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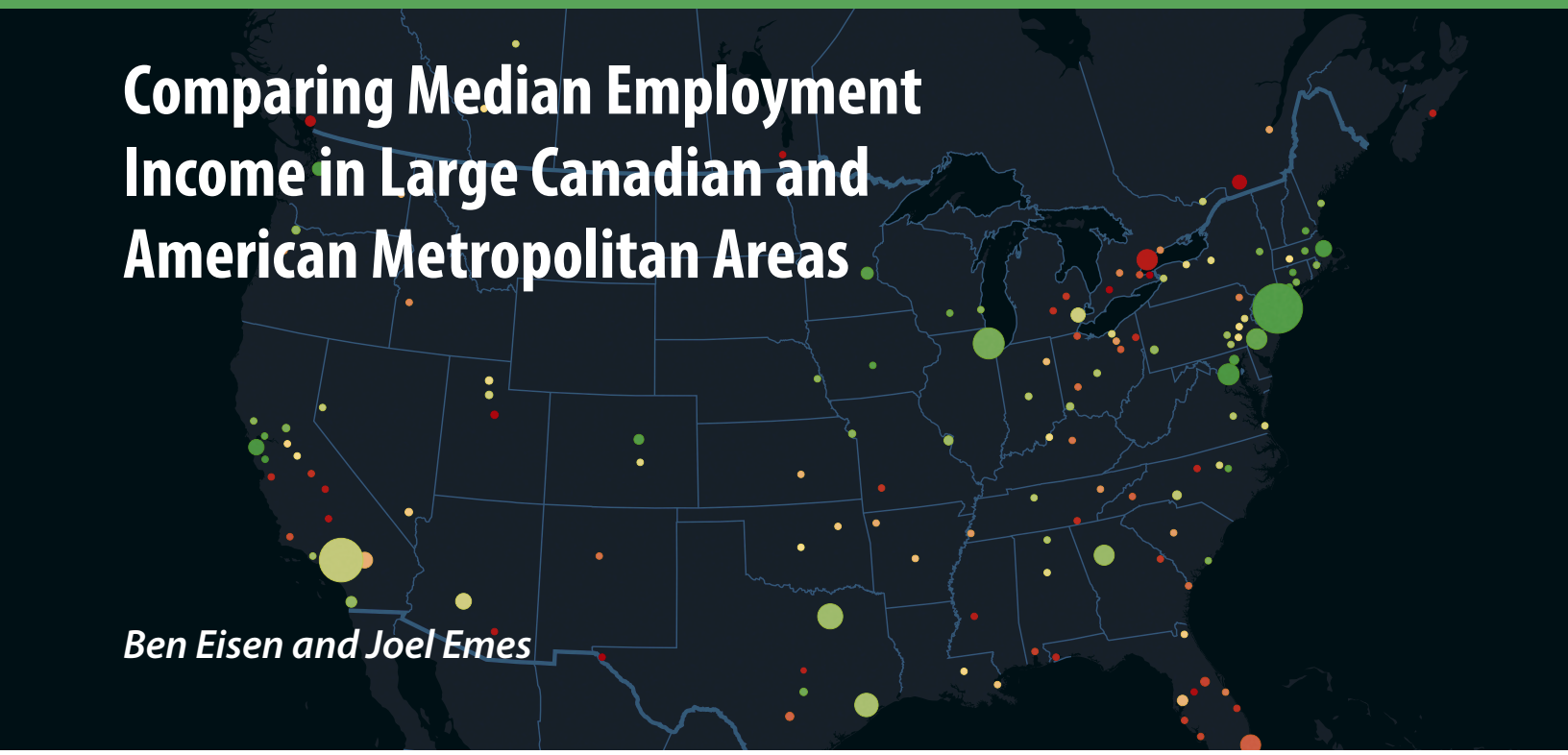
Comparing Median Employment Income in Large Canadian and American Metropolitan Areas



Ben Eisen and Joel Emes

Summary

- This bulletin compares median employment income in the 141 largest metropolitan areas in Canada and the United States (CMAs). Of these, 14 are Canadian.
- We found that Canadian CMAs generally underperformed on this indicator of labour market strength.
- Out of the 14 Canadian CMAs included in the study, only two are in the top half of the overall rankings, and their placement is only slightly above the midpoint. Meanwhile, the bottom 10 percent of the league table is well represented by Canadian metros. This suggests that Canadian metropolitan areas, in general, lag behind their American counterparts in median employment income.
- Canada's largest cities, including Toronto, Montreal, and Vancouver, which collectively represent a significant portion of the country's population, sit at the lower end of the rankings. This suggests that even within Canada, the largest cities do not perform particularly well in median employment income. Most of the top performing metro areas are large US population centers.
- The sectoral focus of high-performing US metros is more varied than Canada's. The top-performing American metropolitan areas have considerable economic diversity and are associated with various industries such as technology, finance, and public administration. In Canada, with the exception of the national capital where public administration is a large industry, the highest performing cities are generally found in natural resource intensive regions.

Introduction

In early 2023, the Fraser Institute published a research bulletin that ranked Canada's 41 Census Metropolitan Areas (CMAs) according to their median employment income (Eisen and Emes, 2023). This analysis was intended to shed light on the relative strength of labour markets, specifically employment income, in large cities across the country.

In this research bulletin, we expand our analysis to include a comparison with the United States using the most comparable available data from that country. In this bulletin, we restrict our analysis to metropolitan areas with over 400,000 residents, a total of 141 metro areas, 14 of which are Canadian.

We present data on median employment income in 2019, the last year of available data that was not distorted by the COVID-19 pandemic and recession. The key finding is that Canadian metros are overrepresented at the bottom end of the league table; none are near the top. Only two of the 14 Canadian metros are in the top half of the rankings, and are only barely so. Meanwhile, seven of the bottom 20 metros are Canadian. Beyond this, we do not advance an overarching narrative or argument; rather, we are simply presenting information that sheds light on labour markets in major metropolitan areas across Canada and the United States. Following the presentation of the results, we do offer a few observations on the data which provide potential avenues for future research.

Methodology

This paper compares the median employment income of major metropolitan areas (MAs) across Canada and the United States. We restrict our analysis to large metropolitan areas with over 400,000 residents. Many possible variables could be used to compare the metropolitan areas discussed here. Employment income differs from other measures in that it excludes some forms of income such as government transfers and investment and pension income. We use it to focus on what people can earn in the labour market after stripping away the effects of passive income and government policy attempts to reduce income inequality. For economy of words and clarity, we use the word "income" here to refer to "median employment income" reported in Canada and "median earnings" reported in the United States.

The methodological choice to focus on median incomes is borne out of the authors' preference for analyzing the health of labour markets for middle-income residents. However, other indicators would shed light on other important dimensions of labour market performance. For instance, a measurement of the mean labour market income would give very high earners a greater impact on the results. Income at the top end of the distribution matter a lot for many things, especially attracting top talent. An even narrower focus on income for individuals in the top 10 percent could be very useful in shedding light on these issues. In this bulletin we focus on median incomes to assess the impact of labour market performance on middle-income individuals, but the above alternatives are interesting options for future research products.

Due to differences in the definitions that various statistical agencies use for key concepts, comparing incomes in Canadian and American metropolitan areas is somewhat more complex than our previous comparison of Canadian CMAs. However, we are confident that the results presented here accurately present employment incomes in large Canadian and American metropolitan areas (MAs).

In Canada, "census metropolitan areas (CMA)… are formed of one or more adjacent municipalities that are centred on and have a high degree of integration with a large population centre, known as the core." A

CMA must have a population of at least 100,000 people, with at least 50,000 residents in the core (Statistics Canada, 2022a). Similarly, in the US, "[t]he general concept of a metropolitan… statistical area [MSA] is that of a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core" (United States Census Bureau, 2023c). Although the terminology is different in the two countries, the focus is the same. MSAs don't have the 100,000 minimum population that CMAs do, instead relying solely on a core of 50,000, the same as in Canada. However, this doesn't pose a problem as our analysis excludes MAs below 400,000 people.

The comparison we present is based on the median level of income for individuals. Specifically, we present data on median employment income for Canadian CMAs and median earnings for American MSAs. We present a median value as opposed to an average because average incomes can be heavily influenced by a small number of outliers, making median income a more helpful measure in assessing overall performance.

The MSA data has been adjusted to ensure comparability across currencies. We adjust raw MSA data to 2019 dollars using the recommended inflation adjustment method suggested by the US Census Bureau (2020) and convert to Canadian dollars using a Purchasing Power Parity (PPP) exchange rate.[1] We recognize that national PPP conversions are imperfect for this exercise, given the different levels of purchasing power among cities in the same country. However, the national PPP conversion is the best available reliable tool for comparisons across countries.[2]

We use a population cutoff of 400,000 people to allow to allow a more meaningful discussion of the performance of the two countries' largest cities. The cutoff is by definition arbitrary, but it permits the inclusion of major regional and provincial hubs within Canada such as Halifax, London, and Winnipeg.

Results

Figure 1 presents the key results of this study, showing median employment income for the 141 Metropolitan areas examined in this study. Those working in San Jose, California, earn the highest annual median income ($73,896). The San Francisco metropolitan area, also in California, is second at $70,315. The US capital region surrounding Washington, DC, is third at $64,056.

The three worst performers on this indicator are San Juan in Puerto Rico, MacAllen-Edinburg-Mission in Texas, and Brownsville-Harlingen also in Texas.

The highest-ranking Canadian metro area is Ottawa-Gatineau, with annual median employment income of $45,500, followed closely by Edmonton at $45,470, and by Calgary at $43,870. The lowest ranking Canadian CMAs are St. Catharines-Niagara ($31,540), London ($36,180), and Montreal ($36,660).

Additional observations

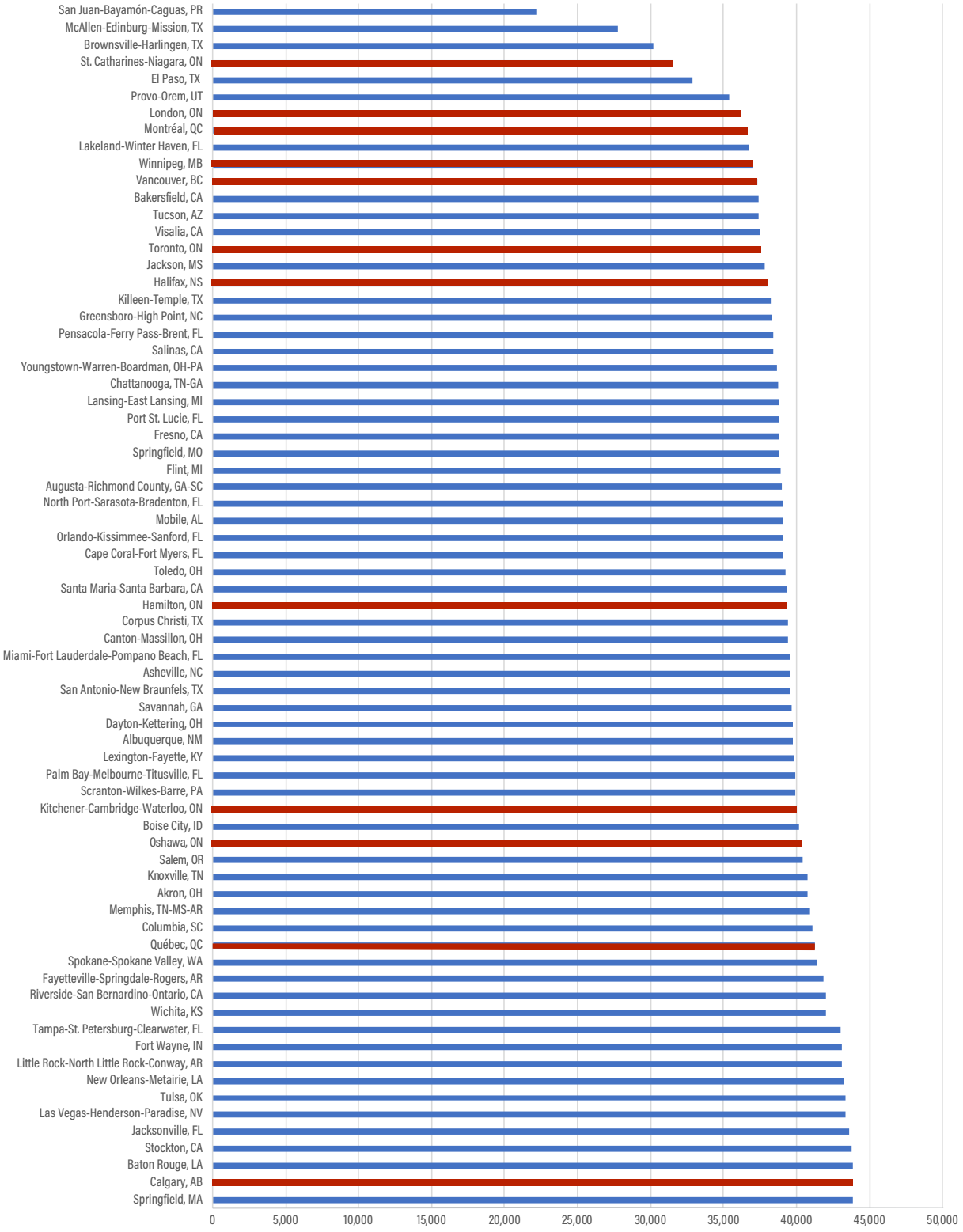
This bulletin's key finding is that Canadian metros are overrepresented at the bottom of the rankings and entirely absent from the top; just two metros make it into the top half of the metropolitan areas that we analyzed, and only barely. This bulletin does not offer an overarching argument or narrative about the data

1 We use PPP rather than the exchange rate because: 1) PPPs are relatively stable (from 2010 through 2021 the PPP fluctuated by 3.4 percent compared to 35.8 percent for the exchange rate; and 2) although imperfect, they do correct for price differences.

2 The Bureau of Economic Analysis produces PPPs for state and metro areas but as PPP aren't available for CMAs we chose to use the national conversion rate.

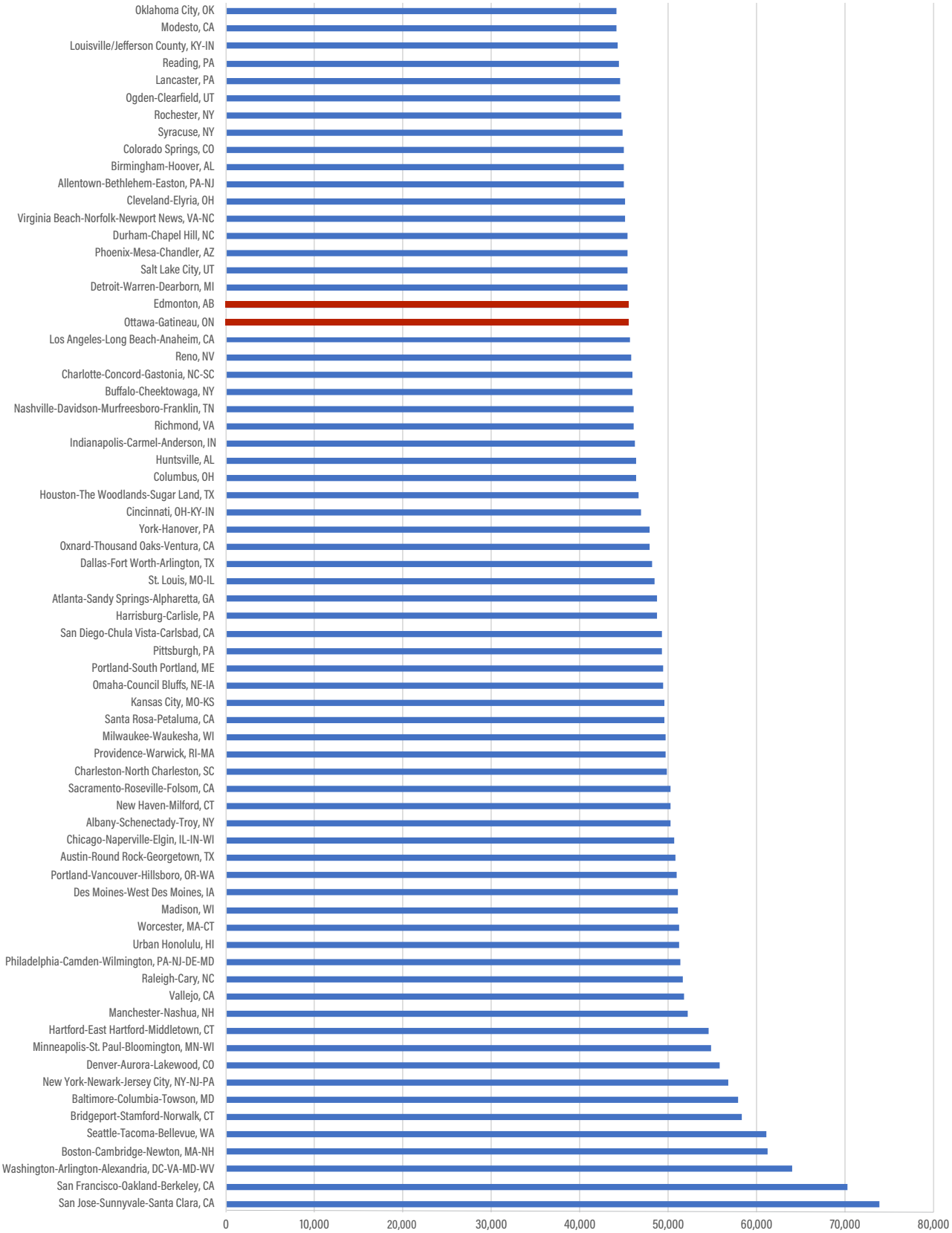
Comparing Median Employment Income in Large Canadian and American Metropolitan Areas

Figure 1a: 2019 Median income and rank, $2019, Canadian CMAs and American MSAs with population over 400,000



Sources same as table 1.

Figure 1b: 2019 Median income and rank, $2019, Canadian CMAs and American MSAs with population over 400,000



Sources same as table 1

presented; rather, the project's aim is simply to provide relevant data on the relative labour income in major metro areas across Canada and the United States. However, we do present an analysis of a few points based primarily on the relative placement of Canadian and American metro cities as well as the performance of the very largest metro areas in the two countries. In future analyses we will examine the rate of change in median incomes in the same metropolitan areas.

Canadian CMAs generally perform worse than American MSAs on this indicator

One of the most striking results of Figure 1 is the low ranking of Canadian CMAs, all of which are either in the middle or near the bottom of the pack. Ottawa, the city with the highest income in Canada, ranks 52nd out of 141 metro areas, and Edmonton is 53rd. These are the only two out of 14 CMAs in the top half of the overall rankings. Meanwhile, Canadian CMAs dominate the lowest portion of the figure. Seven of the bottom 20 large metro areas are Canadian CMAs.

Canada's largest cities are not high-income large metro areas

A second observation flowing from Figure 1 is that while the top of the rankings is dominated by very large metro areas in the United States, Canada's largest metro areas are found near the bottom of the list. Canada's three largest cities are Toronto, Montreal, and Vancouver. Together, these metro areas represent just over a third of Canada's population. All three are found near the bottom of the rankings of annual median employment income. Toronto sits at 127th, Vancouver at 131st, and Montreal at 134th. Table 1 shows how these three metro areas compare to the US metro areas that are at least as large as Vancouver, the smallest of Canada's three largest metro areas.

Even within Canada, the country's largest cities are not particularly high performers on this metric. Toronto has the 9th highest income of the 14 large CMAs examined here. Vancouver is 10th and Montreal is 12th. Canada's highest performing CMAs have comparatively small populations; the country's three top performers all have populations below 1,500,000. Table 2 illustrates this point.

This contrasts sharply with the situation in the United States, where the top of the domestic rankings is dominated by large MSAs. Of the 10 top-ranked MSAs, eight have populations of 2.8 million or more.

Further, nearly all of the US's largest metropolitan areas have annual median employment income in the top half of the Canada-US league table presented here. Of the nine US Metropolitan areas with populations above six million (making them approximately the same size as Toronto), eight are in the top half of the rankings.

In short, whereas Canada's largest cities fall near the bottom of the US-Canada league table, America's largest cities are generally amongst the highest performers in the country with respect to income.

America's top performers are economically diverse from one another

As noted, just two Canadian metropolitan areas, Ottawa and Edmonton, are in the top half of the rankings presented here. Calgary is next highest, just outside of the top half. Two of the three are capital cities, and consequently have large workforces involved in public administration, which is a highly paid occupation. Two of the cities are located in Alberta, a major oil producing region. In short, the government sector and the oil

Table 1: 2019 Median income and rank, $2019, US MSAs and Canadian CMAs with population greater than Vancouver CMA

Name	$2019	2020 Total Population	2019 Rank (of 141)
San Francisco-Oakland-Berkeley, CA	70,315	4,623,264	2
Washington-Arlington-Alexandria, DC-VA-MD-WV	64,056	6,358,652	3
Boston-Cambridge-Newton, MA-NH	61,232	4,899,932	4
Seattle-Tacoma-Bellevue, WA	61,056	4,011,553	5
Baltimore-Columbia-Towson, MD	57,944	2,838,327	7
New York-Newark-Jersey City, NY-NJ-PA	56,716	19,768,458	8
Denver-Aurora-Lakewood, CO	55,791	2,972,567	9
Minneapolis-St. Paul-Bloomington, MN-WI	54,797	3,690,512	10
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	51,351	6,228,601	15
Chicago-Naperville-Elgin, IL-IN-WI	50,735	9,510,390	22
San Diego-Chula Vista-Carlsbad, CA	49,281	3,286,069	34
Atlanta-Sandy Springs-Alpharetta, GA	48,723	6,144,970	36
St. Louis, MO-IL	48,386	2,806,615	37
Dallas-Fort Worth-Arlington, TX	48,215	7,759,615	38
Houston-The Woodlands-Sugar Land, TX	46,591	7,206,841	42
Charlotte-Concord-Gastonia, NC-SC	45,922	2,701,046	49
Los Angeles-Long Beach-Anaheim, CA	45,682	12,997,353	51
Detroit-Warren-Dearborn, MI	45,419	4,365,205	54
Phoenix-Mesa-Chandler, AZ	45,385	4,946,145	56
Tampa-St. Petersburg-Clearwater, FL	43,049	3,219,514	81
Riverside-San Bernardino-Ontario, CA	41,997	4,653,105	83
Miami-Fort Lauderdale-Pompano Beach, FL	39,580	6,091,747	103
Orlando-Kissimmee-Sanford, FL	39,078	2,691,925	110
Toronto, ON	37,550	6,303,220	127
Vancouver, BC	37,300	2,605,120	131
Montréal, QC	36,660	4,205,800	134

Sources:

Statistics Canada (2023a); Statistics Canada (2023b); U.S. Census Bureau (2023a) ; U.S. Census Bureau, (2023b); U.S. Bureau of Labor Statistics, (2023) ; OECD (2023)

Table 2: 2019 Median income and rank, $2019, Canadian CMAs with population over 400,000

Name	$2019	2020 Total Population	2019 Rank (of 141)
Edmonton	45,470	1,396,110	53
Ottawa-Gatineau	45,500	1,377,780	52
Calgary	43,870	1,482,050	72
Québec	41,290	808,450	86
Oshawa	40,380	403,310	92
Kitchener-Cambridge-Waterloo	39,980	564,000	94
Hamilton	39,360	759,680	106
Halifax	37,970	412,680	125
Toronto	37,550	6,303,220	127
Vancouver	37,300	2,605,120	131
Winnipeg	36,970	808,280	132
Montréal	36,660	4,205,800	134
London	36,180	523,010	135
St. Catharines-Niagara	31,540	418,490	138

Sources:
Statistics Canada (2023a); Statistics Canada (2023b)

and gas sector are the major contributors to the relative success of Canada's highest performing cities.

There is much more diversity amongst the top performers in the United States. The two highest performers are either in or immediately adjacent to the technology hub of Silicon Valley in California. Seattle, the 5th ranked city, is also a technology hub. The 3rd highest performer, Washington, DC, is the national capital which, like Ottawa, has a high proportion of public administration workers and workers in associated fields. The megalopolis surrounding New York City is highly diversified. Further, New York is the financial capital of the world, which contributes to high levels of employment income. Dallas-Fort Worth, with a population of 7.8 million, is in the top third of the table and benefits from a large oil industry.

In short, in addition to having more high-income cities, America's top performers on this metric are economically diverse, whereas the handful of Canadian cities that are at or near the middle of the Canada/US rankings are either capital cities with large public administration sectors, are cities that benefit substantially from natural resource development, or both.

Conclusion

This bulletin has presented data comparing the annual median employment income in major metropolitan areas in Canada and the United States. The data show that all of the top performers on this metric of labour market performance are in the United States.

Just two Canadian metros are in the top half of the league table. The very bottom of the rankings is largely populated by Canadian cities, including the most populous ones: Toronto, Montreal, and Vancouver. Meanwhile, the top of the league table is dominated by large American metropolises.

We also present additional observations that may provide avenues for future research. We show that America's largest cities are generally amongst those with the highest median incomes, whereas this is not true for Canada. Further, America's high income cities differ substantially from one another in terms of key sectors of the economy, whereas this is not the case in Canada.

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