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Releases

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Releases

Study: Recent trends in output and employment

2006

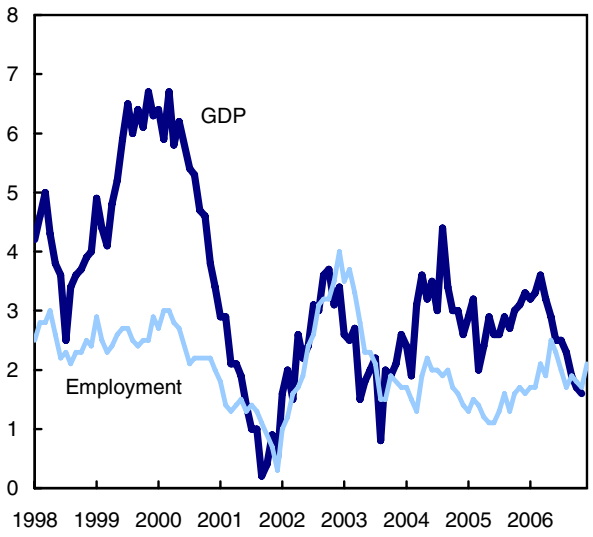
Several economic and statistical reasons explain why labour productivity did in fact slow last year, according to a new study.

The study examines reasons for one of the major economic developments in 2006 — the slowdown in growth of output, accompanied by steady gains in employment.

Typically, output exceeds employment growth by over 1%, reflecting the upward trend of productivity. The convergence of output and employment gains late in 2006 implied a slowdown in the growth of productivity. This study attempts to clarify why this happened.

Total output and employment

Annual percent change



It points to a number of reasons. First, growth nationally shifted to industries where productivity declined, notably mining. Many industries, especially in Western Canada, are struggling with labour shortages.

In addition, employers hired less-skilled labour and spent more time training employees. And finally, more industries were affected by one-time events last year, such as disruptions in the mining sector and a record warm winter that curtailed production.

Note to readers

When this paper refers to productivity, it refers to gross domestic product (GDP) per hour worked in the business sector, rather than output per employee.

Unless otherwise noted, the employment data in this paper came from the Labour Force Survey. Total output refers to aggregate real GDP, including both the business and non-business sectors.

Analysts treat output per employee and labour productivity as inter-changeable concepts. However, there are differences that can cause these series to diverge over time.

Most important is that the official labour productivity data cover only the business sector, which excludes the 15% of gross domestic product (GDP) in the non-business sector. As well, productivity is calculated as output per hour worked, not output per employee.

The cyclical setting

Output often slows relative to employment growth for short periods of time outside of recessions. As recently as 2002 and 2003, output growth fell farther below job growth and for a longer period of time than in 2006.

In fact, a narrowing of the gap between total output and employment growth has been the rule, not the exception, since the economy began to recover late in 2001.

Year-over-year growth in output per employee was negative for 14 of the 26 months between July 2001 and August 2003. Output struggled to keep up with employment growth a majority of the time: falling behind late in 2001, barely keeping ahead in 2002, and slipping below again in much of 2003.

Only in 2004 and 2005 did output growth clearly exceed job gains, implying positive labour productivity growth. Even then, the productivity gains were far short of those in 1999 and 2000. So the convergence of the two again late in 2006 is hardly a new phenomenon.

Nor is it unusual for Organisation for Economic Co-operation and Development (OECD) countries to experience two (or more) years of little productivity growth. Just since 2000, 10 of the 29 OECD countries for which data are available experienced such an episode. Interestingly, Norway and Australia are both currently experiencing little or no growth in output per employee, and like Canada, both have large natural

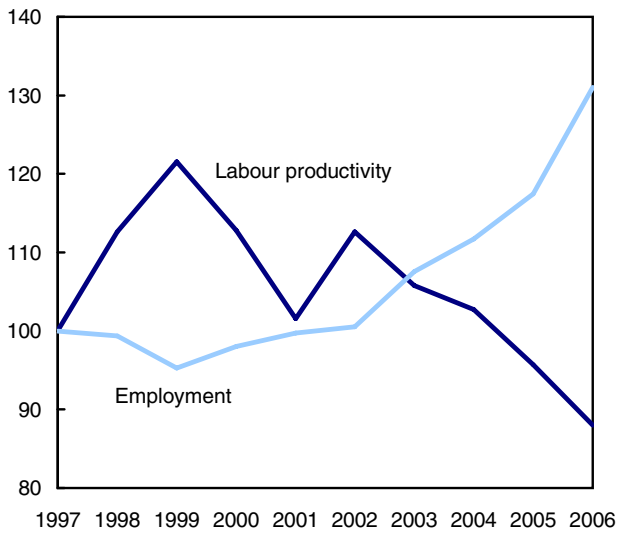
resource bases, which is the source of much of the productivity slowdown in Canada.

Industry trends

A more detailed analysis of the industries within the goods-producing sector shows almost all posted lower productivity during the first three quarters of 2006. Output per hour worked declined by nearly 10% in the resource sector, by itself shaving a full percentage point from productivity growth in 2006. Mining led this drop, as output grew slowly while employment raced ahead by over 10%, the most of any industry in 2006.

Last year's drop in mining productivity was part of a long-term downward trend. The declining productivity of conventional wells and the shift to lower-productivity output from the oilsands is reflected in a 25% drop in labour productivity in mining since its peak in 1999. Most of this reflects a 60% hike in employment in the oil and gas sector, almost all in Alberta. The employment increase in mining was led by the oilsands, which hired thousands of workers on mega-projects that will not begin producing oil for years.

Mining



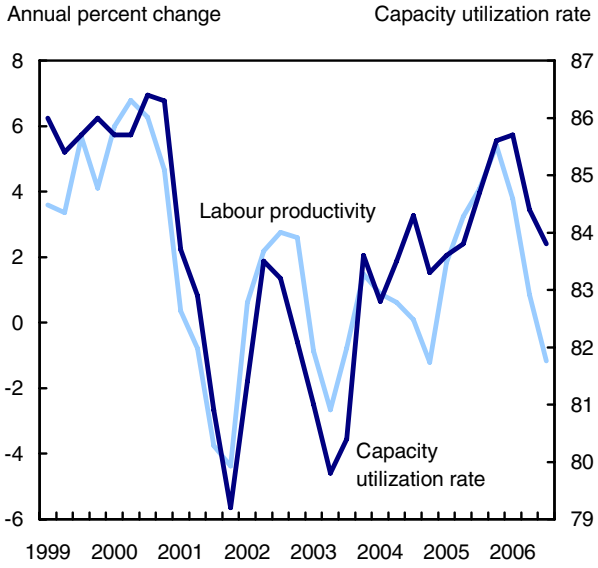
Mining outside of oil and gas is also increasingly located in remote parts of the country or requires digging deeper into the earth's crust. The best example is diamond mining, which currently is located exclusively in the Northwest Territories.

Some of the drop in productivity in metal mines reflects the exhaustion of the most productive sources, just as was the case for conventional oil and gas. The most obvious example is gold mining, where annual output has fallen steadily since 2001, including a 25% drop over the last two years (despite higher prices). Several of the largest mining industries experienced production difficulties last year. None of these problems have recurred so far in 2007, so some recovery in productivity can be expected.

Output per employee declined in manufacturing in 2006, following two years of growth. Factories so far this decade have not come close to matching their stellar productivity gains during the high-tech boom in the late 1990s.

The downturn in manufacturing productivity in 2006 reflects a slump in output, which lowered capacity utilization (the main determinant of productivity in the short-term). Manufacturing output fell 4.8% in the first 10 months of 2006 (it recovered slightly at year-end), and productivity typically falters during contractions.

Manufacturing



Overall, output per employee in services escaped the large deceleration recorded for goods. Several industries posted solid gains, notably consumer-related industries, which benefited from strong demand. Still, growth was restrained by a shift to public and business services, where productivity growth is limited by definition.

Labour quality declined

Several measures show declining labour quality, especially in Western Canada, where employers faced

severe shortages. Employment rose faster last year for the youngest and oldest segments of the population — the least productive — than workers in their prime (between 25 and 54 years old).

Nation-wide, employment rose faster for people 55 years and older (+6.7%) and youths (+1.5%) than for middle-age workers (+1.4%). As a result of increased demand, the unemployment rate for youths hit a record low of 9.7% by last December and both the employment and labour force participation rate of people 55 and over also hit record highs.

Shortages induced employers in Alberta and British Columbia to turn the most to the youngest and oldest to fill jobs. In Alberta, the increase was most pronounced for youths while British Columbia was more reliant on older workers.

In Alberta, people with high school education or less accounted for over half of all employment growth in 2006. This was by far the most ever, and a marked change from the 1990s when employers showed a marked preference for people with more than high school education.

Business investment points to better productivity growth. Fuelled by record high profits, firms have stepped up investment outlays by a steady 10% in each of the last three years.

It is rare for productivity to slump for an extended period when investment is expanding. This is encouraging for a rebound in productivity growth in the short run, holding out some prospect that the current slump will not be as prolonged as in 2002 and 2003. One factor that may explain the divergence of investment and productivity in 2006 was that so much of investment was driven by the energy sector, where the pay-off in higher output will not materialize until later.

The major question at the moment is not whether a slowdown in output relative to employment is occurring, but whether this slowdown is transitory due to temporary factors (related to events such as weather, other production disruptions, or the sudden shift of resources to new industries and regions), or represents the beginning of a longer-term slump in productivity due to labour shortages, an ageing labour force or structural changes in the economy.

Definitions, data sources and methods: survey numbers, including related surveys, 1402, 1901, 3701 and 5042.

The study "Recent trends in output and employment" is now available as part of the *Income and Expenditure Accounts Technical Series* (13-604-MIE2007054, free) from the *Publications* module of our website.

For more information, or to enquire about the concepts, methods or data quality of this release, contact Philip Cross (613-951-9162; *ceo@statcan.ca*), Current Economic Analysis Group. ■

Study: Gender differences in quits and absenteeism

1983 to 2003

Female workers are traditionally considered more likely than men to quit their jobs, to be absent or to take more days off for family reasons. In the past, this gender difference has been offered as an explanation for the wage gap between men and women.

This new study documents gender differences in quitting and absenteeism. It shows that differences in quits and absenteeism between men and women are now fairly small.

The study found that since the early 1990s, women have been no more likely to quit their jobs than men. Quit rates among women had been higher than those of men before 1994. But since then, the gap has virtually disappeared.

For example, 5.5% of men quit their job in 1984, compared with 7.0% of women. By 1994, the rate for women was 5.6%, almost identical to the rate of 5.5% for men, and in 2002, these were 7.7% and 7.6%, respectively.

The study defined quits as those occurring when workers did not return to the previous employer in the same year or the year following the quit.

In addition to quits, women can take temporary leaves for maternity reasons. For example, this study found that 4.2% Canadian women took temporary leaves due to pregnancy and maternity in 2002.

The study used data from the 1983 to 2003 Longitudinal Worker File to examine the gender differences in quits. It also investigated gender differences in absenteeism with data from the 1999 and 2001 Workplace and Employee Surveys.

The study examined three types of absences (absences due to maternity or pregnancy reasons were excluded) separately: paid sick absence; other paid absences; and unpaid absence. The other paid absences included education leave, disability leave, and leaves due to bereavement, marriage and jury duty.

The study found that, on average, men took two days of paid sick absence, while women took about four days of paid sick absence per year. Half of this gender difference in paid sick absence can be explained by factors such as age, wages and union status.

However, there were no gender differences in terms of the other paid and unpaid absences. The only exception was women with young children. On average, they took two more days of unpaid absences than women who did not have young children.

The study indicates that, since the 1990s, the quitting behaviour of Canadian women more closely resembled that of Canadian men than it used to. And the gender differences in unscheduled absences were relatively small in Canada.

The research paper "Gender differences in quits and absenteeism in Canada" is now available as part of the *Analytical Studies Branch Research Paper Series* (11F0019MIE2007296, free), from the *Publications* module of our website.

Related studies from the Business and Labour Market Analysis Division can be found in *Update on Analytical Studies* (11-015-XIE, free) from the Publications module of our website.

For further information or to enquire about the concepts, methods or data quality of this release, contact Xuelin Zhang (613-951-4295), Business and Labour Market Analysis Division.

Quit rates by sex and age, 1984 to 2002

	1984	1994	2002
	%		
All age			
Men	5.5	5.5	7.6
Women	7.0	5.6	7.7
Including women who did not return to work in subsequent year due to maternity	7.4	6.0	8.1
25 to 34 years old			
Men	6.3	6.8	9.4
Women	7.2	6.4	8.9
Including women who did not return to work in subsequent year due to maternity	8.1	7.3	10.2
35 to 44 years old			
Men	3.9	3.9	5.8
Women	4.8	3.9	5.6
Including women who did not return to work in subsequent year due to maternity	5.0	4.0	5.9

■

Natural gas sales

December 2006 (preliminary)

Warmer than normal temperatures in most provinces led to an overall decline in natural gas sales in December.

Natural gas sales totalled 7 419 million cubic metres in December, down 6.4% from December 2005.

Sales to both residential (-13.9%) and commercial (-13.7%) sectors led the decline. However, the volume of industrial and direct sales rose 2.3% in December.

Sales at the end of December were down 1.7% from the same twelve-month period in 2005. This marks the third consecutive year where natural gas sales volume has declined.

Sales to the industrial sector (including direct sales) have risen 0.3% in 2006, not enough to offset the decline of 4.6% in the residential sector and the 4.2% decline in the commercial sector.

Definitions, data sources and methods: survey number 2149.

For more information, to order data, or to enquire about the concepts, methods or data quality of this release, contact the dissemination officer (toll-free 1-866-873-8789; 613-951-9497; *energ@statcan.ca*), Manufacturing, Construction and Energy Division.

Natural gas sales

	December 2006[p]	December 2005	December 2005 to December 2006
	thousands of cubic metres		% change
Total sales	**7 418 898**	**7 925 852**	**-6.4**
Residential	2 159 330	2 507 748	-13.9
Commercial	1 522 756	1 764 572	-13.7
Industrial and direct	3 736 812	3 653 532	2.3
	Year-to-date		
	2006[p]	2005	2005 to 2006
	thousands of cubic metres		% change
Total sales	**68 824 189**	**70 019 575**	**-1.7**
Residential	16 269 932	17 059 395	-4.6
Commercial	11 982 612	12 508 142	-4.2
Industrial and direct	40 571 645	40 452 038	0.3

[p] *preliminary*

■

Public sector employment

Fourth quarter 2006 (preliminary)

There were approximately 3,075,000 employees in the public sector during the fourth quarter of 2006, up 1.5% or 44,000 from the last three months of 2005.

The public sector includes both government (general government, educational institutions, and health and social service institutions) and government business enterprises.

Government employment has registered year-over-year increases on a quarterly basis since the fourth quarter of 1999.

The largest contributor to the relative increase in government employment was the educational institutions, where employment rose 2.6% over the fourth quarter in 2005. Employment in health and social service institutions increased 1.2% to 773,000.

General government employment rose 11,000 to 1,113,000, up 1.0%. All three levels of government contributed to this increase.

Employment within government business enterprises remained unchanged from the fourth quarter of 2005.

On an annual basis, public sector employment increased for the seventh consecutive year in 2006. This continues the upward trend that began after many years of decline throughout the 1990s.

On average, there were nearly 3,039,000 employees in the public sector in 2006, just below the peak of 3,063,000 set in 1992.

Public sector employment[1]

	Third quarter 2005	Fourth quarter 2005	Third quarter 2006	Fourth quarter 2006
	thousands			
Public sector	**2,886**	**3,031**	**2,932**	**3,075**
Government	2,621	2,771	2,667	2,815
General government	1,123	1,102	1,150	1,113
Federal	370	372	386	380
Provincial and territorial	357	344	359	346
Local	395	385	405	387
Educational institutions	729	906	740	930
Universities and colleges[2]	282	329	289	335
School boards	447	577	451	594
Health and social service institutions	769	764	776	773
Government business enterprises	266	260	265	260

1. *Numbers may not add up due to rounding.*
2. *Includes vocational and trade institutions.*

Note: The public sector includes all economic entities controlled by government. It is comprised of four major components, as follows: federal government (ministries, departments, agencies and non-autonomous funds, and autonomous funds and organizations); provincial and territorial government (ministries, departments, agencies and non-autonomous funds, autonomous funds and organizations, universities and colleges, and health and social service institutions); local government (municipalities and non-autonomous funds, autonomous funds and organizations, and school boards); and government business enterprises (at the federal, provincial/territorial and local levels).

For a more detailed description of how public sector employment is defined and reconciled with other information sources, please refer to the document entitled *Reconciliation of Public Sector Employment Estimates from Multiple Information Sources* at the following link: 1713.

Available on CANSIM: tables 183-0002 and 183-0004.

Definitions, data sources and methods: survey number 1713.

Data tables on public sector employment are also available online from the *National economic accounts* module of our website.

Estimates of public sector employment and aggregate public sector wages and salaries for the fourth quarter of 2006 are now available. The data for the first three quarters of 2006 may have been revised.

For general information or to order data, contact Jo-Anne Thibault (613-951-0767; *jo-anne.thibault@statcan.ca*). To enquire about the concepts, methods or data quality of this release, contact Peter Elliott (613-951-4551; *peter.elliott@statcan.ca*), Public Institutions Division. ■

Sawmills

December 2006

Monthly lumber production by sawmills fell 18.1% to 5,312.3 thousand cubic meters in December.

Sawmills shipped 5,526.9 thousand cubic meters of lumber in December, down 10.2% from November. Compared with the same month in 2005, lumber shipments fell 9.7%.

Between November and December, stocks declined 2.1% to 8,133.7 thousand cubic meters.

Available on CANSIM: table 303-0009.

Definitions, data sources and methods: survey number 2134.

The December 2006 issue of *Sawmills*, Vol. 60, no. 12 (35-003-XWE, free) is now available from the *Publications* module of our website.

To order data, obtain more information, or to enquire about the concepts, methods or data quality of this release, contact the dissemination officer (toll-free 1-866-873-8789; 613-951-9497; *manufact@statcan.ca*), Manufacturing, Construction and Energy Division. ■

Construction type plywood

October, November and December 2006

Data on construction type plywood for October, November and December are now available.

Available on CANSIM: tables 303-0056 and 303-0057.

Definitions, data sources and methods: survey number 2138.

For more information, or to enquire about the concepts, methods or data quality of this release, contact the dissemination officer (toll-free 1-866-873-8789; 613-951-9497; *manufact@statcan.ca*), Manufacturing, Construction and Energy Division. ■

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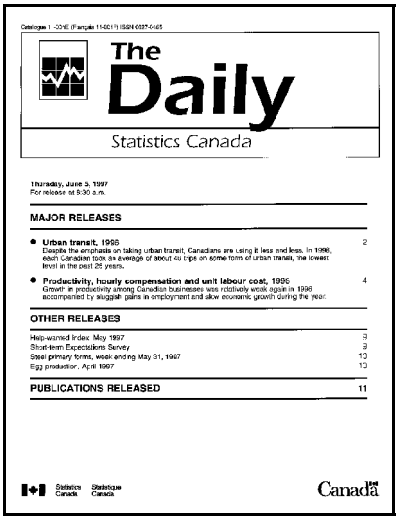

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Release dates: February 26 to March 2, 2007

(Release dates are subject to change.)

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1	**Industrial product and raw materials price indexes**	January 2007
2	**National economic and financial accounts**	Fourth quarter 2006
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