

This memo is preliminary in nature and subject to revision and review. Any views expressed are not necessarily those of the Federal Reserve Bank of Boston or the Federal Reserve System.

To: Senator Richard Rosen
Cc: Senator Carol Weston; Andrew Worcester, Policy Director, Maine Senate Republican Office
From: Matthew Nagowski, Senior Research Assistant
Re: Economic similarities between Maine and neighboring Canadian provinces
Date: March 1, 2007

Summary

This memo is in response to a request for information comparing Maine's economy to that of its neighboring Canadian provinces. A broad survey of relevant economic and demographic data from Maine and its neighboring provinces indicates that these international "cousins" share similar features and challenges. In some instances, Maine shares more similarities with these Canadian provinces than New England as a whole.

Highlights include:

- Families in Maine and the neighboring Canadian provinces tend to have less income than families across their respective countries. But Maine families enjoy absolutely more buying power than their Canadian counterparts.
- The distribution of employment by industry sector is similar across Maine and the northeastern provinces.
- While Maine, Quebec, New Brunswick, and Nova Scotia all share common demographic traits, Maine's labor market is somewhat stronger than that of the Canadian provinces.
- In recent years, the growth of the provincial economies tended to outpace Maine's economic growth.

Comparing the economies of Maine and eastern Canada

While Maine is the only American state to share a border with just one other state (New Hampshire), it shares a common land border with two Canadian provinces, Quebec and New Brunswick, and a maritime border with Nova Scotia. Indeed, Canada is Maine's largest international trading partner—it was the destination of 35 percent of Maine's international exports in 2006. Maine's trade with Canada represented 14 percent of New England's total trade with its neighbors to the north, a disproportionate amount given the relatively small size of Maine's economy. Developments or changes in these economies to the north can affect Maine's own economic well-being, so it is

important for Maine policymakers to track the economic conditions of Canada's northeastern provinces.

Unfortunately, differences in data availability and definitions make strict comparisons difficult. Aside from differences in the definitions of key economic concepts, one major problem for analysts is that Statistics Canada does not make historical time trends of data series free and publicly available; most historical economic data at the province level must be purchased for a fee. Still, the publicly available data allows for some comparisons between the economies of Maine and the Canadian provinces.

Table 1 depicts median family income in 2004 and 2005 for the United States and in 2004 for Canada. Both Maine and the northeastern provinces tend to be poorer than their respective countries. Maine's median family income stood 6 percent less than the U.S. number in 2005, while the three Canadian provinces adjoining Maine had a median family income anywhere between 7 and 15 percent less than Canada as a whole in 2004.

But Mainers earn higher incomes overall. After adjusting for the purchasing power of the Canadian dollar relative to the American dollar, in 2004 the median family income in Maine was 18.6 percent higher than Quebec—the neighboring province with the *highest* median family income.

Table 2 compares the distribution of employment across different industries in Maine and the provinces, showing further similarities in the region. Unfortunately, differences in industry classifications make strict comparisons across countries difficult. For instance, some individuals working in the “education and health services” sector in Canada would be reported as working in the “government” sector in the United States. However, it is possible to compare industry structure in Maine to other U.S. states and in the eastern Canadian provinces to the rest of Canada.

In December of 2006, both Maine and the neighboring provinces tended to feature a higher amount of employment in the government (or public administration in Canada), education and health services, and retail and wholesale trade sectors than the rest of their respective countries. Similarly, they both had less employment in the financial activities and the information, leisure, and hospitality sectors than their respective countries. Areas where Maine and the provinces diverge include the natural resources and mining sector. Moreover, the province of Quebec has substantially more manufacturing employment than the rest of the region.

Maine and the provinces feature other similarities as well. One important measure that economists and demographers use to assess the long-run economic vitality of a region is the dependency ratio, which measures the ratio of working-age individuals to the number of young or elderly people that working-age individuals have to support. Presumably, higher dependency ratios make it more difficult to support its non-working populations.

As Table 3 indicates, both Maine and the neighboring Canadian provinces have a lower child dependency ratio and a higher elderly dependency ratio than the rest of their countries. This suggests that both Maine and the provinces will find themselves in similar fiscal situations in the future—struggling to provide for the health and income needs of the elderly with a smaller workforce.

Despite these similarities, the Maine and Canadian economies diverge in both labor force participation and unemployment rates. As Table 4 indicates, of residents age 16 and older in 2005, Maine has a higher labor force participation rate and a lower unemployment rate than the rest of the United States. Meanwhile, as of December 2006, residents of New Brunswick, Nova Scotia, and Quebec have a lower labor force participation rate and higher unemployment rate than the rest of Canada.

Unfortunately, it is not possible to directly compare the Maine and eastern Canadian labor forces through readily available statistics. For one, the American data is limited to individuals 16 and older, while the Canadian data includes 15-year-olds. Secondly, the definition of labor force participation differs between the two countries. The Canadian statistics include passive jobseekers—individuals whose only interaction with the labor market has been to look at help-wanted ads. In America, labor force participation requires actively seeking out and applying for jobs. Economists have estimated that if Canada adopted the stricter American standard, Canada’s unemployment rate would drop by slightly less than one percentage point.¹

A final indicator of Maine’s economy relative to its neighboring Canadian provinces is the growth of total economic activity in a state/province, as measured by gross state or provincial product (GSP/GPP). Using chained dollars (dollars that are indexed to the buying power of a currency and control for nominal price increases), policymakers can track the real growth in economic activity in a region. As shown in Table 5, year-over-year growth for gross state/provincial product between 2001 and 2005 tended to be higher in the Canadian provinces than in Maine; Maine’s economy was outperformed by Quebec and New Brunswick, but not by Nova Scotia.

¹ Sorrentino, Constance. “International unemployment rates: how comparable are they?” *Monthly Labor Review*. Bureau of Labor Statistics. June 2000. pp 3 – 20.

Table 1: Median family income by state/province

	United States	New England	Maine	
2005 median family income	\$55,832	\$68,387	\$52,338	
2004 median family income	\$53,692	n.a.	\$51,372	

	Canada	Nova Scotia	New Brunswick	Quebec
2004 median family income				
Canadian dollars	\$58,100	\$51,500	\$49,700	\$54,400
U.S. dollars (PPP)	\$44,658	\$39,585	\$38,201	\$41,814

Canadian Purchasing Power Parity (PPP) in 2004: 1.25 Canadian dollars per U.S. dollar

Note: A family is a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such people (including related subfamily members) are considered as members of one family.

Sources:

- U.S. Census Bureau, American Community Survey, 2004 and 2005
- Statistics Canada, Median total income, by family type, by province and territory (<http://www40.statcan.ca/l01/cst01/famil108a.htm>)
- OECD, Purchasing Power Parities

Table 2: Employment by industry and state/province, 2006

	United States		New England		Maine			
	<i>Number</i>	<i>Share</i>	<i>Number</i>	<i>Share</i>	<i>Number</i>	<i>Share</i>		
Total nonagricultural employment	136,171		6,949		614			
Government	21,990	16.1%	970	14.0%	106	17.3%		
Construction	7,688	5.6%	310	4.5%	31	5.1%		
Education and health services	17,839	13.1%	1,240	17.8%	113	18.5%		
Financial activities	8,363	6.1%	493	7.1%	52	8.4%		
Information, leisure, and hospitality	16,197	11.9%	798	11.5%	70	11.5%		
Manufacturing	14,197	10.4%	724	10.4%	59	9.6%		
Natural resources and mining	684	0.5%	8	0.1%	3	0.5%		
Other services	5,432	4.0%	255	3.7%	20	3.3%		
Professional and business services	17,553	12.9%	863	12.4%	34	5.5%		
Transportation, warehousing, and utilities	5,013	3.7%	185	2.7%	17	2.8%		
Retail and wholesale trade	21,216	15.6%	1,103	15.9%	109	17.7%		

	Canada		Nova Scotia		New Brunswick		Quebec	
	<i>Number</i>	<i>Share</i>	<i>Number</i>	<i>Share</i>	<i>Number</i>	<i>Share</i>	<i>Number</i>	<i>Share</i>
Total nonagricultural employment	16,138		437		349		3,700	
Public administration	837	5.2%	29	6.7%	22	6.2%	216	5.8%
Construction	1,070	6.6%	27	6.2%	21	6.0%	186	5.0%
Education and health services	2,944	18.2%	94	21.5%	73	20.8%	715	19.3%
Financial activities	1,041	6.4%	22	5.1%	16	4.7%	222	6.0%
Information, leisure, and hospitality	1,760	10.9%	46	10.5%	37	10.6%	375	10.1%
Manufacturing	2,118	13.1%	39	8.9%	37	10.6%	581	15.7%
Natural resources and mining	330	2.0%	13	2.9%	10	2.8%	39	1.0%
Other services	701	4.3%	21	4.7%	18	5.1%	159	4.3%
Professional and business services	1,780	11.0%	47	10.8%	36	10.4%	382	10.3%
Transportation, warehousing, and utilities	924	5.7%	21	4.7%	23	6.6%	197	5.3%
Retail and wholesale trade	2,634	16.3%	78	17.9%	57	16.3%	629	17.0%

Note: All numbers in thousands.

Sources:

Federal Reserve Bank of Boston, New England Economic Indicators (<http://www.bos.frb.org/economic/need/need.htm>)

Statistics Canada, Distribution of employed people, by industry, by province (<http://www40.statcan.ca/l01/cst01/labor21a.htm>)

Table 3: Dependency ratios by state/province

	All ages	0 to 14 (children)	15 to 64 (working- age)	65 and older (elderly)	Ratio of children to working- age population	Ratio of elderly to working- age population	Ratio of all dependents to working- age population ([2] + [4]) / [3]
	[1]	[2]	[3]	[4]	[2] / [3]	[4] / [3]	[3]
United States	295,507	56,464	202,348	36,696	0.279	0.181	0.460
New England	14,373	2,525	9,926	1,921	0.254	0.194	0.448
Maine	1,275	211	871	193	0.242	0.221	0.463
Canada	32,624	5,645	22,665	4,314	0.249	0.190	0.439
Nova Scotia	934	147	651	136	0.227	0.209	0.436
New Brunswick	749	118	524	107	0.225	0.203	0.429
Quebec	7,652	1,242	5,335	1,075	0.233	0.202	0.434

Note: Canadian estimates are for 2006. U.S. estimates are for 2005. All numbers are in thousands.

Sources:

U.S. Census Bureau, State Interim Population Projections by Age and Sex
<http://www.census.gov/population/www/projections/projectionsagesex.html>
 Statistics Canada, Population by sex and age group, by province, territory
<http://www40.statcan.ca/l01/cst01/demo31a.htm>

Table 4: Labor force characteristics by state/province

	U.S.	Maine		
Participation rate	65.8%	66.9%		
Employment rate	62.4%	63.7%		
Unemployment rate	5.1%	4.8%		
	Canada	Nova Scotia	New Brunswick	Quebec
Participation rate	67.2%	62.9%	63.3%	65.2%
Employment rate	63.1%	58.3%	58.0%	60.3%
Unemployment rate	6.1%	7.3%	8.5%	7.5%

Note: Canadian estimates are for December 2006. U.S. estimates are for 2005.

Sources:

U.S. Census Bureau, American Community Survey

Statistic Canada, Labour force characteristics, seasonally adjusted, by province
(<http://www40.statcan.ca/l01/cst01/econ50.htm>)

Table 5: Year-over-year GSP/GPP growth

	2001	2002	2003	2004	Total growth 2001 - 2005	Total growth at annualized rate
US	1.5%	2.6%	4.2%	3.6%	12.2%	2.9%
New England	-0.3%	2.3%	4.1%	2.3%	9.7%	2.3%
Maine	1.5%	1.9%	4.7%	1.3%	8.6%	2.1%
Canada	2.9%	1.8%	3.3%	2.9%	11.5%	2.7%
Nova Scotia	4.0%	1.1%	0.8%	1.6%	7.7%	1.9%
New Brunswick	4.5%	2.3%	2.6%	0.3%	10.2%	2.5%
Quebec	2.4%	1.3%	2.7%	2.2%	8.9%	2.1%

Source:

Bureau of Economic Analysis

Statistics Canada, Real gross domestic product, expenditure-based, by province and territory
(<http://www40.statcan.ca/l01/cst01/econ50.htm>)