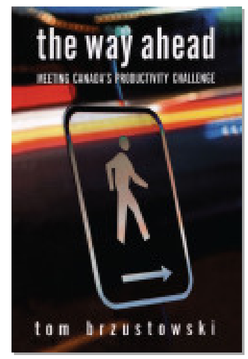
The Way Ahead

Brzustowski, Tom



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CHAPTER 2

Why Productivity Matters

Productivity is like the weather—everybody talks about it, but nobody does anything. Of course, Canadians know what weather is. (with apologies to Mark Twain)

What is productivity and why does it matter? Here is the definition posted on the website of Canada's Department of Finance: "Productivity or Total Factor Productivity: The efficiency with which people and capital are combined in the output of the economy. Productivity gains lead to improvements in the standard of living, because as labour, capital, etc. produce more, they generate greater income."

Discussions of productivity seem to invite vagueness of language. How are people and capital "combined"? And there are other definitions, generally taking productivity to be the measure of some output that one values, per unit of some input that one has to pay for; and this measure can be taken both at the level of the enterprise and of the national economy as a whole. Some people also refer to "productivity" when they're talking about GDP per capita. Still others—mainly in speeches—use the word as a confusing shorthand term for the annual percentage change in productivity. (Perhaps these folks are trying to set an example and become more productive in their own communications by using fewer words.) Everybody tells us that productivity is very important, but few tell us just what it is.

In my view, the productivity of labour is the most intuitive. It is defined as "the value produced per hour of work," and many discussions of productivity in the media and elsewhere deal with that measure of it. Here is a very useful technical note appended to news releases of the US Bureau of Labor Statistics on productivity growth figures:

> **Productivity**: These productivity measures describe the relationship between real output and the labor time involved in its production. They show the changes from period to period in the amount of goods and services produced per hour. Although these measures relate output to hours of work of all persons engaged in a sector, they do not measure the specific contribution of labor, capital, or any other factor of production. Rather, they reflect the joint effects of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and effort of the work force.

I believe that changing one word in that paragraph, replacing "amount" by "value" in the second sentence, would be a big improvement. It would point the way to raising productivity. But before we go there, let's get an idea of the magnitude of the numbers involved.

The Canadian Centre for the Study of Living Standards tells us that for the year 2004 the Canadian Gross Domestic Product (GDP) measured in 1997 dollars was $1,124,428,000,000—yes, the number of zeros is right. That's over 1.1 trillion dollars! More than 1,100 billion dollars, or more than 1,100 gigabucks!

The Canadian population was 31.9 million, there were 15.9 million jobs,[1] and the people in those jobs worked a total of 27.6 billion hours. That means that in 2004 Canadians worked about 860 hours per year per capita of general population.[2] GDP per hour worked, or the productivity of labour averaged over the entire Canadian economy, was $39.59 per hour.

When we compare that productivity number with the performance of the US on the basis of Purchasing Power Parity (PPP), it turns out that Canadian productivity was only 81.8% of the US value in 2004. And worse, that percentage has been declining. It was 88.4% as recently as 2000. That decline is likely to continue unless we do something, and soon. Our output per hour worked actually declined a bit in 2004, while US productivity grew 3.9% in the same time.

Why it matters

The productivity of labour is the value of what the economy produces per hour worked. That definition immediately shows why, given Canada's demographics, our productivity needs to rise. Since prosperity is measured by GDP per capita, some very simple algebra shows that prosperity equals the productivity of labour multiplied by the number of hours worked per capita.

This is shown clearly by the productivity equation

$$\text{(GDP per capita)} = \text{(GDP per hour worked)} \times \text{(hours worked per capita)}$$

which indicates that prosperity equals the productivity of labour multiplied by the average number of hours worked per capita of general population. The units of time enter into this equation in a subtle way: the GDP per capita and the hours worked per capita both refer to a span of one year.

The hours worked per capita is an average over the whole population, and that means that as the population ages and more workers retire than enter the work force, the number of hours worked per capita of general population will begin to decrease. Early analysis of the 2006 Census has predicted that this would start happening in 2016.

In the meantime, it is instructive to see what has happened in recent years. Table 2.1 shows the number of hours worked per capita and the unemployment rate for the years 2002–2005.

TABLE 2.1 Annual hours worked per capita of the Canadian population

year	2002	2003	2004	2005
annual hrs worked/cap	850	847	862	873
unemployment rate, %	7.7	7.6	7.2	6.8

During the period represented in Table 2.1, the Canadian labour force grew by 760,000 to 17,340,000 and the workforce, or number of people employed, grew by 860,000 to 16,170,000. At the same time, the population grew by almost 900,000 to 32,270,000. The number of employed people grew more than the labour force and almost as much as the increase in population. That explains why the annual hours worked per capita actually increased in 2002–2005. It is hard to imagine that this pattern could be sustained. It would take an extraordinarily good fit of immigration policies and practices on the one hand, and job creation in the economy on the other to head off the decrease in annual hours worked driven by demographics.

Here lies the imperative for raising our productivity. Our productivity must rise just to keep our prosperity constant. It must rise even more to provide the increased prosperity that we need to maintain our high quality of life. And to head off the problem predicted for 2016, we must start now.

How to increase productivity

For the general public, raising productivity can be a scary prospect. It evokes images of lay-offs, of technology replacing people, and of big plants closing in small towns. That, indeed, is the way that many companies must try to remain competitive. This strategy gives them some success on the global scale, but often at a heavy price in their local communities. The companies that typically choose this path are commodity businesses in many sectors: natural resources, agriculture, manufacturing, and services, including even some professional services. Their products are not distinguishable from similar products available from many other sources, and that means that they cannot set their own prices; they must take whatever is offered in the market. And for many commodities, that market price reflects competition from producers in countries with a much lower standard of living than Canada and much lower labour costs.

In many commodity businesses, producers harvest or extract natural resources and export raw materials, and Canadian consumers often find themselves buying products made from these raw materials by workers in other countries who have added value to them. And in that observation lies a clue to the way out of the commodity trap.

The best path is to increase the value added in Canadian products.

There are two business strategies beyond cost reduction that are available to companies in commodity businesses:

increase the volume of production, or increase the value added in the products sold. The former depends on both external and internal factors: the demand for the product and the firm's capacity to increase production volume. The latter is much more of a long-term strategy since it involves developing new skills and engaging new business. But to make things more difficult, two new factors are now complicating the equation, particularly in extraction industries: rising energy costs and greenhouse gas emissions. In general, the extraction of natural resources and the production of commodities from them consumes energy and emits GHG's in proportion to the volume of production. Energy prices have recently been rising steeply, and limits on the emission of GHG's are in the offing. As a result, increasing the volume of production will grow less and less attractive as a business strategy for a large part of the commodity sector of the Canadian economy, even if a short-term boom in some commodity prices suggests the opposite.

For the long term, increasing the value added in products sold is becoming the better business strategy for companies in commodity businesses in all sectors. It also increases the productivity of the whole economy. The best way of increasing productivity is to have more workers engaged in value-added production. This is a long-term strategy that will require new market intelligence, knowledge, skills, and technology. In those companies that succeed, the phrase "learning organization" will be an accurate description of their process of change.

So increasing productivity involves choosing among three strategies:

1. Produce the same stuff with fewer people.
2. Produce more stuff with the same people.
3. Produce stuff of greater value with the same people.

And the best of the three is to produce the stuff of greater value.

Easier said than done? Of course. But it's not impossibly difficult, and in the chapters that follow we shall discuss some practical ways of increasing productivity in this way.

NOTES:

1 13 million full time, and the rest part time. The ratio of jobs to population has been close to $1/2$ for years. It will decline as the population ages.

2 To understand this number, think of half the population working an average of 35 hours a week for 50 weeks.

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