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FIRM ADJUSTMENT AND
EMPLOYMENT TURNOVER IN 1978-82



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INTERNAL WORKING DOCUMENT

FIRM ADJUSTMENT AND
EMPLOYMENT TURNOVER IN 1978-82



STATISTICAL ANALYSIS
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FIRM ADJUSTMENT AND EMPLOYMENT TURNOVER IN 1978-82

INTRODUCTION

This paper examines the corporate and employment turnover by Canadian firms over the period 1978-82 which was marked by two recessions.

The impact of these two recessions on employment varies by industry, province, and firm size during this period. The growth of employment was less vulnerable to the economic downturns among the Service producing industries than Goods producing industries, and among Alberta, Saskatchewan and British Columbia than the rest of the country.

With regard to turnover during this period, both birth and death rates in terms of the number of firms and employment are smaller the larger the firm. Business services, the most dynamic industry in employment growth, experienced one of the highest corporate and employment turnover rates, while community services was the most stable. Similarly, the dynamic economies of Alberta and Saskatchewan showed a high degree of corporate and employment turnover, while Ontario was the most stable economy in this regard. As well the turnover rate among Canadian-owned firms is higher than among foreign-controlled firms.

In the recession year 1982, the birth rate of firms dropped while the death rate remained stable. The medium size firms were more vulnerable to the economic downturns with a marginal increase of their death rate. The effects of the recession were felt most in an increase in job losses through firm contraction. Only firms of less than 5 employees as a group were still creating jobs in the recession year, while firms of all other sizes recorded job losses.

Over the period, the size of firms in terms of the number of employees declined from 14 employees in 1978 to 12 employees per firm in 1982. The extent of the reduction is more prominent among goods production industries where the recession hit the hardest.

Turnover and adjustment are always present in the economy, and they are influenced by many factors. Other factors, such as the changes in Canada's international trade resulting from tariff reductions may have had some influence on the data examined. However the sharp recession of 1981/82 is no doubt the major single influence on the data. The sharp changes in turnover in 1982 shown in this paper lend support to this view.

The second section of this paper outlines various methods of calculating the turnover rate and problems in defining birth and death. It is followed by a discussion of the recessions in the eighties. The fourth section outlines the turnover during this period, and the conclusion is a discussion of the limitations of this study.

METHODOLOGY AND DATA SOURCE

Adjustment is a continuous process in a firm's life. In practice, when market conditions are unfavourable firms either sell out or decrease their operations. When demands are high and market conditions are favourable existing firms may expand or more new firms enter the economy.

It should be noted at the outset that analysis of corporate adjustment is difficult with limited data and definitions. To study this process, one must track firms entering, exiting, merging and expanding. This is not always possible and usually time consuming. There are several data bases that have the capability to analyse this adjustment process but each one of them has its own limitations. In addition to the lack of data there is no clear consensus on the best measure of corporate turnovers.

The firm turnover process includes both firm entry in and exit from an industry. Firms may enter the market through building new plants or through acquiring existing plants in the industry. Similarly firms may exit from an industry either through scrapping or divesting plants. Firms may also enter or leave an industry through changes in their activities.

Statistics Canada¹ and Baldwin and Gorecki² examined the turnover process in terms of births and deaths. They further calculated birth rates in terms of building and acquiring plants, and death rates for scrapping and divesting plants separately. No attempt has been made to develop a single measure of the rate of turnover in the literature on the study of firms. Borrowing from various studies on labour turnover, the turnover rate of firms may be defined as one of the following³:

1. Birth Rate
2. Death Rate
3. Birth or Death Rate whichever is lower. This approach measures the proportion of firms which is replaced. For example, when the birth rate is higher than the death rate, the turnover rate is the death rate and it measures the proportion of firms which are dead and replaced. When the death rate is higher than the birth rate, the turnover rate is the birth rate and it measures the proportion of firms which came into existence to replace the dead ones.
4. The sum of the birth and death rate as used in this study. This approach measures the volatility of firm entry and exit in terms of the gross movement. The disadvantage of this approach is that it does not show whether a high turnover rate is the result of a high birth or a high death rate.

Another obstacle in the study of firm turnover is the difficulty of defining births and deaths. None of the existing definitions are completely satisfactory.⁴

The least satisfactory measure of entry and exit is the difference between the number of firms in two different periods as used by most studies on the firm entry and exit process⁵. The major disadvantage of this approach is that the same low net entry figure could be generated by a low entry and exit or by a large number of entrants offset by numerous exits.

A major improvement to the use of net entry is to use data bases in which firms are assigned a unique identifier such as the Business Register

Identifier (BRID) as used in this study. Thus a firm is said to be born if a new BRID comes into existence. On the other hand, the disappearance of a BRID in a given year indicates that the firm represented by that BRID is dead.

However, there are cases where the appearance of a new BRID or the disappearance of an existing BRID is a result of changes in business organization such as acquisition, divestiture, amalgamation, split-up, etc. It does not necessarily indicate the actual start-up of a new firm or close-down of an existing firm, and so may involve little or no net changes in employment.

A similar approach is used in a study by Allen⁶. In this study he defined birth and death as the appearance or disappearance of a new plant as identified by a record serial number (RSN). The advantage of using RSN over BRID is that RSNs remained unchanged in the Census of Manufactures regardless of changes in plant name, ownership, industry or location.

A further refinement is adopted by Statistics Canada⁷ and Baldwin and Gorecki⁸. In addition to the RSN they also used the enterprise identification number for commonly controlled establishments. Thus they are able to distinguish firm entry by building a new plant or by acquiring existing plants and firm exit by scrapping or divesting plants.

The limitation of Statistics Canada⁹, Baldwin and Gorecki¹⁰ and Allen¹¹ is that the use of RSN is only restricted to the manufacturing sector. As well, it is not possible to distinguish the construction or closure of plants and the in-migration or out-migration of plants to and from an industry.

A similar approach is used by DRIE in identifying Births and Deaths using the Dun and Bradstreet file.¹² All the establishments in this file are assigned a unique Dun's number. As well, the parent or headquarters Dun's number is identified for each establishment when applicable. Thus it is possible to identify the different types of entry and exit. The major problem in using the Dun and Bradstreet file to study the turnover process is that the

timing of update is not necessarily consistent for all the establishments and the coverage is uneven by sector.

RECESSIONS

One of the most important causes of adjustment lies in the uncertainties and perils posed by cyclical changes in the economic environment. During the seventies and eighties, a sharp recession occurred in 1974, followed by a mild recession in 1980 and a major recession in 1981/82 (Table 1).

The 1981/82 recession was the worst since the 1929-33 depression. It lasted 18 months from a peak in June 1981 to a trough in December 1982. During this period, Canadian industrial production plummeted 18%, employment declined by 5% and unemployment rose by 6% to almost 13%. The decline in GNP was much steeper and deeper in Canada than in the U.S.

This recession had long lasting effects. For example, in terms of employment, the unemployment level in 1986 is still higher than that of the pre-recession level. Similarly, in the corporate sector, except for sales, none of the other financial performance indicators have regained their pre-recession level as of Fall 1985.¹³

Other factors which have a significant impact on firms include trade liberalization, changes in relative prices, technological innovations and consumer choices. Their effects are recorded in the data examined in this study. It is believed however that the recessions just highlighted have had the greatest influence on the economy.

ADJUSTMENT TO RECESSIONS

The analysis of firm adjustment in the early eighties is based on the T4 Employment Estimates Data Base which covers the period 1978 to 1982.¹⁴

As 1978 is close to the peak year and 1982 is the trough year in terms of the business cycle, it is possible to examine the effect of recession on firm adjustment.

The impact of the two recessions during this period on employment growth varies by industry and province. Service producing industries were less vulnerable than Goods producing industries. In the Service producing industries, Business Services, Community Services and Retail Trade experienced increases of 17.5%, 16.7% and 14.9%, respectively, while in the Goods producing industries, Construction and Manufacturing showed declines of 4.5% and 3.5%, respectively (Table 2). In the Mining industry an exceptional growth rate of 14.0% was registered. Over this period the three most Western provinces, Alberta, Saskatchewan and British Columbia experienced high employment growth, reaching 29.0%, 16.8% and 14.2%, respectively, while slower employment growth was observed in Quebec (-0.7%), New Brunswick (3.9%) and Newfoundland (3.9%) (Table 3).

While high employment growth rates in an industry or region are associated with high incidences of business start-ups, they are also accompanied by high business failures causing job losses. The reasons for high growth rates in employment for an industry or in a region may be due to prevailing willingness to take unusual business risks. The likelihood of market saturation because of numerous new start-ups and the high proportion of inexperienced new firms which tend to have a high death rate combine to cause a high number of business failures. This may explain why a dynamic industry or region tends to have high birth and death rates while a declining industry or region has a low birth rate but a high death rate.

The following are highlights of findings on adjustment in the early eighties according to the T4 Employment Estimates Data Base.

1. By Size of Firm

- a. Smaller firms start up and fail more readily than larger firms. Both birth and death rates as measured by the number of firms and employment decrease as the size of firm increases. About two fifths of firms in 1978 with less than 5 employees had gone out of business by 1982 and the number of new firms was about three fifths of the number of firms in 1978 (Table 4). Among firms with more than 500 employees, the corresponding proportions were about 4% and 6%, respectively (about one tenth of those for the smallest firms). The turnover in employment is also striking. Among the smallest firms, about one half of jobs in 1978 had disappeared by 1982 (Table 5). The number of jobs created was almost the same as the number of jobs in the initial year. The corresponding proportions were about 9% and 13%, respectively, for the largest firms.

2. By Industry

- a. The effect of the recession on corporate turnover and employment varies by industry. In terms of the number of firms, Business Services led in birth and death rates, a typical pattern of corporate turnover in dynamic industries (Table 6). Due to relatively low barriers of entry and exit, the Primary Industries also indicated high birth and death rates. On the other hand, Manufacturing and Community Services indicated low birth and death rates. The low turnover in Manufacturing may be affected by the recession and the relatively high proportion of larger firms. Organizations in Community Services, including many that are part of the public sector, do not respond as readily to the economic environment as the private sector.
- b. Changes in employment occur not only through "births" and "deaths" of firms but also through expansion or contraction of firms. In fact, with the exception of Business Services, firm expansion and contraction accounted for more employment turnover than "births" and "deaths" of

firms. High rates of jobs created and lost were observed in Primary Industries and Business Services (Table 7). Due to an exceptionally high rate of job loss mainly through contraction, Construction has also recorded a high turnover in jobs. Community Services is the industry with the lowest turnover in jobs.

3. By Province

- a. The impact of the recession on corporate turnover varies by province. Possibly as a result of the buoyant economy due to higher oil prices, Alberta and Saskatchewan experienced high corporate turnover rates (Table 8). Quebec experienced a high corporate birth rate because of the concentration of smaller firms. On the other hand, high death rates occurred in the slow growing Atlantic provinces and Manitoba. The corporate turnover in Ontario was the lowest.
- b. In terms of employment turnover rates, Alberta, British Columbia and Saskatchewan led the nation through firm expansion, and to a lesser extent through "births" of firms (Table 9). In comparison Ontario and Quebec recorded the lowest labour turnover.

4. By Province and Firm Size

- a. The birth rate of firms increased as the size of firms decreased and above average death rates were generally observed among the medium and large size firms in almost all the provinces (Table 10). As a result the smallest firms registered the highest corporate turnover rate in all provinces.
- b. Although provinces have different rates of job creation and loss, their pattern of variation across firm size classes was similar (Table 11). With some exceptions, both job creation and loss rates decreased as the size of firms increased. Thus the firms with less than 5 employees have

the highest labour turnover rate and the very large firms have the lowest labour turnover rate.

5. By Province and Industry

- a. The highest birth rates of firms were recorded in Primary Industries and Services and the lowest birth rates were registered in Manufacturing and Construction (Table 12). While the birth rates of firms varied significantly by province, the rank order of industries within provinces in terms of birth rate appeared to be consistent across the provinces. The only exception was that Mining had the second highest birth rate in Alberta and British Columbia. Primary Industry in PEI, Manitoba and Saskatchewan had exceedingly high birth rates.
- b. The highest death rates of firms were recorded in Mining and Construction while Finance and Wholesale Trade recorded the lowest death rates. Again the rankings of industries within a province in terms of death rate were reasonably consistent across the provinces. The only major exception was the low death rate observed in Mining in Alberta.
- c. The highest rates in job creation were recorded in Primary Industries and Construction, while the lowest rates were observed in Manufacturing and Transportation. The rate of job creation in Primary Industries exceeded that of other industries across all provinces except Nova Scotia, New Brunswick and B.C. (Table 13).
- d. In terms of job loss rate, the highest rates were also recorded in Construction and Primary Industries, while the lowest rates were observed in Transportation and Finance. This pattern was relatively consistent across all provinces.

6. By Country of Control

- a. Over the study period, corporate turnover was higher in Canadian firms than in foreign firms. Both the birth and death rates of Canadian

firms were consistently higher than those of foreign firms in every industry (Table 14). The pattern of variation in turnover by industry was not the same between the Canadian and foreign firms. For example, Canadian construction firms indicated one of the lowest birth and highest death rates among the industries. By comparison, foreign-owned construction firms had a relatively high birth rate but a relatively low death rate.

7. Year-to-Year Changes

- a. With annual data on firms and employment it is possible to examine in detail how firms responded to the onset of the 1981/82 recession. The impact of the recession on the birth rate of firms was more significant than that on the death rate. As a result of the 1981/82 recession the birth rate declined by about 3% while the death rate remained stable (Table 15). This is consistent with the Economic Council's finding on the proportional relationship between the number of firms and number of deaths.
- b. In terms of employment, the recession caused a reduction of jobs due to lower birth and firm expansion rates. The largest single factor was an increase in job losses through contraction. (Table 16). The death rate remained unchanged. As a result of these changes the job creation rate declined and the job loss rate increased. Of course later in the recession business failures may have contributed more to job losses but this our data does not cover.
- c. As a result of the recession, while the birth rate of firms decreased at a similar rate across all firm sizes, the death rate increased marginally among medium size firms (20 to 100 employees) and decreased slightly among firms with more than 100 employees (Tables 17 and 18). This may indicate that medium size firms are more vulnerable to an economic downturn. The slight improvement of the death rate among the large firms may be due to a reduction in reorganization activities during the recessions.

- d. The birth rate of firms decreased as a result of the recession while the death rate remained relatively stable across all industries (Tables 19 and 20). The only exception is that in the recession year the death rate of firms in Mining, Manufacturing and Construction did increase slightly while Primary Industries actually recorded an improvement.
- e. In terms of the share of job creation by firms of different sizes, only firms of less than 5 employees were still creating jobs in the recession year while firms of all other sizes recorded job losses (Table 21). In industries sensitive to an economic downturn, such as Primary Industries, Manufacturing and Construction, the medium size firms experienced losses in jobs even before the recession arrived (Table 22).
- f. Over the study period, the average number of employees per firm decreased. In 1978 there were some 14 employees per firm and by 1982, there were only 12 employees per firm. The extent of the reduction is more prominent among Goods producing industries where the recession hit hardest (Table 23).

LIMITATION OF THIS STUDY

The T4 Employment Estimates Data Base was used in the analysis of adjustment in the early eighties. The strength of this Data Base is the availability of sectoral and regional details, as well as data for each year over the study period. However, this Data Base contains only employment information and covers the period 1978 to 1982, the contraction phase of the business cycle. Further, five years of data is a short time frame to determine whether the turnover of firms and employment identified in this Data Base is cyclical or structural.

A more complete and rigorous analysis of the adjustment process requires an extension of this Data Base. In this regard, it might be preferable to extend backward to 1974, the trough of the previous business cycle, to assess

how firms adjust during the recovery phase of the business cycle, and to examine other indicators such as those related to trade by linking to other data systems. As well, since the recovery after the 1981/82 recession is limited to output and not so much to employment, it might be worthwhile to extend the Data Base forward to 1983 or 1984 to assess how firms cope with the more competitive post-recession economic environment in terms of corporate and employment turnover.

FOOTNOTES:

- 1 Statistics Canada, Mergers, Plant Openings and Closings of Large Transnational and Other Enterprises, Cat. 67-507 (Ottawa: Statistics Canada, 1981).
- 2 J. Baldwin and P. Gorecki, Entry and Exit to the Canadian Manufacturing Sector: 1970-79, Discussion Paper #225, (Ottawa: Economic Council of Canada, 1983).
- 3 F.J. Gaudet, Labour Turnover: Calculation and Cost, (New York: American Management Association, 1960). S.F. Saliski, Labour Turnover in Canada, (Ottawa: Labour Canada, 1981).
- 4 For example, see C.M. Mason, "Some definitional difficulties in New Firm Research", Area, (1983) pp.61-65. Mason indicated that the definition of a new firm is not a clear cut and unambiguous issue. The main definitional difficulties concern four aspects of the formation process: the start-up date, early changes in activity, independence and newness.
- 5 See D. Orr, "The Determinants of Entry, A Study of the Canadian Manufacturing Industries," The Review of Economics and Statistics, (1974) pp. 58-67.
- 6 D. Allen, Relative Performance of Size Groups in Canadian Manufacturing Sectors, Don R. Allen & Associates (Ottawa, 1984).
- 7 Statistics Canada, loc. cit.
- 8 Baldwin and Gorecki, loc. cit.
- 9 Statistics Canada, loc. cit.
- 10 Baldwin and Gorecki, loc. cit.
- 11 Allen, loc. cit.
- 12 Department of Regional Industrial Expansion, A Study of Job Creation in Canada, 1974-82, (Ottawa: DRIE, 1985).
- 13 Department of Finance, Quarterly Corporate Sector Report, (Ottawa: Department of Finance, Fall 1985).
- 14 See Annex 1 for a description of this Data Base.

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Table 1 - Recessions in Canada, 1975-82

	<u>1933</u>	<u>1975</u>	<u>1980</u>	<u>1982</u>
Length (Months)	48	13	10	18
Decrease in Real GNP (%)	30	1	1	7
Unemployment Rate (%)	19	8	6	13
% of Industries with GDP decline	N/A	69	44	93

Note: In addition to recessions/depression identified here, the following is a list of cyclical downturns since 1920:

- major depression (1921)
- sharp recessions 1924, 1938 and 1954
- mild recessions 1949, 1951, 1958 and 1961

Source: Arthur J.R. Smith and Barbara J.C. Smith, "Has Canada Been Through an Economic Depression," Globe and Mail, (October 11, 1983), p. 83.

Table 2 - Changes in Employment
by Industry, 1978-82

<u>Industry</u>	<u>Employment</u>		<u>Change</u>	
	<u>1978</u>	<u>1982</u>	<u>Number</u>	<u>%</u>
Primary	87,642	95,478	7,837	8.9
Mining	173,555	197,774	24,219	14.0
Manufacturing	2,045,282	1,973,842	-71,440	-3.5
Construction	458,059	437,246	-20,813	-4.5
Transportation	702,830	746,389	43,559	6.2
Wholesale Trade	513,048	536,510	23,462	4.6
Retail Trade	1,086,323	1,247,799	161,476	14.9
Finance	550,830	603,201	52,371	9.5
Community Services	1,248,596	1,456,526	207,930	16.7
Business Services	1,199,150	1,408,755	209,607	17.5
Total	8,091,632	8,757,423	665,791	8.2

Table 3 - Changes in Employment
by Province, 1978-82

<u>Province</u>	<u>Employment</u>		<u>Change</u>	
	<u>1978</u>	<u>1982</u>	<u>Number</u>	<u>%</u>
Newfoundland	114,868	119,388	4,520	3.9
Prince Edward Island	27,461	28,979	1,518	5.5
Nova Scotia	219,608	235,047	15,439	7.0
New Brunswick	169,038	175,608	6,570	3.9
Quebec	2,127,903	2,113,338	-14,564	-0.7
Ontario	3,222,350	3,472,700	250,350	7.8
Manitoba	335,556	353,084	17,528	5.2
Saskatchewan	240,062	280,303	40,242	16.8
Alberta	736,404	949,628	213,224	29.0
British Columbia	872,047	996,077	124,031	14.2
Canada	8,091,632	8,757,423	665,791	8.2

Table 4 - Components of Change in the Number of Firms
by Firm Size, 1978-82

Firm Size	COMPONENTS					
	"Births" ^a	"Deaths" ^b	Continuous ^c	Birth ^d Rate	Death ^e Rate	Turnover ^f Rate
Less than 5	283,396	-184,815	264,578	63.0	-41.1	104.2
5 to less than 20	35,247	-20,704	82,857	34.0	-20.0	54.0
20 to less than 50	5,989	-4,058	21,945	23.0	-15.6	38.6
50 to less than 100	1,563	-1,237	7,529	17.8	-14.1	31.9
100 to less than 500	867	-699	6,236	12.5	-10.1	22.6
500 or more	105	-70	1,701	5.9	-4.0	9.9
All Sizes	327,167	-211,583	384,846	54.9	-35.5	90.3

- Note: a. Firms which started business after 1978 and are still in operation in 1982.
- b. Firms in operation in 1978, but no longer exists by 1982.
- c. Firms in operation throughout the period 1978 to 1982.
- d. Number of "births" expressed as a percentage of the number of firms in 1978.
- e. Number of "deaths" expressed as a percentage of the number of firms in 1978.
- f. Sum of the number of "births" and "deaths" expressed as a percentage of the number of firms in 1978.

Table 5 - Components of Change in Employment
by Firm Size, 1978-82^a

<u>Firm Size</u>	EMPLOYMENT					<u>Jobs^c Created</u>	<u>Jobs^d Lost</u>	<u>Turnover^e in Jobs</u>
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>				
Less than 5	363,507	-197,411	264,252	-86,163		627,759	-283,574	911,333
5 to less than 20	238,955	-193,677	221,638	-169,132		460,593	-362,809	823,402
20 to less than 50	120,118	-122,859	140,295	-129,594		260,413	-252,453	512,866
50 to less than 100	67,099	-85,614	110,319	-87,382		177,418	-172,996	350,414
100 to less than 500	91,426	-126,697	270,064	-165,825		361,490	-292,522	654,012
500 or more	73,576	-58,737	402,192	-274,559		475,768	-333,296	809,064
All Sizes	954,681	-784,995	1,408,760	-912,656		2,363,441	-1,697,651	4,061,092

<u>Firm Size</u>	RATE ^b					<u>Jobs^c Created</u>	<u>Jobs^d Lost</u>	<u>Turnover^e in Jobs</u>
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>				
Less than 5	57.3	-31.1	41.7	-13.6		99.0	-44.7	143.7
5 to less than 20	23.8	-19.3	22.1	-16.9		45.9	-36.2	82.1
20 to less than 50	15.1	-15.4	17.6	-16.3		32.7	-31.7	64.4
50 to less than 100	11.0	-14.1	18.2	-14.4		29.2	-28.5	57.7
100 to less than 500	6.6	-9.1	19.4	-11.9		25.9	-21.0	46.9
500 or more	2.0	-1.6	11.0	-7.5		13.0	-9.1	22.1
All Sizes	11.8	-9.7	17.4	-11.3		29.2	-21.0	50.2

Note: a. See footnotes in Table 4 for definitions of "births" and "deaths".

b. The rates are calculated as the level of employment associated with each of the components of change expressed as a percentage of 1978 employment in a given firm size.

c. Jobs created is the sum of jobs gained through "birth" and expansion of firms.

d. Jobs lost is the sum of jobs lost through "death" and contraction of firms.

e. Turnover is the sum of jobs created and lost.

Table 6 - Components of Change in the Number of Firms
by Industry, 1978-82

<u>Industry</u>	NUMBER OF FIRMS					
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Continuous</u>	<u>Birth Rate</u>	<u>Death Rate</u>	<u>Turnover Rate</u>
Primary	34,145	-16,754	30,175	72.8	-35.7	108.5
Mining	1,947	-983	2,325	58.9	-29.7	88.6
Manufacturing	14,651	-10,794	29,526	36.3	-26.8	63.1
Construction	31,437	-31,753	48,256	39.3	-39.7	79.0
Transportation	12,615	-9,308	16,691	48.5	-35.8	84.3
Wholesale Trade	15,553	-11,407	28,795	38.7	-28.4	67.1
Retail Trade	52,252	-39,586	72,613	46.6	-35.3	81.9
Finance	16,489	-12,526	27,196	41.5	-31.5	73.0
Community Services	17,131	-8,181	40,367	35.3	-16.9	52.1
Business Services	106,669	-61,115	87,243	76.1	-43.6	119.7
Total	327,167	-211,583	384,846	54.9	-35.5	90.3

Note: See footnotes in Table 4.

Table 7 - Components of Change in Employment
by Industry, 1978-82

<u>Industry</u>	EMPLOYMENT						
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>	<u>Jobs Created</u>	<u>Jobs Lost</u>	<u>Turnover in Jobs</u>
Primary	25,083	-16,005	16,239	-17,479	41,322	-33,484	74,806
Mining	15,782	-7,280	41,928	-26,211	57,710	-33,491	91,201
Manufacturing	113,885	-149,893	242,995	-278,427	356,880	-428,320	785,200
Construction	79,307	-83,679	90,109	-106,550	169,416	-190,229	359,645
Transportation	40,245	-35,104	92,462	-54,044	132,707	-89,148	221,855
Wholesale Trade	59,755	-64,757	103,014	-74,550	162,769	-139,307	302,076
Retail Trade	157,255	-132,755	250,400	-113,424	407,655	-246,179	653,834
Finance	45,159	-40,954	96,089	-47,924	141,248	-88,878	230,126
Community Services	60,127	-32,096	213,906	-34,007	274,033	-66,103	340,136
Business Services	313,736	-202,095	256,521	-158,556	570,257	-360,651	930,908
Total	954,681	-784,995	1,408,760	-912,656	2,363,441	-1,697,651	4,061,092

	RATE						
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>	<u>Jobs Created</u>	<u>Jobs Lost</u>	<u>Turnover in Jobs</u>
Primary	28.6	-18.3	18.5	-19.9	47.1	-38.2	85.3
Mining	9.1	-4.2	24.2	-15.1	33.3	-19.3	52.6
Manufacturing	5.6	-7.3	11.9	-13.6	17.4	-20.9	38.3
Construction	17.3	-18.3	19.7	-23.3	37.0	-41.5	78.5
Transportation	5.7	-5.0	13.2	-7.7	18.9	-12.7	31.6
Wholesale Trade	11.6	-12.6	20.1	-14.5	31.7	-27.2	58.9
Retail Trade	14.5	-12.2	23.1	-10.4	37.5	-22.7	60.2
Finance	8.2	-7.4	17.4	-8.7	25.6	-16.1	41.7
Community Services	4.8	-2.6	17.1	-2.7	21.9	-5.3	27.2
Business Services	26.2	-16.9	21.4	-13.2	47.6	-30.1	77.7
Total	11.8	-9.7	17.4	-11.3	29.2	-21.0	50.2

Note: See footnotes in Tables 4 and 5.

Table 8 - Components of Change in the Number of Firms
by Province, 1978-82

<u>Province</u>	NUMBER OF FIRMS					
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Continuous</u>	<u>Birth Rate</u>	<u>Death Rate</u>	<u>Turnover Rate</u>
Newfoundland	6,518	-9,117	6,309	42.3	-59.1	101.4
Prince Edward Island	2,662	-3,071	2,698	46.1	-53.2	99.3
Nova Scotia	9,944	-14,278	13,191	36.2	-52.0	88.2
New Brunswick	9,038	-12,538	11,079	38.3	-53.1	91.4
Quebec	82,299	-66,577	94,451	51.1	-41.3	92.4
Ontario	101,671	-94,706	141,745	43.0	-40.1	83.1
Manitoba	13,863	-17,727	17,374	39.5	-50.5	90.0
Saskatchewan	20,689	-18,566	17,902	56.7	-50.9	107.6
Alberta	47,338	-50,048	40,748	52.1	-55.1	107.2
British Columbia	49,454	-49,335	53,397	48.1	-48.0	96.1
Canada	345,368	-344,313	400,301	46.4	-46.2	92.6

- Note: a. See footnote in Table 4 for definitions of components of change.
- b. Provincial totals do not sum to Canada total because Yukon, Northwest Territories and Outside Canada are excluded.
- c. The Canada totals in this table and the following table (Tables 8 and 9) are not the same as those in Tables 4 to 7. In Tables 4 to 7, firms with branches in more than one province are treated as one single entity, where employment information of its branches are consolidated and reported through the headquarter. In Tables 8 and 9, for these multi-provincial firms, the employment information of their branches is consolidated by province and reported as a separate firm in each province.

Table 9 - Components of Change in Employment
by Province, 1978-82

<u>Province</u>	EMPLOYMENT						
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>	<u>Jobs Created</u>	<u>Jobs Lost</u>	<u>Turnover in Jobs</u>
Newfoundland	17,676	-14,209	17,696	-16,643	35,372	-30,852	66,224
Prince Edward Island	4,360	-4,418	5,519	-3,943	9,879	-8,361	18,240
Nova Scotia	24,191	-24,453	41,947	-26,245	66,138	-50,698	116,836
New Brunswick	21,523	-19,985	28,594	-23,562	50,117	-43,547	93,664
Quebec	235,670	-241,766	270,656	-279,125	506,326	-520,891	1,027,217
Ontario	311,306	-274,283	555,612	-342,284	866,918	-616,567	1,483,485
Manitoba	37,966	-35,109	54,487	-39,817	92,453	-74,926	167,379
Saskatchewan	42,341	-28,675	51,424	-24,848	93,765	-53,523	147,288
Alberta	158,089	-94,113	236,349	-87,101	394,438	-181,214	575,652
British Columbia	135,372	-103,633	196,533	-104,242	331,905	-207,875	539,780
Canada	995,633	-847,945	1,469,834	-951,731	2,465,467	-1,799,676	4,265,143

<u>Province</u>	RATE						
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>	<u>Jobs Created</u>	<u>Jobs Lost</u>	<u>Turnover in Jobs</u>
Newfoundland	15.4	-12.4	15.4	-14.5	30.8	-26.9	57.7
Prince Edward Island	15.9	-16.1	20.1	-14.4	36.0	-30.4	66.4
Nova Scotia	11.0	-11.1	19.1	-12.0	30.1	-23.1	53.2
New Brunswick	12.7	-11.8	16.9	-13.9	29.6	-25.8	55.4
Quebec	11.1	-11.4	12.7	-13.1	23.8	-24.5	48.3
Ontario	9.7	-8.5	17.2	-10.6	26.9	-19.1	46.0
Manitoba	11.3	-10.5	16.2	-11.9	27.6	-22.3	49.9
Saskatchewan	17.6	-11.9	21.4	-10.4	39.1	-22.3	61.4
Alberta	21.5	-12.8	32.1	-11.8	53.7	-24.6	78.2
British Columbia	15.5	-11.9	22.5	-12.0	58.1	-23.8	61.9
Canada	12.3	-10.5	18.2	-11.8	30.5	-22.2	52.7

Note: See footnotes in Tables 4, 5 and 8.

Table 10 - Components of Change in the Number of Firms
by Province and by Firm Size, 1978-82

Firm Size	PROVINCE										
	NFLD	PEI	N.S.	N.B.	QUE	ONT.	MAN.	SASK.	ALTA.	B.C.	CANADA
	<u>Birth Rate</u>										
Less than 5	62.9	64.6	49.8	52.1	62.3	53.0	55.7	78.2	71.7	60.8	59.7
5 to less than 20	25.0	26.7	24.4	25.5	32.4	25.3	23.0	27.7	30.8	30.1	28.1
20 to less than 50	11.7	16.8	14.6	15.5	19.2	15.5	15.6	15.7	17.9	17.9	16.7
50 to less than 100	11.8	13.9	11.2	11.9	13.9	12.2	12.2	14.6	13.2	12.7	12.7
100 to less than 500	11.5	20.4	10.2	10.9	11.4	7.8	10.3	11.7	8.9	8.5	9.8
500 or more	6.0	10.7	5.0	5.1	5.6	4.0	8.0	6.3	3.7	2.9	5.2
All sizes	42.3	46.1	36.2	38.3	51.1	43.0	39.5	56.7	52.1	48.1	46.4
	<u>Death Rate</u>										
Less than 5	-53.0	-46.5	-48.0	-48.1	-44.7	-42.4	-47.4	-47.8	-53.1	-47.6	-46.1
5 to less than 20	-55.7	-50.1	-49.2	-51.1	-30.6	-31.5	-47.9	-49.4	-54.5	-43.0	-40.3
20 to less than 50	-74.3	-67.6	-64.7	-69.6	-36.3	-39.2	-63.7	-64.7	-65.2	-57.3	-52.3
50 to less than 100	-82.4	-77.3	-71.9	-76.0	-41.7	-44.3	-67.0	-69.9	-66.3	-60.3	-58.2
100 to less than 500	-78.2	-76.1	-65.2	-68.6	-40.7	-41.8	-61.2	-63.6	-60.8	-56.0	-56.8
500 or more	-62.4	-67.1	-53.0	-55.2	-32.1	-27.9	-78.9	-48.7	-43.9	-44.5	-48.8
All sizes	-59.1	-53.2	-52.0	-53.1	-41.3	-40.1	-50.5	-50.9	-55.1	-48.0	-46.2
	<u>Turnover Rate</u>										
Less than 5	115.9	111.1	97.8	100.2	107.0	95.4	103.1	126.0	124.8	108.4	105.7
5 to less than 20	80.6	76.7	73.6	76.7	63.0	56.9	70.9	77.0	85.4	73.2	68.4
20 to less than 50	86.0	84.4	79.3	85.1	55.5	54.8	79.6	80.4	83.1	75.2	69.0
50 to less than 100	94.3	91.2	83.1	87.9	55.7	56.5	79.2	84.5	79.5	73.0	70.9
100 to less than 500	89.7	96.5	75.4	79.5	52.1	49.6	71.5	75.3	69.7	64.5	66.6
500 or more	68.4	77.7	58.0	60.3	37.8	31.9	86.9	55.0	47.6	47.4	54.0
All sizes	101.4	99.4	88.2	91.4	92.5	83.1	90.0	107.6	107.3	96.2	92.6

Note: See footnotes in Tables 4 and 8.

Table 11 - Components of Change in Employment
by Province and by Firm Size, 1978-82

Firm Size	PROVINCE										
	NFLD	PEI	N.S.	N.B.	QUE	ONT.	MAN.	SASK.	ALTA.	B.C.	CANADA
	<u>Birth Rate</u>										
Less than 5	52.3	46.6	51.1	46.8	54.9	53.2	51.8	66.6	87.1	61.0	58.6
5 to less than 20	31.7	24.1	23.8	23.6	23.5	21.3	21.9	27.1	35.5	27.3	24.8
20 to less than 50	17.0	12.1	15.1	14.9	14.4	14.0	15.6	16.9	23.2	19.0	15.9
50 to less than 100	13.7	12.7	6.1	12.4	9.6	11.0	11.4	15.1	17.2	15.8	11.9
100 to less than 500	13.7	3.6	5.7	9.3	6.5	5.7	6.8	8.7	11.4	9.3	7.2
500 or more	4.5	4.3	0.4	2.2	2.1	1.3	2.6	3.6	5.5	1.8	2.1
All sizes	15.4	15.9	11.0	12.7	11.1	9.7	11.3	17.6	21.5	15.5	12.3
	<u>Death Rate</u>										
Less than 5	-36.7	-34.5	-32.7	-33.0	-33.1	-29.8	-30.7	-32.2	-35.0	-32.4	-32.0
5 to less than 20	-21.6	-19.8	-18.8	-21.3	-21.5	-18.1	-19.7	-20.6	-23.6	-20.2	-20.2
20 to less than 50	-14.9	-18.5	-15.2	-18.5	-17.7	-14.9	-15.5	-16.2	-19.7	-16.0	-16.5
50 to less than 100	-21.1	-14.3	-19.2	-16.4	-17.8	-13.2	-12.5	-16.2	-15.8	-12.8	-15.2
100 to less than 500	-7.6	-9.6	-8.8	-10.2	-10.9	-9.0	-11.6	-5.4	-10.2	-12.0	-10.0
500 or more	-5.0	-5.6	-2.2	-2.2	-2.8	-1.4	-2.8	-2.6	-1.8	-2.7	-2.2
All sizes	-12.4	-16.1	-11.1	-11.8	-11.4	-8.5	-10.5	-11.9	-12.8	-11.9	-10.5
	<u>Expansion Rate</u>										
Less than 5	32.5	33.5	32.8	33.3	33.0	41.0	36.0	34.7	63.8	45.9	41.0
5 to less than 20	17.3	19.0	16.9	16.5	17.8	23.7	18.4	17.8	28.9	22.8	21.8
20 to less than 50	14.5	12.3	13.2	13.7	13.4	19.2	15.7	16.6	24.5	20.1	17.7
50 to less than 100	13.5	14.0	16.3	15.2	11.9	20.3	14.4	18.9	29.8	20.5	18.4
100 to less than 500	14.9	22.8	25.3	17.5	15.4	20.9	14.3	17.4	29.1	24.1	20.1
500 or more	12.3	17.6	15.9	13.9	7.0	10.5	13.5	23.3	29.9	17.1	12.5
All sizes	15.4	20.1	19.1	16.9	12.7	17.2	16.2	21.4	32.1	22.5	18.2
	<u>Contraction Rate</u>										
Less than 5	-13.2	-14.1	-12.2	-13.5	-13.2	-13.2	-14.1	-12.3	-13.5	-14.3	-13.3
5 to less than 20	-19.2	-16.3	-16.3	-17.9	-16.8	-16.1	-17.8	-15.1	-16.6	-17.7	-16.6
20 to less than 50	-17.9	-16.3	-16.5	-17.1	-17.2	-15.0	-17.4	-13.7	-16.3	-16.9	-16.1
50 to less than 100	-15.8	-10.0	-13.0	-17.8	-16.0	-13.2	-13.7	-12.2	-14.1	-14.3	-14.3
100 to less than 500	-21.8	-14.6	-12.0	-15.0	-13.9	-11.4	-10.1	-9.7	-13.3	-10.9	-12.4
500 or more	-10.2	-13.2	-9.1	-11.0	-10.4	-7.6	-9.2	-6.4	-7.1	-8.1	-8.5
All sizes	-14.5	-14.4	-12.0	-13.9	-13.1	-10.6	-11.9	-10.4	-11.8	-12.0	-11.8

Table 11 - Components of Change in Employment
by Province and by Firm Size, 1978-82 (Cont'd)

Firm Size	PROVINCE										
	NFLD	PEI	N.S.	N.B.	QUE	ONT.	MAN.	SASK.	ALTA.	B.C.	CANADA
	<u>Job Creation Rate</u>										
Less than 5	84.8	80.1	83.9	80.1	87.8	94.2	87.8	101.3	150.9	106.8	99.6
5 to less than 20	49.0	43.1	40.7	40.1	41.3	45.1	40.3	45.0	64.4	50.1	46.6
20 to less than 50	31.5	24.4	28.3	28.6	27.7	33.1	31.3	33.5	47.8	39.1	33.6
50 to less than 100	27.2	26.7	22.4	27.6	21.5	31.4	25.8	34.1	47.0	36.4	30.3
100 to less than 500	28.6	26.3	31.0	26.8	21.9	26.6	21.1	26.0	40.5	33.4	27.3
500 or more	16.8	21.9	16.3	16.1	9.1	11.9	16.2	26.9	35.4	18.9	14.6
All sizes	30.8	36.0	30.1	29.6	23.8	26.9	27.6	39.1	53.6	38.1	30.5
	<u>Jobs Loss rate</u>										
Less than 5	-49.9	-48.6	-44.9	-46.5	-46.3	-43.0	-44.8	-44.4	-48.6	-46.6	-45.4
5 to less than 20	-40.8	-36.1	-35.1	-39.2	-38.3	-34.2	-37.5	-35.8	-40.2	-37.8	-36.8
20 to less than 50	-32.9	-34.8	-31.7	-35.6	-34.9	-29.9	-33.0	-29.9	-35.9	-32.9	-32.6
50 to less than 100	-36.9	-24.4	-32.2	-34.2	-33.8	-26.4	-26.2	-28.4	-29.9	-27.2	-29.5
100 to less than 500	-29.4	-24.2	-20.8	-25.1	-24.8	-20.4	-21.7	-15.1	-23.5	-22.9	-22.4
500 or more	-15.2	-18.8	-11.3	-13.1	-13.2	-9.0	-11.9	-9.0	-8.9	-10.8	-10.7
All sizes	-26.9	-30.4	-23.1	-25.8	-24.5	-19.1	-22.3	-22.3	-24.6	-23.8	-22.2
	<u>Turnover Rate</u>										
Less than 5	134.7	128.7	128.8	126.6	134.1	137.2	132.5	145.8	199.5	153.5	145.0
5 to less than 20	89.8	79.2	75.8	79.3	79.6	79.2	77.8	80.7	104.6	87.9	83.4
20 to less than 50	64.4	59.2	59.9	64.2	62.6	63.0	64.3	63.4	83.6	72.0	66.2
50 to less than 100	64.0	51.0	54.7	61.8	55.3	57.8	52.0	62.5	76.9	63.5	59.8
100 to less than 500	58.0	50.6	51.8	51.9	46.7	47.0	42.8	41.2	64.0	56.3	49.7
500 or more	32.0	40.6	27.7	29.2	22.3	20.9	28.1	35.9	44.3	29.7	25.3
All sizes	57.7	66.4	53.2	55.4	48.3	46.0	49.9	61.4	78.2	61.9	52.7

Note: See footnotes in Tables 5 and 9.

Table 12 - Components of Change in the Number of Firms
by Province and by Industry, 1978-82

Industry	PROVINCE										
	Nfld	PEI	N.S.	N.B.	QUE	ONT.	MAN.	SASK.	ALTA.	B.C.	CANADA
	<u>Birth Rate</u>										
Primary	51.8	86.5	49.0	47.8	70.2	46.6	80.5	136.5	70.9	45.6	65.4
Mining	20.9	24.4	18.4	12.9	21.8	22.0	19.6	25.6	57.5	47.6	35.7
Manufacturing	15.1	20.7	19.5	18.1	32.9	28.1	19.4	23.6	22.1	28.7	26.7
Construction	30.8	32.5	32.0	27.2	31.3	30.7	26.8	36.4	38.7	39.2	33.1
Transportation	36.0	35.2	28.5	35.6	40.1	33.8	33.7	38.3	51.5	44.3	39.0
Wholesale Trade	27.8	29.1	33.5	28.9	37.8	33.8	30.3	38.6	35.7	35.1	34.7
Retail Trade	37.7	34.0	35.8	39.2	48.5	38.9	35.3	41.2	40.4	43.2	41.7
Finance	38.1	28.9	33.6	31.2	41.0	34.8	30.8	41.5	48.7	42.5	38.8
Services	54.4	41.0	35.4	41.9	53.3	46.6	34.5	38.5	53.1	49.9	47.5
Total	42.3	46.1	36.2	38.3	51.1	43.0	39.5	56.7	52.1	48.1	46.4
	<u>Death Rate</u>										
Primary	-67.6	-37.1	-45.5	-42.8	-51.6	-36.2	-46.4	-42.5	-50.7	-47.0	-44.8
Mining	-73.6	-92.7	-73.1	-68.7	-51.1	-51.2	-73.6	-65.4	-38.6	-62.7	-55.7
Manufacturing	-74.0	-62.7	-56.9	-59.8	-35.3	-35.2	-48.9	-54.8	-60.7	-46.5	-44.8
Construction	-68.5	-56.0	-56.6	-59.2	-42.4	-46.2	-58.6	-58.0	-59.0	-51.5	-51.4
Transportation	-60.2	-59.1	-53.0	-55.4	-38.7	-43.0	-55.9	-59.4	-58.7	-48.1	-49.1
Wholesale Trade	-51.7	-47.5	-47.4	-49.8	-35.4	-34.2	-41.2	-44.8	-49.2	-39.7	-39.8
Retail Trade	-46.8	-47.2	-48.2	-47.9	-38.6	-40.4	-46.9	-46.1	-54.1	-46.1	-43.7
Finance	-52.6	-45.5	-40.1	-38.4	-30.5	-34.5	-39.0	-38.8	-46.2	-38.2	-37.0
Services	-54.2	-57.8	-50.8	-52.3	-40.4	-37.9	-50.2	-50.8	-53.1	-46.6	-44.6
Total	-59.1	-53.2	-52.0	-53.1	-41.3	-40.1	-50.5	-50.9	-55.1	-48.0	-46.2
	<u>Turnover Rate</u>										
Primary	119.4	123.6	94.5	90.6	121.8	82.8	126.9	179.0	121.5	92.6	110.1
Mining	94.5	117.1	91.5	81.6	72.9	73.2	93.2	91.1	96.1	110.2	91.5
Manufacturing	89.1	83.4	76.4	77.9	68.2	63.3	68.3	78.4	82.9	75.2	71.5
Construction	99.4	88.5	88.6	86.4	73.8	76.9	85.4	94.4	97.6	90.8	84.4
Transportation	96.2	94.3	81.4	91.0	78.8	76.8	89.6	97.7	110.2	92.4	88.1
Wholesale Trade	79.5	76.6	80.9	78.7	73.2	68.0	71.5	83.5	84.9	74.9	74.4
Retail Trade	84.5	81.2	84.0	87.1	87.1	79.3	82.2	87.3	94.5	89.2	85.4
Finance	90.7	74.4	73.7	69.6	71.5	69.3	69.8	80.3	95.0	80.7	75.7
Services	108.6	98.8	86.2	94.2	93.7	84.5	84.7	89.4	106.1	96.5	92.1
Total	101.4	99.4	88.2	91.4	92.5	83.1	90.0	107.6	107.3	96.2	92.6

Note: See footnotes in Tables 4 and 8.

Table 13 - Components of Change in Employment
by Province and by Industry, 1978-82

Industry	PROVINCE										
	NFLD	PEI	N.S.	N.B.	QUE	ONT.	MAN.	SASK.	ALTA.	B.C.	CANADA
	<u>Birth Rate</u>										
Primary	37.1	41.8	24.5	19.4	35.7	22.2	41.1	75.6	46.6	17.3	29.2
Mining	10.8	39.4	6.6	7.0	5.3	1.6	3.6	10.0	18.1	14.9	9.8
Manufacturing	6.4	8.6	4.6	5.4	7.4	4.6	6.0	6.8	9.4	5.2	5.8
Construction	28.6	12.9	13.2	10.9	14.6	15.2	13.0	25.6	25.8	20.7	18.0
Transportation	12.2	5.7	8.1	6.0	4.1	4.7	8.6	5.8	8.6	9.1	6.1
Wholesale Trade	18.6	13.9	15.6	12.6	11.9	11.3	13.8	17.1	16.4	13.8	12.9
Retail Trade	15.9	13.3	14.5	18.8	16.2	12.0	12.4	18.1	20.6	18.2	15.1
Finance	10.0	8.2	7.5	8.4	7.3	6.8	6.5	9.8	14.9	14.0	8.7
Services	18.4	20.8	12.2	18.4	12.8	13.4	12.9	19.1	28.9	20.2	15.8
Total	15.4	15.9	11.0	12.7	11.1	9.7	11.3	17.6	21.5	15.5	12.3
	<u>Death Rate</u>										
Primary	-24.7	-20.2	-15.0	-19.5	-24.0	-15.8	-21.3	-20.8	-22.0	-20.5	-19.8
Mining	-2.6	-72.7	-3.5	-3.8	-5.8	-3.7	-2.6	-6.6	-8.3	-8.3	-6.3
Manufacturing	-6.8	-12.6	-5.9	-9.7	-11.7	-5.8	-10.5	-8.6	-9.9	-8.8	-8.2
Construction	-31.3	-19.1	-19.6	-24.3	-19.3	-19.8	-19.3	-21.4	-18.3	-16.8	-19.7
Transportation	-10.8	-10.1	-7.0	-3.3	-4.5	-4.7	-5.7	-3.7	-7.8	-7.0	-5.5
Wholesale Trade	-10.6	-12.2	-12.6	-11.3	-16.5	-12.1	-12.5	-13.8	-13.2	-12.7	-13.6
Retail Trade	-17.1	-15.6	-13.6	-16.5	-15.2	-10.5	-11.0	-14.7	-13.9	-13.4	-12.8
Finance	-7.5	-9.8	-5.6	-7.2	-6.1	-6.9	-8.8	-6.8	-12.5	-10.9	-7.8
Services	-10.8	-18.8	-13.2	-10.9	-9.5	-8.8	-10.1	-12.4	-12.6	-12.4	-10.2
Total	-12.4	-16.1	-11.1	-11.8	-11.4	-8.5	-10.5	-11.9	-12.8	-11.9	-10.5
	<u>Expansion Rate</u>										
Primary	36.7	30.2	16.7	15.1	17.1	21.6	23.9	22.4	25.5	12.7	18.7
Mining	13.2	0.0	5.6	24.2	9.6	17.9	3.7	22.7	48.1	23.0	25.5
Manufacturing	10.5	15.7	13.8	9.1	10.3	12.7	17.0	18.1	25.5	16.8	13.1
Construction	8.4	5.6	13.9	18.9	14.6	17.5	11.3	14.6	35.2	31.6	20.9
Transportation	8.9	13.2	11.4	9.6	8.2	14.1	9.6	14.3	23.2	17.5	13.8
Wholesale Trade	16.6	11.6	16.5	18.7	16.3	24.0	18.7	21.3	25.6	17.9	20.6
Retail Trade	19.7	21.1	27.8	20.7	17.2	22.2	18.9	33.9	38.3	27.5	23.5
Finance	13.6	15.0	18.1	12.0	12.6	19.3	14.4	16.9	30.7	20.5	18.3
Services	21.5	29.0	23.3	24.9	13.5	18.5	18.4	21.3	32.6	26.1	19.7
Total	15.4	20.1	19.1	16.9	12.7	17.2	16.2	21.4	32.1	22.5	18.2
	<u>Contraction Rate</u>										
Primary	-10.1	-11.6	-18.7	-30.4	-17.9	-15.3	-18.3	-15.4	-17.0	-25.0	-19.3
Mining	-20.1	-12.1	-4.3	-7.9	-18.1	-20.8	-17.5	-13.9	-12.6	-8.4	-15.2
Manufacturing	-8.3	-23.8	-14.7	-13.7	-15.7	-13.1	-13.3	-12.3	-14.6	-16.3	-14.2
Construction	-27.4	-33.6	-26.4	-28.8	-27.7	-22.2	-32.0	-27.2	-20.3	-20.2	-23.8
Transportation	-17.8	-7.4	-9.7	-10.3	-8.9	-7.1	-8.7	-4.7	-6.6	-9.1	-8.2
Wholesale Trade	-21.6	-18.0	-23.2	-14.6	-17.6	-12.8	-16.1	-11.1	-14.4	-17.7	-15.3
Retail Trade	-12.8	-15.1	-11.7	-11.9	-13.5	-9.5	-11.3	-10.1	-9.2	-10.1	-10.8
Finance	-10.8	-10.5	-8.0	-12.5	-12.2	-8.1	-8.6	-8.6	-11.8	-9.3	-9.8
Services	-13.6	-6.2	-7.3	-11.8	-9.0	-7.0	-8.8	-7.4	-9.5	-8.1	-8.2
Total	-14.5	-14.4	-12.0	-13.9	-13.1	-10.6	-11.9	-10.4	-11.8	-12.0	-11.8

Table 13 - Components of Change in Employment
by Province and by Industry, 1978-82 (Cont'd)

Industry	PROVINCE										
	Nfld	PEI	N.S.	N.B.	QUE	ONT.	MAN.	SASK.	ALTA.	B.C.	CANADA
	<u>Job Creation Rate</u>										
Primary	73.8	72.1	41.2	34.5	52.8	43.8	65.1	98.1	72.1	30.0	48.0
Mining	24.0	39.4	12.2	31.2	14.9	19.5	7.2	32.7	66.2	37.9	35.4
Manufacturing	17.0	24.3	18.3	14.6	17.7	17.3	23.0	24.9	34.9	22.0	19.0
Construction	37.0	18.5	27.0	29.8	29.2	32.8	24.3	40.2	61.0	52.3	38.9
Transportation	21.1	19.0	19.5	15.6	12.4	18.8	18.1	20.1	31.9	26.6	19.8
Wholesale Trade	35.1	25.5	32.0	31.3	28.2	35.3	32.5	38.4	42.1	31.7	33.5
Retail Trade	35.7	34.4	42.3	39.4	33.4	34.2	31.3	52.0	58.9	45.8	38.5
Finance	23.6	23.2	25.6	20.4	19.9	26.0	20.9	26.7	45.6	34.5	27.0
Services	39.9	49.8	35.5	43.3	26.3	31.9	31.3	40.5	61.5	46.3	35.4
Total	30.8	36.0	30.1	29.6	23.8	26.9	27.6	39.1	53.6	38.1	30.5
	<u>Jobs Loss Rate</u>										
Primary	-34.8	-31.7	-33.7	-49.8	-41.9	-31.2	-39.6	-36.3	-39.1	-45.5	-39.0
Mining	-22.7	-84.8	-7.7	-11.7	-23.9	-24.5	-20.1	-20.5	-20.9	-16.7	-21.4
Manufacturing	-15.1	-36.3	-20.6	-23.4	-27.3	-18.9	-23.8	-21.0	-24.5	-25.1	-22.5
Construction	-58.7	-52.8	-45.9	-53.1	-47.1	-42.1	-51.3	-48.6	-38.6	-37.0	-43.5
Transportation	-28.6	-17.5	-16.7	-13.6	-13.4	-11.8	-14.3	-8.5	-14.5	-16.1	-13.6
Wholesale Trade	-32.2	-30.2	-35.8	-25.8	-34.0	-24.9	-28.5	-24.9	-27.6	-30.4	-28.9
Retail Trade	-29.9	-30.8	-25.2	-28.4	-28.7	-20.0	-22.2	-24.9	-23.1	-23.5	-23.7
Finance	-18.3	-20.2	-13.7	-19.7	-18.3	-15.1	-17.4	-15.3	-24.3	-20.2	-17.5
Services	-24.4	-25.1	-20.5	-22.7	-18.5	-15.7	-18.9	-19.8	-22.1	-20.5	-18.4
Total	-26.9	-30.4	-23.1	-25.7	-24.5	-19.1	-22.3	-22.3	-24.6	-23.8	-22.2
	<u>Turnover Rate</u>										
Primary	108.6	103.8	74.9	84.4	94.7	75.0	104.6	134.3	111.2	75.5	87.0
Mining	46.7	124.2	19.9	42.9	38.8	44.0	27.4	53.2	87.2	54.6	56.8
Manufacturing	32.1	60.7	38.9	38.0	45.0	36.2	46.8	45.8	59.5	47.1	41.4
Construction	95.7	71.2	73.0	82.9	76.2	74.9	75.6	88.8	99.6	89.3	82.4
Transportation	49.7	36.5	36.2	29.1	25.8	30.5	32.5	28.6	46.4	42.7	33.5
Wholesale Trade	67.3	55.7	67.8	57.1	62.2	60.2	61.0	63.3	69.6	62.2	62.4
Retail Trade	65.6	65.2	67.5	67.8	62.1	54.1	53.6	76.9	82.0	69.3	62.2
Finance	41.9	43.4	39.2	40.1	38.1	41.1	38.3	42.0	69.9	54.7	44.6
Services	64.3	74.9	56.0	66.1	44.9	47.6	50.2	60.3	83.6	66.8	53.8
Total	57.7	66.4	53.2	55.4	48.3	46.0	49.9	61.4	78.2	61.9	52.7

Note: See footnotes in Tables 5 and 8.

Table 14 - Birth and Deaths of Firms and Employment Changes
by Industry and by Country of Control, 1978-82

FIRMS

<u>Industry</u>	<u>Birth Rate</u>		<u>Death Rate</u>	
	<u>Canadian</u>	<u>Foreign</u>	<u>Canadian</u>	<u>Foreign</u>
Primary	72.9	12.5	-35.7	-28.4
Mining	62.9	15.4	-31.0	-15.7
Manufacturing	38.2	4.3	-27.5	-13.6
Construction	39.4	14.4	-39.7	-21.0
Transportation	48.9	3.9	-36.0	-15.2
Wholesale Trade	40.0	5.3	-28.8	-16.4
Retail Trade	46.6	15.3	-35.3	-26.8
Finance	41.9	11.8	-31.7	-22.8
Services	56.6	5.0	-32.4	-13.2
TOTAL	55.3	7.1	-35.7	-16.5

EMPLOYMENT

<u>Industry</u>	<u>Birth Rate</u>		<u>Death Rate</u>	
	<u>Canadian</u>	<u>Foreign</u>	<u>Canadian</u>	<u>Foreign</u>
Primary	29.6	4.5	-18.4	-14.1
Mining	11.2	6.1	- 5.0	- 3.0
Manufacturing	7.9	2.0	- 9.8	- 3.6
Construction	17.8	12.1	-19.6	- 5.4
Transportation	6.1	0.2	- 4.9	- 6.4
Wholesale Trade	13.0	5.1	-13.0	-11.0
Retail Trade	16.4	1.6	-13.3	- 4.9
Finance	8.9	2.2	- 7.7	- 5.5
Services	16.1	1.7	- 9.9	- 4.1
Total	13.7	2.6	-10.8	- 4.5

Note: See footnotes in Tables 4 and 5.

Table 15 - Components of Change in the Number of Firms, 1978-82

<u>Year</u>	NUMBER OF FIRMS					
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Continuous</u>	<u>Birth Rate</u>	<u>Death Rate</u>	<u>Turnover Rate</u>
1979	119,296	-89,824	506,605	20.0	-15.1	35.1
1980	127,231	-92,835	533,066	20.3	-14.8	35.2
1981	134,978	-96,058	564,239	20.4	-14.5	35.0
1982	119,626	-106,830	592,387	17.1	-15.3	32.4

Note: See Table 4 for definitions of components of change.

Table 16 - Components of Change in Employment, 1978-82

<u>Year</u>	EMPLOYMENT						
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>	<u>Jobs Created</u>	<u>Jobs Lost</u>	<u>Turnover in Jobs</u>
1979	222,423	-184,858	875,058	-459,502	1,097,481	-644,360	1,741,841
1980	215,538	-181,631	802,455	-539,727	1,017,993	-721,358	1,739,551
1981	219,683	-196,687	780,266	-561,973	999,949	-758,660	1,758,609
1982	194,572	-202,529	594,305	-911,602	788,877	-1,114,131	1,903,008
	RATE						
	<u>"Births"</u>	<u>"Deaths"</u>	<u>Expansion</u>	<u>Contraction</u>	<u>Jobs Created</u>	<u>Jobs Lost</u>	<u>Turnover in Jobs</u>
1979	2.7	-2.2	10.8	-5.7	13.6	-8.0	21.6
1980	2.5	-2.1	9.4	-6.3	11.9	-8.4	20.3
1981	2.5	-2.2	8.8	-6.4	11.3	-8.6	19.9
1982	2.1	-2.2	6.5	-10.0	8.7	-12.3	21.0

Note: See Tables 4 and 5 for definitions of components of change.

Table 17 - Components of Change in the Number of Firms
by Firm Size, 1979-82

COMPONENTS				
Firm Size	1979	1980	1981	1982
	<u>Birth Rate</u>			
Less than 5	23.1	24.3	24.3	20.3
5 to less than 20	12.3	10.2	10.3	8.2
20 to less than 50	8.0	6.6	7.2	5.6
50 to less than 100	6.4	5.5	5.2	4.3
100 to less than 500	4.5	3.6	3.6	3.4
500 or more	2.1	2.2	1.9	1.8
All Sizes	20.0	20.3	20.4	17.1
	<u>Death Rate</u>			
Less than 5	-18.8	-18.6	-18.1	-18.8
5 to less than 20	-4.1	-4.7	-4.7	-4.9
20 to less than 50	-2.8	-3.1	-3.0	-3.4
50 to less than 100	-2.6	-2.7	-2.7	-2.9
100 to less than 500	-2.1	-2.2	-2.2	-1.9
500 or more	-1.2	-0.8	-1.4	-0.9
All Sizes	-15.1	-14.8	-14.5	-15.3
	<u>Turnover Rate</u>			
Less than 5	41.9	42.9	42.4	39.1
5 to less than 20	16.4	14.9	15.0	13.1
20 to less than 50	10.8	9.7	10.2	9.0
50 to less than 100	9.0	8.2	7.9	7.2
100 to less than 500	6.6	5.8	5.8	5.3
500 or more	3.3	3.0	3.3	2.7
All Sizes	35.1	35.1	34.9	32.4

Note: See footnotes in Table 4.

Table 18 - Components of Change in Employment
by Firm Size, 1979-82

Firm Size	COMPONENTS											
	Birth Rate				Death Rate				Expansion Rate			
	1979	1980	1981	1982	1979	1980	1981	1982	1979	1980	1981	1982
Less than 5	9.9	10.4	10.4	8.2	-10.2	-9.8	-9.6	-10.1	29.9	25.7	25.5	20.7
5 to less than 20	5.8	5.1	5.1	4.1	-3.8	-4.0	-4.1	-4.2	14.2	13.3	13.1	10.5
20 to less than 50	3.9	3.4	3.6	2.8	-2.8	-2.8	-2.7	-3.1	10.5	11.1	10.6	8.3
50 to less than 100	3.1	2.8	2.6	2.2	-2.6	-2.4	-2.5	-2.6	10.8	9.4	9.1	7.2
100 to less than 500	2.0	1.6	1.7	1.6	-1.1	-1.8	-1.8	-1.6	17.4	8.5	8.4	6.0
500 or more	0.6	0.7	0.5	0.6	-0.4	-0.3	-0.5	-0.3	6.7	5.7	4.6	2.8
All Sizes	2.8	2.5	2.5	2.1	-2.3	-2.1	-2.2	-2.2	10.8	9.4	8.8	6.5
Firm Size	Contraction Rate				Jobs Creation Rate				Jobs Loss Rate			
	1979	1980	1981	1982	1979	1980	1981	1982	1979	1980	1981	1982
	Less than 5	-11.6	-12.2	-12.3	-14.8	39.8	36.1	35.9	28.9	-21.9	-22.0	-21.9
5 to less than 20	-10.2	-10.9	-11.0	-14.5	20.0	18.4	18.2	14.6	-14.0	-14.9	-15.1	-18.7
20 to less than 50	-8.2	-9.0	-9.6	-13.5	14.4	14.5	14.2	11.1	-11.0	-11.8	-12.3	-16.6
50 to less than 100	-6.7	-7.7	-8.2	-12.4	13.9	12.2	11.7	9.4	-9.3	-10.1	-10.7	-15.0
100 to less than 500	-8.4	-5.9	-6.1	-10.8	19.4	10.1	10.1	7.6	-9.5	-7.7	-7.9	-12.4
500 or more	-3.2	-3.5	-3.3	-6.7	7.3	6.4	5.1	3.4	-3.6	-3.8	-3.8	-7.0
All Sizes	-5.7	-6.3	-6.4	-10.0	13.6	11.9	11.3	8.6	-8.0	-8.4	-8.6	-12.2
Firm Size	Turnover Rate											
	1979	1980	1981	1982								
	Less than 5	61.7	58.1	57.8	53.8							
5 to less than 20	34.0	33.3	33.3	33.3								
20 to less than 50	25.4	26.3	26.5	27.7								
50 to less than 100	23.2	22.3	22.4	24.4								
100 to less than 500	28.9	17.8	18.0	20.0								
500 or more	10.9	10.2	8.9	10.4								
All Sizes	21.6	20.3	19.9	20.8								

Note: See footnotes in Table 5.

Table 19 - Components of Change in the Number of Firms
by Industry, 1979-82

COMPONENTS				
Industry	1979	1980	1981	1982
	<u>Birth Rate</u>			
Primary	22.9	30.2	24.5	19.0
Mining	22.6	24.1	15.7	10.2
Manufacturing	13.6	12.5	11.7	9.3
Construction	18.8	16.6	15.8	11.0
Transportation	20.0	19.0	17.3	13.4
Wholesale Trade	14.1	13.2	12.4	10.0
Retail Trade	17.6	16.4	15.3	12.1
Finance	15.3	15.2	15.9	12.1
Services	18.7	18.7	18.6	15.7
Total	20.0	20.3	20.4	17.1
	<u>Death Rate</u>			
Primary	-17.9	-16.7	-15.2	-13.7
Mining	-11.6	-9.2	-10.4	-14.1
Manufacturing	-9.5	-9.0	-9.2	-10.1
Construction	-16.0	-15.8	-14.5	-16.2
Transportation	-14.4	-14.1	-14.6	-14.4
Wholesale Trade	-9.8	-9.7	-9.8	-10.4
Retail Trade	-13.0	-12.8	-12.1	-12.6
Finance	-12.3	-11.9	-12.0	-12.5
Services	-12.9	-12.5	-11.8	-12.2
TOTAL	-15.1	-14.8	-14.5	-15.3
	<u>Turnover Rate</u>			
Primary	40.7	46.9	39.7	32.7
Mining	34.2	33.3	26.1	24.3
Manufacturing	23.1	21.5	20.9	19.4
Construction	34.8	32.4	30.3	27.2
Transportation	34.4	33.1	31.9	27.8
Wholesale Trade	24.0	23.0	22.3	20.4
Retail Trade	30.5	29.2	27.5	24.7
Finance	27.6	27.1	27.9	24.6
Services	31.5	31.2	30.4	27.9
TOTAL	35.1	35.2	35.0	32.4

Note: See footnotes in Table 4.

Table 20 - Components of Change in Employment
by Industry, 1979-82

Industry	COMPONENTS											
	Birth Rate				Death Rate				Expansion Rate			
	1979	1980	1981	1982	1979	1980	1981	1982	1979	1980	1981	1982
Primary	7.6	8.4	7.4	5.4	-4.6	-4.6	-5.3	-4.7	15.4	14.3	12.1	11.2
Mining	2.3	1.5	1.0	1.0	-1.3	-0.7	-0.9	-1.2	14.5	16.9	10.1	5.2
Manufacturing	1.7	1.3	1.0	0.9	-1.9	-1.4	-1.5	-1.4	9.5	8.0	6.6	3.8
Construction	4.9	4.0	4.1	2.7	-3.6	-3.6	-3.4	-3.6	15.5	14.4	17.7	11.1
Transportation	1.1	1.4	0.9	1.0	-1.0	-1.1	-1.5	-1.3	7.4	5.2	8.5	3.8
Wholesale Trade	3.1	2.2	2.7	1.8	-3.0	-2.3	-2.7	-2.5	12.7	9.8	9.5	7.4
Retail Trade	3.0	2.8	2.6	1.7	-2.6	-2.3	-2.4	-2.4	14.8	9.2	9.0	7.4
Finance	1.8	1.9	1.8	1.7	-1.4	-1.7	-1.9	-1.5	10.1	8.9	6.6	7.8
Services	3.0	3.0	3.0	2.7	-2.1	-2.2	-2.2	-2.4	9.5	10.2	9.0	7.5
Total	2.7	2.5	2.5	2.1	-2.2	-2.1	-2.2	-2.2	10.8	9.4	8.8	6.5

Industry	Contraction Rate				Job Creation Rate				Job Loss Rate			
	1979	1980	1981	1982	1979	1980	1981	1982	1979	1980	1981	1982
Primary	-11.2	-12.2	-13.3	-16.7	23.0	22.6	19.5	16.6	-15.9	-16.7	-18.7	-21.3
Mining	- 5.2	- 4.0	- 7.4	-16.5	16.7	18.3	11.1	6.2	- 6.6	- 4.7	- 8.3	-17.7
Manufacturing	- 5.5	- 6.8	- 5.8	-11.6	11.2	9.3	7.6	4.7	- 7.4	- 8.3	- 7.3	-12.9
Construction	-14.6	-15.4	-13.3	-20.7	20.3	18.4	21.7	13.8	-18.2	-18.9	-16.8	-24.3
Transportation	- 3.0	- 4.4	- 3.4	- 7.4	8.5	6.6	9.4	4.8	- 4.0	- 5.5	- 4.8	- 8.7
Wholesale Trade	- 6.5	- 7.4	- 7.5	-12.4	15.8	12.0	12.2	9.2	- 9.5	- 9.8	-10.2	-14.9
Retail Trade	- 5.2	- 5.9	- 6.1	- 9.3	17.8	12.0	11.6	9.2	- 7.8	- 8.1	- 8.5	-11.7
Finance	- 4.6	- 4.9	- 7.1	- 8.2	11.9	10.8	8.5	9.5	- 6.1	- 6.5	- 9.0	- 9.6
Services	- 5.0	- 5.0	- 5.8	- 7.2	12.5	13.1	12.1	10.3	- 7.1	- 7.2	- 7.9	- 9.6
Total	- 5.7	- 6.3	- 6.4	-10.0	13.6	11.9	11.3	8.7	- 8.0	- 8.4	- 8.6	-12.3

Industry	Turnover Rate			
	1979	1980	1981	1982
Primary	38.8	39.3	38.1	37.9
Mining	23.3	23.1	19.4	24.0
Manufacturing	18.6	17.5	14.9	17.6
Construction	38.6	37.3	38.5	38.1
Transportation	12.6	12.1	14.2	13.5
Wholesale Trade	25.3	21.8	22.4	24.1
Retail Trade	25.6	20.1	20.1	20.9
Finance	18.0	17.3	17.5	19.1
Services	19.6	20.3	20.0	19.9
Total	21.6	20.3	19.9	21.0

Note: See footnotes in Table 5.

Table 21 - Percentage Share of Job Creation
by Firm Size, 1978-82

<u>Firm Size</u>	TIME PERIOD				
	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1978-82</u>
Less than 5	25.1	30.2	39.3	8.8	51.7
5 to less than 20	13.3	12.4	14.7	-14.4	14.7
20 to less than 50	6.1	7.7	6.7	-14.5	1.2
50 to less than 100	6.2	4.5	2.9	-11.6	0.7
100 to less than 500	19.5	11.7	13.4	-21.9	10.4
500 or more	29.7	33.6	23.0	-46.5	21.4
Average Annual Percentage Change	5.6	3.5	2.7	-3.6	2.1

Table 22 - Percentage Share of Job Creation
by Firm Size and by Industry, 1978-82

<u>Industry/Firm Size</u>	TIME PERIOD			
	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>
Primary				
Less than 5	58	118	564	9
5 to less than 20	16	-7	-81	-42
20 to less than 50	11	-7	-118	-29
50 to less than 100	5	-4	-110	-13
100 to less than 500	N/A	N/A	N/A	N/A
500 or more	N/A	N/A	N/A	N/A
Average Annual Percentage Change	7.1	5.9	0.8	-4.7
Mining				
Less than 5	6	9	18	-1
5 to less than 20	24	7	13	-2
20 to less than 50	6	10	11	-5
50 to less than 100	6	5	5	-5
100 to less than 500	16	17	32	-15
500 or more	42	52	21	-73
Average Annual Percentage Change	10.2	13.6	2.8	-11.5
Manufacturing				
Less than 5	15	37	87	-0
5 to less than 20	15	24	68	-5
20 to less than 50	12	15	6	-9
50 to less than 100	8	-18	18	-10
100 to less than 500	35	-35	14	-25
500 or more	15	77	-93	-51
Average Annual Percentage Change	3.9	1.0	0.3	-8.3

Table 22 - Percentage Share of Job Creation
by Firm Size and by Industry, 1978-82 (Cont'd)

<u>Industry/Firm Size</u>	TIME PERIOD			
	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>
Construction				
Less than 5	100	185	35	-17
5 to less than 20	-9	-20	9	-27
20 to less than 50	-12	-68	6	-15
50 to less than 100	-1	-38	-8	-10
100 to less than 500	22	81	24	-23
500 or more	1	-240	34	-8
Average Annual				
Percentage Change	2.1	-0.5	5.0	-10.5
Transportation				
Less than 5	18	53	15	-2
5 to less than 20	8	20	2	-12
20 to less than 50	3	13	-1	-10
50 to less than 100	4	9	0	-8
100 to less than 500	9	38	8	-14
500 or more	58	-33	76	-53
Average Annual				
Percentage Change	4.5	1.1	4.6	-3.9
Wholesale Trade				
Less than 5	25	49	52	5
5 to less than 20	18	20	27	-15
20 to less than 50	4	8	0	-16
50 to less than 100	13	7	-8	-18
100 to less than 500	22	2	16	-29
500 or more	17	14	13	-27
Average Annual				
Percentage Change	6.3	2.3	2.0	-5.7

Table 22 - Percentage Share of Job Creation
by Firm Size and by Industry, 1978-82 (Cont'd)

<u>Industry/Firm Size</u>	TIME PERIOD			
	<u>1978-79</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>
Retail Trade				
Less than 5	20	40	44	11
5 to less than 20	9	18	18	-31
20 to less than 50	4	12	7	-19
50 to less than 100	1	0	-2	-10
100 to less than 500	16	4	2	-9
500 or more	50	26	32	-43
Average Annual Percentage Change	10.0	3.8	3.1	-2.5
Finance				
Less than 5	12	17	135	847
5 to less than 20	0	2	23	46
20 to less than 50	0	1	-9	-83
50 to less than 100	17	5	19	-31
100 to less than 500	9	14	4	-151
500 or more	63	60	-274	-728
Average Annual Percentage Change	5.8	4.2	-0.6	-0.1
Services				
Less than 5	36	22	32	106
5 to less than 20	18	11	12	-32
20 to less than 50	8	8	10	-35
50 to less than 100	6	8	8	-15
100 to less than 500	19	18	15	36
500 or more	13	32	21	41
Average Annual Percentage Change	5.4	5.9	4.1	0.5

Table 23 - Average Number of Employees per Firm
by Industry, 1978-82

<u>Industry</u>	YEAR				
	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
Primary	1.9	1.9	1.8	1.6	1.5
Mining	52.5	52.1	51.5	50.2	46.3
Manufacturing	50.7	50.6	49.4	48.3	44.7
Construction	5.7	5.7	5.6	5.8	5.5
Transportation	27.0	26.7	25.8	26.2	25.5
Wholesale Trade	12.8	13.0	12.8	12.8	12.1
Retail Trade	9.7	10.2	10.2	10.2	10.0
Finance	13.9	14.2	14.4	13.8	13.8
Services	13.0	12.9	12.9	12.6	12.2
Total	13.6	13.7	13.4	13.0	12.3

APPENDIX 1: T4 EMPLOYMENT ESTIMATES DATA BASE

1. Background

This paper examines the dynamics in job creation and firm evolution for the period 1978 to 1982. It identifies the sectors, the regions and the size of firms that have contributed most to new jobs. This study is based on the T4 Employment Estimates Data Base developed under contract with Statistics Canada.

The Annual Income Tax T4 Supplementary files contain information on the earnings and payroll deductions of individual employees covered under each Payroll Deductions Account (PDA) number in a given calendar year. This account number is issued by Revenue Canada to all employers for the purpose of their monthly remittance of their employees' payroll deductions. These include federal and provincial income taxes (except Quebec), as well as Unemployment Insurance and Canada/Quebec Pension Plan premiums.

The development of this Data Base consisted of two steps. The first step was to estimate the total annual payroll for each employer. Since an employer may have had several PDAs, it was necessary to ensure that information from all PDAs belonging to the same employer were pooled together and aggregated. In this regard, Statistics Canada has identified all the PDAs belonging to an employer and has assigned a unique number to each employer known as the Business Register Identifier (BRID). This BRID is used in most of the business files maintained by the Bureau.

In the second step, the number of full-year equivalent (FYE) employees for each employer was estimated by means of dividing the total annual payroll for each employer by the appropriate average annual earnings of a given sector and province. This estimated average annual earnings is based on Statistics Canada's monthly Survey of Employment, Payrolls and Hours, also known as the Establishment Survey (or SEPH after April, 1983).¹ For sectors where information on average earnings was not collected by this Survey, such as finance, the average composite industrial earnings of the appropriate province in the given year was used.

In the statistical tables of this study, the following firm size classes are used: less than 5 employees, 5 to less than 20 employees, 20 to less than 50 employees, 50 to less than 100 employees, 100 to less than 500 employees and 500 or more employees. Firms which existed throughout the period 1978 to 1982 (Continuous firms) and firms which existed in 1978 but ceased to exist in 1982 (Deaths) are assigned to the appropriate firm size class according to their number of employees in 1978. A different procedure, however, is adopted in classifying firms which came into existence after 1978 and are still operating in 1982 (Births). They are assigned to the size class on the basis of 2 times the employment of this firm in the year of entry.

¹ Establishment Survey only covers firms with 20 or more employees. In order to develop earning estimates for firms of all sizes, the annual average earnings from this Survey were adjusted using corresponding information by firm size from the SEPH.

2. Strengths and Weaknesses of the Data Base

Some of the strong points of this Data Base lie in its consistency with other data sources, its ability to link to other data systems, and its ability to track firms over time.

With respect to consistency, the estimates of employment from this Data Base compare well with alternative data sources, such as the Labour Force Survey and the Establishment Survey. As indicated in Table 1, the number of FYE employees enumerated in this Data Base (excluding public administration) is some 1 to 2% below the Labour Force Survey and about 4 to 7% above the Establishment Survey.

Table 1 - Comparison of Paid Employment Estimates

Year	T4 Employment Estimates Data Base (1)	Labour Force Survey (2)	Establishment Survey (3)	(1) as % of (2)	(1) as % of (3)
1978	8,092	8,243	7,760	98.2	104.3
1979	8,545	8,620	8,068	99.1	105.9
1980	8,841	8,907	8,241	99.3	107.3
1981	9,083	9,164	8,561	99.1	106.1
1982	8,757	8,809	8,242	99.4	106.2

Note: Total Paid Employment excluding employees in Public Administration.

With regard to the shares in number of employees by province, the pattern as determined by the Data Base is similar to those indicated in alternative data sources (Table 2).

Table 2 - Percentage Share of Paid Workers by Province, 1978 and 1982

<u>Province</u>	<u>T4 Employment</u>		<u>Labour Force</u>		<u>Establishment</u>	
	<u>Estimates</u>		<u>Survey</u>		<u>Survey</u>	
	<u>1978</u>	<u>1982</u>	<u>1978</u>	<u>1982</u>	<u>1978</u>	<u>1982</u>
Newfoundland	1.42	1.36	1.58	1.57	1.52	1.46
Prince Edward Island	0.34	0.33	0.44	0.42	0.32	0.31
Nova Scotia	2.71	2.68	2.94	2.87	2.77	2.73
New Brunswick	2.09	2.01	2.32	2.25	2.22	2.18
Quebec	26.30	24.13	25.34	24.29	25.33	24.33
Ontario	39.82	39.65	38.48	38.41	40.13	40.08
Manitoba	4.15	4.03	4.40	4.24	4.10	4.06
Saskatchewan	2.97	3.20	4.01	3.98	2.93	3.09
Alberta	9.10	10.84	9.44	10.61	8.81	10.29
British Columbia	10.78	11.37	11.04	11.34	10.68	11.09
CANADA	100.00	100.00	100.00	100.00	100.00	100.00

Note: Due to data availability, the percentage share of employment, not paid worker, is tabulated by province for the Labour Force Survey.

The pattern of growth rates of employment by industry during the period 1978 to 1982 as estimated from this Data Base is comparable to that from the Labour Force Survey and the Establishment Survey, although differences are not negligible (Table 3).

Table 3 - Year-To-Year Percentage Changes in the Number of Paid Workers
by Industry, Canada, 1978-82

Industry	T4 Employment				Labour Force				Establishment			
	Estimates		Data Base		Survey				Survey			
	1978 to 1979	1979 to 1980	1980 to 1981	1981 to 1982	1978 to 1979	1979 to 1980	1980 to 1981	1981 to 1982	1978 to 1979	1979 to 1980	1980 to 1981	1981 to 1982
Primary	7.1	5.9	0.8	-4.7	6.1	4.4	-	-8.9	-	-	-	-
Mining	10.2	13.6	2.8	-11.5	5.7	16.1	7.2	-17.2	8.0	12.8	4.6	-12.5
Manufacturing	3.9	1.0	0.3	-8.3	5.9	1.9	0.3	-9.1	3.9	-1.2	1.7	-9.3
Construction	2.1	-0.5	5.0	-10.4	1.3	-2.2	5.1	-9.1	6.8	-2.2	4.3	-13.4
Transportation	4.5	1.1	4.6	-3.9	5.5	-0.2	0.8	-3.1	2.1	2.8	0.8	-2.7
Trade	8.8	3.3	2.8	-3.5	4.5	2.2	2.3	-2.1	3.3	2.6	4.7	-3.2
Finance, Insurance and Real Estate	5.8	4.2	-0.6	-0.1	1.1	10.6	-2.9	1.4	2.9	2.9	3.1	0.3
Services	5.4	5.9	4.1	0.6	4.6	5.1	6.6	-0.1	4.4	4.1	6.0	1.1
Total	5.6	3.5	2.7	-3.6	4.5	3.3	2.9	-3.9	4.0	2.2	3.9	-3.7

The second important strength of this Data Base is the ability to link to other data base systems. Each employer in this Data Base is identified by the BRID, the identifier used in most of Statistics Canada business surveys, such as the Census of Manufactures (MAPID), the monthly employment survey (SEPH) and the Private and Public Investment Survey (PPI). The individual records of this Data Base can also be matched with the Corporate Tax (T2) Data Base and the Corporations and Labour Unions Returns Act (CALURA) Data Base to retrieve financial and ownership information. This information would be useful to address some important issues, such as the characteristics of firms which have failed or succeeded, and reasons for regional variation in job creation, etc.

The third notable characteristic of this Data Base is that it facilitates the tracking of firms over time. The BRID is a unique company identifier and remains unchanged unless the company dies or is acquired by another firm. Thus, this Data Base permits the analysis of the performance of firms over a time period in terms of firm size, sector and region. As an example, the total employment of firms of a given size, as identified in the initial year (1978), or the year of entry, is compared with the terminal year (1982), or the year of exit, to determine the share of jobs created or lost by that given firm size over the study period. The Data Base also allows the identification of the firms with high or low employment growth.

While this Data Base is useful as a basis to address some fundamental issues, there are some weaknesses. These limitations include the relevance of the

Full-year equivalent (FYE) concept, the estimation procedure of the number of FYE, the industrial classification of companies, and the coverage of employment. Other weaknesses include the issue of the unclassified and the identification of births and deaths which are described in Appendix A and B.

The appropriateness of the FYE concept varies from sector to sector and from region to region. This concept is more precise in industries and provinces with a higher concentration of full-time and full-year workers. However, it would underestimate the number of workers in industries and regions where the prevailing work pattern is part-time and/or part-year. As it is, the proportion of full-time and full-year workers varies significantly by industry and province. High concentrations of full-time and full-year workers are apparent in finance, insurance and real estate (61.4%); and transportation (61.6%), while low concentrations of full-time and full-year workers are indicated in fishing and trapping (12.0%), construction (34.8%); and amusement and recreation (23.0%). The provincial distribution ranges from a high of 52.9% in Ontario to a low of 39.3% in Newfoundland (Table 4).

The procedure used in the estimation of the number of FYE workers poses some questions. In this Data Base, this number is estimated by dividing the total payroll of each firm by the average wage rate of the appropriate province, industry and year, as determined in the Establishment Survey. Since the average earnings are used and since these wage rates tend to be lower in small firms than large firms, small firm employment may be underestimated.

Table 4 - Proportion of Mostly Full-Time and Full-Year Workers
by Industry and Province, Canada, 1980

<u>Industry</u>	<u>Proportion of Mostly Full-Time and Full-Years Workers %</u>
Agriculture	51.5
Forestry	24.0
Fishing, Trapping	12.0
Mines	56.1
Manufacturing	56.5
Construction	34.8
Transportation	61.6
Finance, Insurance and Real Estate	61.4
Wholesale Trade	61.2
Retail Trade	42.8
Education and Related Service	56.1
Health and Welfare	44.1
Religious organizations	49.7
Amusement and Recreation	23.0
Service to Business	52.7
Personal Services	36.3
Accommodation and Food	27.7
Miscellaneous Services	41.2
Public Administration and Defence	61.8
 <u>Province</u>	
Newfoundland	39.3
Prince Edward Island	40.0
Nova Scotia	47.5
New Brunswick	44.2
Quebec	51.0
Ontario	52.9
Manitoba	51.1
Saskatchewan	48.6
Alberta	48.4
British Columbia	45.5
Yukon	42.2
Northwest Territories	40.8
 CANADA	 49.4

Source: Census of Population and Housing, 1981.

The use of firms which exist only part of the year may provide an estimate of fewer workers than these firms actually had in that year. This is because the payrolls for these firms account for only a portion of a calendar year's payroll but they are treated as annual total payrolls.

In terms of industrial classification, companies in this Data Base are assigned only one industry code. If a company is involved in more than one industrial activity, an industry code is assigned to this company on the basis of its major activity. As a result, there may be overestimation of employment in some industries, and underestimation in others. As well, the industrial classification of some smaller firms may never receive further updating and may no longer be correctly coded.

Due to the difficulties in industry coding and the variation in work patterns within each industry, the Data Base tends to overestimate the number of paid workers in mining, manufacturing, trade and finance, insurance and real estate (Table 5). It also tends to underestimate the number of employees in industries with significant concentration in part-time and seasonal employment, such as primary industries and construction. For the remaining industries, the employee estimates according to this Data Base tend to be lower than the other two data sources.

Table 5 - Percentage Coverage of T4 Employment Estimates Data Base
by Industry, Canada, 1978-82*

Industry	Labour Force Survey					Establishment Survey					Census of Popu- lation and Housing
	1978	1979	1980	1981	1982	1978	1979	1980	1981	1982	1981
Primary	41.3	41.7	42.3	42.6	44.6	-	-	-	-	-	36.8
Mining	109.2	113.2	111.4	106.9	114.3	124.0	126.6	127.8	125.5	126.8	110.8
Manufacturing	105.8	103.8	102.9	102.9	103.9	113.4	113.3	115.9	114.2	115.5	102.5
Construction	86.4	87.1	88.6	88.5	87.1	105.1	100.6	102.3	102.8	106.7	80.3
Transportation	85.9	85.1	86.3	89.5	88.8	87.5	89.6	88.1	91.4	90.4	88.0
Trade	103.4	107.7	109.0	109.4	107.9	109.0	114.8	115.6	113.5	113.2	105.0
Finance, Insurance and Real Estate	103.9	108.8	102.5	104.9	103.3	112.9	116.1	117.5	113.3	112.7	100.0
Services	97.4	98.2	99.0	96.7	97.4	96.2	97.2	98.8	97.1	96.6	93.4
Total	98.2	99.1	99.3	99.1	99.4	104.3	105.9	107.3	106.1	106.3	95.8

* Percentage coverage is expressed as the number of employees estimated from the T4 Employment Estimates Data Base as a percentage of the corresponding estimates from alternative data sources, such as Labour Force Survey, Establishment Survey and Census.

Finally, since the information used for the construction of the Data Base is based on the Annual Income Tax T4 supplementary files, the coverage is limited to those workers who are required to pay income tax, UI and CPP/QPP premiums at source. Self-employed and unpaid family workers are excluded.

