

Catalogue no. 11-626-X — No. 042
ISSN 1927-503X
ISBN 978-1-100-25208-7

Economic Insights

Metropolitan Gross Domestic Product: Experimental Estimates, 2001 to 2009

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Release date: November 10, 2014



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- | | |
|----------|--|
| . | not available for any reference period |
| .. | not available for a specific reference period |
| ... | not applicable |
| 0 | true zero or a value rounded to zero |
| 0s | value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded |
| <i>p</i> | preliminary |
| <i>r</i> | revised |
| <i>x</i> | suppressed to meet the confidentiality requirements of the <i>Statistics Act</i> |
| <i>E</i> | use with caution |
| <i>F</i> | too unreliable to be published |
| * | significantly different from reference category ($p < 0.05$) |

Metropolitan Gross Domestic Product: Experimental Estimates, 2001 to 2009

by Mark Brown and Luke Rispoli¹, Economic Analysis Division

This article in the *Economic Insights* series presents estimates of census metropolitan area gross domestic product (GDP) from 2001 to 2009. It examines the level of metropolitan area GDP, the contribution of metropolitan areas to national GDP, and how GDP per capita varies across metropolitan areas.

The growing concentration of Canada's population in cities² has been accompanied by requests for more extensive measures of city economies.

To date, most analyses have relied on employment and income to assess metropolitan economies. These indicators measure the amount of, and returns to, labour used to produce goods and services, but neither offers a measure of the production of goods and services or gross domestic product (GDP).³

GDP provides a means to assess the importance and performance of metropolitan economies—that is, how much they contribute to provincial and national GDP and how effectively inputs, like labour, are converted into output.

Presented here are experimental estimates of GDP over the 2001-to-2009 period for 33 census metropolitan areas (CMAs) and the non-metropolitan portions of the nine provinces with CMAs.

Methodology

Four guiding principles were used to develop more economically meaningful estimates of metropolitan GDP. Specifically, these estimates must be 1) **consistent**, 2) **comprehensive** and 3) **comparable**, while maintaining 4) “**geographic fidelity**.”

Consistent. Sub-provincial estimates of GDP must add to known provincial totals. Industry-level estimates of GDP by income component⁴ must sum to provincial aggregates of current dollar GDP. This ensures consistency across the national accounting system.

Comprehensive. Sub-provincial GDP estimates must encompass the entirety of the economy covered by the National Accounts, so that metropolitan areas with different economic structures are comparable.

Comparable. Definitions of geography and industry must be consistent through time. This ensures that shifts in the size and industrial structure of economies are not due to changing definitions.

Geographic fidelity. Income generated by the factors of production—land, labour and capital—is allocated to where the factor is employed, using records geocoded to that location. For instance, returns to capital are reported where the capital is used rather than where profits are reported.

These principles ensure that performance measures like productivity can be consistently estimated from these data. The Appendix contains further discussion of the methods used to produce metropolitan GDP.

Concentration of economic activity in metropolitan areas

Economic activity in Canada tends to be concentrated in cities. About half of Canada's GDP is produced in the six CMAs with a population of 1 million or more—Toronto, Montréal, Vancouver, Calgary, Edmonton, and Ottawa–Gatineau. Even within this group, output is highly skewed. In 2009, about 1 out of every 5 dollars of the country's GDP was produced in the Toronto CMA (Table 1). Toronto accounts for less than 1% of Canada's land mass, but has an economy that is larger than that of every province except Ontario and Quebec.⁵

1. The contribution of Raymond Chan in the development of the initial research dataset is acknowledged and appreciated.

2. Over the nine-year study period, the percentage of Canada's population in census metropolitan areas (CMAs) rose from 67.2% to 69.1% (CANSIM tables 051-0046 and 051-0001).

3. In the Canadian System of National Accounts, provinces and territories are the finest geographical level at which GDP data are published. The metropolitan-level, income-based measure of GDP at basic prices developed here is benchmarked to province-level GDP estimates by industry (S-level) derived from the input-output accounts.

4. See the Appendix for a definition of the income components.

5. With a GDP of \$311 billion in 2009, the conurbation stretching from Hamilton through Toronto to Oshawa has an economy larger than that of the province of Quebec.



Growth through the 2000s shifted toward Calgary and Edmonton. The Calgary and Edmonton CMAs combined had less than half the population of Toronto, but gained close to the same amount of GDP (\$62 billion versus \$71 billion) from 2001 to 2009. Moreover, during the 2001-to-2009 period, only 9 of the 24 CMAs east of Ontario gained GDP share, while 8 of the 9 CMAs west of Manitoba increased their GDP share. See Appendix Table 1 for complete estimates of GDP by CMA and provincial non-CMA.

The share of GDP in non-CMA areas rose between 2001 and 2005, and then dropped. Because GDP is presented in nominal dollars, growth comes from changes in the volume and price of goods and services produced. The evolution of GDP shares in non-CMA areas coincides with commodity price shifts during the period.

The east–west pattern of growth is also reflected in the industrial structure of metropolitan economies. At the most aggregate level, the economy can be divided into goods- and services-producing⁶ industries. For the large, eastern CMAs, the goods-producing industries' share of output declined throughout the period (Table 2). For the large western CMAs, goods-producing industries maintained their share of output until 2005, and then fell off relative to services as the recession in 2009 impacted goods-producing more than service-producing industries. This is consistent with the more pronounced decline in the volume of manufacturing industries in Ontario and Quebec through the 2000s (Brown 2014).

Table 1
Gross domestic product, large census metropolitan areas, 2001, 2005 and 2009

	Gross domestic product			Share		
	2001	2005	2009	2001	2005	2009
	billions of dollars			percent		
Census metropolitan areas	741	894	1,064	71.8	69.8	72.2
Large census metropolitan areas	514	622	747	49.8	48.5	50.7
Toronto	202	242	274	19.6	18.9	18.6
Montréal	116	134	158	11.2	10.5	10.8
Vancouver	68	84	103	6.6	6.5	7.0
Calgary	43	57	75	4.2	4.5	5.1
Edmonton	39	50	69	3.8	3.9	4.7
Ottawa–Gatineau	46	55	68	4.5	4.3	4.6
Other census metropolitan areas	226	272	316	21.9	21.3	21.5
Non-census metropolitan areas	292	387	410	28.2	30.2	27.8
Canada	1,032	1,281	1,473	100.0	100.0	100.0

Note: Numbers may not add to total because of rounding.

Sources: Statistics Canada, authors' calculations based on data from multiple sources.

Table 2
Gross domestic product shares of goods- and service-producing industries, by large census metropolitan areas, 2001, 2005 and 2009

	Goods-producing industries			Service-producing industries		
	2001	2005	2009	2001	2005	2009
	percent					
Census metropolitan areas	27	25	22	73	75	78
Large census metropolitan areas	25	23	21	75	77	79
Toronto	26	23	20	74	77	80
Montréal	29	25	22	71	75	78
Vancouver	19	19	17	81	81	83
Calgary	29	29	26	71	71	74
Edmonton	31	31	29	69	69	71
Ottawa–Gatineau	15	12	11	85	88	89
Other census metropolitan areas	31	29	24	69	71	76
Non-census metropolitan areas	49	52	43	51	48	57
Canada	33	33	28	67	67	72

Note: Numbers may not add to total because of rounding.

Sources: Statistics Canada, authors' calculations based on data from multiple sources.

6. See the Appendix for a list of industries.



Nominal gross domestic product per capita

GDP per capita is a measure of the value of output per person living in a metropolitan area. While it is tempting to think of it as a measure of labour productivity (GDP per hour worked), this is only part of the picture. GDP per capita in a metropolitan area will be higher when labour productivity is higher; each worker, on average, works more hours; more workers are employed; or the working-age population is larger. This can be expressed as:

$$\frac{\text{GDP}}{\text{Pop}} \equiv \frac{\text{GDP}}{\text{Hours}} \times \frac{\text{Hours}}{\text{Employment}} \times \frac{\text{Employment}}{\text{Pop}^{15-65}} \times \frac{\text{Pop}^{15-65}}{\text{Pop}}$$

Per capita GDP Labour productivity Average hours worked Employment rate Working age population

where:

GDP = Gross Domestic Product

Hours = Total hours worked

Employment = Number of workers employed

Pop¹⁵⁻⁶⁵ = Working age population (aged 15 to 65)

Pop = Total population

Therefore, GDP per capita reflects not only labour productivity, but also, labour market conditions and demographics. This is an important distinction. Metropolitan GDP is a measure of where output takes place, but it does not take into account where workers live. If a significant portion of a CMA's working-age population is employed outside its CMA of residence (for example Oshawa), the ratio of employment to working-age population will be lower, and so, too, GDP per capita.⁷

Despite its limitations, GDP per capita reflects the underlying dynamics of the Canadian economy through the 2000s. Of the CMAs in the top 10 in terms of GDP per capita in 2001, Kitchener–Waterloo, Halifax, Windsor and Oshawa were no longer in the group by 2009, replaced by St. John's, Saskatoon, Victoria and Vancouver (Table 3). This pattern is consistent with a broad-based shift from manufacturing towards resource-based production. Of the nine CMAs with 25% or more of their output in manufacturing at the start of the period, six fell in rank, all of them in Ontario (Chart 1). By contrast, CMAs serving regions with expanding commodity-based economies increased. For example, Saskatoon rose 14 places, from 20th to 6th, in terms of GDP per capita, and St. John's rose 10 places, from 15th to 5th. All the large eastern metropolitan areas lost relative ground. Ottawa–Gatineau fell 2 places (2nd to 4th); Toronto, 4 places (3rd to 7th); and Montréal, 6 places (11th to 17th). See Appendix Table 2 for complete estimates of GDP per capita by CMA and provincial non-CMA.

Table 3
Gross domestic product per capita, census metropolitan areas ranked in top 10 in 2001, 2005 or 2009

	Nominal gross domestic product per capita			Census metropolitan area rank			Rank change, 2001 to 2009
	2001	2005	2009	2001	2005	2009	
	dollars			number			
Regina	38,737	47,465	65,404	6	4	1	5
Calgary	44,438	52,681	61,246	1	1	2	-1
Edmonton	40,355	48,268	59,941	5	3	3	2
Ottawa–Gatineau	41,643	47,176	55,506	2	5	4	-2
St. John's	31,385	37,994	49,844	15	14	5	10
Saskatoon	30,572	38,220	49,213	20	12	6	14
Toronto	41,397	46,001	48,532	3	6	7	-4
Victoria	30,640	37,149	46,763	19	15	8	11
Vancouver	32,680	38,822	44,249	12	11	9	3
Guelph	41,143	48,410	44,217	4	2	10	-6
Kitchener–Waterloo	35,258	40,824	43,989	8	8	11	-3
Halifax	32,982	39,182	43,471	10	10	13	-3
Sudbury	28,727	42,162	42,138	24	7	14	10
Windsor	34,739	39,567	36,194	9	9	24	-15
Oshawa	37,551	32,507	28,918	7	25	32	-25

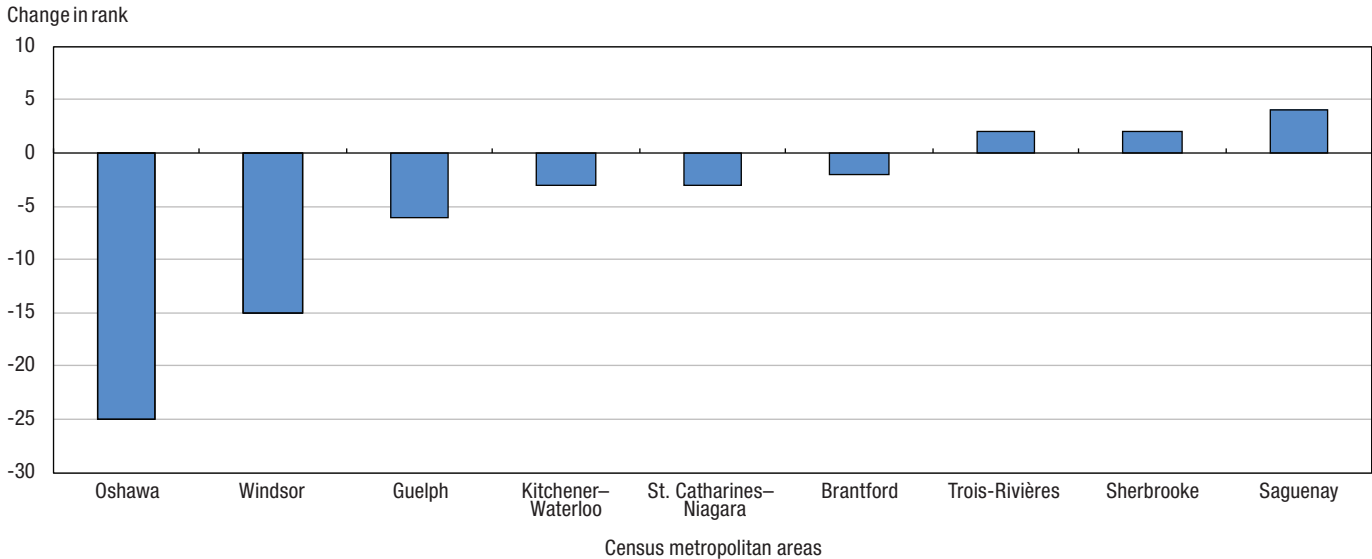
Sources: Statistics Canada, authors' calculations based on data from multiple sources.

7. Employment derived from the Labour Force Survey might be used instead of population, but it measures where people live rather than where they work. Future estimates of metropolitan GDP will be accompanied by estimates of employment at the place of work, rather than at the residence.



Chart 1

Change in per capita gross domestic product rank, census metropolitan areas specialized in manufacturing, 2001 to 2009

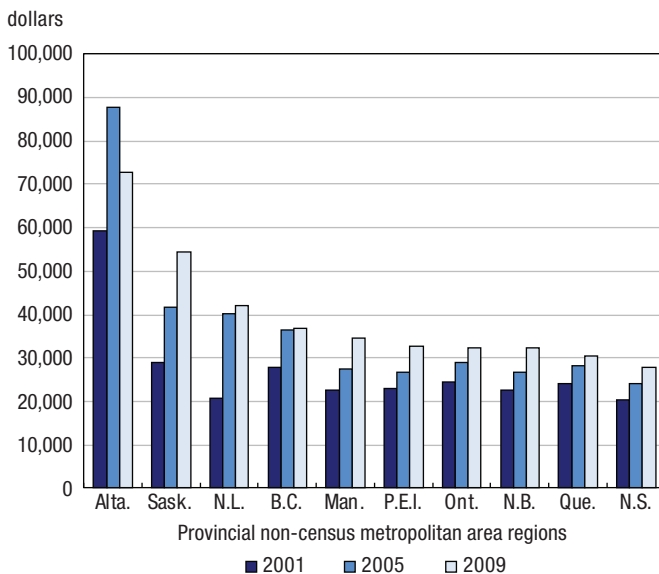


Sources: Statistics Canada, authors' calculations based on data from multiple sources.

GDP per capita also follows a distinct pattern across non-CMA regions (Chart 2), with a growing difference between regions that are oil- and gas-producing and those that are not. The rising volume and/or price of oil and gas production is evident in the non-CMA regions of Alberta, Saskatchewan and Newfoundland and Labrador⁸ between 2001 and 2009. By the end of the period, non-CMA regions in Alberta and Saskatchewan, and to a lesser degree Newfoundland and Labrador, had significantly higher GDP per capita than other non-CMA regions.

Chart 2

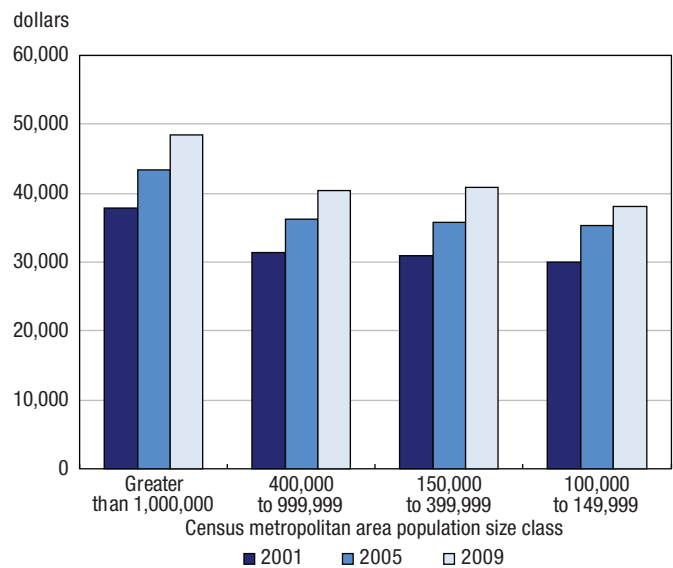
Gross domestic product per capita, provincial non-census metropolitan area regions, 2001, 2005 and 2009



Sources: Statistics Canada, authors' calculations based on data from multiple sources.

Chart 3

Average gross domestic product per capita, by census metropolitan area population size class, 2001, 2005 and 2009



Note: Metropolitan areas are classified based on the 2009 population estimates.

Sources: Statistics Canada, authors' calculations based on data from multiple sources.

One of the more consistent features of urban economies is that the larger they are, the more productive they tend to be.⁹ Per capita GDP, while confounded by labour market and demographic effects, tends to be higher in larger metropolitan areas, particularly those with a population greater than 1 million (Chart 3). GDP per capita also tends to be higher in CMAs than non-CMAs, but this distinction is only revealed when regions that specialize in oil and gas production are excluded—namely, Alberta, Saskatchewan and Newfoundland and Labrador (see Charts 2 and 3).

8. In 2009, mining and oil and gas production accounted for 47% of non-CMA GDP in Newfoundland and Labrador, 36% in Saskatchewan, and 46% in Alberta. In no other province does the mining and oil and gas production share of non-CMA GDP come close to these levels.

9. There is a large empirical literature that finds a positive association between the size of a metropolitan area and productivity (see Puga 2010).



Conclusion

This paper employs a new experimental metric to measure the contribution of GDP by CMA from 2001 to 2009. The analysis uses data sources and methods similar to those used in the Canadian System of National Accounts to estimate GDP across CMAs and non-CMAs. The estimates reveal an economy that

is highly concentrated in cities, particularly in the large eastern metropolitan areas, but also one that experienced significant geographic shifts through the 2000s, with output, as measured by GDP, shifting toward the cities of western Canada.

Appendix: Methodology

Census metropolitan area (CMA)¹⁰ gross domestic product (GDP) is estimated by income component (wages and salaries + supplementary labour income + mixed income + operating surplus¹¹ [primarily corporate profits] + indirect taxes on production less subsidies) across 20 goods- and service-producing industries.¹² These income components by industry are then benchmarked to published provincial-level GDP totals from the input-output accounts.¹³

The estimate of metropolitan GDP developed here allocates output to locations where economic activity takes place. For the business sector, wages and salaries and operating surplus, which together accounted for 80% of GDP in 2008,¹⁴ are allocated to locations based on firm-level microdata. The structure of firms and the location of their production units are defined using the Business Register. For simple firms with one location, wages and salaries and surplus are directly assigned to the location of

the production unit. For firms with more than one production unit (complex enterprises), employment in production units is used to allocate wages and salaries and surplus to locations, after adjusting these to the average wage rate and average profit per worker of the industry of the production unit.

In most industries employment and capital are located jointly, but this is not the case for utilities and the oil and gas industry. Consequently, in these industries operating surplus was allocated to where the capital goods are located.

GDP estimates for the non-business sector were based on labour income from the 2001 and 2006 censuses for the non-profit and government sector. The estimates for owner-occupied dwellings were based on a combination of average income of owner-occupied dwellings by CMA, as derived by Brown and Lafrance (2010), and the number of dwellings by CMA, from the 2001 and 2006 censuses.

10. CMAs are defined using the 2006 Standard Geographical Classification.

11. GDP estimates include surplus reported by the Monetary Authorities-Central Bank industry.

12. The industries are divided into goods-producing (agriculture, forestry, fishing and hunting; mining, quarrying, and oil and gas extraction; utilities; construction; and manufacturing) and service-producing (wholesale trade; retail trade; transportation and warehousing; information and cultural industries; finance and insurance; real estate and rental and leasing; management of companies and enterprises; professional, scientific and technical services; administrative and support, waste management and remediation services; educational services; health care and social assistance; arts, entertainment and recreation; other services) and non-business sector (non-profit organizations and owner-occupied dwellings are included as a separate industry).

13. In September of 2007, the Bureau of Economic Analysis (BEA) introduced experimental measures of GDP by metropolitan area. The methodology used here builds on the methods developed by the BEA (Panek, Baumgardner and McCormick 2007). GDP estimates at the sub-provincial scale have also been produced for Quebec using a methodology similar to that of the BEA (see Lemelin et al. 2012).

14. An explanation of the allocation of the smaller income components to locations can be found in Brown, Chan and Rispoli (2014).



Appendix Table 1

Gross domestic product, census metropolitan areas (CMAs) and non-CMAs, 2001, 2005, and 2009

	Gross domestic product			Share			Cumulative share		
	2001	2005	2009	2001	2005	2009	2001	2005	2009
	billions of dollars			percent					
CMA									
Toronto	202.4	241.5	273.6	19.6	18.9	18.6	19.6	18.9	18.6
Montréal	115.6	134.1	158.4	11.2	10.5	10.8	30.8	29.3	29.3
Vancouver	67.8	83.9	103.4	6.6	6.5	7.0	37.4	35.9	36.3
Calgary	43.3	57.3	74.9	4.2	4.5	5.1	41.6	40.4	41.4
Edmonton	38.9	50.3	69.4	3.8	3.9	4.7	45.3	44.3	46.1
Ottawa–Gatineau	46.2	54.6	67.7	4.5	4.3	4.6	49.8	48.5	50.7
Québec	21.6	26.6	32.5	2.1	2.1	2.2	51.9	50.6	52.9
Winnipeg	22.2	26.1	31.0	2.1	2.0	2.1	54.1	52.7	55.0
Hamilton	20.8	24.6	27.0	2.0	1.9	1.8	56.1	54.6	56.9
Kitchener	15.2	18.9	21.4	1.5	1.5	1.5	57.6	56.1	58.3
London	14.7	17.3	20.0	1.4	1.4	1.4	59.0	57.4	59.7
Halifax	12.2	15.0	17.3	1.2	1.2	1.2	60.2	58.6	60.9
Victoria	10.0	12.5	16.6	1.0	1.0	1.1	61.1	59.6	62.0
Regina	7.7	9.5	13.8	0.7	0.7	0.9	61.9	60.3	62.9
St. Catharines–Niagara	10.8	12.6	13.3	1.0	1.0	0.9	62.9	61.3	63.8
Saskatoon	7.1	9.1	12.7	0.7	0.7	0.9	63.6	62.0	64.7
Windsor	11.2	13.3	12.0	1.1	1.0	0.8	64.7	63.0	65.5
Oshawa	11.7	11.0	10.4	1.1	0.9	0.7	65.8	63.9	66.2
St. John's	5.7	7.0	9.5	0.5	0.5	0.6	66.4	64.4	66.8
Sudbury	4.6	6.9	7.0	0.4	0.5	0.5	66.8	65.0	67.3
Kingston	4.3	5.4	6.6	0.4	0.4	0.4	67.2	65.4	67.8
Sherbrooke	4.5	5.3	6.5	0.4	0.4	0.4	67.7	65.8	68.2
Saguenay	4.7	5.1	6.3	0.5	0.4	0.4	68.1	66.2	68.6
Kelowna	3.9	5.0	6.2	0.4	0.4	0.4	68.5	66.6	69.0
Guelph	5.1	6.3	6.1	0.5	0.5	0.4	69.0	67.1	69.5
Barrie	3.7	4.9	5.8	0.4	0.4	0.4	69.4	67.5	69.9
Moncton	3.6	4.5	5.7	0.3	0.4	0.4	69.7	67.8	70.2
Trois-Rivières	3.9	4.5	5.3	0.4	0.4	0.4	70.1	68.2	70.6
Saint John	3.9	4.8	5.2	0.4	0.4	0.4	70.5	68.6	71.0
Abbotsford	3.3	4.1	4.9	0.3	0.3	0.3	70.8	68.9	71.3
Thunder Bay	4.0	4.3	4.9	0.4	0.3	0.3	71.2	69.2	71.6
Brantford	3.4	4.2	4.3	0.3	0.3	0.3	71.5	69.5	71.9
Peterborough	2.8	3.5	4.1	0.3	0.3	0.3	71.8	69.8	72.2
Provincial non-CMA									
Alberta	66.1	104.6	94.5	6.4	8.2	6.4	78.2	78.0	78.6
Ontario	63.9	76.8	84.3	6.2	6.0	5.7	84.4	84.0	84.3
Quebec	58.5	68.5	76.0	5.7	5.3	5.2	90.0	89.3	89.5
British Columbia	37.9	50.1	50.6	3.7	3.9	3.4	93.7	93.2	92.9
Saskatchewan	16.5	23.2	30.8	1.6	1.8	2.1	95.3	95.0	95.0
Manitoba	10.3	12.7	16.2	1.0	1.0	1.1	96.3	96.0	96.1
New Brunswick	11.4	13.2	15.7	1.1	1.0	1.1	97.4	97.1	97.2
Nova Scotia	11.4	13.4	15.0	1.1	1.0	1.0	98.5	98.1	98.2
Newfoundland	7.1	13.3	13.7	0.7	1.0	0.9	99.2	99.2	99.1
Prince Edward Island	3.1	3.7	4.6	0.3	0.3	0.3	99.5	99.4	99.4
Territories	4.9	6.7	7.5	0.5	0.5	0.5	100.0	100.0	100.0
Government abroad	0.3	0.4	0.7	0.0	0.0	0.1	100.0	100.0	100.0
Canada	1,032.2	1,280.6	1,473.2	100.0	100.0	100.0	100.0	100.0	100.0

Note: Numbers may not add to total because of rounding.

Sources: Statistics Canada, authors' calculations based on data from multiple sources.



Appendix Table 2

Gross domestic product (GDP) per capita by census metropolitan area (CMA) and non-CMA, 2001, 2005 and 2009

	Population			Nominal GDP per person			CMA/non-CMA rank			Rank change, 2001 to 2009
	2001	2005	2009	2001	2005	2009	2001	2005	2009	
	number			dollars			number			
CMA										
Regina	197,799	199,593	210,555	38,737	47,465	65,404	6	4	1	5
Calgary	975,214	1,087,742	1,222,491	44,438	52,681	61,246	1	1	2	-1
Edmonton	964,181	1,042,464	1,157,200	40,355	48,268	59,941	5	3	3	2
Ottawa–Gatineau	1,108,491	1,157,925	1,219,765	41,643	47,176	55,506	2	5	4	-2
St. John's	180,371	183,263	190,792	31,385	37,994	49,844	15	14	5	10
Saskatoon	232,974	238,640	258,107	30,572	38,220	49,213	20	12	6	14
Toronto	4,890,056	5,250,038	5,636,790	41,397	46,001	48,532	3	6	7	-4
Victoria	325,167	336,816	354,310	30,640	37,149	46,763	19	15	8	11
Vancouver	2,074,129	2,160,228	2,336,179	32,680	38,822	44,249	12	11	9	3
Guelph	123,555	130,962	137,112	41,143	48,410	44,217	4	2	10	-6
Kitchener–Waterloo	431,023	463,494	486,937	35,258	40,824	43,989	8	8	11	-3
Québec	701,268	718,419	745,741	30,837	37,087	43,559	16	16	12	4
Halifax	369,221	381,853	398,167	32,982	39,182	43,471	10	10	13	-3
Sudbury	161,530	162,997	165,134	28,727	42,162	42,138	24	7	14	10
Moncton	123,026	128,324	135,594	28,860	35,409	41,995	23	20	15	8
Winnipeg	695,885	713,101	741,807	31,886	36,600	41,810	14	19	16	-2
Montréal	3,534,089	3,655,782	3,816,662	32,709	36,678	41,505	11	17	17	-6
Saguenay	157,255	152,991	151,590	29,998	33,228	41,398	22	24	18	4
Kingston	152,784	157,913	161,246	28,303	34,175	40,968	25	22	19	6
London	456,945	472,471	487,933	32,105	36,633	40,905	13	18	20	-7
Saint John	126,419	125,489	127,381	30,821	38,078	40,676	17	13	21	-4
Thunder Bay	129,471	128,283	126,517	30,794	33,840	39,109	18	23	22	-4
Hamilton	680,295	713,527	734,316	30,570	34,494	36,801	21	21	23	-2
Windsor	321,152	335,395	331,065	34,739	39,567	36,194	9	9	24	-15
Trois-Rivières	140,937	141,765	145,462	27,696	31,793	36,112	27	26	25	2
Kelowna	154,181	163,612	178,145	25,208	30,540	34,590	29	29	26	3
Peterborough	114,625	119,918	121,357	24,646	29,215	33,894	31	30	27	4
Sherbrooke	180,037	187,205	194,905	24,994	28,296	33,352	30	31	28	2
St. Catharines–Niagara	389,784	402,533	403,521	27,761	31,345	32,956	26	27	29	-3
Brantford	128,411	134,370	138,275	26,314	30,963	31,063	28	28	30	-2
Barrie	164,718	181,223	190,293	22,729	27,013	30,731	32	32	31	1
Oshawa	310,755	337,747	359,266	37,551	32,507	28,918	7	25	32	-25
Abbotsford	153,322	161,824	172,132	21,284	25,229	28,750	33	33	33	0
Provincial non-CMA										
Alberta	1,118,689	1,191,432	1,299,401	59,128	87,765	72,701	1	1	1	0
Saskatchewan	569,466	555,290	566,120	28,963	41,861	54,355	2	2	2	0
Newfoundland and Labrador	341,675	331,052	325,937	20,866	40,298	42,079	9	3	3	6
British Columbia	1,370,082	1,373,284	1,369,913	27,646	36,467	36,952	3	4	4	-1
Manitoba	455,565	465,195	466,782	22,696	27,299	34,631	8	7	5	3
Prince Edward Island	136,665	138,064	139,909	22,922	26,730	32,665	6	8	6	0
Ontario	2,601,041	2,663,238	2,599,311	24,580	28,844	32,448	4	5	7	-3
New Brunswick	500,374	494,231	486,979	22,715	26,693	32,257	7	9	8	-1
Québec	2,415,563	2,440,986	2,487,964	24,203	28,047	30,538	5	6	9	-4
Nova Scotia	563,270	556,046	540,027	20,265	24,119	27,856	10	10	10	0
Canada	...	...	...	33,275	39,716	43,808	...	...	...	...

... not applicable

Notes: CMA and non-CMA per capita GDPs are ranked independently. Non-CMA rankings are limited to the provinces. Numbers may not add to total because of rounding.**Sources:** Statistics Canada, authors' calculations based on data from multiple sources.



References

Brown, W.M. 2014. *Testing for Provincial Industrial Change*. Economic Analysis Research Paper Series, no. 92. Statistics Canada Catalogue no. 11F0027M. Ottawa: Statistics Canada.

Brown, W.M., and A. Lafrance. 2010. *Income from Owner-occupied Housing for Working-age and Retirement-age Canadians, 1969 to 2006*. Economic Analysis Research Paper Series, no. 66. Statistics Canada Catalogue no. 11F0027M. Ottawa: Statistics Canada.

Brown, W.M., R. Chan, and L. Rispoli. 2014. *Census Metropolitan Area Gross Domestic Product Methodology*. Ottawa: Statistics Canada. Discussion paper.

Lemelin, A., P. Mainguy, D. Bilodeau, and R. Aubé. 2012. "GDP Estimates for Regions within the Province of Quebec : The Changing Geography of Economic Activity." *In Defining the Spatial Scale in Modern Regional Analysis: New Challenges from Data at Local Level*, ed. E. Fernandez Vazquez and F. Rubiera Morollon, p. 107–137. Heidelberg: Springer.

Panek, S.D., F.T. Baumgardner, and M.J. McCormick. 2007. "Introducing New Measures of the Metropolitan Economy. Prototype GDP-by-Metropolitan-Area estimates for 2001-2005." *Survey of Current Business* 87 (11): 79–114.

Puga, D. 2010. "The Magnitude and Causes of Agglomeration Economies." *Journal of Regional Science* 50 (1): 203–219.