

## Service bulletin

# Surveying and Mapping Services

2007



### Highlights

- The Surveying and Mapping Services industry had operating revenues of \$2.8 billion in 2007, however its growth slowed to 2.1% as compared with operating revenue increases of 18.9% in 2006 and 16.8% in 2005.
- The growth in operating revenues in 2007 remained strong in many provinces, however it slowed to 4.9% from 27.9% in British Columbia. Operating revenues in Alberta declined by 4.5% as compared to a 22.4% increase in 2006. The revenue decline in Alberta, coupled with the dominance of the province in the industry in Canada, played a major role in the overall Canadian growth rate slowing to 2.1% in 2007. It should be noted, however, that both Alberta and British Columbia have posted strong growth over the prior two years, with Alberta up 21.5% in 2005 and 22.4% in 2006. The comparable increases for British Columbia were 23.8% in 2005 and 27.9% in 2006. By comparison, growth reported in Ontario in 2007 was up 10.5%, compared with 3.6% in 2006. The growth rate was also significant in Quebec which experienced an increase of 21.7% in 2007 after posting a 10.1% increase in 2006.
- The Canadian Surveying and Mapping Services industry remains dominated by Alberta, which generated almost 61% of national operating revenues in 2007. However, Alberta saw its share decline from 65% in 2006 while other provinces witnessed an increase in their share of national revenues. Over the same two year period the provincial share increased from 12% to 13% in Ontario, 8% to 10% in Quebec, 8% to 9% in British Columbia, and 2% to 3% in Saskatchewan.
- In 2007, the industry's operating expenses increased less than its operating revenues, resulting in a rise in its operating profit margin from 12.2% in 2006 to 13.5% in 2007. In fact, this profit margin has been increasing since the 8.5% level of 2002.

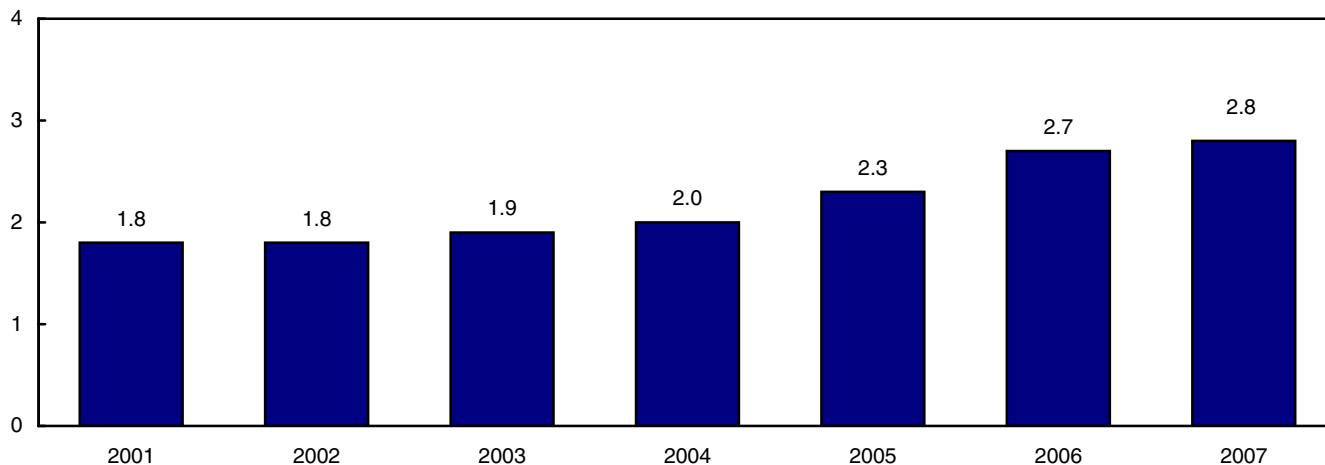
### 2007 survey detailed results

#### Total operating revenues

The Surveying and Mapping Services industry had operating revenues of \$2.8 billion in 2007, however its growth slowed to 2.1% as compared with operating revenue increases of 18.9% in 2006 and 16.8% in 2005.

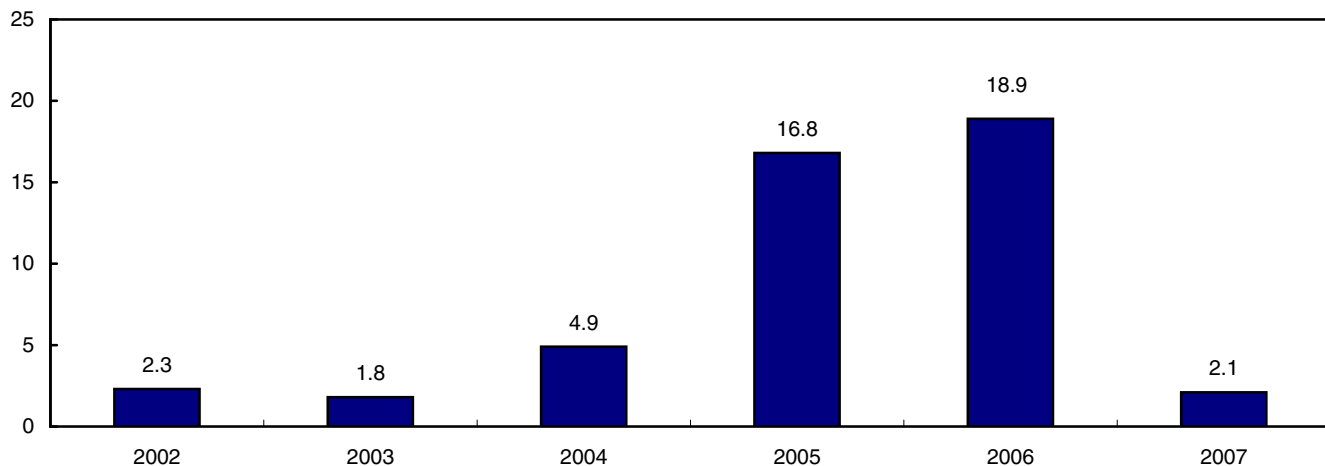
**Chart 1**  
**Operating revenues of the surveying and mapping services industry**

billions of dollars



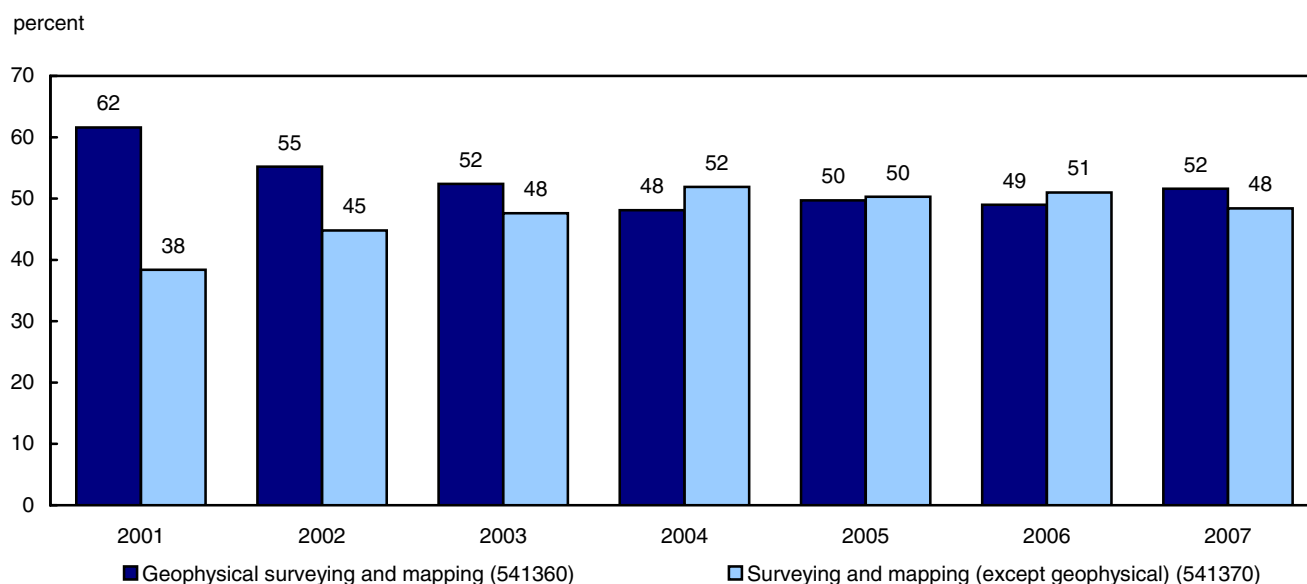
**Chart 2**  
**Growth rate of operating revenues of the surveying and mapping services industry**

percent



In 2007, firms whose primary activity is geophysical surveying and mapping (NAICS 541360) generated 52% of industry operating revenues while the firms whose primary activity is surveying and mapping (except geophysical) (NAICS 541370) generated the other 48%. This roughly even split has remained stable for the last five years, whereas in 2001 and 2002 geophysical surveying and mapping was dominant.

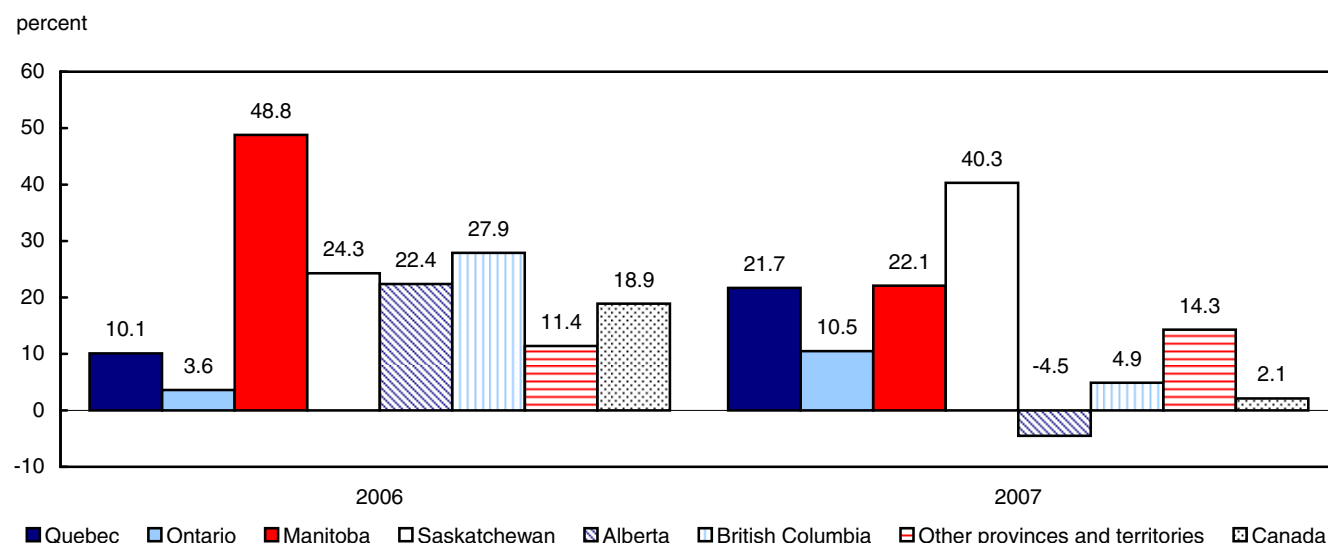
**Chart 3**  
**Industry distribution according to operating revenues of the surveying and mapping services industry**



### Total operating revenues by province

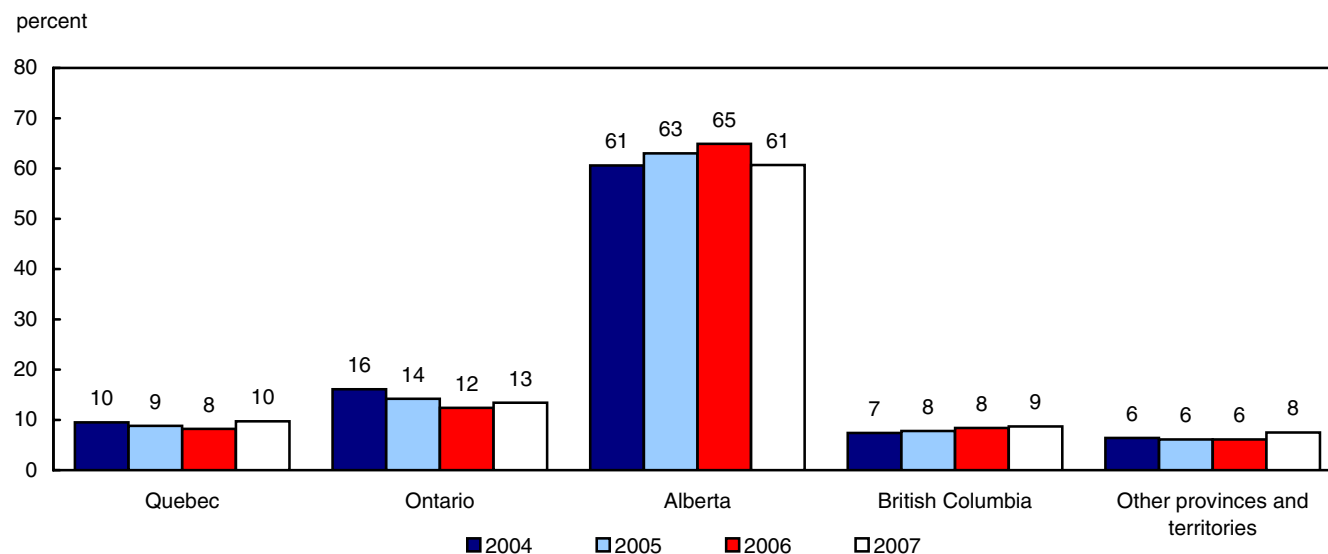
In 2007 the growth in operating revenues was particularly strong in Saskatchewan (+40.3%), Manitoba (+22.1%), and Quebec (+21.7%). By comparison, growth in British Columbia (+4.9%) was much more modest, and in Alberta (-4.5%) the industry saw an overall decline in revenues compared with 2006. It should be noted that growth had been particularly strong in Alberta and British Columbia in 2005 and 2006. During these two years Alberta saw growth of 21.5% and 22.4% respectively, with revenues in British Columbia growing by 23.8% and 27.9% over this period. While growth in 2007 in British Columbia has slowed and operating revenues in Alberta have declined, growth still remains strong in Manitoba and Saskatchewan, both of which have seen increases in excess of 20% for each year from 2004-2007. While reflecting lower numbers than in Western Canada, Quebec (+21.7%) and in Ontario (+10.5%) are significantly greater than in 2006 where their operating revenue growth rates increased by 10.1% and 3.6% respectively.

**Chart 4**  
**Growth rate of operating revenues by province of the surveying and mapping services industry**



The Canadian Surveying and Mapping industry remains dominated by Alberta, which generated 60.7% of national operating revenues in 2007. This represents, however, a decline from 64.9% in 2006. Over this same period other provinces experienced gains in their share of the total national revenues. These included Quebec (from 8.2% to 9.7%), Ontario (from 12.4% to 13.4%), Saskatchewan (from 2.2% to 3.1%) and British Columbia (from 8.4% to 8.7%).

**Chart 5**  
**Distribution of operating revenues by province of the surveying and mapping services industry**



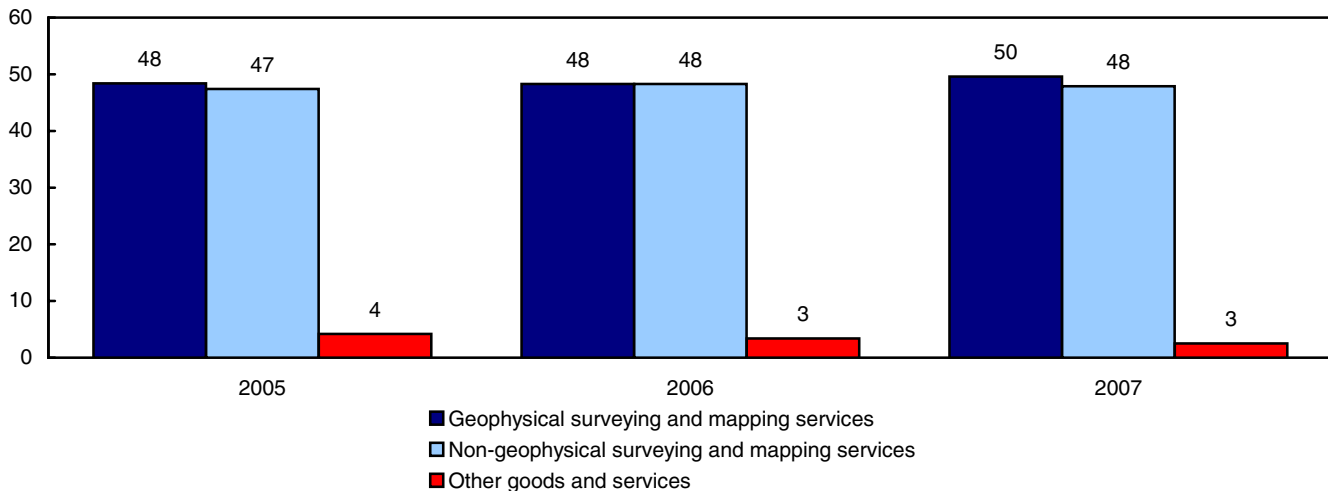
### Sales by type of product or service

The data from the “sampled”<sup>1</sup> portion of the industry show that in 2007, for the Surveying and Mapping industry as a whole, 49.6% of industry sales were for geophysical surveying or mapping, 47.9% for non-geophysical surveying or mapping and 2.5% for all other products and services. These figures are very similar to 2006 where they were 48.3%, 48.3% and 3.4% respectively.

**Chart 6**

**Sales by type of goods and services of the surveying and mapping services industry**

percent



The primary activity of the Geophysical Surveying and Mapping industry (541360) consists of locating and measuring the extent of subsurface resources such as oil, gas and minerals. Conventional petroleum industry expenditures for geological and geophysical<sup>2</sup> operations are not exactly comparable to survey revenues of the Geophysical Surveying and Mapping industry (541360). The concepts measured are not identical and the petroleum industry is not the only industry engaged in geophysical surveying and mapping. Despite these differences, the two levels have normally compared quite well over time, but this is not the case for 2007. In 2007, the expenses noted by the petroleum industry are falling while the survey results show a slight increase.

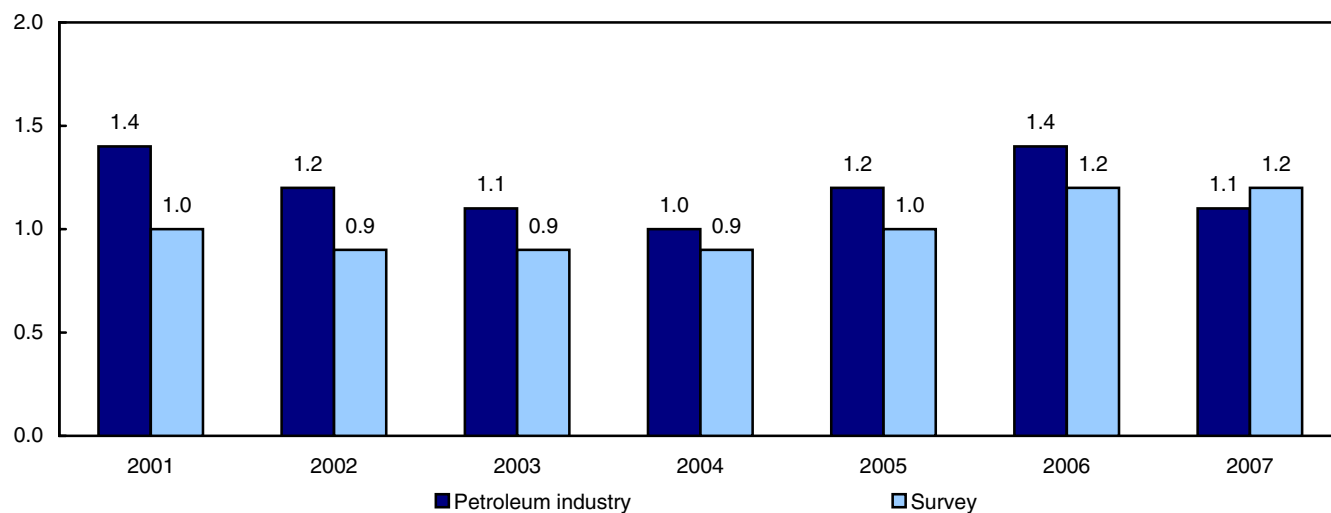
1. The smallest firms, in terms of revenues earned, are not included in these estimates. These firms account for a relatively small portion of total industry revenues.

2. Statistics Canada publication 26-213-XWF (Oil and Gas Extraction), Table 3 (Net cash expenditures of the conventional petroleum industry), item: Geological and geophysical exploration.

**Chart 7**

**Expenses on geological operations by the conventional petroleum industry and the revenues from the geophysical surveying and mapping survey**

billions of dollars



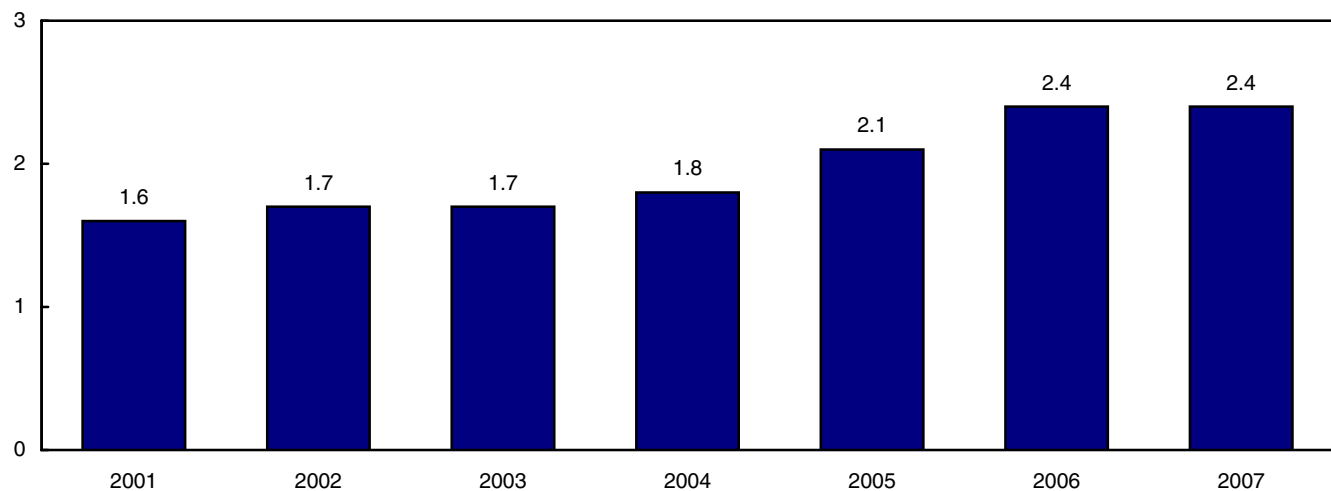
### Industry operating expenses

In 2007, the industry's operating expenses reached \$2.4 billion, essentially the same as in 2006.

**Chart 8**

**Operating expenses for the surveying and mapping industry**

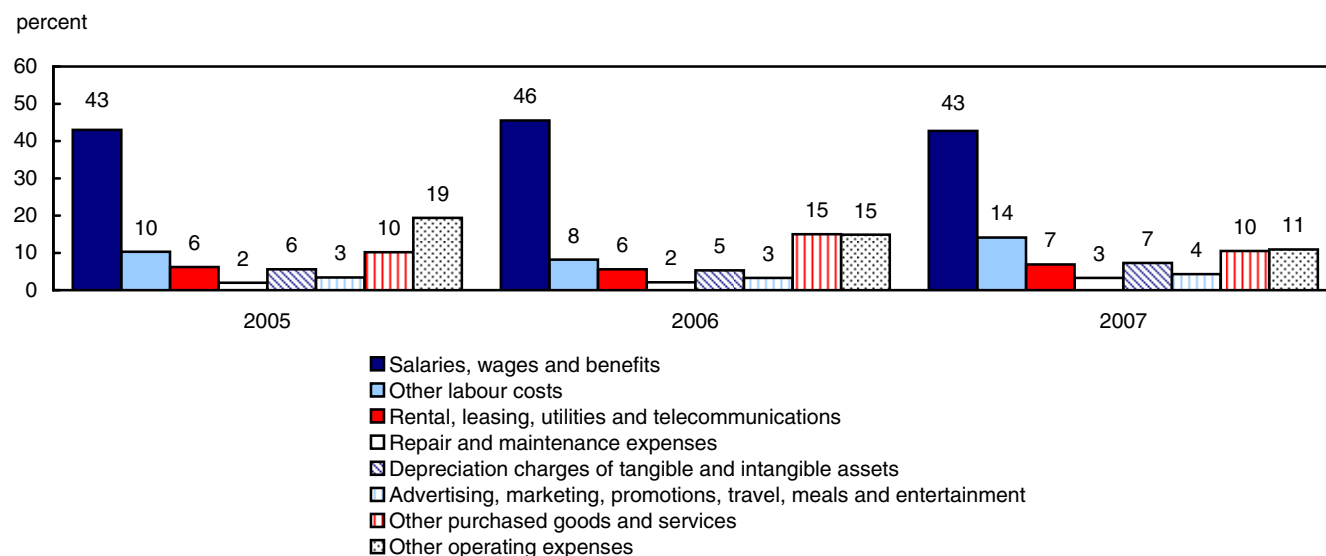
billions of dollars



Data from the sampled<sup>3</sup> portion of the industry indicate that employee salaries, wages and benefits account for 42.7% of operating expenses, followed by other labour costs (commissions paid to non-employees, professional and business services fees and subcontracted expenses) at 14.1%. The remaining 43.2% of expenditures is distributed among a variety of other categories.

**Chart 9**

**Expenses as a percentage of total operating expenses of the surveying and mapping services industry**



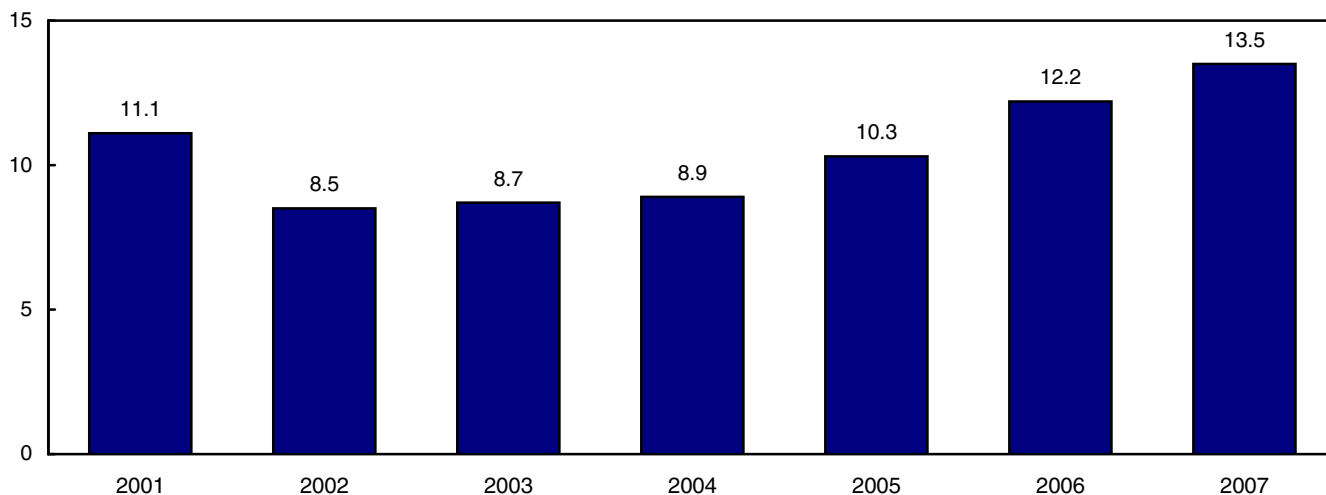
### Operating profit

When expressed as a percentage, the industry's operating profits reached 13.5% in 2007, an increase over the 12.2% profit margin noted in 2006. Since 2002, the operating profit margin has risen from 8.5% to 13.5%, reaching the highest level of the 2001-2007 period.

3. The smallest firms, in terms of revenues earned, are not included in these estimates. These firms account for a relatively small portion of total industry revenues.

**Chart 10**  
**Operating profit margin of the surveying and mapping services industry**

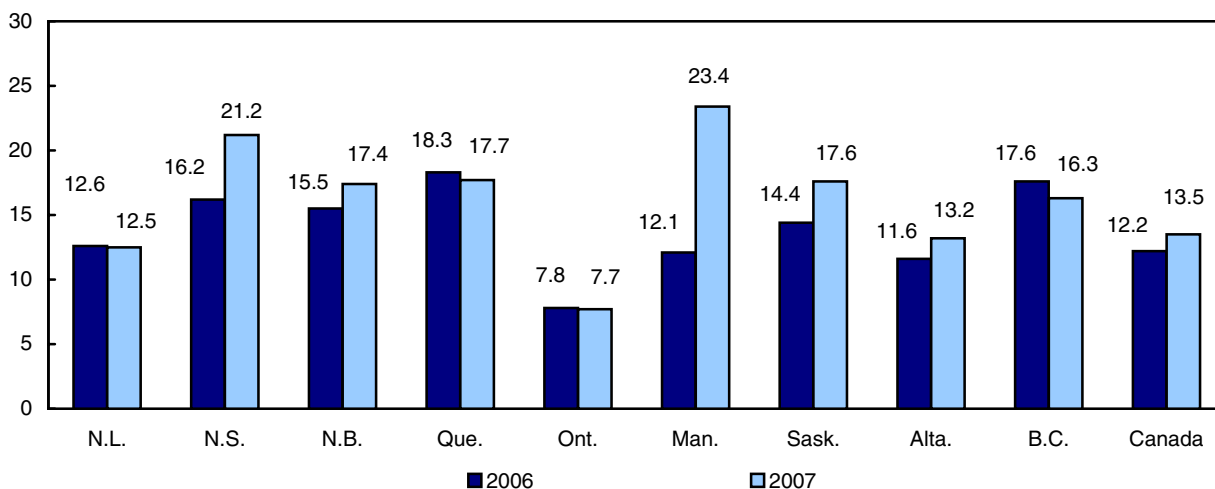
percent



As reflected in the following table, from 2006 to 2007 five provinces experienced a growth in the operating profit margins of their firms. The largest increases were noted in Manitoba, Nova Scotia and Saskatchewan.

**Chart 11**  
**Operating profit margin by province of the surveying and mapping services industry**

percent



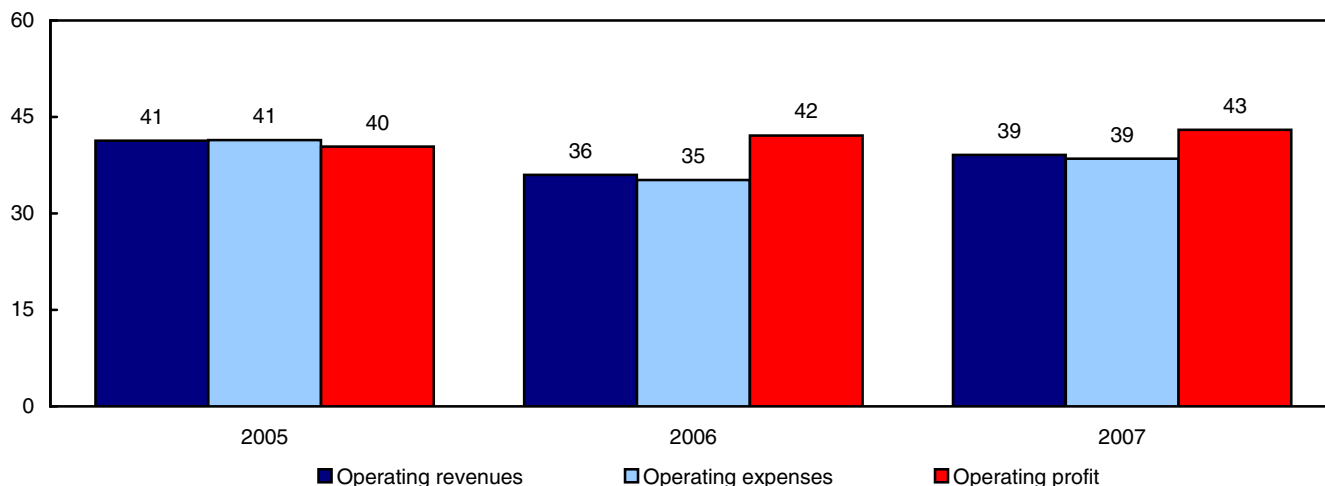
### The 20 largest firms in the industry by revenues

The Surveying and Mapping Services industry is composed of a small number of firms with high revenues, and a large number of firms with more modest revenues. In 2007, the 20 largest firms by revenues generated 39% of the industry's operating revenues, an increase over the 36% contributed by the top 20 firms in 2006. Over the same period, these largest firms saw their share of operating expenses increase from 35% to 39%. Thus, these large firms accounted for 43% of the industry's total operating profit, a slight increase from their 42% contribution in 2006.



**Chart 12**  
**Portion of the 20 largest firms of the surveying and mapping services industry**

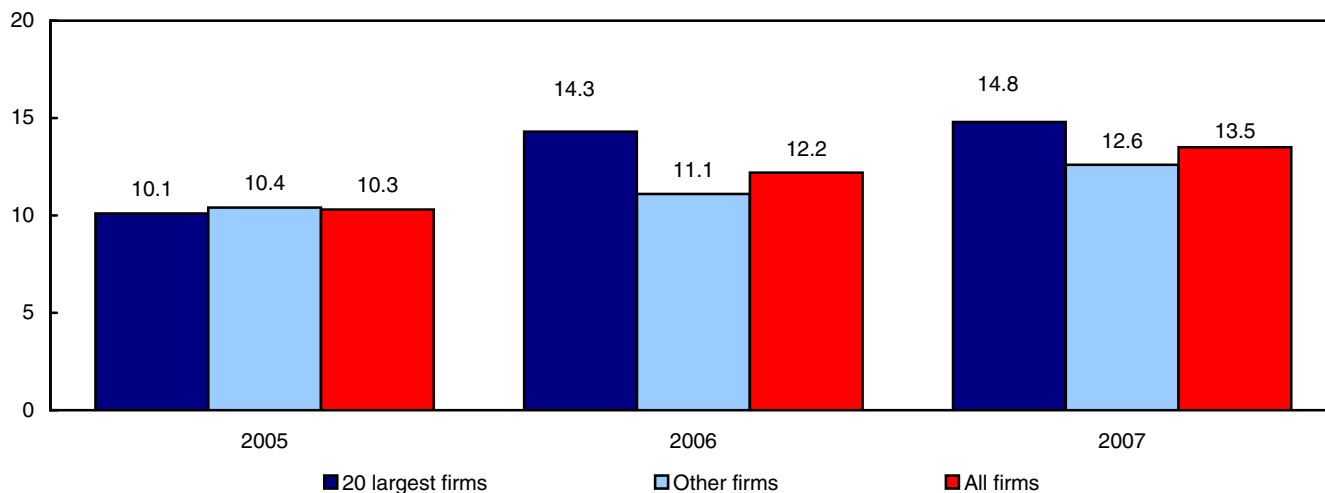
percent



Expressed as a percentage, the 2007 operating profit margin was higher for the 20 largest firms by revenues than for other firms. This was similar to 2006 which saw an even larger differential between the operating profit margin of the 20 largest firms by revenues (14.3%) and the other firms (11.1%), reversing the situation observed in 2005 where the 20 largest firms had a lower profit margin than the other firms.

**Chart 13**  
**Operating profit margin of the surveying and mapping services industry**

percent

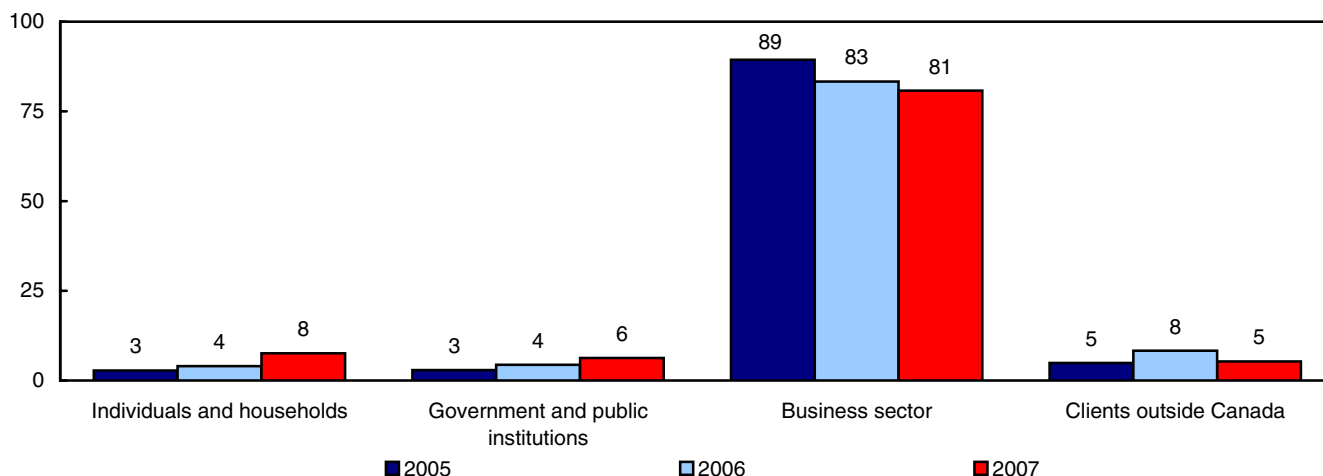


### Type of client

Data from the 2007 sampled<sup>4</sup> portion of the industry indicate that clients in Canada accounted for almost all (95%) of industry sales. Of these sales in Canada, the majority were to the business sector. However, this reflected a decline from 2005 with an increase being noted in sales to individuals and households, and governments and public institutions.

**Chart 14**  
Sales by type of client of the surveying and mapping services industry

percent



4. The smallest firms, in terms of revenues earned, are not included in these estimates. These firms account for a relatively small portion of total industry revenues.

## Statistical tables

Table 1

Summary statistics for the surveying and mapping services industry, by province and territory, 2005 to 2007

	Operating revenue	Operating expenses	Salaries, wages and benefits	Operating profit margin	Statistical establishments
	millions of dollars			percent	number
<b>2007 p</b>					
Newfoundland and Labrador	25.2	22.1	13.7	12.5	52
Prince Edward Island	x	x	x	x	x
Nova Scotia	25.4	20.0	10.9	21.2	107
New Brunswick	14.0	11.5	7.3	17.4	45
Quebec	270.3	222.4	98.4	17.7	441
Ontario	372.6	343.8	163.6	7.7	479
Manitoba	26.6	20.4	8.7	23.4	38
Saskatchewan	85.5	70.5	33.1	17.6	99
Alberta	1,685.2	1,462.5	593.0	13.2	1,512
British Columbia	240.5	201.2	98.4	16.3	482
Territories <sup>1</sup>	x	x	x	x	x
<b>Canada</b>	<b>2,776.9</b>	<b>2,402.9</b>	<b>1,039.0</b>	<b>13.5</b>	<b>3,289</b>
<b>2006 r</b>					
Newfoundland and Labrador	16.8	14.7	8.1	12.6	34
Prince Edward Island	x	x	x	x	x
Nova Scotia	21.3	17.8	9.7	16.2	83
New Brunswick	12.3	10.4	6.5	15.5	53
Quebec	222.1	181.5	79.7	18.3	435
Ontario	337.2	311.0	163.6	7.8	431
Manitoba	21.8	19.2	5.4	12.1	35
Saskatchewan	61.0	52.2	24.6	14.4	89
Alberta	1,764.6	1,559.0	668.7	11.6	1,463
British Columbia	229.3	189.0	82.9	17.6	467
Territories <sup>1</sup>	x	x	x	x	x
<b>Canada</b>	<b>2,720.1</b>	<b>2,387.3</b>	<b>1,063.0</b>	<b>12.2</b>	<b>3,118</b>
<b>2005 r</b>					
Newfoundland and Labrador	14.4	12.5	6.3	12.8	61
Prince Edward Island	x	x	x	x	x
Nova Scotia	24.5	19.7	10.8	19.8	111
New Brunswick	12.1	9.9	5.4	17.8	71
Quebec	201.8	169.2	78.2	16.2	394
Ontario	325.5	288.6	143.7	11.3	486
Manitoba	14.7	13.1	4.3	10.8	38
Saskatchewan	49.0	41.9	21.3	14.6	93
Alberta	1,441.4	1,321.4	527.0	8.3	1,283
British Columbia	179.3	152.5	68.4	15.0	418
Territories <sup>1</sup>	x	x	x	x	x
<b>Canada</b>	<b>2,287.3</b>	<b>2,052.3</b>	<b>873.9</b>	<b>10.3</b>	<b>2,982</b>

1. Territories include: Yukon Territory, Northwest Territories and Nunavut.

**Note(s):** According to the North American Industry Classification System (NAICS 541360 and 541370). See "Data sources, definitions and methodology" at the end of tables for definition of terms.

**Table 2**  
**Expenditures as a percentage of total operating expenses for the surveying and mapping services industry<sup>1</sup>,  
Canada, 2005 to 2007**

	percent
<b>Salaries, wages and benefits</b>	
2007 <sup>p</sup>	42.7
2006 <sup>r</sup>	45.5
2005 <sup>r</sup>	43.0
<b>Other labour costs</b>	
2007 <sup>p</sup>	14.1
2006 <sup>r</sup>	8.2
2005 <sup>r</sup>	10.3
<b>Rental, leasing, utilities and telecommunications</b>	
2007 <sup>p</sup>	6.9
2006 <sup>r</sup>	5.6
2005 <sup>r</sup>	6.2
<b>Repair and maintenance expenses</b>	
2007 <sup>p</sup>	3.3
2006 <sup>r</sup>	2.1
2005 <sup>r</sup>	2.0
<b>Depreciation charges of tangible and intangible assets</b>	
2007 <sup>p</sup>	7.3
2006 <sup>r</sup>	5.3
2005 <sup>r</sup>	5.6
<b>Advertising, marketing, promotions, travel, meals and entertainment</b>	
2007 <sup>p</sup>	4.3
2006 <sup>r</sup>	3.3
2005 <sup>r</sup>	3.4
<b>Other purchased goods and services</b>	
2007 <sup>p</sup>	10.5
2006 <sup>r</sup>	15.0
2005 <sup>r</sup>	10.2
<b>Other operating expenses</b>	
2007 <sup>p</sup>	10.9
2006 <sup>r</sup>	14.9
2005 <sup>r</sup>	19.4

1. The smallest firms, in terms of revenues earned, are not included in the estimates of this table. These firms account for a relatively small portion of total industry revenues.

**Note(s):** According to the North American Industry Classification System (NAICS 541360 and 541370). See "Data sources, definitions and methodology" at the end of tables for definition of terms.

**Table 3**  
**Sales by type of client for the surveying and mapping services industry<sup>1</sup>, Canada, 2005 to 2007**

	percent
<b>Clients in Canada</b>	
2007 p	94.7
2006 r	91.7
2005 r	95.1
Individuals and households	
2007 p	7.6
2006 r	4.0
2005 r	2.8
Government and public institutions	
2007 p	6.3
2006 r	4.4
2005 r	2.9
Business sector	
2007 p	80.8
2006 r	83.3
2005 r	89.4
<b>Clients outside Canada</b>	
2007 p	5.3
2006 r	8.3
2005 r	4.9

1. The smallest firms, in terms of revenues earned, are not included in the estimates of this table. These firms account for a relatively small portion of total industry revenues.

**Note(s):** According to the North American Industry Classification System (NAICS 541360 and 541370). See "Data sources, definitions and methodology" at the end of tables for definition of terms.

## Data sources, definitions and methodology

### Description

This annual sample survey collects the financial and operating data needed to produce statistics on the Surveying and Mapping Services industry in Canada. The survey also collects detailed information on the characteristics of the businesses, such as type of revenue and type of client. These data are aggregated with information from other sources to produce official estimates of the national and provincial economic production of the Surveying and Mapping Services industry in Canada. The results from this survey provide data to businesses, governments, investors, and associations. These data allow these groups to monitor the growth of the industry, measure performance, allow comparison across similar businesses and to better understand this industry to react to trends and patterns.

### Target population

The target population consists of all establishments classified to the Surveying and Mapping Services industry (NAICS 541360 and 541370) according to the North American Industry Classification System (NAICS) during the reference year. This industry comprises establishments primarily engaged in gathering, interpreting and mapping geophysical data. These establishments often specialize in locating and measuring the extent of subsurface resources such as oil, gas and minerals. These establishments are also engaged in providing surveying and mapping services of the surface of the earth, including the sea floor.

### Industry structure

Under the North American Industrial Classification System (NAICS), the Surveying and Mapping Services industry consists of Geophysical Surveying and Mapping Services (541360) and Surveying and Mapping (except Geophysical) Services (541370).

### **Geophysical surveying and mapping services – 541360**

This industry group comprises establishments primarily engaged in gathering, interpreting and mapping geophysical data. These establishments often specialize in locating and measuring the extent of subsurface resources, such as oil, gas and minerals, but they may also conduct surveys for engineering purposes. A variety of surveying techniques are used, including seismic, magnetic, gravity, electrical and electromagnetic, radioactive and remote sensing, depending on the purpose of the survey.

### **Surveying and mapping (except geophysical) services – 541370**

This industry group comprises establishments primarily engaged in providing surveying and mapping services of the surface of the earth, including the sea floor. These services may include surveying and mapping of areas above or below the surface of the earth, such as the creation of view easements or segregating rights in parcels of land by creating underground utility easements. Examples of activities are: cadastral and topographic surveying and mapping services; control surveying services, such as geodesy and Global Positioning System (GPS) surveying; cartographic surveying services, including photogrammetric mapping; geographic information system (GIS) base mapping and quality control services; and geospatial mapping services.

Data users who wish to learn more about NAICS, its underlying principles, and many of the other statistical concepts discussed in this brief summary, are referred to the Introduction section of the Statistics Canada publication “North American Industry Classification System: Canada 2007” (catalogue no. 12-501-XPE).

### **Sampling**

This is a sample survey with a cross-sectional design.

The frame is the list of establishments from which the portion eligible for sampling is determined and the sample is taken. The frame provides basic information about each firm including address, industry classification, and information from administrative data sources. The frame is maintained by Statistics Canada's Business Register and is updated using administrative data. The basic objective of the survey is to produce estimates for the whole industry - incorporated and unincorporated businesses. The data come from two different sources: a sample of all businesses with revenue above or equal to a certain threshold (note: the threshold varies between surveys and sometimes between industries and provinces in the same survey) for which either survey or administrative data may be used; and administrative data only for businesses with revenue below the specified threshold. It should be noted that only financial information is available from businesses below the threshold; e.g., revenue, and expenses such as depreciation and salaries, wages and benefits. Detailed characteristics are collected only for surveyed establishments. Prior to the selection of a random sample, establishments are classified into homogeneous groups (i.e., groups with the same NAICS codes and same geography). Quality requirements are targeted, and then each group is divided into sub-groups called strata: take-all, must-take, and take-some. The take-all stratum represents the largest firms in terms of performance (based on revenue) in an industry. The must-take stratum is comprised of units selected based on complex structural characteristics (multi-establishment, multi-legal, multi-NAICS, or multi-province enterprises). All take-all and must-take firms are selected to the sample. Units in the take-some strata are subject to simple random sampling. The effective sample size for reference year 2007 was 468 collection entities.

## Definitions

Estimates for the most recent year are preliminary. Preliminary data are subject to revision.

**Operating revenue** excludes investment income, capital gains, extraordinary gains and other non-recurring items.

**Operating expenses** exclude write-offs, capital losses, extraordinary losses, interest on borrowing, and other non-recurring items.

**Operating profit margin** is derived as follows: operating revenue minus operating expenses, expressed as a percentage of operating revenue. The derived figure excludes corporation income tax paid by incorporated businesses and individual income tax paid by unincorporated businesses. For unincorporated businesses, operating profit margin includes unpaid remuneration to partners and proprietors, which is not recorded as salaries, wages and benefits. Therefore the profit estimate will be higher in industries where unincorporated proprietorships and partnerships are significant contributors.

**Salaries, wages and benefits** include vacation pay and commissions for all employees for whom a T4 slip was completed. This category also includes the employer portion of employee benefits for items such as Canada/Québec Pension Plan or Employment Insurance premiums. Salaries and wages do not include working owners' dividends nor do they include the remuneration of owners of unincorporated business. Therefore the relative level of salaries, wages and benefits will be lower in industries where unincorporated businesses are significant contributors.

## Quality evaluation

Prior to dissemination, combined survey results are analyzed for comparability; in general, this includes a detailed review of individual responses (especially for the largest companies), general economic conditions, historic trends, and comparisons with other data sources.

## Disclosure control

Statistics Canada is prohibited by law from releasing any data which would divulge information obtained under the Statistics Act that relates to any identifiable person, business or organization without the prior knowledge or the consent in writing of that person, business or organization. Various confidentiality rules are applied to all data that are released or published to prevent the publication or disclosure of any information deemed confidential. If necessary, data are suppressed to prevent direct or residual disclosure of identifiable data.

## Data accuracy

Of the units contributing to the estimate, the (weighted) response rate was 82.7%. CVs were calculated for each estimate and are available upon request.

## Related products

### CANSIM

Available on CANSIM: table 360-0006 - Summary statistics for surveying and mapping services (all establishments), by North American Industry Classification System (NAICS), annual (75 series)

### Survey(s)

Definitions, data sources and methods: survey number 4715 - Annual Survey of Service Industries: Surveying and Mapping

### Publications

Service Industries Newsletter, Catalogue no. 63-018-X.

Analytical paper series - Service Industries Division, Catalogue no. 63F0002X.

Release date: July 2009

#### Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 <sup>s</sup>	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
p	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

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