

# Editor's Overview

This fourth issue of the *International Productivity Monitor* produced by the Centre for the Study of Living Standards contains five articles. Topics covered are: recent productivity developments in the United States and Canada and implications for the Canada-U.S. productivity and income gaps; the importance of skills for innovation and productivity; the diffusion of ICTs and growth of the French economy over the past two decades; a structural perspective on the roots of the New Economy; and a review of a recent NBER volume on new developments in productivity analysis.

Readers are reminded that in addition to the hard-copy version of the *Monitor* available in English and French, all articles are available online at [www.csls.ca](http://www.csls.ca). Unabridged versions of certain articles are also posted. Comments on articles are welcome.

The economic slowdown of 2001 reduced productivity growth in both the United States and Canada. This development has raised the question of the sustainability or permanency of the pace of productivity growth experienced during the 1995-2000 period in the United States and the likelihood of robust U.S. productivity growth spreading to Canada. In the first article, **Andrew Sharpe** from the Centre for the Study of Living Standards compares productivity trends in the United States and Canada in 2001 to those during earlier postwar downturns and recessions. He finds that aggregate labour productivity growth held up better in 2001 in both countries than it did on average in the past, a development which may suggest an upward shift in trend productivity growth.

Productivity growth in 2001 in the United States was faster than in Canada, as it was during the second half of the 1990s. This resulted in a further widening of the Canada-U.S. productivity gap and, since productivity is the key driver of income trends, in the income gap as well. If U.S. productivity growth continues at the pace experienced during the second half of the 1990s, as appears likely, Canada will need a major acceler-

ation in productivity growth to prevent further deterioration in its relative productivity and income positions.

The fundamental importance of skills for productivity advance is being increasingly recognized. In the second article, **Someshwar Rao**, **Jianmin Tang** and **Weimin Wang** of Industry Canada provide additional evidence of this relationship through a detailed examination of the dynamics of innovation and determinants of productivity at the firm and industry level in Canadian manufacturing.

The firm-level data suggest that experienced employees and new university graduates, cooperation with other firms, product market competition, and government support for R&D, training, and technical assistance are the drivers of innovation. Levels of postsecondary educational attainment, especially university education, are found to be important determinants of inter-industry differences in productivity levels among manufacturing industries. The authors conclude that Canada could make significant progress in closing the Canada-U.S. productivity gap by increasing the proportion of the workforce with a university education relative to that in the United States, and by increasing R&D spending and the capital intensity of production.

Major European countries, unlike the United States, did not experience an acceleration in labour productivity growth in the second half of the 1990s. In the third article, **Gilbert Cette**

from the Bank of France and the University of Aix-Marseilles II, **Jacques Mairesse** of INSEE-CREST, and **Yusef Kocoglu** of the University of Aix-Marseilles provide a detailed growth accounting of the impact of diffusion of information and communication technologies (ICTs) on economic growth in France over the 1980-2000 period.

They find that total factor productivity growth picked up considerably in the second half of the 1990s relative to the first half, but that labour productivity growth actually decelerated. This latter development was related to the more than 2 percentage point turnaround in employment growth, in part caused by policies aimed at enhancing the employment component of growth, such as the 35 hour week. They estimate that the contribution of ICTs to output and productivity growth has been sizeable in France, but much less than in the United States, in part because of the smaller size of the French ICT sector. But they argue that having a large ICT-producing sector is not a necessary condition to obtain the full benefits from ICT use and conclude that the ICT contribution to growth in France and other European countries could increase significantly in coming years.

The factors behind the emergence of the New Economy are still poorly understood. In the fourth paper, **Pascal Petit** from CEPREMAP and CNRS in France provides an institutional perspective on the developmental phases or roots of this New Economy. He analyzes the structural, institutional and organizational changes associated with the New Economy and based on these developments assesses whether an acceleration of productivity growth, the touchstone of the New Economy, is likely to occur in Europe and whether it can be sustained in the United States.

Petit identifies three structural factors as preconditions for the development of the New Economy: the rise in educational levels; the internationalization of economic activity; and the development and diffusion of ICTs. He argues that these preconditions have been established in developed economies and that institutional changes such as product and labour market deregulation have served as catalysts for growth. He then looks at the role of work practices and organizational relations, such as inter-firm partnerships, that build on structural and institutional changes to foster the emergence of the New Economy. Based on the fundamental changes that have already occurred, he concludes that an acceleration in productivity in Europe is likely, as is a continuation of strong productivity gains in the United States.

What have we learned about productivity in the past two decades? In the fifth and final article, **Andrew Sharpe** from the Centre for the Study of Living Standards reviews a recently published NBER volume entitled *New Development in Productivity Analysis*, edited by Charles R. Hulten, Edwin R. Dean, and Michael J. Harper. The volume includes 13 papers, many representing the frontier of productivity research. Key recent developments in productivity analysis, as evidenced by the volume, include the development of firm-level micro-data bases, the revival of the vintage capital or embodiment approach to productivity analysis, the enhancement of our understanding of international differences in service sector productivity levels through case studies undertaken by the McKinsey Global Institute, and the integration of natural resources and the environment into a total resource productivity framework.