

## Is low business productivity really an issue? Estimation problems may be muddying the picture

Several hypotheses have been put forward in recent years to explain low productivity growth in Canada, and in several other industrialized countries. While structural differences may partially account for some weaknesses, problems with estimating production and price growth (due to the impact of new technologies, among other things) are also being blamed. However, despite the estimation problems, the goal is the same: greater efficiency and competitiveness. This is especially important given the many challenges created by the surge in protectionism and Canada's ageing population.

Weak productivity growth (see the definitions in the box) has been the focus of many stakeholder concerns in the last few years. For example, annual labour productivity growth—the simplest metric, and the most frequently used—has been around 1% in Canada in recent years, well below where it was in the second half of the 1990s and early 2000s (graph 1).

Productivity growth is very important for a variety of reasons. For one thing, productivity gains are often considered a good way to offset a slowdown in the demographics. Simply put, if the pool of available labour shrinks due to population ageing, each worker must be able to produce more to maintain the same targets for the quantity of goods or services produced. Growth by Canada's working age population is slowing substantially, a phenomenon that could persist until 2030. To offset that, faster productivity would be a good thing. Unfortunately, recent results are not yet showing that.

**Graph 1 Productivity growth has weakened in Canada since the early 2000s**



Sources: Statistics Canada and Desjardins, Economic Studies

Moreover, productivity gains usually come with an increase in remuneration for the different production factors. A bigger increase in labour productivity therefore often results in faster wage growth in real terms, and a rise in household wealth.

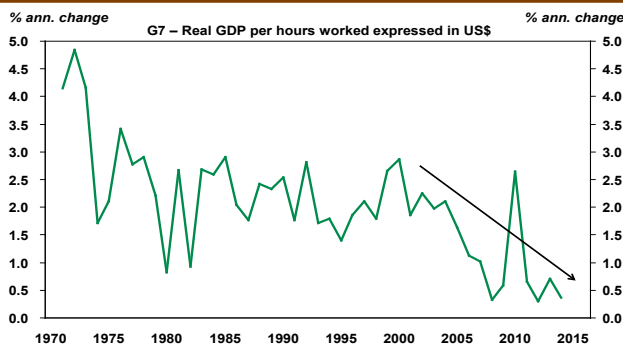
### Definitions of productivity:

- In general, productivity corresponds to the ratio between the output from a productive activity (goods and services) and the production factors used to yield that output.
- Labour productivity is the ratio between the quantity produced and the number of hours needed to produce it.
- Capital productivity is the ratio between the quantity produced and the fixed capital needed to produce it.
- Multifactor productivity is the ratio between the quantity produced and the combined production factors used, i.e. hours worked, capital, and the efficiency ratio between labour and capital.

Lastly, productivity plays an essential role in an economy's international competitiveness. Among other things, the potential implementation of a free trade agreement between Canada and the European Union highlights the need to increase Canadian business productivity to make it easier for them to break into markets there.

That being said, the low productivity growth seen in recent years is not a phenomenon unique to Canada. According to OECD data, the annual change in productivity is also dwindling in most G7 nations (graph 2).

**Graph 2 The slowdown in productivity growth is not unique to Canada**



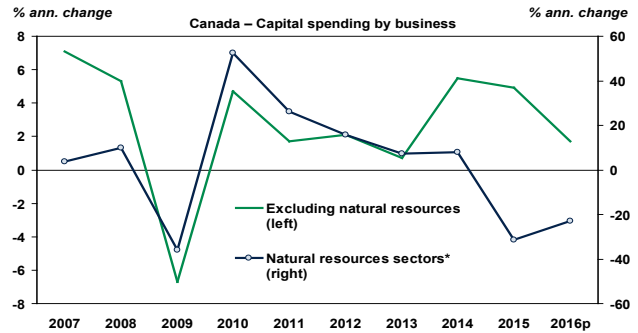
Sources: Organisation for Economic Co-operation and Development (OECD) and Desjardins, Economic Studies

**THE MYSTERY OF PRODUCTIVITY**

The weakness in productivity growth in Canada and the major industrialized nations is raising some questions. In particular, many analysts are wondering whether the method currently used to compile productivity is adequate. Among other things, the last few years' weak productivity growth is hard to explain in a context in which business investment has gone up, at least in sectors other than natural resources (graph 3). Growth by household income and spending does not seem to indicate problems associated with weaker growth by household wealth, either, something that should normally come from lacklustre productivity growth. Household debt has, of course, gone up in the last few years, but this is primarily due to the impact of higher home prices on outstanding mortgage credit.

For Canada, one potential explanation comes from its industrial structure. The natural resources sector has a much bigger weight in Canada's economy than it does in most other industrialized countries. The natural resources sector makes more intensive use of production factors. For example, the average annual change in labour productivity in Canada's mining and oil and gas extraction sector has been -0.6% since 1997.<sup>1</sup> In comparison, average annual growth by labour productivity in other Canadian industries is 1.8%. The weaker productivity in the natural resources

**Graph 3 Investment continues to rise in sectors other than natural resources**



\* Forestry, forestry operations, mining, quarrying, and oil and gas extraction.  
f. Forecasts  
Sources: Statistics Canada and Desjardins, Economic Studies

sector therefore plays against Canada in relation to the other industrialized nations.

The economic literature has put forward a number of other hypotheses in recent years to explain the apparent weakness in productivity. For example, some analysts wonder whether the current production metric—real GDP—is missing a proportion of what is actually being produced. For one thing, given the unceasing development of new technologies (see the box on page 3), it is hard to keep an accurate count of an economy's supply of services. If the quantity of goods and services produced is underestimated for the same number of hours worked, productivity is estimated to be lower than it actually is.<sup>2</sup>

Some new technologies that influence production:

- Free wireless networking.
- Person-to-person service websites:
  - Airbnb (accomodation)
  - Uber (transportation)
  - Upstart (financing)
  - Lending Club (financing)
  - Etc.
- Transactional websites:
  - Apple Pay
  - PayPal

<sup>1</sup> This Statistics Canada data set begins in 1997.

<sup>2</sup> However, some analysts are sceptical about this explanation. For example, a professor at the University of Chicago (Chad Syverson) recently hypothesized that productivity growth is cyclical. Periods of stronger productivity growth would thus be followed by periods in which new technologies are assimilated, characterized by weaker productivity growth, as is now the case.



Another issue concerns changes in the quality of goods or services. For example, technology is progressing very rapidly and the new devices made today are often much more powerful than previous generations. Yet, the movement by retail prices does not properly reflect these technological changes. For example, prices for television sets have not really changed in the last few years, although the TVs sold now are of much better quality than earlier versions. In theory, the statistics agencies make corrections to factor in such changes in the quality of goods or services. That being said, new technologies are evolving so fast that many analysts think the statistics agencies are not managing to adjust prices enough to fully factor in changes in the quality of goods or services. The result would be that growth by goods and services prices would be overvalued in comparison with reality. The real GDP used to estimate productivity in fact comes from the nominal GDP (GDP in current dollars) from which price growth has been removed. An overvaluation of price growth could therefore yield weaker real GDP growth. Considering a given number of hours worked, the result would be a smaller increase in labour productivity.

#### **KEEPING AN EYE ON THE GOAL**

Unfortunately, there is no clear answer to the mystery of productivity at this time. That being said, even though many doubts are raised about the validity of productivity estimates, the goal remains the same: becoming more efficient and competitive.

This is a particularly important issue in the context of the surge in protectionism in the world. Constraints on international trade could therefore increase substantially in the next few years. To overcome them, businesses will have to be even more competitive on the global stage. Otherwise, they will be increasingly restricted to their local market. That means the efforts made in recent years to stimulate faster productivity growth must be maintained.

**Benoit P. Durocher**  
Senior Economist