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Productivity Trends: A Canada-U.S. Comparison

The recent OECD country report on Canada, released last month (OECD, 1998), focused public attention on Canada's productivity performance, pointing out that our living standards, measured on a GDP per capita basis, have in recent years deteriorated relative to the OECD average because of below-average productivity growth. Without an improvement in relative productivity growth, this downward trend will continue.

While an OECD perspective is informative, it is our productivity relative to the United States, our key economic partner, that constitutes the true benchmark of our performance. And in this regard, we equally have reason for concern. In terms of both the total economy and manufacturing, and in terms of productivity growth rates and levels, we have been outperformed by the Americans in the 1990s. This article briefly examines this situation.

Productivity Levels and Trends

The most widely used aggregate measure of labour productivity is real gross domestic product per person employed, which measures the average amount of output, expressed at constant prices, that each worker produces. In the long-run, the only sustainable way to increase living standards, measured as GDP per capita, is to increase GDP per worker.

In 1997, GDP per person employed in Canada was \$48,583, expressed in terms of 1996 U.S. dollars. This represented 80.3 per cent of the U.S. level. In other words, a Canadian worker on average produces only four-fifths the output of an American worker. But even more disconcerting than Canada's lower productivity level has been our slower productivity growth. At 0.8 per cent per year, growth in output per worker in Canada in the 1990s was 0.2 percentage points less than in the United States (1.0 per cent per year). This means that our relative productivity level was higher at the end of the 1980s (81.8 per cent in 1989) than in any year of this decade. In contrast, in the 1980s annual output per worker growth in Canada outpaced that in the United States by 0.3 points (1.5 per cent versus 1.2 per cent), resulting in an improvement in our relative productivity level.

Canada's relative productivity performance in manufacturing has been even worse than at the economy-wide level (see Sharpe, 1998). In 1997, output per hour in manufacturing was 71.7 per cent. In the 1990s, our relative productivity level in this sector has fallen dramatically (from 78.3 per cent in 1989) as growth in output per hour advanced at only a 2.2 per cent annual rate, compared to 3.3 per cent in the United States. Despite the many structural reforms introduced in the second half of the 1980s, such as the Canada-U.S. Free Trade Agreement, deregulation, privatization, and tax reform, manufacturing productivity growth has not picked up in the 1990s, and the gap between Canadian and U.S. growth rates has increased significantly.

Explanations of Productivity Trends

There are two basic hypotheses to explain the deterioration of Canada's productivity performance vis-a-vis the United States in the 1990s, neither of which is mutually exclusive. The first identifies structural factors as impediments to productivity growth. The second points to the weak macroeconomic performance of the Canadian economy in the 1990s as constraining productivity growth.

Proponents of the first view, while recognizing that extensive structural reforms have in fact already been implemented, argue that such structural factors as low levels of research and development spending and a slower rate of innovation, poor basic literacy skills of our workforce and high taxes continue to impede productivity growth.

Proponents of the second hypothesis point out that output growth has been much weaker in the 1990s, both compared to the 1980s and to the United States. Total economy real GDP advanced at only a 1.6 per cent average annual rate over the 1989-97 period, compared to 3.1 per cent in the 1981-89 period and 2.2 per cent in the United States. Manufacturing output grew at only a 1.7 per cent average annual rate in Canada in the 1990s, down from 3.0 per cent in the 1980s, and about one half the rate of advance in the United States (3.0 per cent). Higher rates of output growth would have resulted in greater productivity growth through increasing returns to scale and the spreading of fixed costs.

While there is evidence to support both of the explanations for Canada's deteriorating productivity performance outlined, there is no consensus among productivity analysts on their relative importance. Further research is required

Conclusion

Productivity growth represents the key to economic success (CSLS, 1998). Only through increased productivity can there be sustained increases in real income and rising levels of economic well-being for Canadians. The implication of this basic insight is that productivity should become the organizing principle of economic policy. Indeed, the bottom line for economic policy-makers should become productivity.

This means that all aspects of economic policy, at both the macro and micro levels, should be analyzed from the perspective of productivity growth. While policies which have

negative effects on productivity should not be a priori excluded if they have important equity implications, they should be closely scrutinized and their cost in terms of foregone productivity gains made explicit.

A pro-economic growth approach which is pro-technology, pro-investment, and pro-education is the best avenue to productivity improvement. Without strong economic growth, potential or trend productivity growth cannot be realized. This explains much of the weakness in productivity growth in the Canadian economy since 1989. Without technical progress, trend productivity growth will fall off. Without new investment in plant and equipment, advances in technology cannot be used in the production process. Without more education, the workforce will not be able to either advance the state of technology or use new equipment.

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Table 1

Productivity Performance in Canada and the United States

	Levels (% of U.S. level)			Growth Rates (average annual rate of change)	
	1981	1989	1997	1981-89	1989-1997
	Total Economy				
Canada	80.3	81.8	80.3	1.5	0.8
United States	100	100	100	1.2	1.0
	Manufacturing				
Canada	83.9	78.3	71.7	2.3	2.2
United States	100	100	100	3.2	3.3

Note: Data for the total economy refer to output per worker, for manufacturing output per hour.

Source: Bureau of Labor Statistics (1998a and 1998b)

Appendix Table 1: Relative Productivity Levels Canada/US, %

(US = 100 in all years)

	Output per Hour in Manufacturing	Real GDP per employed person
1977	89.9	81.4
1978	90.6	81.4
1979	89.3	81.1
1980	86.0	80.6
1981	83.9	80.3
1982	79.5	81.4
1983	80.6	81.3
1984	84.1	81.9
1985	84.1	82.0
1986	83.1	81.6
1987	79.4	82.5
1988	76.5	82.6
1989	78.3	81.8
1990	80.1	81.1
1991	79.5	81.2
1992	82.2	80.5
1993	83.2	80.5
1994	80.4	81.0
1995	77.4	81.1
1996	72.9	80.2
1997	71.7	80.3

Source: manufacturing-Based on an estimate of 79.4 for the 1987 benchmark year by Gjalt de Jong "Canada's Post-war Manufacturing Performance: A Comparison with the United States," Research Memorandum GD-32, Groningen Growth and Development Centre, University of Groningen, December 1996, and growth rates from *International Comparisons of Manufacturing Productivity and Unit Labour Costs, trends for 1997*, News, Bureau of Labour Statistics, U.S. Department of Labour, September 1998.

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**Chart 1: Relative Productivity Levels
(Canada/US)**

