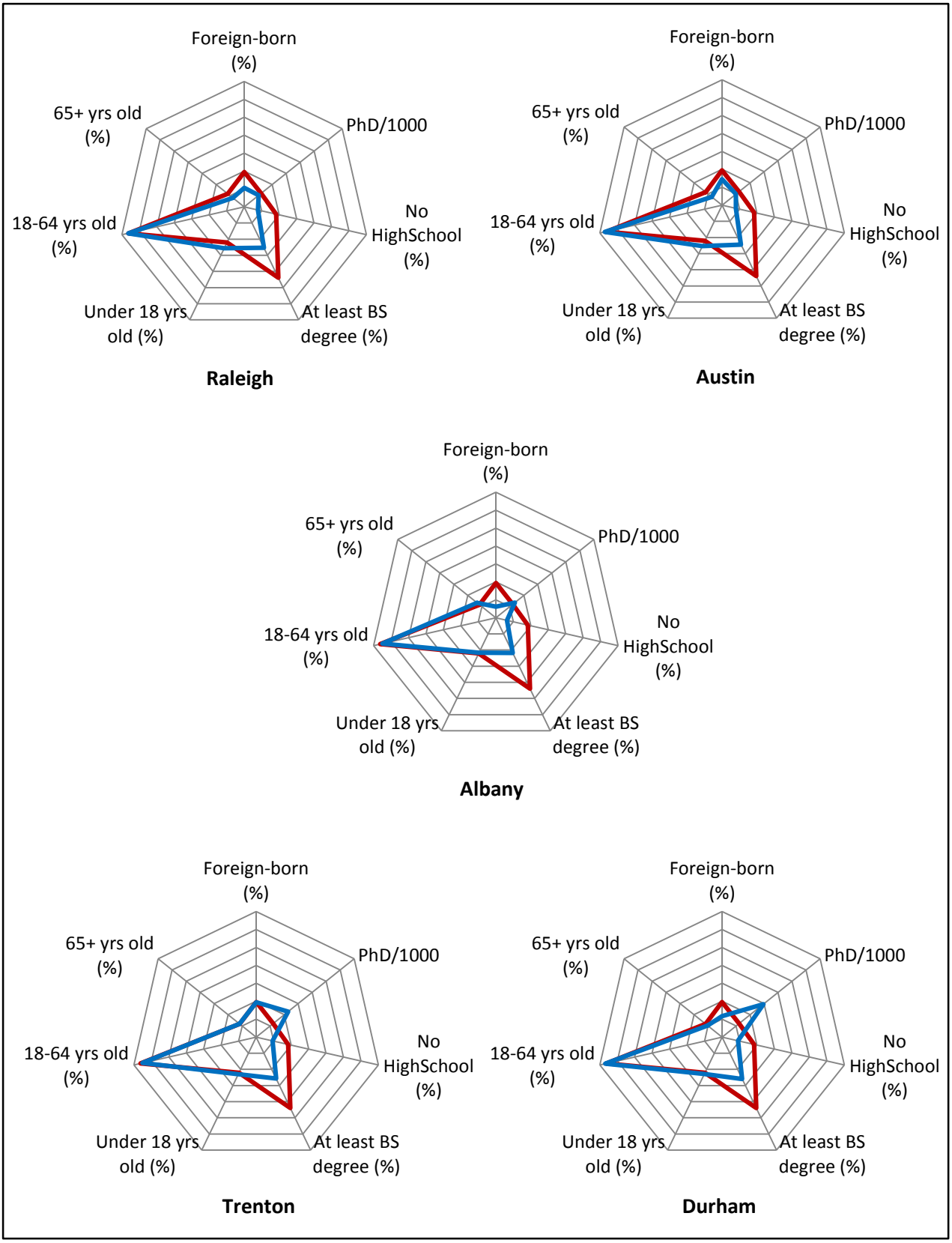


Figure 2: The actual data on the Human Capital indicator for Ottawa-Gatineau and its top 5 most similar MSAs

D. Occupational Similarity

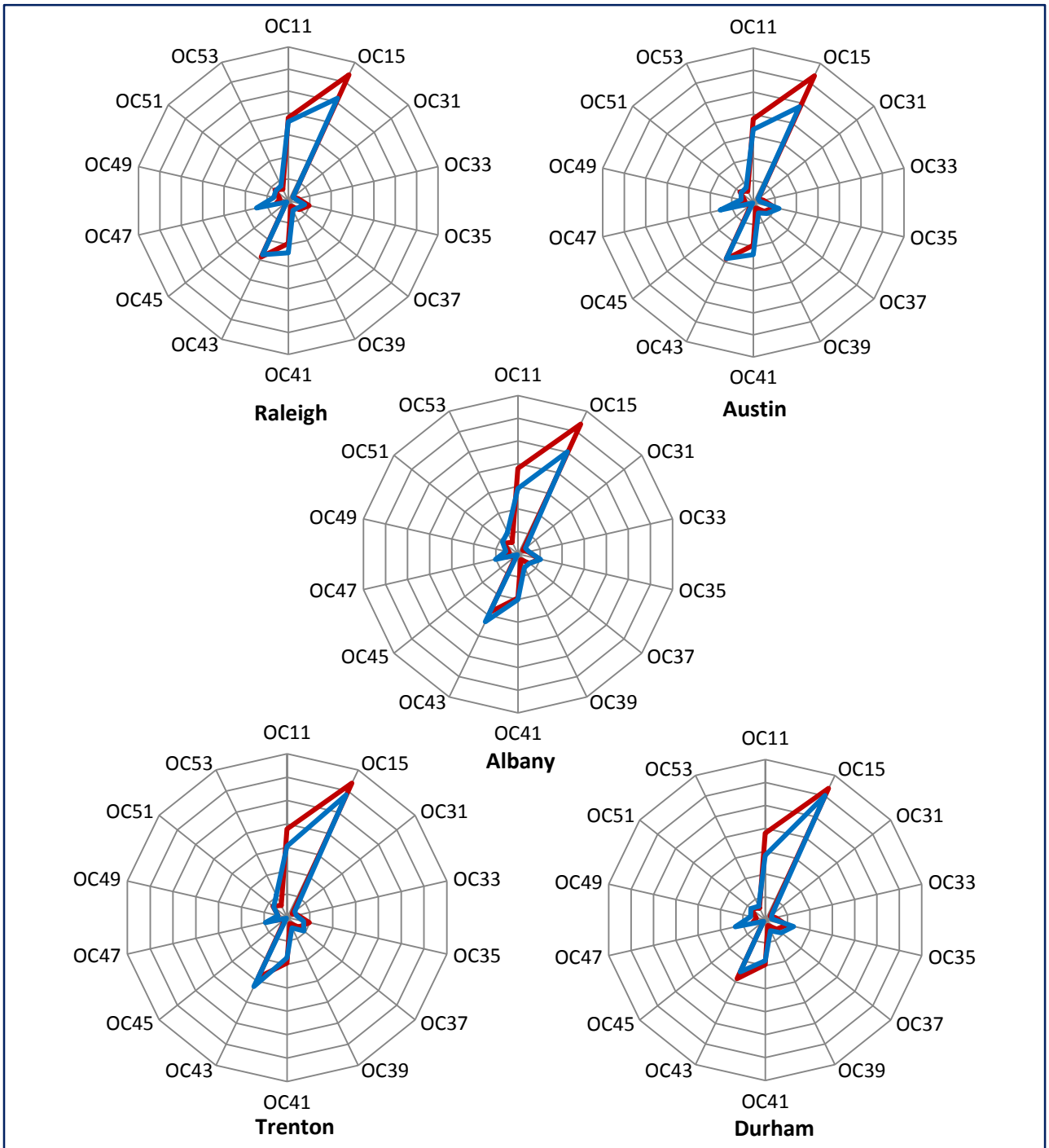
The Occupational Structure covers 14 occupational categories which are comparable for both Canada and the United States. The list of occupational categories is included in Figure 3 below.

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

- The distribution of the employment level in various occupational groups of the top 5 MSAs appears to be similar to Ottawa-Gatineau.

- 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 Ottawa-Gatineau has slightly higher employment level in the Professional and Related Occupations (OC15) and Management, Business, Financial Occupations (OC11) compared to all the 5 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

Code	Description
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

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

E. Industrial Similarity

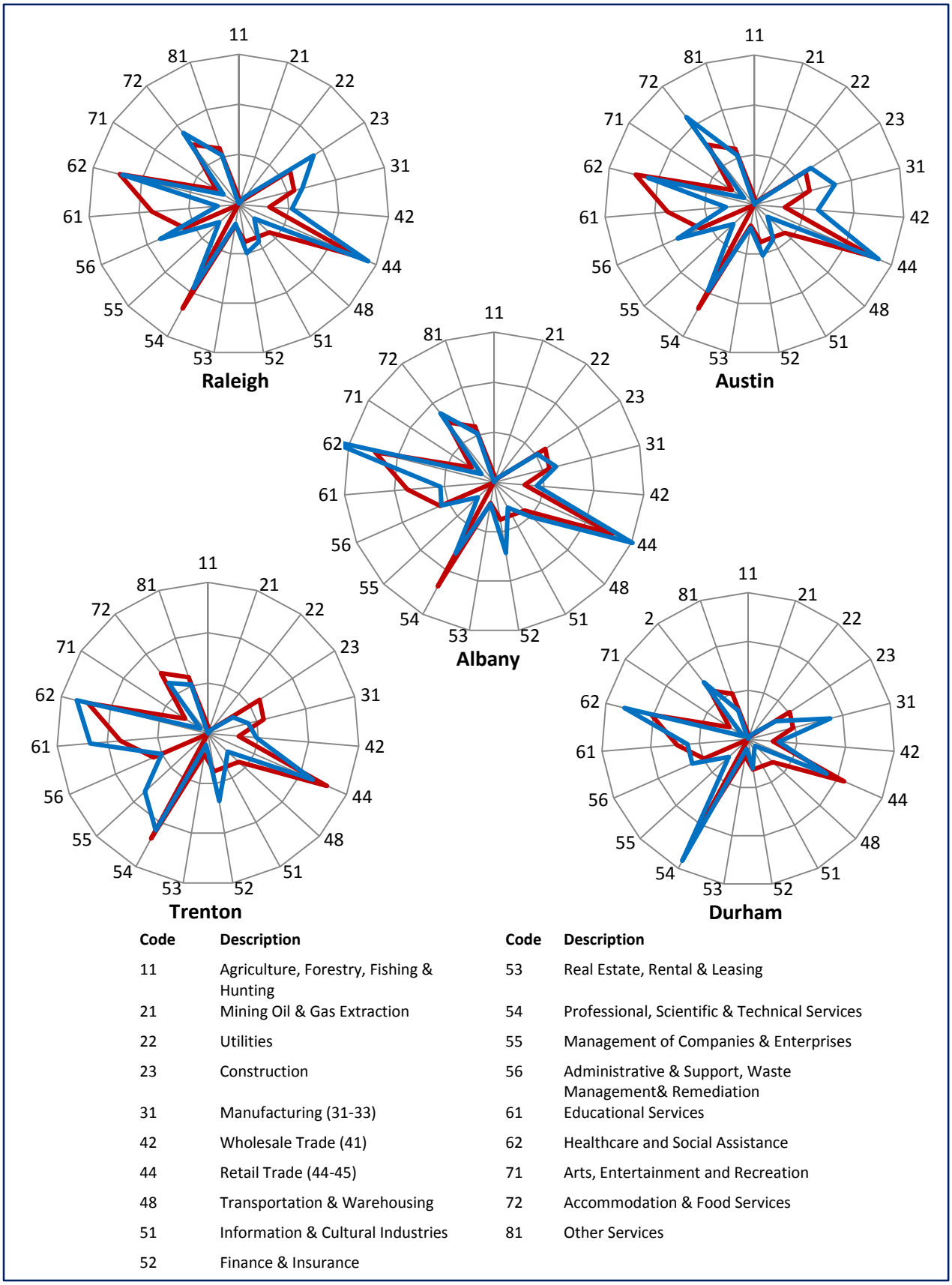
The Industrial Structure indicator covers the 2-digit level NAICS codes that are comparable in both countries. The list of industrial categories included in the analysis is shown in Figure 4.

From Figure 4 we can observe the following:

- Among the 5 MSAs, Albany and Durham appear to have the most comparable distribution of employment level in various industries to Ottawa-Gatineau.

- The majority of the MSAs appear to be similar to Ottawa-Gatineau in terms of having a higher employment level in Retail Trade (44), Professional, Scientific and Technical Services (54) and Healthcare and Social Assistance (62) and Accommodation and Food Services (72).

- The metropolitan area of Durham has the highest percentage of individuals employed in Professional, Scientific and Technical Services (54) while Albany has the highest for Healthcare and Social Assistance (62). Both employment levels are significantly higher than that of Ottawa-Gatineau's.



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 Ottawa-Gatineau 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 Ottawa-Gatineau 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:

- Ottawa-Gatineau ranks the second highest in both employment growth rate from 2003 to 2009 and employment income in 2010. It has also has the lowest unemployment rate in 2010.

- The metropolitan area of San Jose has the highest median employment income among the city-regions. However, it has the highest unemployment rate and a negative employment growth rate.

- Aside from San Jose, the other cities that seem to be not performing so well are Trenton, with its lowest employment growth rate and Durham with its lowest median employment income.

Table 3: Benchmarking survey for the city of Ottawa-Gatineau

City-Regions (CMAs/MSAs)		Employment Growth Rate (2003-2009)	Employment Income in USD (2010)	Unemployment Rate (2010)
Ottawa-Gatineau	**ON/QC**	**1.68% (2)**	**$40,784 (2)**	**6.5% (1)**
Raleigh	NC	1.67% (3)	$32,231 (5)	10.1% (6)
Austin	TX	2.87% (1)	$30,610 (8)	8.3% (4)
Albany	NY	0.10% (8)	$32,057 (6)	8.1% (3)
Trenton	NJ	-0.78% (11)	$34,666 (3)	10.7% (8)
Durham	NC	0.56% (6)	$26,643 (11)	10.9% (9)
Madison	WI	0.70% (5)	$30,735 (7)	6.6% (2)
New Haven	CT	-0.64% (10)	$32,994 (4)	10.9% (9)
Colorado Springs	CO	0.98% (4)	$27,199 (10)	10.6% (7)
Albuquerque	NM	0.16% (7)	$28,787 (9)	8.6% (5)
San Jose	CA	-0.11% (9)	$41,428 (1)	11.3% (11)