Policy Perspectives

Business Council of British Columbia

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Productivity: BC's Position and Why We Should Care

Highlights

- Productivity growth is essential to advancing living standards over the medium to long run. Productivity is not mainly about working harder or longer. Rather, it involves producing more output with the same or fewer hours of work.
- Productivity gains are important in enabling rising real wages over time, a fact which is consistent with empirical observations across industries as well as jurisdictions.
- BC's productivity performance over the past five years is underwhelming. Output per hour worked in 2012 stood at $43.60, which is in line with Ontario and Quebec but well behind Alberta and Saskatchewan. Among the provinces, BC ranks sixth in business sector productivity.
- BC's aggregate productivity increased by only 2.8% over the last half decade, which translates into an annual growth rate of approximately 0.5%. Again, BC is a middling performer on this measure, ranking fifth among the provinces in business productivity growth.
- Improving productivity is a complex undertaking. Much of the responsibility for doing so falls on enterprise managers and owners, but public policy also plays a role. Boosting investment in human and physical capital, streamlining regulations, attracting top talent, fostering innovation, and supporting growth in high productivity industries can all help to advance productivity over the medium term.

Over the long term, productivity levels and growth rates are the most important factors determining the evolution of the standard of living in any economy. In more productive economies workers typically receive higher wages and governments have more resources available to pay for services. Although it is difficult to measure and track, because of the size and complexity of modern economies and issues relating to how certain inputs and outputs are valued, labour productivity is a reasonably straightforward and widely used concept. It represents the final value of all goods and services produced in an economy in a given period, divided by the total number of hours worked over the same period. The resulting ratio is defined as output (or real GDP) per hour worked.

If more output is produced with the same number of hours worked, an economy becomes wealthier. But if total output increases because the workforce expands with no accompanying productivity gains, output per worker (or per hour) does not rise, and real wages and wealth are unlikely to advance in a sustained manner. In reality, economic growth is driven by increases in both the size of the workforce as well as productivity. However, to expand per capita output, productivity must increase. Paul Krugman once succinctly summarized the importance of productivity when he wrote, "[p]roductivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."[1]

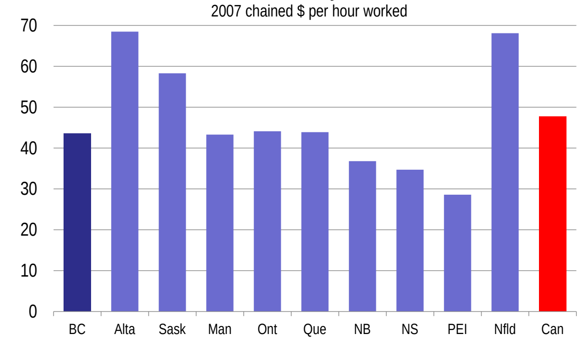
Where does BC stand on productivity? To answer this question it is necessary to look at both productivity levels and productivity growth trends. Figure 1 shows 2012 labour productivity levels for the ten provinces as well as the national figure, focusing on the business sector of the economy.[2] BC's aggregate productivity level stood at $43.60 (measured in real 2007 dollars) per hour worked. As is clear from the graph, BC is well behind oil rich Alberta and Newfoundland and Labrador, as well as Saskatchewan. Business sector productivity in BC is closely aligned with Manitoba, Ontario and Quebec. Overall, we ranked sixth in the country in labour productivity in 2012. This measure of productivity in BC is roughly 10% below the national average.

For workers, a key benefit of higher productivity is that it creates the conditions supporting rising compensation. Therefore, it is not surprising that Alberta enjoys the highest average weekly wages in the country. In 2012, Alberta's all-industry average weekly wage reached $1,022, which was 20% higher than the comparable figure in British Columbia. Saskatchewan was second, followed by Newfoundland and Labrador. Ontario's average weekly wage is slightly higher than BC's, again approximately reflecting where the two provinces stand on productivity.

Figure 1

2012 Labour Productivity, Business Sector

2007 chained $ per hour worked

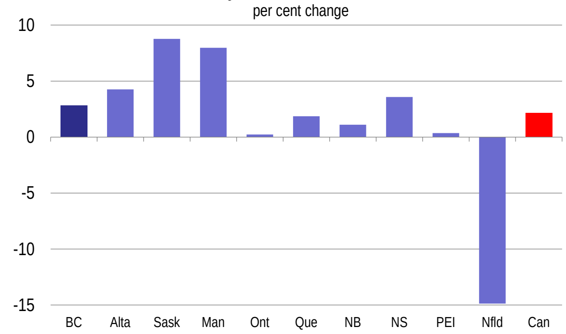


Source: Statistics Canada.

Figure 2

Labour Productivity Growth 2007-2012, Business Sector

per cent change



Source: Statistics Canada.

The other important dimension of productivity is growth. Productivity growth is important because, over time, it is the principal means by which a jurisdiction can raise real incomes and living standards. Figure 2 charts the change in labour productivity in Canada over the period 2007 to 2012, again focusing on the broad business sector. A five-year period is chosen to get a better sense of underlying trends, since productivity growth can jump around from year to year. As with productivity

[1] Paul Krugman, The Age of Diminished Expectations, MIT Press, 1994.

[2] This excludes public administration as well as the rental value of owner-occupied dwellings.

levels, BC emerges as a middling performer on productivity growth.

Business sector productivity in BC rose a tepid 2.8% over the five years covered by the graph, meaning annual productivity growth averaged just over 0.5%. Alberta's labour productivity increased by a cumulative 4.8% over the same period, while Saskatchewan and Manitoba posted gains of 8.8% and 8.0%, respectively. Although BC lagged behind the other western provinces, this is not an unusual performance as we have recorded weaker productivity growth over other five year periods. But the most recent result does represent a modest decline from BC's average annual labour productivity growth rate of 0.7% between 1987 and 2006.[3] Figure 2 shows that Newfoundland and Labrador's productivity dropped by 14.9% in the most recent five year period. This is mainly because of a sharp decline in productivity in its oil industry, due to a fall in prices and in the pace of output growth in the sector.[4]

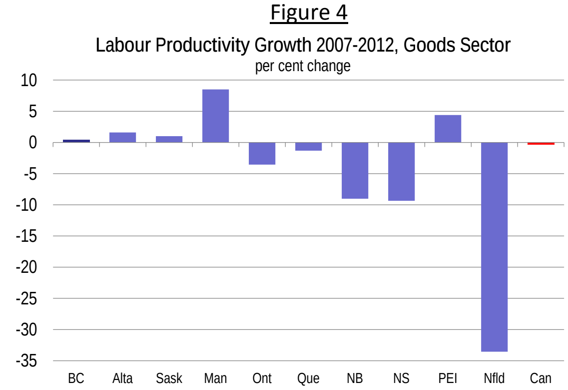
Some Industry Detail

Across all ten provinces productivity levels are higher in the goods-producing sector of the economy than in the services-producing sector.[5] (The goods-producing sector of the economy consists of resource industries, manufacturing, utilities and construction. Everything else falls within the broadly defined services sector.) In Alberta, Saskatchewan and Newfoundland and Labrador, the value of output per hour worked in the goods sector is double or more of that in the services sector. The gap between the two sectors is less pronounced in BC, but the goods sector here is still more productive ($50.5 per hour compared to $40.8 in services). The difference in productivity between the goods- and services-producing sectors reflects the fact that large swathes of the goods sector, such as mining, oil and gas, utilities, and most parts of secondary manufacturing, are relatively capital-intensive, high value added industries.

Figure 3

Source: *Statistics Canada.*

Figure 4



Source: *Statistics Canada.*

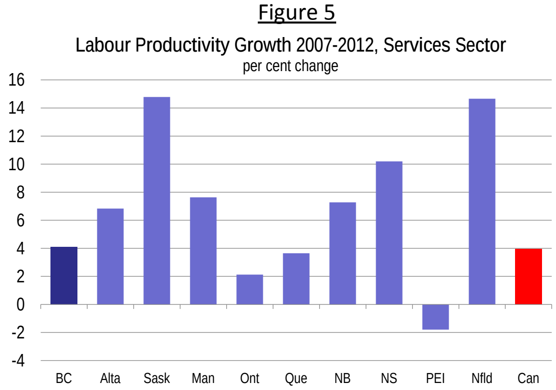
[3] Andrew Sharpe and Jean-Francois Arsenault, "Productivity Drivers in British Columbia," BC Progress Board, December 2008.

[4] Newfoundland's output per hour worked in the mining and oil and gas sector fell from $1,261 per hour to $541 over the most recent five years.

[5] This does not mean that all individual service industries have below average productivity, only that the services sector as a whole has a lower level of output per hour than the goods sector.

Turning to the pattern of productivity growth in the two sectors, it is noteworthy that among the provinces only Manitoba and PEI have seen any meaningful increase in productivity in the goods-producing sector. BC managed to eke out a 0.4% increase, but over a five year period the annual gains are miniscule. Several other provinces experienced outright declines in goods sector productivity over the 2007-2012 period, in part because of changing commodity prices and the rising cost of extracting resources -- notably in the oil industry. Although productivity growth in the Canadian goods-producing sector has been underwhelming (to say the least), in a comparative sense BC has performed relatively well.

Figure 5



Source: Statistics Canada.

The services-producing sector has been the source of most of the measured productivity increases in Canada over the past few years. Nationally, labour productivity in the services-producing sector advanced by 4% from 2007 to 2012, whereas productivity in the goods sector fell slightly. Productivity growth in the BC services sector essentially matched that in Canada (4.1 versus 4.0%).

Looking further at the industry detail for BC (see Table 1) reinforces the point that capital-intensive industries generally have higher levels of labour productivity. The utilities industry tops the productivity league table. It includes electric power generation and transmission as well as natural gas distribution, both of which are capital intensive and require comparatively little labour input. Productivity growth in the BC utilities industry, however, has been quite modest. The mining and oil and gas sector was the next most productive industry in BC, as measured by the value of output per hour in 2012. Back in 2007, output per hour in mining and oil/gas was $295, but the figure has declined due to falling prices for natural gas and minerals, lower production rates, and greater extraction and processing complexity.

BC's third most productive industry is found in the services sector. Per hour worked, the real estate and leasing industry produces $128 of output. This industry includes real estate leasing as well as leasing in the automotive industry and in commercial and industrial machinery. Again, the capital intensive nature of the industry leads to higher value added.

How to Improve Productivity?

What can be done to accelerate productivity growth and develop more high productivity firms? To be sure, there is no single or simple way to do this on an economy-wide level. Ultimately, it is up to company managers and entrepreneurs to adopt the strategies and take the steps necessary to increase the productivity of their businesses. But well-designed government policies can help to spur productivity growth in the business sector over the medium term. Many of the private and public sector actions that can improve productivity are discussed in recent reports from Deloitte as well as in the academic literature.[6]

- ***Invest in building human capital and in upgrading workers' skills*** – education and training are perhaps the most critical areas to attend to if policymakers and business leaders want to achieve higher productivity. This should include a focus on improving the human capital of lower-skilled individuals who make up a significant fraction of Canada's workforce.
- ***Adopt government policies and firm-level strategies that lead to more investment in machinery, capital equipment and advanced process technologies*** – this is an area where BC and Canada as a whole lag behind most leading-edge jurisdictions, particularly the United States. As noted above, capital-intensive industries tend to be more productive, but the good news is that productivity gains can be made in all industry sectors through increased investment in machinery, equipment and IT and other processing technologies. The empirical evidence confirms that more capital per worker supports higher productivity. In BC, the now disbanded Harmonized Sales Tax (HST) was instituted, in part, to stimulate investment in up-to-date equipment, technology and other productive assets that help to drive firm-level productivity. But the restored PST system, while inherently less efficient than the HST, could be modified to encourage greater business investment – for example, by reducing the sales tax burden on business inputs that are closely linked to productivity.

Table 1: BC Industry Productivity Levels and Growth

Industry	2012 Productivity $ per hour	Productivity Growth 2007-12, %
All Industry Average - Business Sector	**43.60**	**2.8**
Agriculture, forestry, fishing, hunting	31.70	0.6
Mining and oil and gas extraction	152.10	-48.6
Utilities	176.20	1.8
Construction	37.40	4.2
Manufacturing	43.70	2.1
Non-durable manufacturing ind.	39.80	-8.1
Durable manufacturing ind.	46.90	10.4
Wholesale trade	40.50	0.2
Retail trade	26.10	2.8
Transportation and warehousing	46.10	2.7
Information and cultural industries	87.90	2.3
Finance & insurance, & holding co.	75.60	4.3
Real estate, rental and leasing	128.00	2.4
Professional, scientific & technical serv.	37.30	-0.8
Administrative and support, waste management & remediation services	27.10	11.1
Arts, entertainment and recreation	27.40	24.0
Accommodation and food services	20.40	6.8
Other private services	31.10	5.1

Source: Statistics Canada, CANSIM Table 383-0029.

[6] Deloitte, "The Future of Productivity: A Wake Up Call for Canadian Companies," 2013; and Deloitte, "The Future of Productivity: Clear Choices for a Competitive Canada," 2012. For an up-to-date survey of the academic research on productivity, see Chad Syverson, "What Determines Productivity?" Journal of Economic Literature, June 2011.

- ***Continue to invest in infrastructure*** – here, the transportation sector looms large in the BC context, given the province's role as Canada's leading international trade and tourism gateway. Transportation infrastructure includes roads, railways, airports and ports, as well as public transit. The research infrastructure in the post-secondary education system is another area that warrants sustained investment.
- ***Streamline and modernize regulatory processes*** – smarter, more efficient regulation can save time and economize on the use of scarce private and public resources, while still achieving the goals set by policymakers.
- ***Continue to attract well-educated and skilled immigrants*** – in addition to investing in education, this is another way to improve the quality of human capital and thus to boost productivity.
- **Give more attention to fostering the growth of high productivity industries** – in BC's case, these include the major resource industries, parts of high technology (such as software & ICT), transportation and logistics, advanced manufacturing, and tradable services such as transportation and finance. Because it is such a high value added sector, developing a sizable LNG industry in BC would help to lift overall business sector productivity.[7]
- ***Support research and innovation*** – investing in human and physical capital enhances productivity growth. Similarly, the diffusion of advanced processing technologies throughout the business sector and the commercialization of new knowledge are important elements in developing a high productivity economy.
- ***Firm size*** – larger companies typically invest more in both physical and human capital and tend to be more productive than smaller organizations. Governments should review and retool taxation and other policies that may inhibit companies from growing. A higher priority should be put on creating an environment that will encourage businesses to expand and to pursue new markets.[8]

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[7] Although it must be said that direct employment in the LNG sector and in the linked upstream natural gas producing industry will be modest even if the province does develop several LNG plants.

[8] The 2012 Deloitte study noted in footnote 7 recommends that governments "[i]mplement policies that focus on firm growth potential and competitiveness, rather than size, to create incentives for future growth and remove disincentives to growth."