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Insights into Canada's Abysmal post-2000 Productivity Performance from Decompositions of Labour Productivity Growth by Industry and Province

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Abstract

The Centre for the Study of Living Standards has released new estimates of the labour, capital and multifactor productivity growth and levels estimates for the Canadian provinces by industry for the 1997-2007 period at the market sector, two-digit, and three-digit NAICS industry level. This extensive data base allows for the decomposition of labour productivity growth into within sector effects and reallocation level and growth effects. This paper exploits this database to shed light on the nature of the slowdown in labour productivity growth in Canada after 2000. It identifies manufacturing as the sector that has accounted for slower productivity growth. Within manufacturing, transportation equipment and computers and electronics are found to be the industries that accounted for the lion's share of the falloff in labour productivity growth. It also identifies Ontario as the province that has contributed proportionately the most to slowdown again because of the concentration of manufacturing in this province. These findings are particularly useful for identifying possible causes of Canada's abysmal productivity growth and developing policies to improve productivity.

Insights into Canada's Abysmal post-2000 Productivity Performance from Decompositions of Labour Productivity Growth by Industry and Province

Canada's labour productivity growth has been very slow by historical standards since 2000. This development has important implications for Canada's economic future as productivity growth in the long run is the main driver of living standards growth. In order to develop public policy and private sector actions that address Canada's weak productivity performance, one must first understand the nature of the productivity slowdown and the reasons for it. The objective of this paper is to develop insights into Canada's abysmal post-2000 productivity performance through the decomposition of labour productivity growth by industry and province.

Two key questions need to be answered to shed light on the nature of the productivity slowdown. First, which sectors and provinces were largely responsible for the slowdown? Second, what is the relative importance of within-sector and within-province productivity developments versus sectoral reallocations of labour among provinces and industries to aggregate productivity and to the aggregate productivity slowdown? In an article in the Spring 2010 issue of the *International Productivity Monitor* Sharpe (2010) found for the two-digit NAICS industries that manufacturing was responsible for all of the fall in labour productivity growth between the 1973-2000 and 2000-2007 periods and that sectoral reallocations of labour were not a major contributing factor. This paper uses a new three-digit NAICS data base for the 1997-2007 period developed by Statistics Canada for the Centre for the Study of Living Standards (Sharpe and Arsenault, 2009) to decompose labour productivity growth at this more disaggregated level.

The goal of the decomposition is to break down overall labour productivity growth into the components caused by within-sector changes in labour productivity growth, and labour reallocation effects. There are two types of reallocation effects to take into consideration. The first is the reallocation level effect. This effect is positive when the labour share is growing in industries that have above average labour productivity levels or when labour share is falling in industries with below average productivity levels. It is negative when labour is moving into industries with below average productivity levels or leaving industries with above average productivity levels. The second is the reallocation growth effect. This effect is positive if the growth rate of labour productivity is above average and the labour share of the industry is increasing or if the growth rate is below average and the labour share is decreasing.

This paper is divided into three sections. In the first, we present the analytical framework for the decomposition of labour productivity. In the second, we provide the results of the decompositions at the provincial level, two-digit industry level, and the three-digit industry level. And in the third, we summarize the key results.

I. Analytical Framework¹

To begin we note that at any given point in time.

$$P \equiv \frac{Q}{H} = \frac{\sum Q_i}{H} = \frac{\sum H_i P_i}{H} = \sum P_i h_i \quad (1)$$

where

P = Aggregate labour productivity level

P_i = Labour productivity level in sector i

H = Aggregate hours worked

H_i = Hours worked in sector i

h_i = Share of hours worked in sector i

Q = Aggregate real output

Q_i = Real output of sector i

Equation (1) says that aggregate labour productivity P is equal to the weighted average of labour productivity in each of the sectors that make up the economy. The weight for each sector is its share of the total number of hours worked in the economy.

Because we are interested in how shifts in hours worked across sectors affect aggregate labour productivity growth, we must move beyond a single point in time. Equation (2) expresses the absolute change in aggregate labour productivity from period 0 to period 1, $\Delta P = P^1 - P^0$ where superscripts denote the period.

$$\Delta P = \sum h_i^0 \Delta P_i + \sum P_i^0 \Delta h_i + \sum \Delta h_i \Delta P_i \quad (2)$$

In equation (2) h_i^0 and P_i^0 are respectively the share of total hours worked in sector i and the level of labour productivity in sector i in period 0, expressed in dollars.

In order to obtain economically meaningful sectoral contributions to aggregate productivity growth, we adjust the second term of equation (2) by subtracting the average level of labour productivity \bar{P}^0 from the level of labour productivity in each sector in period 0, P_i^0 . In the third term, we subtract the average change in labour productivity $\Delta \bar{P}$ from the change in

¹ This section is based on Sharpe (2010).

labour productivity in each sector, ΔP_i . The first adjustment ensures that an increase in the hours share in a sector with a below-average labour productivity level makes a negative contribution to aggregate labour productivity growth.² The second adjustment also ensures that an increase in the hours share in a sector with below-average absolute growth in labour productivity makes a negative contribution to aggregate labour productivity growth. The result of these adjustments is equation (3):

$$\Delta P = \sum h_i^0 \Delta P_i + \sum (P_i^0 - \bar{P}^0) \Delta h_i + \sum \Delta h_i (\Delta P_i - \Delta \bar{P}) \quad (3)$$

We are able to subtract \bar{P}^0 from equation (2) because the terms $\Delta \bar{P} \Delta h_i$ and $\bar{P}^0 \Delta h_i$ each sum to zero across all sectors, since \bar{P}^0 and $\Delta \bar{P}$ are constant and all changes in hours share Δh_i sum to zero across sectors.

The three terms in equation (3) represent respectively the within-sector, reallocation level and reallocation growth effects. The within-sector effect captures the change in labour productivity within a sector. The reallocation level effect indicates whether changes in hours share have favoured sectors with above- or below-average labour productivity levels. The reallocation growth effect is the sum of the product of the absolute change in the share of hours worked and the absolute change in the labour productivity level for each of the i sectors. It measures whether an economy is subject to a phenomenon akin to Baumol's cost disease, *i.e.* the tendency of labour to move towards sectors with relatively small absolute increases in labour productivity. A negative reallocation growth effect at the aggregate level means that labour is moving to sectors with relatively smaller absolute labour productivity increases.

There are some limitations to this analysis. First, the analysis assumes that differences in technological, institutional, and market structures across sectors lead to differences in average levels of labour productivity, even if marginal products are the same. It also assumes that when a sector loses or gains labour, the changes in output per hour are equal to the sector's average output per hour worked. Second, these results are sensitive to the level of disaggregation. For instance, we use 12 sectors at the two-digit level. If within a sector, resources shift from one subsector to another, and these subsectors have different levels of labour productivity, then the measured impact of the reallocation effect on aggregate labour productivity growth would be different.

There is also a small issue with the estimates from the Statistics Canada database used in the decomposition. Real GDP used in the calculation of labour productivity is estimated using a chain-weight index. By definition, the mathematics of the decomposition requires the real GDP estimates across industries to sum to the real GDP estimate of the aggregate level. However, estimates of chain-weight indices of sub-sectors of real GDP generally do not sum to the chain-

² It is this adjustment for the average productivity level that differentiates our decomposition formula from that of Tang and Wang (2004).

weight estimate of the aggregate measure. However, this difference is generally very small for periods that are close to the base year and should have only a small effect on the decomposition presented in section II (Diewert (1978), Ehemann et al. (2002)). However, because we use the aggregation of the chain-weight GDP to calculate labour productivity levels the labour productivity growth rates are somewhat different depending on the level of aggregation.

II. Results

The results section is divided into three parts based on the level of the decomposition. The first decomposes Canada's market sector labour productivity growth by province. The second decomposes Canada's labour productivity by two-digit NAICS industry at the market sector by province, and the third decomposes Canada's labour productivity by three-digit NAICS industry at the market sector. All of the tables relating to the results may be found at the end of the paper.

A. Market Sector

Labour productivity growth slowed in Canada after 2000. From 1997 to 2000 labour productivity growth was robust at 3.18 per cent per year. It fell to a meager 1.09 per cent per year in the 2000-2007 period, a drop of 2.10 percentage points. All provinces experienced this slowdown (Table 1 and Chart 1), with the largest fall-off in Ontario (3.11 percentage points) and the smallest in Alberta (0.59 points).

The slowdown in market sector labour productivity growth at the Canada level was due to within-province fall-offs in productivity growth, not reallocation effects. The within-province effect contributed -2.06 percentage points (Table 1). Changes in the reallocation of labour across provinces, both reallocation level and growth effects, were relatively small contributors to the change in labour productivity, only -0.02 percentage points each. The very low reallocation effects were due to the limited amount of interprovincial labour mobility. Alberta had the largest change in labour input as its share of Canada's total hours worked increased 1.4 percentage points from 1997 to 2007. It also had the largest reallocation level effect: 0.03 percentage points between the 1997-2000 and 2000-2007 periods.

Table 1 and Charts 2 and 3 show that the largest provinces that made the largest contributions to the slowdown. Ontario made by far the highest contribution of -1.31 percentage points, or 62 percent, to Canada's labour productivity growth fall of -2.10 percentage points. This is well above its weight in the national economy, which is slightly less than 40 per cent. Quebec made the second largest contribution of -0.26 percentage points (12 per cent), and British Columbia made the third largest contribution of -0.25 percentage points (12 per cent). The

smallest contribution was from Newfoundland and Labrador which contributed -0.006 percentage points to the change in labour productivity in Canada (

Chart 2). None of the provinces made a positive contribution to the change in Canada's labour productivity growth because labour productivity growth fell within all provinces and the reallocation effects were small.

Chart 1: Absolute Change in Labour Productivity Growth Rate by Province between 1997-2000 and 2000-2007

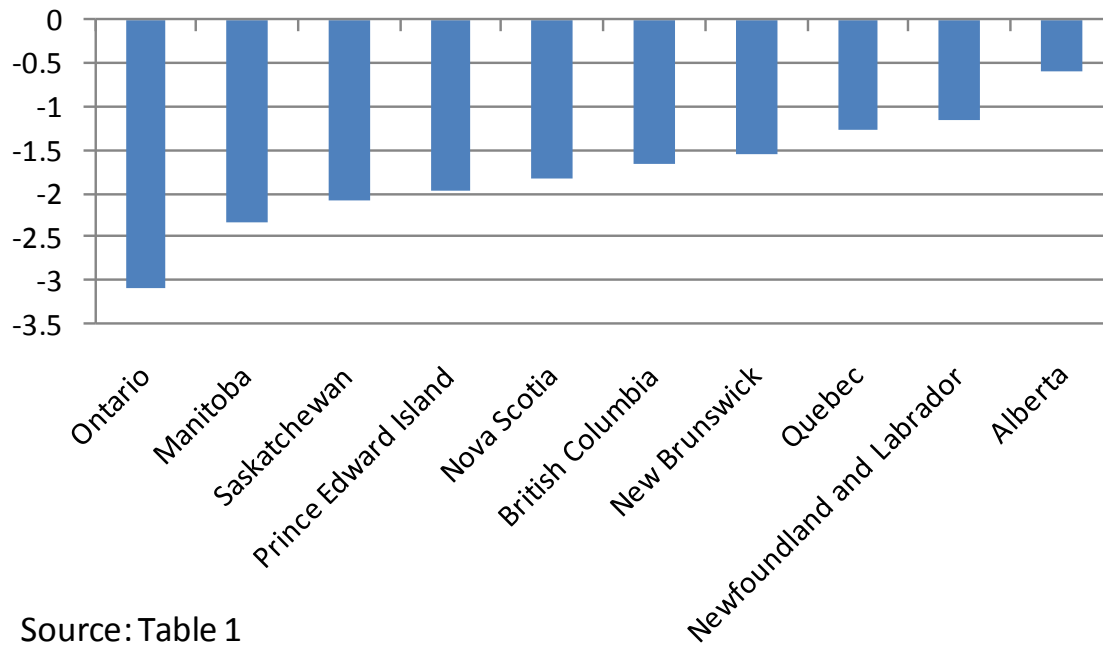
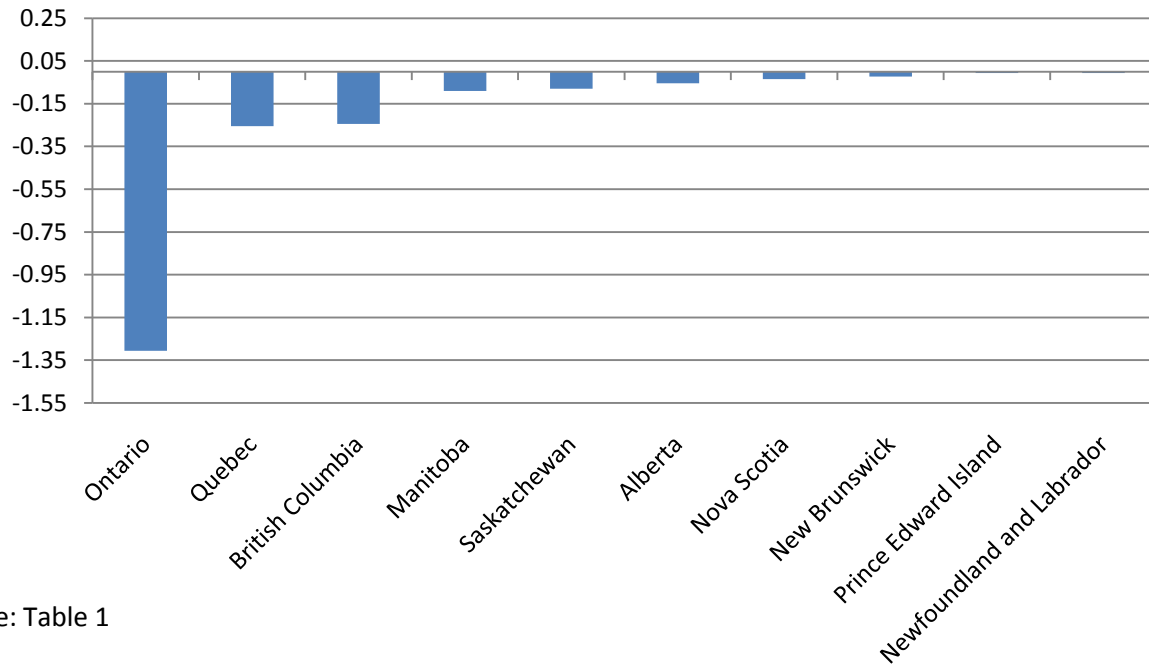
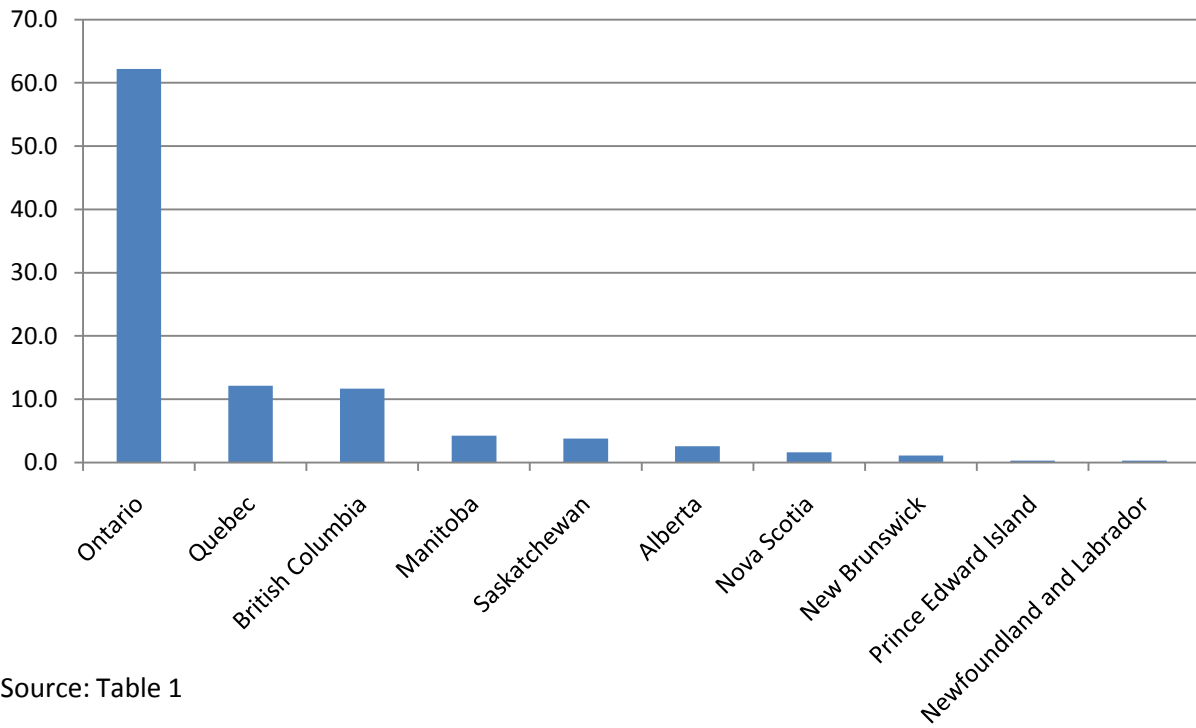


Chart 2: Percentage Point Contribution by Province to Canada's Change in Labour Productivity Growth Rate between 1997-2000 and 2000-2007



Source: Table 1

Chart 3: Percent Contribution by Province to Canada's Change in Labour Productivity Growth Rate between 1997-2000 and 2000-2007



Source: Table 1

B. Two Digit Industry

Canada

Between the periods 1997-2000 and 2000-2007 Canada's labour productivity growth rate fell by 2.11 percentage points as noted above. Using a two-digit NAICS industry decomposition, the within-sector effect contributed -2.21 percentage points, the reallocation level effect contributed 0.18 percentage points, and the reallocation growth effect contributed -0.06 percentage points. The reallocation effects were higher than in the provincial decomposition because there was significantly more labour reallocation between two-digit industries than between provinces.

Table 3 shows that the drop in Canada's labour productivity growth between 1997-2000 and 2000-2007 was broadly based. Labour productivity growth fell in 13 of 15 industries (**Error! Reference source not found.4**), and 11 of 15 industries contributed negatively to the change in Canada's aggregate labour productivity (**Error! Reference source not found.5**). Two industries (utilities and arts, entertainment and recreation) had positive contributions to the change in aggregate productivity due to reallocation effects despite their fall-off in productivity growth. Over half of the fall in Canada's labour productivity was attributed to the manufacturing industry, which contributed -1.11 percentage points, or 53 per cent. Manufacturing's within-sector effect contributed -0.93 percentage points. Its reallocation level effect contributed -0.16 percentage points and its reallocation growth effect contributed -0.01 percentage points. It had a negative reallocation level effect because its labour share was falling despite having above average labour productivity relative to other Canadian industries. The industry with the second largest contribution was the agriculture, forestry, fishing and hunting industry that contributed -0.31 percentage points. The utilities industry contributed 0.06 percentage points to the change in labour productivity growth, the highest of all industries.

Another point of interest is that the mining and oil and natural gas extraction had only a minor role in the slowdown in labour productivity growth after 2000; it contributed only -0.10 percentage points (4.7 per cent) to fall in Canada's labour productivity despite a fall-off of 8.22 percentage points in its labour productivity growth rate. It had the second lowest within sector effect contribution of -0.40 percentage points, yet the highest contribution from reallocation level effect, 0.36 percentage points. Its reallocation growth effect contribution was -0.06 percentage points. Although sectoral reallocation level effects were generally small for industries, the mining and oil and gas extraction industry made a large positive contribution to the reallocation level effect. Its reallocation level effect was positive because its labour share was increasing as many workers entered the industry due to high commodity prices, combined with its well above average level of labour productivity.

Chart 4: Absolute Percentage Point Change in Labour Productivity Growth Rate by Industry to Canada's Change in Labour Productivity Growth Rate between 1997-2000 and 2000-2007

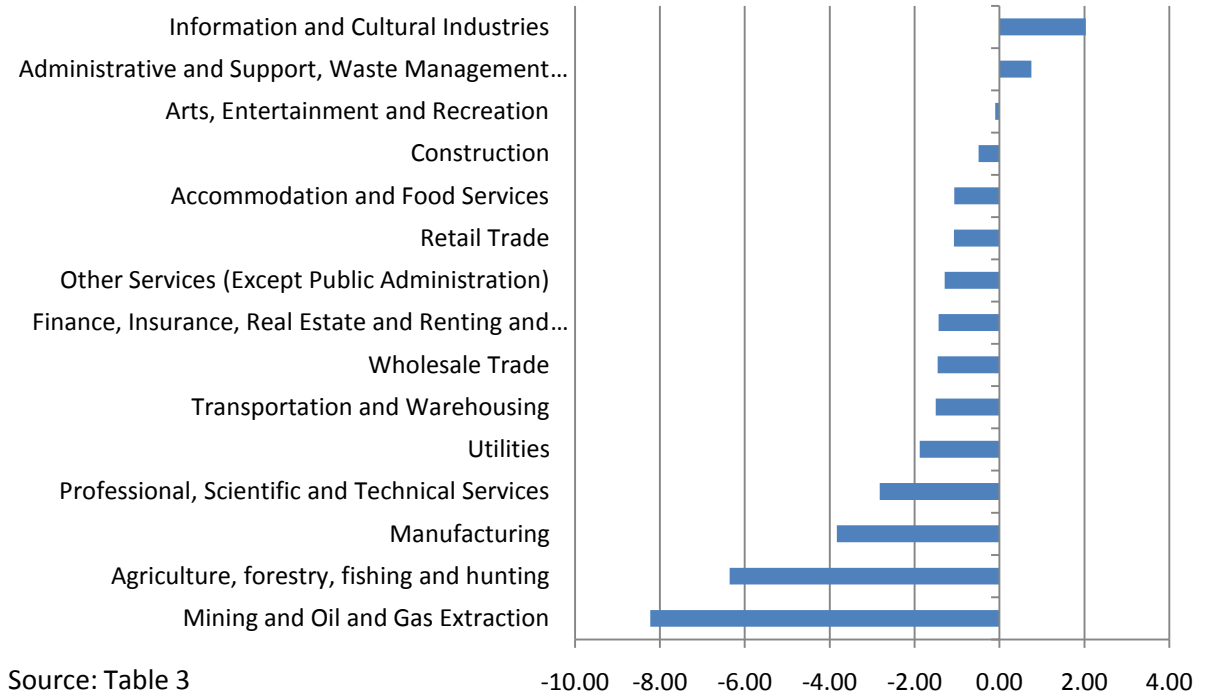


Chart 5: Percentage Point Contribution by Industry to Canada's Change in Labour Productivity Growth Rate between 1997-2000 and 2000-2007

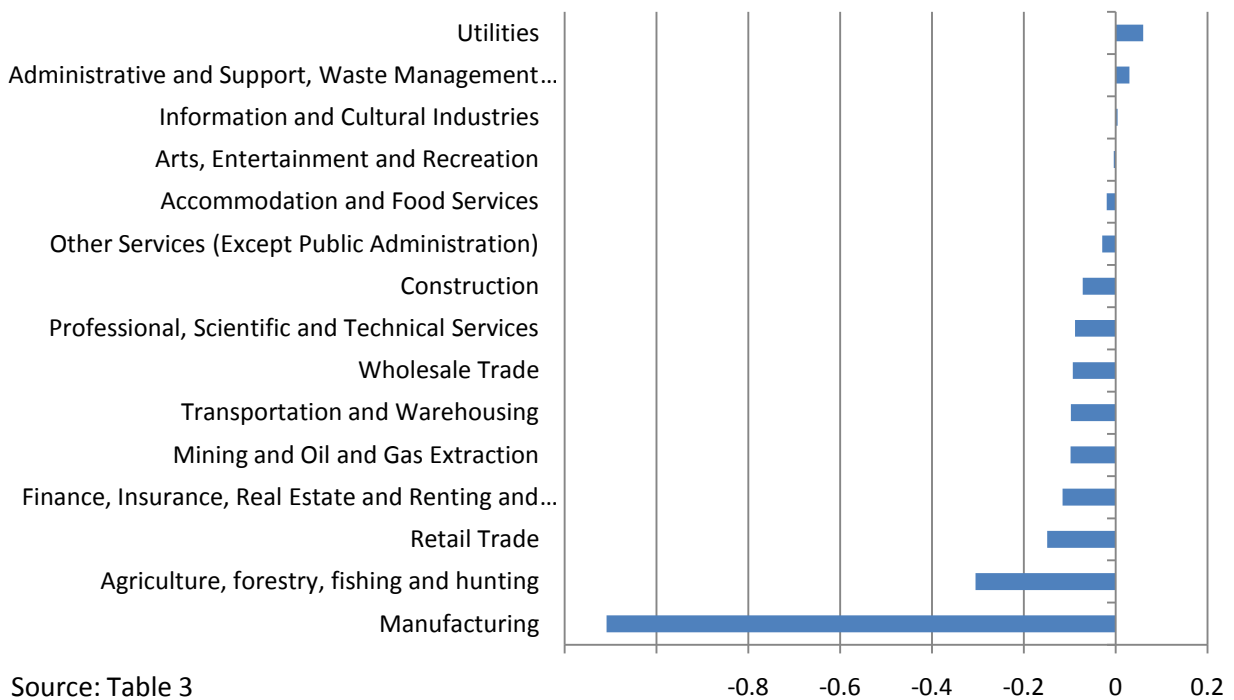
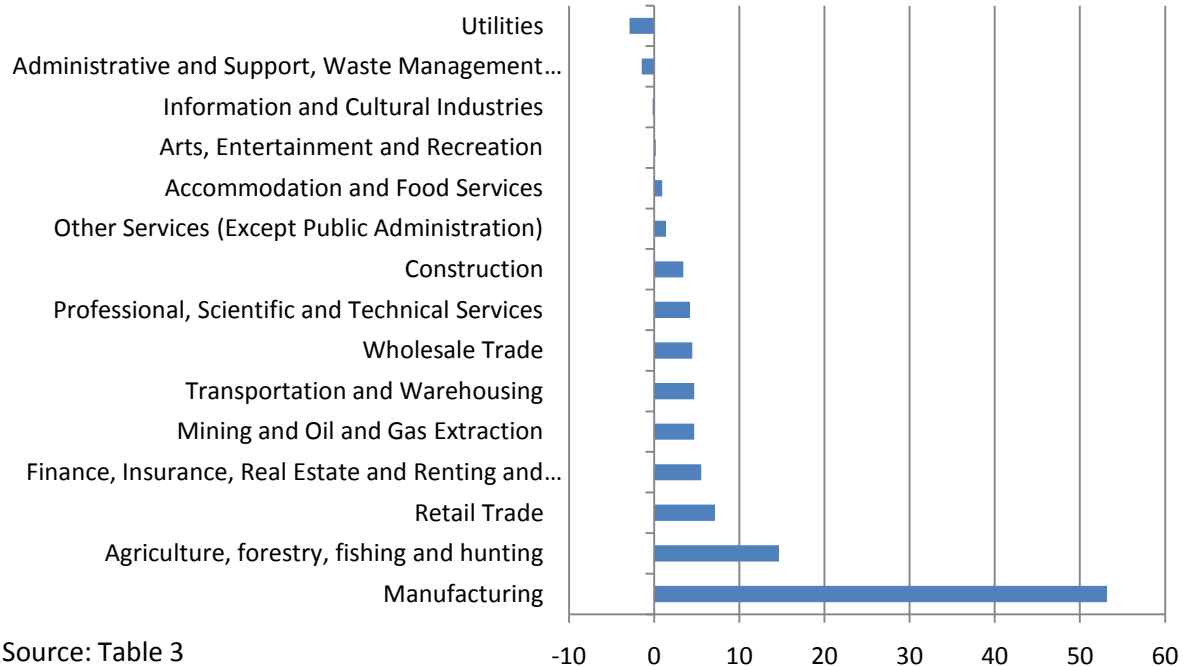


Chart 6: Percent Contribution by Industry to Canada's Change in Labour Productivity Growth Rate between the 1997 - 2000 and 2000 - 2007 periods



Provinces

Table 14 shows the provincial contributions at the two-digit level to Canada's labour productivity growth slowdown between 1997-2000 and 2000-2007. There are 15 industries and ten provinces for a total of 150 province and industry contribution combinations. In the provincial/sector decomposition, the within-province, with-in effect contributed 2.18 percentage points to Canada's labour productivity growth; the reallocation level effect contributed 0.13 percentage points; and the reallocation growth effect contributed -0.04 percentage points.

Even with 150 province and industry combinations, several combinations were major contributors to the slowdown in Canada's labour productivity growth. Ontario's manufacturing industry was responsible for a large share in Canada's change in labour productivity growth. Table 14 shows that between 1997-2000 and 2000-2007, Ontario's manufacturing industry contributed -0.76 percentage points to Canada's labour productivity fall of -2.10 percentage points. In other words, 36 per cent of the national fall in labour productivity was due to the Ontario manufacturing sector, even though this sector accounted for only 6.9 per cent of the hours worked in Canada in 2007. Quebec's manufacturing industry played a similar role; it contributed -0.29 percentage points (13.8 per cent) to the slowdown in Canada's labour

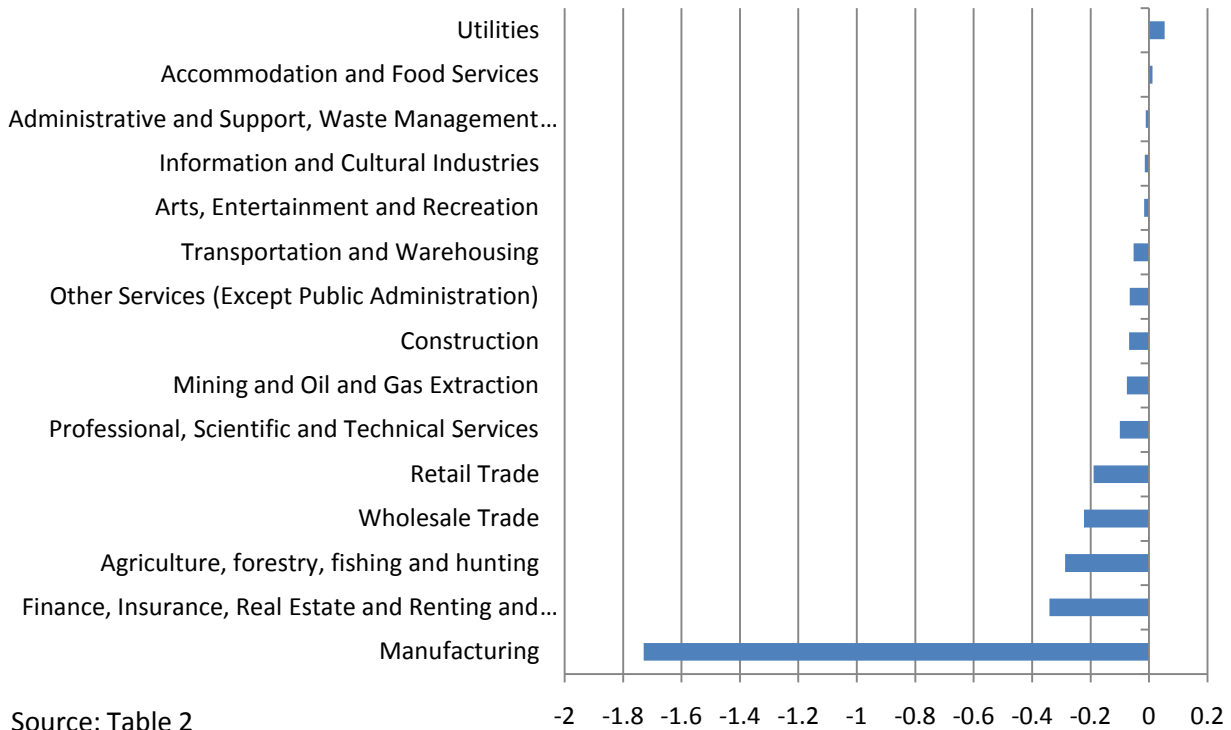
productivity growth rates between periods. Ontario's finance, real estate, renting and leasing industry contributed -0.18 (8.6 per cent) percentage points to the fall in Canada's labour productivity.

Although the fall in productivity growth in Quebec and Ontario's manufacturing sectors were the cause of half of the fall in productivity growth in Canada between the 1997-2000 and 2000-2007 periods, many other industries and provinces contributed. The labour productivity growth rate fell between the two periods in 96 of the 150 industry-provincial combinations and 86 of 150 industries made a negative contribution to the change Canada's growth rate, once reallocation effects are factored in. For the 64 industries in the 10 provinces that made a positive contribution to the slowdown in Canada's labour productivity, their contributions were generally very small. The highest percentage point contribution from a provincial industry to the change in Canada's productivity growth came from the Quebec wholesale industry which contributed 0.06 percentage points (-3 per cent) to the change in Canada's productivity growth.

To further examine how Ontario affected Canada's labour productivity growth one can examine the contributions the Ontario's labour productivity growth by industry. Ontario's labour productivity fell from 3.91 per cent per year in the 1997-2000 period to 0.81 per cent per year in the 2000-2007 period, a change of -3.10 percentage points. Thirteen of 15 two-digit NAICS industries in Ontario experienced a slowdown in labour productivity growth. Ontario's manufacturing sector contributed -1.73 percentage points to the decline in Ontario's labour productivity growth. Finance, insurance, real estate and leasing made the second lowest contribution of -0.34 percentage points. The accommodation and food services industry made a 0.001 percentage point contribution and the utilities industry made a 0.05 percentage point contribution to the change in Canada's labour productivity growth (

Chart 7).

Chart 7: Percentage Point Contribution by Industry to Ontario's Change in Labour Productivity Growth Rate between 1997-2000 and 2000-2007



C. Three-digit Industries

This section of the paper decomposes labour productivity growth in Canada at the two-digit NAICS level into the contributions by three-digit NAICS industries. This provides additional insight into the slowdown in Canada's labour productivity growth rate by identifying the contributions at a more detailed level.

It should be noted that the estimates of the rates of change in labour productivity growth at the two-digit industry level in the previous section are slightly different than those calculated in this section based on the three-digit industries. The difference is due to summing the chain-weighted index values of output to calculate labour productivity as discussed in the previous section.

1. Manufacturing

Table 4 provides the decomposition of labour productivity of the manufacturing sector by its 20 subsectors. Overall output per hour growth in manufacturing fell for 4.68 per cent per year in 1997-2000 to 1.14 per cent in 2000-2007, a fall-off of 3.55 points. Sixteen of the 20 subsectors experienced a drop in labour productivity growth rates between the two periods.

Decomposing the manufacturing industry into its 20 subsectors shows that the within-sector effect contributed -4.61 percentage points, the reallocation level effect contributed 0.86 percentage points, and the reallocation level effect contributed 0.21 percentage points of the fall in manufacturing's labour productivity growth rate between the two periods. The positive reallocation effects show that despite a very large decline in the labour productivity growth in each subsector of manufacturing, the share of labour in manufacturing was growing in industries which had above average labour productivity levels and, to a lesser extent, above average labour productivity growth rates.

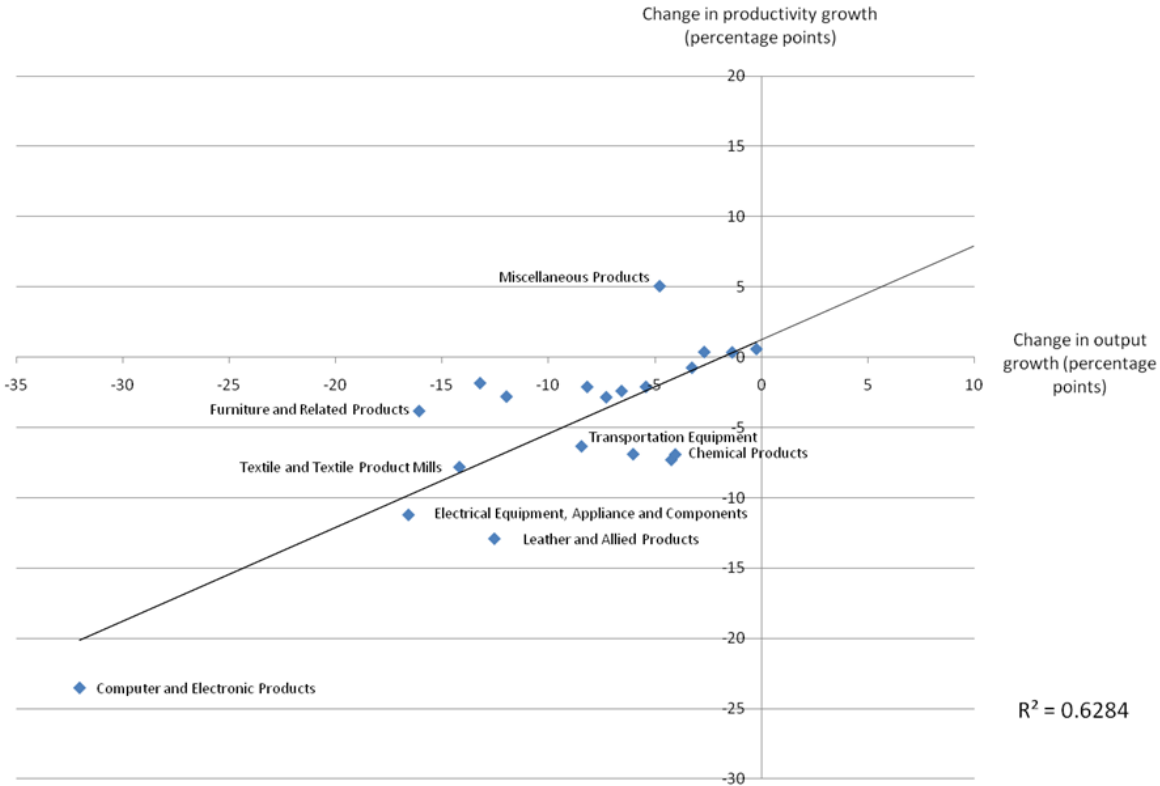
The subsector that made the largest contribution to the fall in manufacturing's labour productivity growth rate was the computer and electronic subsector which contributed -1.06 percentage points. This was closely followed by the transportation equipment manufacturing industry which contributed -1.04 percentage points. The industry with the highest contribution was the miscellaneous subsector which contributed 0.19 percentage points. Although, the computer and electronics subsector and transportation and equipment subsector contributed -2.1 percentage points of the -3.55 percentage point fall, sixteen of the twenty subsectors of manufacturing made negative contributions to the change in manufacturing labour productivity growth rates between periods. So although the majority of the contribution to the fall in labour productivity growth was concentrated, the poor labour productivity growth was pervasive among subsectors (Table 4).

At the three-digit NAICS level, both the transportation equipment and computer and electronic subsectors made large contributions to the aggregate fall in Canada's labour productivity growth (Table 4a). The transportation equipment subsector contributed -0.31 percentage points and the computer and electronic subsector contributed -0.27 percentage points. These two subsectors account for over a quarter of the change in Canada's labour productivity growth. In total, 13 of manufacturing's 20 subsectors made a negative contribution to the change in Canada's labour productivity growth rate.

The large fall in labour productivity growth of manufacturing sector can be linked to a general fall in the output in that sector. It has been empirically shown that manufacturing tends to follow Verdoorn's law (Leon-Ledesma (1998); McCombie (1984); Verdoorn (1980)). The theory is that as output increases, overhead cost per unit fall and larger quantities of goods can be produced without large increases in labour input. If demand falls, many factories still have a certain amount of overhead labour required. Chart 8 shows that the developments in Canada's labour productivity are consistent with this theory. The chart is based on the changes in output growth rate and changes in the productivity growth rate between the two periods used in this paper. In the manufacturing industries where the fall in output growth between the two periods

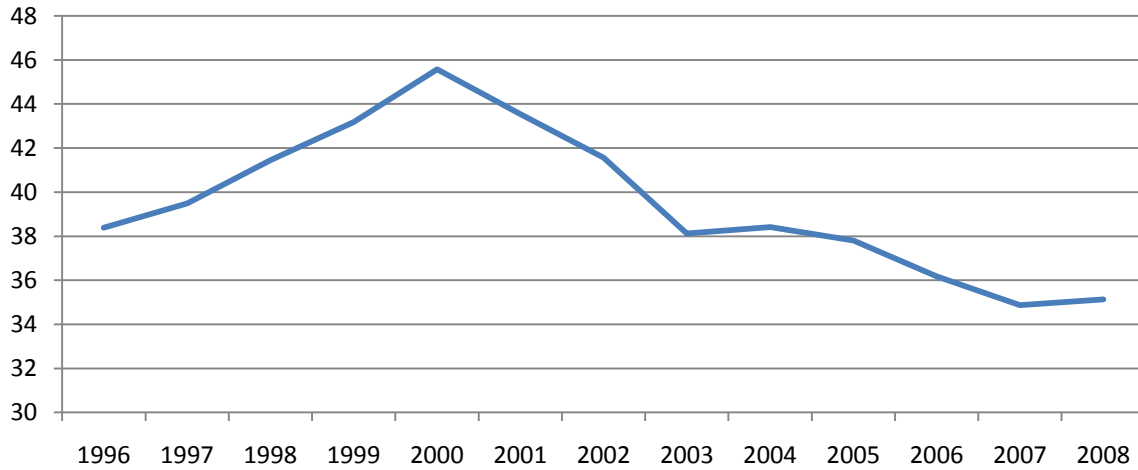
was substantial, the decline in labour productivity growth was also large. Many manufacturing industries were unable to maintain their productivity growth rate as demand fell.

Chart 8: Percentage Point Change in Productivity Growth compared to the Percentage Point Change in Output Growth between 1997-2000 and 2000- 2007



Source: Table 4

Output growth fell dramatically in the manufacturing sector after 2000, from 7.82 per cent per year in 1997-2000 to -0.68 per cent in 2000-2007, a slowdown of 8.50 points. This was more than double the slowdown of labour productivity (3.55 points). As most of the output of the manufacturing sector is exported, falling export growth was the main reason for this development. Chart 9 shows that exports as a share of Canada's, after rising in the 1990s and peaking at 45.6 per cent in 2000, fell to a low 34.9 per cent in 2007.

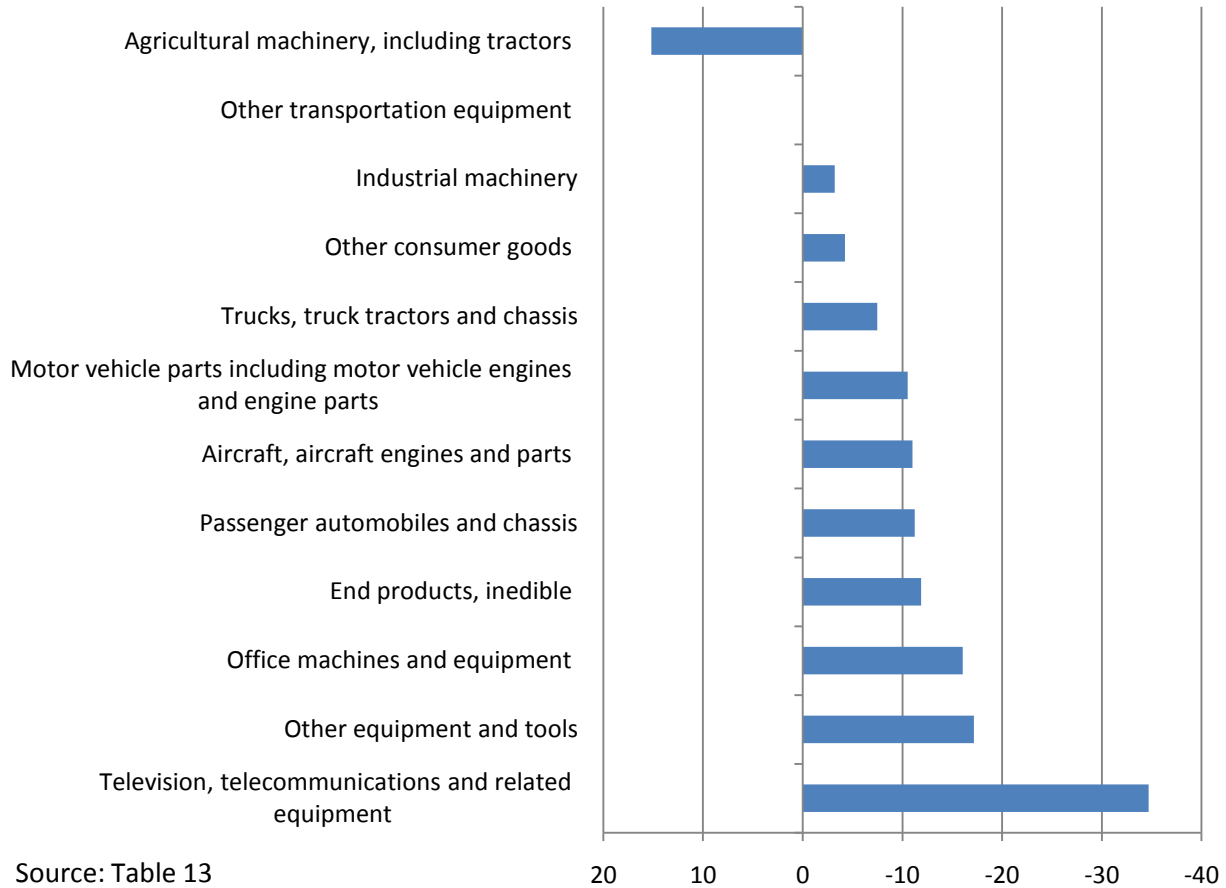
Chart 9: Exports as a per cent of GDP, 1996 - 2008

Source: Statistics Canada Table 3800017.

Based on CSLS calculations.

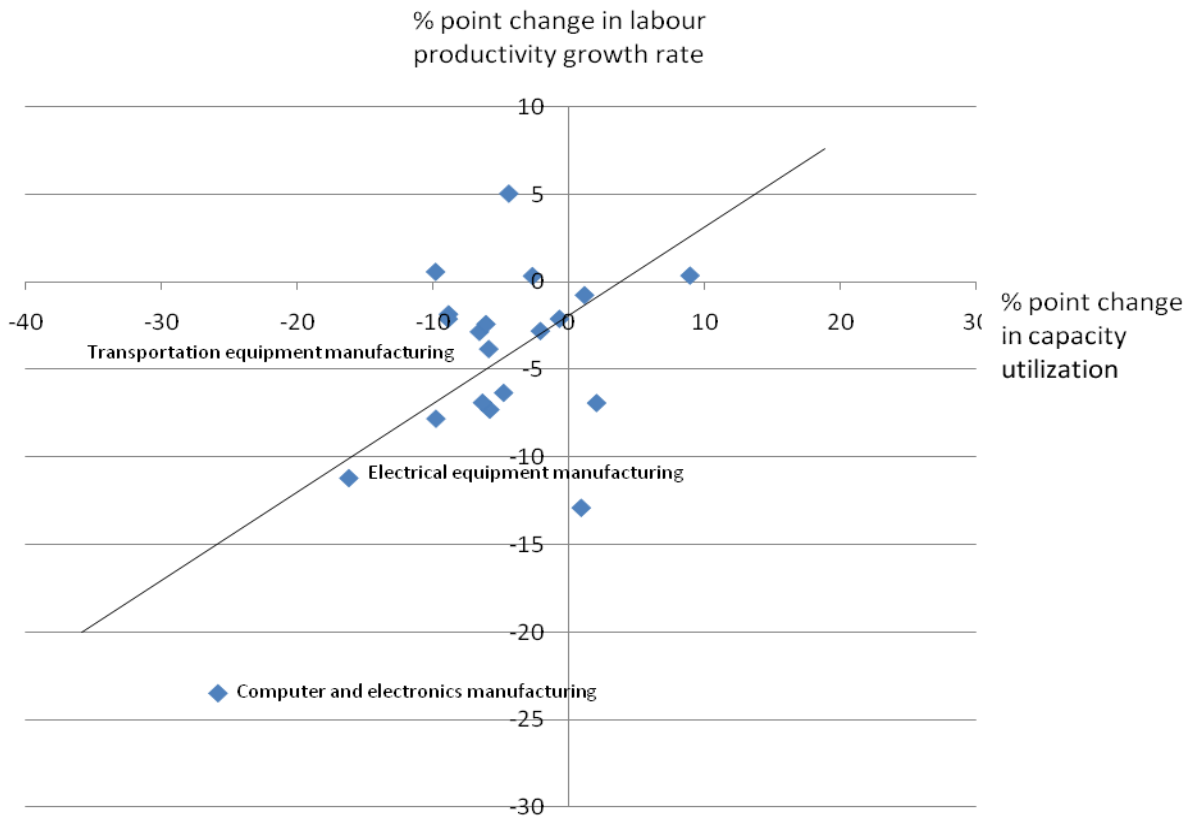
Chart 10 and Table 12 show that the export volume growth fell dramatically for many manufacturing products after 2000. For example, exports of passenger automobiles and chassis fell from a growth rate of 11.8 per cent per year in 1997-2000 to 0.6 per cent in 2000-2007, a fall-off of 11.2 points. The fall-off in office machines and equipment was 16.1 points, other machines and equipment 17.2 points, motor vehicle parts 10.5 points, aircraft and aircraft engines and parts 11.0 points, and television, telecommunications and related equipment a staggering 34.5 points.

Chart 10: Percentage Point Change in Export Volume Growth by Commodity between 1997-2000 and 2000-2007



An additional piece of evidence is that capacity utilization also fell dramatically after 2000 as output fell in the subsectors of manufacturing. Capacity utilization declined in 16 out of 20 subsectors of manufacturing and fell most dramatically in the subsector with the largest change in productivity and output, computer and electronics manufacturing (Chart 11). Given a certain level of overhead costs independent of output to maintain a certain level of capacity, then falling capacity utilization will cause lower productivity. Table 13 shows that in the entire manufacturing sector, capacity utilization grew from 83.6 to 86.0 per cent between 1997 and 2000, but fell to 82.9 per cent in 2007. The capacity utilization of computer and electronic equipment manufacturing, which had the largest fall in output and labour productivity growth rate, grew from 79.3 to 96.6 per cent between 1997 and 2000 and then fell to 88 per cent in 2007.

Chart 11: Changes in Capacity Utilization and Productivity in Manufacturing Industries Between 1997-2000 and 2000-2007



Source: Table 13 and Table 3

$R^2 = 0.3485$

2. Mining, and Oil and Gas Extraction

Table 5 shows that in mining and oil and gas extraction all three of the subsectors had negative productivity growth in the 2000 to 2007 period, and all of them had a negative change in the productivity growth rate between the 1997-2000 and 2000-2007 periods.

Nearly all of the change was due to the within-sector effect which contributed -13.14 percentage points to the change in mining, and oil and natural gas's labour productivity growth rate. The reallocation level effect was quite large at 5.39 percentage points as was the reallocation growth effect which was -1.31 percentage points. The oil and gas sector was responsible for much of each of the effects. it contributed -10.62 percentage points to the within sector effect, 3.97 percentage points to the reallocation level effect, and -1.24 percentage points to the reallocation growth effect. This very large positive reallocation level effect for the oil and gas sector was due to the movement of workers to this industry because of rising energy prices, combined with the high labour productivity level of the sector. Support activities for mining and

oil and gas extraction actually had a reallocation growth effect (1.46 percentage points) that was larger than its within-sector effect (-0.57 percentage points). This happened in very few industries.

Although, the sum of the contributions by the three subsectors of mining and oil and natural gas to the total market sector productivity growth slowdown was only -0.13 percentage points (Table 5), there were some interesting effects within the subsectors. The oil and gas extraction sector contributed only -0.02 percentage points to the change in Canada's labour productivity, because its reallocation level effect of 0.89 percentage points largely mitigated its within-sector effect, -0.70 percentage points, and its reallocation growth effect, -0.20 percentage points.

3. Agriculture, Forestry, Fishing and Hunting

Table 6 shows that in the agriculture, forestry, fishing and hunting industry, labour productivity growth rate fell in 3 out of 4 subsectors between 1997-2000 and 2000-2007. Only fishing, hunting and trapping had a positive change in labour productivity growth. The decline in the labour productivity growth rate of the agriculture, forestry, fishing and hunting industry was primarily due to the within-sector effect which contributed -6.08 percentage points and the reallocation level effect which contributed -0.46 percentage points. The fall in crop and animal production's labour productivity growth contributed -5.69 percentage points to the fall in labour productivity growth between periods.

The main contributing subsector of agriculture was the crop and animal production subsector which contributed -0.29 percentage points (14.3 per cent) to Canada's decline in labour productivity at the three digit NAICS decomposition level. The other three subsectors had impacts of 0.03 percentage points or lower.

4. Other Services

Table 7 shows that in the other services industry, all three of the subsectors had falling labour productivity growth rates between the two periods. The decline in the other services industry's labour productivity was primarily due to the within-sector effect which contributed -1.31 percentage points and to a lesser extent the reallocation level effect which contributed -0.20 percentage points. Religious, grant-making and similar institutions contributed -0.78 percentage points, personal and laundry services contributed -0.60 percentage points and repair and maintenance contributed -0.21 percentage points.

The laundry and personal services subsector was the subsector with the largest contribution to the change in Canada's labour productivity growth rate at the three-digit NAICS industry level. It contributed -0.04 percentage points (2 per cent).

5. Administration Services, Waste Management and Remediation Services

Table 8 shows that both the subsectors of administration services, waste management and remediation services industry experienced higher productivity growth after 2000. The growth within the entire industry was primarily due to the within-sector effect which contributed 0.34 percentage points and the reallocation level effect which contributed 0.24 percentage points. The waste management and remediation subsector contribute 0.46 percentage points to the change in the industry's labour productivity growth rate and the administration and support services contributed 0.26 percentage points.

At the three digit NAICS decomposition level, the administration and support services subsector contributed 0.02 percentage points and the waste management and remediation

services subsector contributed 0.01 percentage points to the change in Canada's labour productivity growth rate.

6. Information and Cultural Industries

Table 9 shows that in the information and cultural industries sector, only the motion picture and sound recording subsector had a negative change in its labour productivity growth rate between the 1997-2000 and 2000- 2007 periods. The positive change in the information and cultural industries' labour productivity growth rates were primarily due to the within-sector effect which contributed 1.96 percentage points. The increase in the labour productivity growth rate of broadcasting and telecommunications contributed 1.08 percentage points to the information and cultural industries rise in labour productivity growth between periods.

At the three digit NAICS decomposition level, the contribution by all subsectors of information and cultural industries was small. The publishing, data processing, and information services industry contributed 0.04 percentage points (2 per cent) to the change in Canada's labour productivity growth; the most of all information and cultural industry subsectors.

7. Transportation and Warehousing

Table 10 shows that in the transportation and warehousing industry, labour productivity growth in all four transportation and warehousing subsectors fell between the 1997 - 2000 and 2000 - 2007 periods. The decline in the labour productivity growth of the entire industry was primarily due to the within-sector effect which contributed -1.79 percentage points. The reallocation level effect contributed 0.30 percentage points due to an increase in the share of labour in the pipeline transportation sub sector which contributed 0.68 percentage points to the reallocation level effect.

At the three digit NAICS decomposition level, the subsector that contributed the most to Canada's change in labour productivity growth was the sight-seeing and support transportation sector which contributed 0.04 percentage points. The truck transportation contributed the lowest amount, -0.05 percentage points.

8. Utilities

Table 11 shows that the labour productivity growth in both subsectors of utilities, the electric power, generation and distribution subsector and the natural gas distribution, water and other systems sub sector, fell between the 1997-2000 and 2000-2007 periods. The change in labour productivity growth was primarily due to the within-sector effect which contributed -1.90 percentage points. The reallocation level effects were negligible because there was very little change in the share of labour in both the electric power, generation and distribution subsector and the natural gas distribution, water and other systems subsector.

At the three digit NAICS decomposition level, the electric power, generation and distribution contributed 0.08 percentage points to Canada's decline in labour productivity growth of -2.03 percentage points and the natural gas distribution, water and other systems sub sector contributed -0.02 percentage points.

IV. Conclusion

The new productivity database allowed us to decompose Canada's productivity for the 1997 to 2007 period by three-digit industry and to further examine the effects of the provinces on Canada's labour productivity growth. There are the key conclusions to our analysis:

The within-sector effect, that is the change in labour productivity growth rate of a particular province or industry, was much more important than the reallocation effects for both provinces and industrial decompositions of labour productivity growth. Essentially, sectoral reallocations cannot explain much of the change in labour productivity growth in Canada. The within-sector effects were particularly important for the provincial decomposition because there was very little labour mobility between provinces. The highest change in share of labour input by

a province was experienced in Alberta, which saw an increase of 1.4 percentage points in its share of Canada's total hours worked from 1997 to 2007. No other province had its share change by more than 1 percentage point. Labour input shifts among industries were larger; hence the within-sector effect was a slightly less important factor of labour productivity growth among industries.

Ontario made the largest contribution to the decline in Canada's labour productivity growth between the 1997-2000 and 2000-2007 periods. Sixty-two percent of the labour productivity growth slowdown can be attributed to Ontario. Within Ontario, the manufacturing sector contributed -1.73 percentage points to Ontario's fall in labour productivity growth rate of -3.11 percentage points between the two periods. At the national level this was equal to 36 per cent of the slowdown.

Manufacturing was the industry that made the largest contribution to Canada's falling productivity growth. It contributed -1.11 percentage points or 52 per cent, to the -2.10 percentage point fall in Canada's labour productivity growth between the two periods. Within manufacturing, 18 of the 20 subsectors experienced slower productivity growth after 2000. The transportation manufacturing was responsible for 29.3 percent of the fall in manufacturing labour productivity growth and the computer and electronic manufacturing subsectors were responsible for 29.9 per cent. These two subsectors were responsible for approximately a quarter of the fall in Canada's labour productivity growth.

The driving force behind the fall in labour productivity growth in manufacturing after 2000 was the fall in manufacturing output growth. This in turn was caused by large fall in manufacturing exports. The performance of Canadian manufacturing productivity since 2000 is an example of Verdoorn's Law at work. Falling demand growth or even levels leads to the loss of productivity gains associated with increasing returns.

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V. Tables

Table 1: A Comparison of Provincial Contributions to Labour Productivity Growth in the 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects

	Output Growth				Labour Productivity				Contribution to Aggregate Labour Productivity Growth in the Market Sector by Province				
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	
	(compound annual growth rate)				(compound annual growth rate)				1997 to 2007				
	(percentage points)				(percentage points)				(percentage points)				
Canada	3.61	5.99	2.61	-3.37	1.71	3.18	1.09	-2.10	N/A	N/A	N/A	N/A	
Newfoundland and Labrador	6.68	8.70	5.83	-2.87	4.02	4.83	3.68	-1.15	0.04	0.000	0.000	0.04	
Prince Edward Island	2.95	4.62	2.25	-2.37	1.63	3.01	1.04	-1.97	0.004	0.001	0.000	0.00	
Nova Scotia	3.22	5.73	2.16	-3.57	1.95	3.24	1.40	-1.84	0.04	0.004	0.000	0.04	
New Brunswick	3.08	5.52	2.05	-3.46	1.79	2.89	1.33	-1.56	0.03	0.003	0.000	0.03	
Quebec	3.33	6.23	2.11	-4.12	1.74	2.62	1.36	-1.26	0.37	0.001	0.001	0.37	
Ontario	3.71	7.64	2.07	-5.56	1.72	3.91	0.80	-3.11	0.71	0.001	0.001	0.71	
Manitoba	2.86	3.72	2.49	-1.23	2.12	3.75	1.43	-2.32	0.07	0.006	0.000	0.07	
Saskatchewan	1.98	2.70	1.68	-1.02	2.17	3.64	1.55	-2.09	0.07	0.003	0.000	0.08	
Alberta	4.06	4.32	3.95	-0.37	1.41	1.83	1.24	-0.59	0.19	0.021	-0.004	0.21	
British Columbia	3.29	3.04	3.39	0.35	1.20	2.36	0.71	-1.65	0.15	-0.001	-0.001	0.14	
Sum Total									1.68	0.04	-0.002	1.71	
	Contribution to Aggregate Labour Productivity Growth in the Market Sector by Province												
	1997 to 2000				2000 to 2007				Difference Between Periods				Percent Contribution to the Change in Labour Productivity
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	
	(percentage points)												
Canada	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Newfoundland and Labrador	0.05	0.00	0.00	0.05	0.04	0.00	0.00	0.04	-0.01	0.00	0.00	-0.0060	0.29
Prince Edward Island	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.0064	0.31
Nova Scotia	0.06	0.00	0.00	0.07	0.03	0.00	0.00	0.03	-0.04	0.00	0.00	-0.03	1.63
New Brunswick	0.05	0.00	0.00	0.05	0.02	0.00	0.00	0.03	-0.03	0.00	0.00	-0.02	1.12
Quebec	0.56	0.00	0.00	0.55	0.29	0.01	0.00	0.30	-0.26	0.01	0.00	-0.26	12.15
Ontario	1.62	0.01	0.01	1.65	0.34	-0.01	0.00	0.34	-1.28	-0.02	-0.01	-1.31	62.21
Manitoba	0.12	0.01	0.00	0.13	0.04	0.00	0.00	0.04	-0.08	-0.01	0.00	-0.09	4.26
Saskatchewan	0.12	0.01	0.00	0.13	0.05	0.00	0.00	0.05	-0.07	-0.01	0.00	-0.08	3.78
Alberta	0.25	0.00	0.00	0.25	0.16	0.02	0.00	0.19	-0.08	0.03	0.00	-0.05	2.58
British Columbia	0.29	0.01	0.01	0.31	0.08	-0.01	0.00	0.06	-0.21	-0.02	-0.01	-0.25	11.68
Sum Total	3.12	0.05	0.01	3.18	1.06	0.03	0.00	1.08	-2.06	-0.02	-0.02	-2.10	100.00

Source: These estimates have been calculated by the CSLs using unpublished Statistics Canada data. Note that, the aggregate Canada measure of output was calculated using the sum of the provincial components which are the sum of the real industrial output in each province. This results in slight differences in the labour productivity growth rates presented here and the database available on the CSLs website.

Table 2: A Comparison of Sectoral Contributions to Labour Productivity Growth in the 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects, Ontario

	Labour Productivity				Contribution to Aggregate Labour Productivity Growth in the Market Sector by Industry			
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
					1997 - 2007			
	(compound annual growth rate)				(percentage points)			
	A	A	B		C	D	E	F
Market Sector	1.72	3.91	0.80	-3.11	N/A	N/A	N/A	N/A
Agriculture, forestry, fishing and hunting	3.02	10.84	-0.16	-10.99	0.05	-0.05	-0.02	-0.01
Mining and Oil and Gas Extraction	-4.06	5.80	-8.00	-13.80	-0.04	0.03	-0.01	-0.02
Utilities	-0.92	3.76	-2.85	-6.61	-0.03	-0.01	0.00	-0.04
Construction	1.68	2.16	1.47	-0.68	0.11	0.09	0.02	0.21
Manufacturing	2.37	6.28	0.75	-5.53	0.72	-0.69	-0.18	-0.15
Wholesale Trade	4.17	6.25	3.28	-2.97	0.38	-0.02	-0.01	0.35
Retail Trade	3.10	4.17	2.65	-1.53	0.22	0.00	0.00	0.22
Transportation and Warehousing	0.22	0.94	-0.09	-1.03	0.01	0.01	0.00	0.02
Information and Cultural Industries	2.67	1.40	3.22	1.82	0.12	0.07	0.02	0.21
Finance, Insurance, Real Estate and Renting and Leasing	1.48	3.66	0.56	-3.10	0.26	0.19	0.03	0.48
Professional, Scientific and Technical Services	1.47	3.96	0.43	-3.53	0.08	0.14	0.02	0.24
Administrative and Support, Waste Management and Remediation Services	0.62	0.54	0.65	0.11	0.02	0.12	0.01	0.14
Arts, Entertainment and Recreation	-0.20	0.45	-0.48	-0.93	0.00	0.01	0.00	0.01
Accommodation and Food Services	0.51	2.51	-0.34	-2.85	0.01	0.00	0.00	0.01
Other Services (Except Public Administration)	1.51	3.42	0.70	-2.72	0.03	0.01	0.00	0.04
Sum Total					1.96	-0.11	-0.12	1.72

Table 2, continued: A Comparison of Sectoral Contributions to Labour Productivity Growth in the 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects, Ontario

	Contribution to Aggregate Labour Productivity Growth in the Manufacturing Sector by Industry												
	1997 to 2000				2000 to 2007				Difference Between Periods				
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Percent Contribution to the Change in Labour Productivity
(percentage points)													
C	D	E	F	G	H	I	J	K = G - C	L = H - D	M = I - E	N = J - F		
Market Sector	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agriculture, forestry, fishing and hunting	0.19	0.13	-0.01	0.30	0.00	0.02	0.00	0.02	-0.19	-0.11	0.01	-0.29	9.24
Mining and Oil and Gas Extraction	0.07	-0.04	-0.01	0.02	-0.06	0.05	-0.04	-0.05	-0.13	0.08	-0.03	-0.08	2.43
Utilities	0.15	-0.20	-0.02	-0.08	-0.08	0.08	-0.02	-0.02	-0.23	0.28	0.00	0.05	-1.73
Construction	0.14	0.00	0.00	0.13	0.09	-0.03	0.00	0.06	-0.04	-0.03	0.01	-0.07	2.18
Manufacturing	1.90	-0.12	-0.06	1.71	0.22	-0.23	-0.01	-0.02	-1.68	-0.10	0.05	-1.73	55.68
Wholesale Trade	0.53	0.00	0.00	0.52	0.31	0.00	0.00	0.30	-0.22	0.00	0.00	-0.22	7.16
Retail Trade	0.28	0.06	0.01	0.35	0.18	-0.02	0.00	0.16	-0.10	-0.09	0.00	-0.19	6.10
Transportation and Warehousing	0.05	0.00	0.00	0.05	0.00	0.00	0.00	-0.01	-0.05	0.00	0.00	-0.05	1.70
Information and Cultural Industries	0.06	0.12	-0.01	0.17	0.17	-0.01	-0.01	0.16	0.11	-0.13	0.00	-0.01	0.45
Finance, Insurance, Real Estate and Renting and Leasing	0.65	-0.05	0.00	0.60	0.10	0.16	0.00	0.26	-0.55	0.20	0.01	-0.34	10.98
Professional, Scientific and Technical Services	0.23	-0.10	-0.01	0.12	0.03	-0.01	0.00	0.02	-0.20	0.09	0.01	-0.10	3.20
Administrative and Support, Waste Management and Remediation Services	0.02	-0.06	-0.02	-0.07	0.02	-0.09	-0.01	-0.08	0.00	-0.03	0.01	-0.01	0.35
Arts, Entertainment and Recreation	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.02	-0.01	-0.01	0.00	-0.02	0.55
Accommodation and Food Services	0.07	-0.06	-0.01	0.01	-0.01	0.02	0.00	0.02	-0.08	0.08	0.01	0.01	-0.39
Other Services (Except Public Administration)	0.07	0.00	0.00	0.07	0.01	-0.01	0.00	0.00	-0.06	-0.01	0.00	-0.07	2.12
Sum Total	4.39	-0.33	-0.16	3.91	0.97	-0.10	-0.07	0.80	-3.42	0.23	0.08	-3.11	100.00

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data. Note that, the aggregate Canada measure of output was calculated using the sum of the provincial components which are the sum of the real industrial output in each province. This results in slight differences in the labour productivity growth rates presented here and the database available on the CSLS website.

Table 3: A Comparison of Sectoral Contributions to Labour Productivity Growth in the 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects, Canada

	Output Growth Rate				Labour Productivity				Contribution to Aggregate Labour Productivity Growth in Market Sector by Industry			
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
									1997 - 2007			
	(compound annual growth rate)				(compound annual growth rate)				(percentage points)			
Market Sector	3.61	5.99	2.61	-3.37	1.71	3.18	1.09	-2.10	N/A	N/A	N/A	N/A
Agriculture, forestry, fishing and hunting	1.28	4.34	-0.01	-4.35	4.21	8.70	2.34	-6.36	0.16	0.08	-0.06	0.18
Mining and Oil and Gas Extraction	1.49	1.30	1.58	0.28	-2.24	3.58	-4.64	-8.22	-0.11	0.08	-0.02	-0.05
Utilities	0.74	-0.14	1.12	1.26	-0.93	0.39	-1.49	-1.88	-0.04	-0.01	0.00	-0.04
Construction	5.54	4.43	6.02	1.59	1.75	2.09	1.60	-0.49	0.13	-0.02	0.03	0.13
Manufacturing	1.95	7.72	-0.43	-8.15	2.25	4.94	1.11	-3.83	0.56	-0.09	-0.11	0.36
Wholesale Trade	5.23	7.04	4.47	-2.57	3.73	4.75	3.29	-1.46	0.30	0.00	-0.01	0.29
Retail Trade	5.06	5.76	4.77	-1.00	3.35	4.10	3.03	-1.07	0.26	0.01	-0.01	0.27
Transportation and Warehousing	2.88	4.72	2.10	-2.62	0.69	1.74	0.24	-1.50	0.04	0.00	0.00	0.04
Information and Cultural Industries	5.60	9.39	4.02	-5.37	3.00	1.59	3.62	2.03	0.14	0.01	0.01	0.16
Finance, Insurance, Real Estate and Renting and Leasing	4.08	4.94	3.72	-1.22	1.51	2.52	1.09	-1.44	0.23	0.05	0.02	0.30
Professional, Scientific and Technical Services	5.49	11.08	3.18	-7.90	1.33	3.31	0.49	-2.82	0.07	-0.03	0.02	0.05
Administrative and Support, Waste Management and Remediation Services	6.20	7.51	5.65	-1.86	0.34	-0.18	0.57	0.75	0.01	-0.07	0.00	-0.05
Arts, Entertainment and Recreation	2.91	3.92	2.48	-1.44	-1.20	-1.13	-1.23	-0.10	-0.01	-0.01	0.00	-0.03
Accommodation and Food Services	2.52	4.35	1.75	-2.60	1.08	1.83	0.76	-1.06	0.03	0.02	0.00	0.05
Other Services (Except Public Administration)	4.01	5.78	3.26	-2.52	2.13	3.03	1.74	-1.29	0.05	0.00	0.00	0.05
Sum Total									1.83	0.02	-0.14	1.71

Table 3, continued: A Comparison of Sectoral Contributions to Labour Productivity Growth in the 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects, Canada

	Contribution to Aggregate Labour Productivity Growth in Market Sector by Sub Sector											
	1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007			
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(percentage points)											
Market Sector	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agriculture, forestry, fishing and hunting	0.31	0.14	-0.02	0.42	0.08	0.05	-0.01	0.12	-0.23	-0.09	0.02	-0.31
Mining and Oil and Gas Extraction	0.20	-0.17	-0.02	0.01	-0.19	0.19	-0.08	-0.09	-0.40	0.36	-0.06	-0.10
Utilities	0.02	-0.10	0.00	-0.08	-0.05	0.03	0.00	-0.02	-0.07	0.13	-0.01	0.06
Construction	0.15	0.00	0.00	0.15	0.11	-0.03	0.01	0.08	-0.04	-0.04	0.00	-0.07
Manufacturing	1.22	0.00	0.00	1.21	0.28	-0.16	-0.01	0.10	-0.93	-0.16	-0.01	-1.11
Wholesale Trade	0.36	0.00	0.00	0.36	0.27	0.00	0.00	0.26	-0.09	0.00	0.00	-0.09
Retail Trade	0.30	0.07	0.00	0.37	0.23	-0.01	0.00	0.22	-0.07	-0.08	0.00	-0.15
Transportation and Warehousing	0.11	0.00	0.00	0.11	0.01	0.00	0.00	0.01	-0.10	0.00	0.00	-0.10
Information and Cultural Industries	0.07	0.09	0.00	0.15	0.19	-0.02	-0.01	0.16	0.12	-0.11	-0.01	0.00
Finance, Insurance, Real Estate and Renting and Leasing	0.39	-0.02	0.00	0.36	0.16	0.08	0.01	0.25	-0.23	0.10	0.01	-0.12
Professional, Scientific and Technical Services	0.17	-0.07	-0.01	0.09	0.03	-0.02	0.00	0.01	-0.14	0.05	0.00	-0.09
Administrative and Support, Waste Management and Remediation Services	0.00	-0.08	-0.02	-0.10	0.02	-0.08	-0.01	-0.07	0.02	0.00	0.01	0.03
Arts, Entertainment and Recreation	-0.01	-0.01	0.00	-0.03	-0.01	-0.02	0.00	-0.03	0.00	0.00	0.00	0.00
Accommodation and Food Services	0.06	0.01	0.00	0.07	0.02	0.02	0.00	0.05	-0.04	0.02	0.00	-0.02
Other Services (Except Public Administration)	0.07	0.00	0.00	0.07	0.04	0.00	0.00	0.04	-0.03	0.00	0.00	-0.03
Sum Total	3.40	-0.15	-0.07	3.18	1.19	0.03	-0.13	1.09	-2.21	0.18	-0.06	-2.09

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data. Note that, the aggregate Canada measure of output was calculated using the sum of the provincial components which are the sum of the real industrial output in each province. This results in slight differences in the labour productivity growth rates presented here and the database available on the CSLS website.

Table 4: A Comparison of Sectoral Contributions to Labour Productivity Growth in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Manufacturing Industry

	Output				Labour Productivity				Contribution to Aggregate Labour Productivity Growth in Manufacturing Sector by Sub Sector			
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
									1997 to 2007			
	(compound annual growth rate)				(compound annual growth rate)				(percentage points)			
Manufacturing Sector	1.80	7.82	-0.68	-8.50	2.19	4.68	1.14	-3.55				
Food manufacturing	2.67	3.62	2.26	-1.37	3.03	2.78	3.14	0.36	0.00	0.00	0.00	0.00
Beverage and tobacco product manufacturing	-2.98	0.00	-4.23	-4.23	-0.79	4.36	-2.92	-7.28	0.30	0.00	0.00	0.30
Textile and textile product mills	-3.18	6.96	-7.23	-14.19	0.25	5.77	-2.03	-7.80	-0.03	-0.03	0.01	-0.05
Clothing manufacturing	-4.63	4.81	-8.41	-13.22	-1.30	-0.02	-1.85	-1.83	0.00	0.02	0.01	0.04
Leather and allied product manufacturing	-7.83	1.13	-11.42	-12.55	-1.74	7.45	-5.44	-12.89	-0.02	0.05	0.03	0.05
Wood product manufacturing	2.31	7.46	0.17	-7.29	3.08	5.07	2.24	-2.83	0.00	0.01	0.01	0.02
Paper manufacturing	-0.73	3.53	-2.50	-6.02	-0.09	4.78	-2.11	-6.88	0.19	0.00	0.00	0.20
Printing and related support activities	0.63	5.27	-1.30	-6.57	1.08	2.75	0.37	-2.39	-0.01	0.00	0.00	0.00
Petroleum and coal products manufacturing	1.03	1.19	0.97	-0.22	-2.76	-3.17	-2.58	0.59	0.03	0.00	0.00	0.04
Chemical manufacturing	2.57	5.42	1.38	-4.04	2.28	7.16	0.25	-6.90	-0.04	0.05	-0.03	-0.02
Plastics and rubber products manufacturing	3.02	8.81	0.63	-8.18	1.39	2.86	0.76	-2.10	0.18	0.02	0.00	0.20
Non-metallic mineral product manufacturing	4.45	6.33	3.65	-2.68	2.32	2.06	2.44	0.38	0.06	-0.02	-0.01	0.03
Primary metal manufacturing	2.44	6.26	0.84	-5.42	4.42	5.89	3.79	-2.09	0.06	0.00	0.00	0.06
Fabricated metal product manufacturing	3.59	12.12	0.14	-11.98	1.65	3.61	0.83	-2.79	0.29	-0.01	-0.03	0.25
Machinery manufacturing	2.54	4.83	1.57	-3.26	2.77	3.28	2.55	-0.74	0.11	-0.03	-0.02	0.06
Computer and electronic product manufacturing	2.04	25.44	-6.61	-32.05	3.43	20.40	-3.09	-23.49	0.21	0.00	0.00	0.21
Electrical equipment, appliance and component	-0.65	11.24	-5.35	-16.59	0.24	8.21	-2.99	-11.19	0.14	0.01	0.00	0.15
Transportation equipment manufacturing	2.04	8.03	-0.42	-8.45	3.28	7.75	1.43	-6.32	0.00	0.00	0.00	0.01
Furniture and related product manufacturing	3.34	14.85	-1.23	-16.09	2.66	5.35	1.53	-3.81	0.64	-0.05	-0.03	0.56
Miscellaneous manufacturing	4.58	7.95	3.18	-4.77	3.16	-0.36	4.71	5.07	0.07	-0.01	0.00	0.05
Sum Total									2.25	0.01	-0.05	2.15

Table 4, continued: A Comparison of Sectoral Contributions to Labour Productivity Growth in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Manufacturing Industry

	Contribution to Aggregate Labour Productivity Growth in the Manufacturing Sector by Industry												Percent Contribution to the Change in Labour Productivity
	1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007				
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	
	(percentage points)												
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	(per cent)
	N/A												
Manufacturing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Food manufacturing	0.26	0.03	0.01	0.30	0.29	-0.01	0.01	0.28	0.03	-0.04	-0.01	-0.02	0.58
Beverage and tobacco product manufacturing	0.17	-0.12	-0.02	0.04	-0.08	0.00	0.00	-0.08	-0.26	0.13	0.01	-0.12	3.31
Textile and textile product mills	0.09	0.01	0.00	0.11	-0.03	0.03	0.01	0.01	-0.12	0.01	0.01	-0.10	2.72
Clothing manufacturing	0.00	-0.04	-0.01	-0.05	-0.04	0.10	0.03	0.10	-0.03	0.14	0.04	0.15	-4.21
Leather and allied product manufacturing	0.02	0.02	0.00	0.05	-0.01	0.01	0.00	0.00	-0.03	-0.01	0.00	-0.05	1.28
Wood product manufacturing	0.31	0.00	0.00	0.31	0.14	0.00	0.00	0.14	-0.17	0.00	0.00	-0.17	4.73
Paper manufacturing	0.34	-0.04	-0.01	0.29	-0.12	0.01	-0.01	-0.12	-0.46	0.05	-0.01	-0.41	11.63
Printing and related support activities	0.09	0.00	0.00	0.09	0.01	0.00	0.00	0.01	-0.08	0.00	0.00	-0.08	2.26
Petroleum and coal products manufacturing	-0.06	0.02	-0.01	-0.04	-0.04	0.04	-0.02	-0.01	0.02	0.02	-0.01	0.03	-0.83
Chemical manufacturing	0.58	-0.10	-0.04	0.44	0.02	0.08	-0.01	0.09	-0.56	0.19	0.03	-0.34	9.69
Plastics and rubber products manufacturing	0.13	-0.03	-0.01	0.09	0.04	-0.02	0.00	0.02	-0.10	0.01	0.01	-0.08	2.15
Non-metallic mineral product manufacturing	0.05	0.00	0.00	0.05	0.06	-0.01	0.01	0.06	0.01	-0.01	0.01	0.01	-0.40
Primary metal manufacturing	0.35	-0.01	-0.01	0.33	0.24	-0.01	-0.02	0.21	-0.12	0.00	-0.01	-0.12	3.46
Fabricated metal product manufacturing	0.24	-0.08	-0.02	0.13	0.06	-0.02	0.00	0.04	-0.18	0.07	0.02	-0.09	2.45
Machinery manufacturing	0.23	0.00	0.00	0.24	0.18	0.00	0.00	0.18	-0.06	0.00	0.00	-0.06	1.67
Computer and electronic product manufacturing	0.90	-0.02	0.03	0.91	-0.16	-0.02	0.03	-0.15	-1.06	0.00	0.00	-1.06	29.90
Electrical equipment, appliance and component manufacturing	0.19	0.00	0.00	0.19	-0.06	0.00	0.01	-0.06	-0.25	0.00	0.01	-0.25	6.91
Transportation equipment manufacturing	1.47	-0.13	-0.06	1.29	0.27	-0.02	0.00	0.25	-1.20	0.11	0.06	-1.04	29.31
Furniture and related product manufacturing	0.14	-0.10	-0.01	0.02	0.05	0.02	0.00	0.07	-0.09	0.12	0.01	0.05	-1.31
Miscellaneous manufacturing	-0.01	-0.06	-0.03	-0.09	0.10	0.00	0.00	0.10	0.10	0.06	0.03	0.19	-5.30
Sum Total	5.52	-0.66	-0.17	4.68	0.90	0.20	0.03	1.14	-4.61	0.86	0.21	-3.55	100.00

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 4a: The Aggregate Contribution to the Change in Canada's Labour Productivity Growth of Manufacturing Sub-sectors Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Manufacturing Industry between the 1997-2000 and 2000-2007 periods

	Contribution to the Change Aggregate Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(percentage points)			
Manufacturing Sector	N/A	N/A	N/A	N/A
Food manufacturing	0.01	0.00	-0.01	0.00
Beverage and tobacco product manufacturing	-0.06	0.02	0.01	-0.03
Textile and textile product mills	-0.03	0.00	0.01	-0.02
Clothing manufacturing	-0.01	0.03	0.01	0.03
Leather and allied product manufacturing	-0.01	0.00	0.00	-0.01
Wood product manufacturing	-0.04	0.00	0.00	-0.05
Paper manufacturing	-0.11	0.01	0.01	-0.09
Printing and related support activities	-0.02	0.00	0.00	-0.02
Petroleum and coal products manufacturing	0.00	0.00	0.00	0.00
Chemical manufacturing	-0.14	0.03	0.01	-0.09
Plastics and rubber products manufacturing	-0.02	0.00	0.00	-0.02
Non-metallic mineral product manufacturing	0.00	0.00	0.00	0.00
Primary metal manufacturing	-0.03	-0.01	-0.01	-0.05
Fabricated metal product manufacturing	-0.04	0.00	0.00	-0.05
Machinery manufacturing	-0.01	0.00	0.00	-0.02
Computer and electronic product manufacturing	-0.26	-0.02	0.01	-0.27
Electrical equipment, appliance and component manufacturing	-0.06	0.00	0.01	-0.06
Transportation equipment manufacturing	-0.29	-0.03	0.01	-0.31
Furniture and related product manufacturing	-0.02	0.02	0.00	-0.01
Miscellaneous manufacturing	0.03	0.01	0.00	0.04
Sum Total	-1.12	0.05	0.04	-1.02

Table 5: A Comparison of Sectoral Contributions to Labour Productivity Growth in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Mining and Oil and Natural Gas Extraction Industry

	Labour Productivity Growth Rate				Contribution to Aggregate Labour Productivity Growth in Mining and Oil and Natural Gas Extraction by Sub Sector							
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between two periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(compound annual growth rate)				(percentage points)							
	A	B	C	D	E	F	G	H	I	J	K	L
Mining and Oil and Natural Gas Extraction	-2.01	4.42	-4.65	-9.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oil and gas extraction	-3.96	6.81	-8.23	-15.04	-2.69	1.36	-0.55	-1.88	5.16	-1.10	-0.28	3.78
Mining (except oil and gas extraction)	-0.61	7.42	-3.87	-11.30	-0.11	0.45	-0.14	0.20	1.29	0.45	0.02	1.75
Support activities for mining and oil and gas extraction	-2.27	1.99	-4.04	-6.03	-0.20	-0.15	0.03	-0.33	0.18	-1.11	-0.18	-1.11
Sum Total					-3.00	1.65	-0.66	-2.01	6.62	-1.76	-0.44	4.42

	Contribution to Aggregate Labour Productivity Growth in Mining and Oil and Natural Gas Extraction by Sub Sector								Contribution to the Change Aggregate Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(percentage points)											
	M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X
Mining and Oil and Natural Gas Extraction	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oil and gas extraction	-5.46	2.88	-1.52	-4.11	-10.62	3.97	-1.24	-7.88	-0.70	0.89	-0.20	-0.02
Mining (except oil and gas extraction)	-0.67	0.40	-0.13	-0.40	-1.96	-0.04	-0.15	-2.15	-0.14	0.06	0.01	-0.07
Support activities for mining and oil and gas extraction	-0.39	0.35	-0.10	-0.14	-0.57	1.46	0.08	0.97	-0.04	0.00	-0.01	-0.05
Sum Total	-6.52	3.63	-1.76	-4.65	-13.14	5.39	-1.31	-9.06	-0.87	0.94	-0.20	-0.13

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 6: A Comparison of Sectoral Contribution in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Agriculture, Forestry, Fishing, and Hunting Industry

	Labour Productivity Growth Rate				Contribution to Aggregate Labour Productivity Growth in Agriculture, Forestry, Fishing and Hunting by Sub Sector							
	1997-2007	1997 - 2000	2000 - 2007	Difference between periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
(compound annual growth rate)				(percentage points)								
A	B	C	D	E	F	G	H	I	J	K	L	
Agriculture, Forestry, Fishing and Hunting	4.13	8.78	2.20	-6.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crop and animal production	4.58	10.11	2.29	-7.82	3.29	0.01	0.00	3.30	7.20	0.10	-0.01	7.29
Forestry and logging	2.98	4.94	2.15	-2.79	0.61	0.01	0.00	0.62	1.03	0.26	-0.01	1.28
Fishing, hunting and trapping	6.59	1.73	8.75	7.02	0.32	-0.01	-0.04	0.27	0.07	0.01	-0.01	0.07
Support activities for agriculture and forestry	0.27	5.26	-1.79	-7.05	0.01	0.00	-0.07	-0.06	0.19	-0.01	-0.05	0.14
Sum Total					4.23	0.01	-0.10	4.13	8.49	0.36	-0.07	8.78

	Contribution to Aggregate Labour Productivity Growth in Agriculture, Forestry, Fishing and Hunting by Sub Sector								Contribution to the Aggregate Change in Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
(percentage points)												
M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X	
Agriculture, Forestry, Fishing and Hunting	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Crop and animal production	1.62	-0.02	0.00	1.60	-5.58	-0.11	0.00	-5.69	-0.22	-0.10	0.02	-0.29
Forestry and logging	0.45	-0.07	-0.01	0.37	-0.57	-0.33	0.00	-0.91	-0.02	0.00	0.00	-0.03
Fishing, hunting and trapping	0.40	0.00	-0.08	0.32	0.33	-0.01	-0.07	0.25	0.01	0.00	-0.01	0.01
Support activities for agriculture and forestry	-0.07	-0.01	-0.02	-0.10	-0.26	0.00	0.03	-0.23	-0.01	0.00	0.00	-0.01
Sum Total	2.41	-0.09	-0.11	2.20	-6.08	-0.46	-0.04	-6.58	-0.24	-0.10	0.02	-0.32

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 7: A Comparison of Sectoral Contribution in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Other Services Industry

	Labour Productivity Growth Rate				Contribution to Aggregate Labour Productivity Growth in Other Services by Sub Sector							
	1997-2007	1997 - 2000	2000 - 2007	Difference between two periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
(compound annual growth rate)				(percentage points)								
A	B	C	D	E	F	G	H	I	J	K	L	
Other Services	1.73	2.84	1.26	-1.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Repair and maintenance	2.68	3.14	2.49	-0.66	1.15	0.02	0.04	1.20	1.29	0.05	0.01	1.36
Religious, grant-making, civic, and professional and similar organizations	3.00	7.83	1.00	-6.83	0.31	-0.02	-0.02	0.27	0.81	0.01	0.01	0.83
Personal and laundry services and private households	0.44	1.10	0.16	-0.94	0.20	0.02	0.03	0.25	0.53	0.08	0.05	0.66
Sum Total					1.67	0.01	0.05	1.73	2.63	0.14	0.07	2.84

	Contribution to Aggregate Labour Productivity Growth in Other Services by Sub Sector								Contribution to the Aggregate Change in Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between Periods							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(percentage points)											
	M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X
	Other Services	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Repair and maintenance	1.14	0.00	0.01	1.15	-0.16	-0.04	-0.01	-0.21	0.00	0.02	0.00	0.02
Religious, grant-making, civic, and professional and similar organizations	0.11	-0.06	0.00	0.05	-0.69	-0.07	-0.01	-0.78	-0.02	0.00	0.00	-0.01
Personal and laundry services and private households	0.07	-0.01	0.00	0.06	-0.46	-0.08	-0.05	-0.60	-0.01	-0.03	0.00	-0.04
Sum Total	1.32	-0.06	0.00	1.26	-1.31	-0.20	-0.07	-1.58	-0.03	0.00	0.00	-0.04

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 8: A Comparison of Sectoral Contribution in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Administration, Waste Management and Remediation Services Industry

	Labour Productivity Growth Rate				Contribution to Aggregate Labour Productivity Growth in Administration, Waste Management and Remediation Services by Sub Sector							
	1997-2007	1997 - 2000	2000 - 2007	Difference between periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
(compound annual growth rate)				(percentage points)								
A	B	C	D	E	F	G	H	I	J	K	L	
Administration, Waste Management and Remediation Services	0.32	-0.14	0.52	0.66	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Administrative and support services	-0.02	-0.16	0.04	0.20	-0.02	0.00	0.00	-0.02	-0.15	-0.01	0.00	-0.16
Waste management and remediation services	4.24	2.89	4.82	1.93	0.39	-0.02	-0.03	0.34	0.23	-0.18	-0.04	0.01
Sum Total					0.38	-0.02	-0.03	0.32	0.08	-0.19	-0.04	-0.14

	Contribution to Aggregate Labour Productivity Growth in Administration, Waste Management and Remediation Services by Sub Sector								Contribution to the Aggregate Change in Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(percentage points)											
	M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X
Administration, Waste Management and Remediation Services	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Administrative and support services	0.04	0.00	0.00	0.04	0.19	0.01	0.00	0.20	0.01	0.00	0.01	0.02
Waste management and remediation services	0.38	0.05	0.04	0.48	0.15	0.23	0.08	0.46	0.00	0.00	0.00	0.01
Sum Total	0.42	0.05	0.04	0.52	0.34	0.24	0.08	0.66	0.01	0.01	0.01	0.03

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 9: A Comparison of Sectoral Contribution in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Information and Cultural Industries Industry

	Labour Productivity Growth Rate				Contribution to Aggregate Labour Productivity Growth in Information and Cultural Industries by Sub Sector							
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between two periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(compound annual growth rate)				(percentage points)							
	A	B	C	D	E	F	G	H	I	J	K	L
Information and Cultural Industries	2.99	1.56	3.61	2.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motion picture and sound recording industries	1.27	1.49	1.17	-0.32	0.10	0.05	0.04	0.19	0.13	0.04	0.00	0.17
Broadcasting and telecommunications	4.00	2.91	4.47	1.56	2.58	-0.04	-0.04	2.51	1.82	-0.07	-0.02	1.73
Publishing industries, information services and data processing services	1.56	-0.73	2.55	3.28	0.43	-0.08	-0.07	0.29	-0.21	-0.10	-0.03	-0.34
Sum Total					3.12	-0.06	-0.06	2.99	1.73	-0.13	-0.04	1.56

	Contribution to Aggregate Labour Productivity Growth in N/A by Sub Sector								Contribution to the Aggregate Change in Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between Periods							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(percent)								(percentage points)			
	M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X
Information and Cultural Industries	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Motion picture and sound recording industries	0.09	0.06	0.04	0.19	-0.04	0.01	0.04	0.01	0.00	0.00	0.00	0.00
Broadcasting and telecommunications	2.89	-0.03	-0.02	2.84	1.08	0.04	0.00	1.11	0.06	-0.06	-0.01	-0.01
Publishing industries, information services and data processing services	0.71	-0.09	-0.04	0.58	0.92	0.01	-0.02	0.92	0.04	-0.01	0.01	0.04
Sum Total	3.69	-0.07	-0.02	3.61	1.96	0.06	0.02	2.04	0.10	-0.07	-0.01	0.03

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 10: A Comparison of Sectoral Contribution in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Transportation and Warehousing Industry

	Labour Productivity Growth Rate				Contribution to Aggregate Labour Productivity Growth in Transportation and Warehousing by Sub Sector							
	1997-2007	1997 - 2000	2000 - 2007	Difference between two periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
(compound annual growth rate)				(percentage points)								
A	B	C	D	E	F	G	H	I	J	K	L	
Transportation and Warehousing	0.66	1.65	0.24	-1.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Air, rail, water and scenic and sightseeing transportation and support activities for transportation	1.26	-0.37	1.96	2.33	0.48	-0.06	-0.02	0.39	-0.13	0.11	-0.02	-0.05
Truck transportation	0.34	2.39	-0.52	-2.91	0.09	-0.13	-0.02	-0.06	0.62	-0.12	0.00	0.50
Transit and ground passenger transportation	1.26	4.19	0.03	-4.16	0.14	0.04	-0.01	0.17	0.45	0.08	-0.02	0.51
Pipeline transportation	1.21	6.53	-0.98	-7.52	0.14	-0.13	-0.02	-0.01	0.75	-0.60	-0.14	0.02
Postal service and couriers and messengers	1.01	4.06	-0.27	-4.34	0.13	0.05	0.00	0.18	0.52	0.12	-0.02	0.62
Warehousing and storage	-0.26	1.44	-0.98	-2.42	-0.01	0.01	-0.01	-0.01	0.04	0.00	0.00	0.05
Sum Total					0.96	-0.22	-0.08	0.66	2.25	-0.41	-0.19	1.65

	Contribution to Aggregate Labour Productivity Growth in Transportation and Warehousing by Sub Sector								Contribution to the Aggregate Change in Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between Periods							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
								(percentage points)				
M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X	
Transportation and Warehousing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Air, rail, water and scenic and sightseeing transportation and support activities for transportation	0.75	-0.10	-0.08	0.57	0.89	-0.21	-0.05	0.62	0.05	-0.01	0.00	0.04
Truck transportation	-0.14	-0.13	-0.02	-0.28	-0.76	-0.01	-0.02	-0.79	-0.05	0.00	0.00	-0.05
Transit and ground passenger transportation	0.00	0.01	0.00	0.02	-0.45	-0.06	0.02	-0.49	-0.03	0.00	0.00	-0.03
Pipeline transportation	-0.10	0.08	-0.01	-0.02	-0.85	0.68	0.13	-0.03	-0.05	0.04	0.01	0.00
Postal service and couriers and messengers	-0.03	0.02	0.00	-0.01	-0.55	-0.10	0.02	-0.63	-0.03	-0.01	0.00	-0.04
Warehousing and storage	-0.03	0.01	-0.01	-0.04	-0.08	0.00	-0.01	-0.09	0.00	0.00	0.00	-0.01
Sum Total	0.46	-0.10	-0.12	0.24	-1.79	0.30	0.08	-1.41	-0.11	0.02	0.00	-0.09

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 11: A Comparison of Sectoral Contribution in 1997 - 2000 and 2000 - 2007 Period Divided into Within-sector, Reallocation Level Effect, and Reallocation Growth Effect for the Utilities Industry

	Labour Productivity				Contribution to Aggregate Labour Productivity Growth in Utilities by Sub Sector							
	1997 - 2007	1997 - 2000	2000 - 2007	Difference between periods	1997 to 2007				1997 to 2000			
					Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
(compound annual growth rate)				(percentage points)								
A	B	C	D	E	F	G	H	I	J	K	L	
Utilities	-0.94	0.37	-1.50	-1.86	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Electric power generation, transmission and distribution	-0.97	-0.18	-1.31	-1.13	-0.86	0.00	0.00	-0.86	-0.16	-0.01	0.00	-0.16
Natural gas distribution, water and other systems	-0.71	4.35	-2.80	-7.16	-0.09	0.00	0.00	-0.09	0.54	-0.03	0.01	0.53
Sum Total					-0.94	0.00	0.00	-0.94	0.39	-0.03	0.02	0.37

	Contribution to Aggregate Labour Productivity Growth in Utilities by Sub Sector								Contribution to the Aggregate Change in Labour Productivity Growth in Canada's Market Sector between Periods by Sub Sector			
	2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007							
	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
								(percentage points)				
M	N	O	P	Q = M - I	R = N - J	S = O - K	T = P - L	U	V	W	X	
Utilities	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Electric power generation, transmission and distribution	-1.14	0.00	0.00	-1.13	-0.98	0.01	0.00	-0.97	-0.03	0.12	-0.01	0.08
Natural gas distribution, water and other systems	-0.37	0.01	0.00	-0.36	-0.92	0.04	-0.01	-0.89	-0.04	0.01	0.00	-0.02
Sum Total	-1.51	0.01	0.00	-1.50	-1.90	0.04	-0.01	-1.86	-0.07	0.13	-0.01	0.06

Source: These estimates have been calculated by the CSLS using unpublished Statistics Canada data

Table 12: Export Volume Growth Rate for Select Manufactured Products, 1997 – 2007
(compound annual growth rate)

	Export Volume Growth Rate by Period			
	1997 - 2007	1997 - 2000	2000 - 2007	Difference in Export Volume Growth Rate between Periods
End products, inedible	4.57	13.03	1.14	-11.89
Industrial machinery	3.44	5.70	2.48	-3.22
Agricultural machinery, including tractors	0.58	-9.79	5.38	15.18
Passenger automobiles and chassis	3.80	11.79	0.56	-11.23
Trucks, truck tractors and chassis	0.39	5.67	-1.79	-7.46
Motor vehicle parts including motor vehicle engines and engine parts	3.25	10.71	0.20	-10.51
Television, telecommunications and related equipment	-0.35	25.08	-9.60	-34.68
Aircraft, aircraft engines and parts	7.27	15.08	4.09	-10.99
Other transportation equipment	2.49	2.47	2.49	0.02
Office machines and equipment	16.95	28.40	12.35	-16.05
Other equipment and tools	3.64	15.95	-1.23	-17.18
Other consumer goods	5.72	8.69	4.47	-4.22

Source: Statistics Canada Table 228-0037

Table 13: Per Cent Capacity Utilization for Manufacturing and Subsectors, 1997 – 2007

	Per cent Utilization by Year			Percentage Point Change In Capacity Utilization		
	1997	2000	2007	1997 - 2000	2000 - 2007	Difference in change between periods
Manufacturing Sector	83.6	86.0	82.9	2.4	-3.2	-5.6
Food manufacturing	79.0	80.9	80.1	1.9	-0.8	-2.7
Beverage and tobacco product manufacturing	81.8	79.5	71.4	-2.3	-8.1	-5.9
Textile and textile product mills	80.2	82.7	75.3	2.5	-7.4	-9.8
Clothing manufacturing	85.1	85.0	76.0	-0.1	-9.0	-8.9
Leather and allied product manufacturing	80.1	78.5	77.8	-1.6	-0.7	0.8
Wood product manufacturing	84.5	85.1	79.0	0.5	-6.1	-6.6
Paper manufacturing	90.4	92.1	87.4	1.7	-4.7	-6.4
Printing and related support activities	80.0	79.8	73.5	-0.2	-6.3	-6.2
Petroleum and coal products manufacturing	93.1	92.7	82.5	-0.4	-10.2	-9.8
Chemical manufacturing	80.2	80.1	82.0	-0.1	1.9	2.0
Plastics and rubber products manufacturing	83.2	84.3	76.6	1.2	-7.7	-8.9
Non-metallic mineral product manufacturing	83.4	79.8	85.0	-3.6	5.2	8.9
Primary metal manufacturing	89.0	90.9	92.1	1.9	1.2	-0.8
Fabricated metal product manufacturing	80.0	84.1	86.0	4.1	1.9	-2.2
Machinery manufacturing	84.8	83.6	83.5	-1.2	-0.1	1.1
Computer and electronic product manufacturing	79.3	96.7	88.1	17.3	-8.5	-25.9
Electrical equipment, appliance and component manufacturing	85.2	92.5	83.6	7.3	-8.9	-16.2
Transportation equipment manufacturing	86.4	89.0	86.8	2.6	-2.2	-4.9
Furniture and related product manufacturing	82.5	84.8	81.2	2.3	-3.6	-6.0
Miscellaneous manufacturing	85.2	83.5	77.3	-1.7	-6.2	-4.5

Source: Statistics Canada Table 028-0002

Table 14: A Comparison of Provincial Industry Contributions to the Change in Canada's Labour Productivity Growth between Periods Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects

	Contribution to Aggregate Labour Productivity Growth in Canada's Market Sector by Sub Sector													
	1997 - 2000	2000 - 2007	1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007			
			Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
			(percentage points)				(percentage points)				(percentage point differences)			
	(compound annual growth rate)													
Canada	3.18	1.09												
Alberta														
Agriculture, forestry, fishing and hunting	3.64	4.40	0.08	0.04	-0.01	0.11	0.02	0.01	-0.01	0.03	-0.05	-0.03	0.01	-0.08
Mining and Oil and Gas Extraction	1.83	-6.19	0.01	-0.08	0.00	-0.06	-0.15	0.14	-0.08	-0.08	-0.15	0.22	-0.08	-0.02
Utilities	2.36	-1.85	0.00	-0.01	0.00	-0.01	-0.01	0.01	0.00	0.00	-0.01	0.01	0.00	0.01
Construction	14.38	3.15	0.03	0.00	0.00	0.03	0.04	0.00	0.01	0.05	0.01	0.00	0.01	0.02
Manufacturing	0.25	2.73	0.02	0.01	0.00	0.03	0.05	-0.01	0.00	0.04	0.04	-0.02	0.00	0.02
Wholesale Trade	-0.17	3.17	0.01	0.00	0.00	0.01	0.03	0.00	0.00	0.03	0.01	0.00	0.00	0.01
Retail Trade	2.79	5.16	0.03	0.00	0.00	0.03	0.04	-0.01	0.00	0.04	0.01	-0.01	0.00	0.01
Transportation and Warehousing	0.84	0.18	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00	-0.04	0.00	0.00	-0.04
Information and Cultural Industries	1.53	4.91	0.03	0.00	0.00	0.03	0.03	0.00	0.00	0.02	0.00	0.00	0.00	-0.01
Finance, Insurance, Real Estate and Renting and Leasing	4.23	2.65	0.01	0.00	0.00	0.01	0.04	0.01	0.00	0.06	0.03	0.01	0.00	0.05
Professional, Scientific and Technical Services	4.02	0.62	0.03	0.00	0.00	0.03	0.00	-0.01	0.00	0.00	-0.03	0.00	0.00	-0.03
Administrative and Support, Waste Management and Remediation Services	6.20	1.18	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation	0.55	-0.44	-0.01	0.00	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	0.00	0.00	0.00
Accommodation and Food Services	4.76	3.47	0.00	-0.01	0.00	-0.01	0.02	0.01	0.00	0.02	0.02	0.02	0.00	0.03
Other Services (Except Public Administration)	-0.19	0.61	0.01	0.01	0.00	0.02	0.00	-0.01	0.00	-0.01	-0.01	-0.02	0.00	-0.03
British Columbia														
Agriculture, forestry, fishing and hunting	-6.14	2.55	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.02	0.00	0.00	0.02
Mining and Oil and Gas Extraction	0.00	-3.06	0.05	-0.02	-0.01	0.01	-0.01	0.02	-0.01	0.00	-0.06	0.04	0.00	-0.01
Utilities	4.96	4.96	-0.02	0.01	0.00	0.00	0.02	-0.01	-0.01	0.00	0.04	-0.02	0.00	0.01
Construction	-0.20	-1.23	0.01	0.01	0.01	0.03	-0.01	-0.02	-0.01	-0.04	-0.01	-0.03	-0.02	-0.07
Manufacturing	9.45	1.75	0.11	0.00	0.00	0.12	0.04	-0.01	0.00	0.03	-0.07	-0.01	0.00	-0.09
Wholesale Trade	-4.17	3.44	0.05	0.00	0.00	0.05	0.03	0.00	0.00	0.03	-0.02	-0.01	0.00	-0.02
Retail Trade	0.51	1.93	0.05	0.03	0.00	0.09	0.02	-0.01	0.00	0.01	-0.03	-0.04	0.00	-0.08
Transportation and Warehousing	5.65	-0.18	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.00	-0.04	0.00	0.00	-0.04
Information and Cultural Industries	5.46	4.33	0.02	0.00	0.00	0.02	0.03	0.00	0.00	0.03	0.01	0.00	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing	5.08	1.88	-0.02	-0.01	0.00	-0.02	0.04	0.00	0.00	0.03	0.05	0.01	0.00	0.06
Professional, Scientific and Technical Services	3.80	0.27	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	-0.01	0.00	0.00	0.00	-0.01
Administrative and Support, Waste Management and Remediation Services	3.75	-1.71	-0.01	0.00	0.00	-0.02	0.00	-0.02	-0.01	-0.03	0.01	-0.02	0.00	-0.01
Arts, Entertainment and Recreation	-0.82	-3.10	-0.01	0.00	0.00	-0.01	0.00	-0.01	0.00	-0.01	0.00	0.00	0.00	0.00
Accommodation and Food Services	0.89	1.10	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.01	-0.01	0.00	0.00
Other Services (Except Public Administration)	-4.28	1.58	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	-0.01

Table 14, continued15: A Comparison of Provincial Industry Contributions to the Change in Canada's Labour Productivity Growth between Periods Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects

			Contribution to Aggregate Labour Productivity Growth in Canada's Market Sector by Sub Sector											
			1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007			
			1997 - 2000	2000 - 2007	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect
	(compound annual growth rate)		(percentage points)				(percentage points)				(percentage point differences)			
Manitoba														
Agriculture, forestry, fishing and hunting	19.02	-0.68	0.05	0.02	-0.01	0.06	0.00	0.00	0.00	0.00	-0.05	-0.02	0.01	-0.06
Mining and Oil and Gas Extraction	11.47	3.94	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00
Utilities	-8.85	0.02	-0.01	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.01	-0.01	0.00	0.01
Construction	-3.27	4.45	-0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.01
Manufacturing	-0.69	1.55	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01
Wholesale Trade	9.43	0.64	0.03	0.00	0.00	0.02	0.00	0.00	0.00	0.00	-0.03	0.00	0.00	-0.02
Retail Trade	4.51	4.26	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Transportation and Warehousing	3.78	-0.99	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.02
Information and Cultural Industries	5.32	2.42	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing	1.38	2.34	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Professional, Scientific and Technical Services	0.68	-1.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Administrative and Support, Waste Management and Remediation Services	1.90	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation	32.52	-4.03	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	-0.01	0.00	-0.02
Accommodation and Food Services	4.36	-1.27	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01
Other Services (Except Public Administration)	-0.11	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
New Brunswick														
Agriculture, forestry, fishing and hunting	9.18	6.99	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	-0.01
Mining and Oil and Gas Extraction	-0.77	-6.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utilities	1.73	-2.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction	8.43	1.52	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01
Manufacturing	1.33	0.74	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wholesale Trade	7.02	3.45	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
Retail Trade	4.74	3.33	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Transportation and Warehousing	-2.42	1.33	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Information and Cultural Industries	5.93	3.74	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing	4.09	1.36	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00
Professional, Scientific and Technical Services	8.09	-2.02	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01
Administrative and Support, Waste Management and Remediation Services	-0.26	-1.39	0.00	-0.01	0.00	-0.01	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation	-10.17	-3.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accommodation and Food Services	1.64	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Services (Except Public Administration)	0.27	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

Table 14, continued16: A Comparison of Provincial Industry Contributions to the Change in Canada's Labour Productivity Growth between Periods Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects

			Contribution to Aggregate Labour Productivity Growth in Canada's Market Sector by Sub Sector											
			1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007			
			1997 - 2000	2000 - 2007	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect
		(compound annual growth rate)	(percentage points)				(percentage points)				(percentage point differences)			
Newfoundland and Labrador														
Agriculture, forestry, fishing and hunting		6.51	9.93	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Mining and Oil and Gas Extraction		33.39	8.32	0.04	0.00	0.00	0.04	0.02	0.01	0.01	0.03	-0.02	0.00	0.00
Utilities		-1.82	-0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction		-4.31	-0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacturing		0.90	-1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wholesale Trade		8.35	2.23	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail Trade		2.76	3.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Transportation and Warehousing		-2.87	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Cultural Industries		10.65	1.41	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing		2.15	1.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Professional, Scientific and Technical Services		-2.48	-0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Administrative and Support, Waste Management and Remediation Services		-3.61	-1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation		-18.06	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accommodation and Food Services		4.76	-0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Services (Except Public Administration)		0.14	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nova Scotia														
Agriculture, forestry, fishing and hunting		7.83	1.37	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Mining and Oil and Gas Extraction		40.95	-3.54	0.03	0.00	-0.01	0.02	0.00	0.00	0.00	0.00	-0.03	0.00	0.01
Utilities		-4.68	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction		1.54	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manufacturing		0.42	2.37	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00
Wholesale Trade		5.57	0.13	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Retail Trade		3.40	3.82	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01
Transportation and Warehousing		4.19	-0.51	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Information and Cultural Industries		9.46	3.09	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing		2.58	0.28	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00
Professional, Scientific and Technical Services		0.47	-1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Administrative and Support, Waste Management and Remediation Services		3.36	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation		-8.29	-5.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accommodation and Food Services		1.35	1.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Services (Except Public Administration)		4.73	2.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 14, continued17: A Comparison of Provincial Industry Contributions to the Change in Canada's Labour Productivity Growth between Periods Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects

			Contribution to Aggregate Labour Productivity Growth in Canada's Market Sector by Sub Sector												
			1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007				
			1997 - 2000	2000 - 2007	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect
		(compound annual growth rate)	(percentage points)				(percentage points)				(percentage point differences)				
Ontario															
Agriculture, forestry, fishing and hunting		10.84	-0.16	0.08	0.05	-0.01	0.12	0.00	0.01	0.00	0.01	-0.08	-0.04	0.01	-0.11
Mining and Oil and Gas Extraction		5.80	-8.00	0.03	-0.01	0.00	0.01	-0.03	0.02	-0.02	-0.02	-0.06	0.03	-0.01	-0.03
Utilities		3.76	-2.85	0.06	-0.08	-0.01	-0.02	-0.03	0.03	-0.01	-0.01	-0.10	0.11	0.00	0.01
Construction		2.16	1.47	0.06	-0.01	0.00	0.05	0.04	-0.01	0.00	0.03	-0.02	0.00	0.00	-0.02
Manufacturing		6.28	0.75	0.79	-0.03	-0.02	0.74	0.09	-0.12	0.00	-0.02	-0.69	-0.09	0.02	-0.76
Wholesale Trade		6.25	3.28	0.22	0.00	0.00	0.22	0.13	0.00	0.00	0.13	-0.09	0.00	-0.01	-0.09
Retail Trade		4.17	2.65	0.12	0.01	0.00	0.12	0.08	0.00	0.00	0.08	-0.04	-0.01	0.00	-0.05
Transportation and Warehousing		0.94	-0.09	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	-0.02	0.00	0.00	-0.02
Information and Cultural Industries		1.40	3.22	0.02	0.06	0.00	0.08	0.07	-0.01	0.00	0.06	0.05	-0.07	0.00	-0.02
Finance, Insurance, Real Estate and Renting and Leasing		3.66	0.56	0.27	0.01	0.00	0.28	0.04	0.06	0.00	0.10	-0.23	0.05	0.00	-0.18
Professional, Scientific and Technical Services		3.96	0.43	0.09	-0.04	0.00	0.06	0.01	0.00	0.00	0.01	-0.08	0.04	0.00	-0.05
Administrative and Support, Waste Management and Remediation Services		0.54	0.65	0.01	-0.03	-0.01	-0.03	0.01	-0.03	0.00	-0.03	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation		0.45	-0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00
Accommodation and Food Services		2.51	-0.34	0.03	-0.04	0.00	-0.01	0.00	0.01	0.00	0.01	-0.03	0.05	0.01	0.02
Other Services (Except Public Administration)		3.42	0.70	0.03	-0.01	0.00	0.02	0.01	0.00	0.00	0.00	-0.02	0.01	0.00	-0.01
Prince Edward Island															
Agriculture, forestry, fishing and hunting		-1.98	5.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mining and Oil and Gas Extraction		16.91	-17.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Utilities		7.34	-9.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction		12.41	-1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
Manufacturing		5.89	-2.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wholesale Trade		-0.94	-4.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail Trade		5.59	3.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Transportation and Warehousing		-8.62	2.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Information and Cultural Industries		3.77	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing		-2.15	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Professional, Scientific and Technical Services		8.66	-0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Administrative and Support, Waste Management and Remediation Services		4.40	-4.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation		-5.89	-3.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accommodation and Food Services		3.62	2.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Services (Except Public Administration)		0.32	6.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 14, continued18: A Comparison of Provincial Industry Contributions to the Change in Canada's Labour Productivity Growth between Periods Divided into Within-sector, Reallocation Level Effects, and Reallocation Growth Effects

	Contribution to Aggregate Labour Productivity Growth in Canada's Market Sector by Sub Sector													
			1997 to 2000				2000 to 2007				Difference Between 1997- 2000 and 2000 - 2007			
	1997 - 2000	2000 - 2007	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total	Within-Sector Effect	Reallocation Level Effect	Reallocation Growth Effect	Total
	(compound annual growth rate)		(percentage points)				(percentage points)				(percentage point differences)			
Quebec														
Agriculture, forestry, fishing and hunting	6.99	2.40	0.04	0.01	0.00	0.05	0.01	0.00	0.00	0.02	-0.03	-0.01	0.00	-0.03
Mining and Oil and Gas Extraction	6.15	-2.32	0.02	0.00	0.00	0.01	0.00	0.00	0.00	-0.01	-0.02	0.00	0.00	-0.01
Utilities	-1.59	-1.49	-0.02	-0.01	0.00	-0.03	-0.01	0.01	0.00	-0.01	0.00	0.02	0.00	0.02
Construction	1.99	2.30	0.03	0.00	0.00	0.03	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Manufacturing	4.92	1.30	0.32	0.01	0.00	0.33	0.09	-0.04	-0.01	0.04	-0.23	-0.05	-0.01	-0.29
Wholesale Trade	1.27	4.30	0.02	0.00	0.00	0.01	0.07	0.00	-0.01	0.07	0.05	0.01	0.00	0.06
Retail Trade	3.43	2.67	0.06	0.02	0.00	0.08	0.05	0.00	0.00	0.04	-0.01	-0.02	0.00	-0.03
Transportation and Warehousing	-0.54	0.84	-0.01	0.00	0.00	-0.01	0.01	0.00	0.00	0.01	0.02	0.00	0.00	0.02
Information and Cultural Industries	-3.98	3.62	-0.04	0.04	-0.02	-0.01	0.04	-0.01	0.00	0.03	0.08	-0.05	0.01	0.04
Finance, Insurance, Real Estate and Renting and Leasing	2.41	0.52	0.07	-0.01	0.00	0.06	0.01	0.01	0.00	0.03	-0.06	0.02	0.00	-0.04
Professional, Scientific and Technical Services	1.60	1.34	0.02	-0.02	0.00	-0.01	0.01	0.00	0.00	0.01	0.00	0.02	0.00	0.02
Administrative and Support, Waste Management and Remediation Services	0.30	1.48	0.00	-0.03	-0.01	-0.03	0.01	-0.01	0.00	0.00	0.01	0.02	0.01	0.03
Arts, Entertainment and Recreation	-0.43	-0.36	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Accommodation and Food Services	3.28	1.10	0.02	0.04	0.00	0.06	0.01	0.00	0.00	0.00	-0.01	-0.04	0.00	-0.06
Other Services (Except Public Administration)	3.99	2.96	0.02	0.00	0.00	0.02	0.02	0.01	0.00	0.02	0.00	0.01	0.00	0.00
Saskatchewan														
Agriculture, forestry, fishing and hunting	10.20	2.44	0.04	0.02	0.00	0.06	0.01	0.02	0.00	0.03	-0.03	0.00	0.00	-0.04
Mining and Oil and Gas Extraction	1.43	-7.17	0.01	-0.03	0.00	-0.02	-0.03	0.03	-0.02	-0.02	-0.04	0.06	-0.02	0.00
Utilities	-1.65	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Construction	3.87	-0.14	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01
Manufacturing	-1.12	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Wholesale Trade	9.95	1.43	0.03	0.00	0.00	0.02	0.00	0.00	0.00	0.00	-0.02	0.00	0.00	-0.02
Retail Trade	4.03	3.97	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Transportation and Warehousing	6.20	0.64	0.02	0.00	0.00	0.02	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.01
Information and Cultural Industries	6.26	3.25	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Finance, Insurance, Real Estate and Renting and Leasing	5.71	3.07	0.02	-0.01	0.00	0.01	0.01	0.00	0.00	0.01	-0.01	0.01	0.00	0.00
Professional, Scientific and Technical Services	4.41	1.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
Administrative and Support, Waste Management and Remediation Services	-1.45	3.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arts, Entertainment and Recreation	-14.42	1.11	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Accommodation and Food Services	1.80	0.55	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01
Other Services (Except Public Administration)	-0.85	5.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
Sum Total of all Provincial Industries			3.40	-0.07	-0.15	3.18	1.22	0.06	-0.19	1.09	-2.18	0.13	-0.04	-2.10