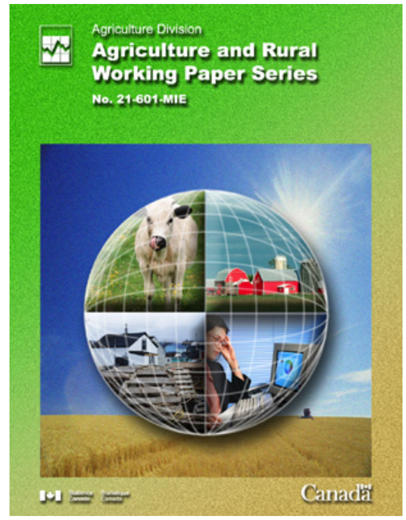
Catalogue no. 21-601-MIE — No. 057

Research Paper



Financial Characteristics of Acquired Firms in the Canadian Food Industry

by Martin S. Beaulieu, MSc, Analyst

Agriculture Division
Jean Talon Building, 12th floor, Ottawa, K1A 0T6

Telephone: 1 800-465-1991

This paper represents the views of the authors and does not necessarily reflect the opinions of Statistics Canada.

Statistics Canada Statistique Canada

Canada

Statistics Canada
Agriculture Division

Agriculture and Rural Working Paper Series
Working Paper No. 57

Financial Characteristics of Acquired Firms in the Canadian Food Industry

Prepared by
Martin S. Beaulieu, MSc, Analyst
Analysis and Development Section,
Agriculture Division

Statistics Canada, Agriculture Division
Jean Talon Building, 12th floor
Tunney's Pasture
Ottawa, Ontario K1A 0T6

October 2002

The responsibility of the analysis and interpretation of the results is that of the author and not of Statistics Canada.

Statistics Canada Statistique Canada

Canada

Statistics
Canada
Agriculture Division

Agriculture and Rural Working Paper Series
Working Paper No. 57

Financial Characteristics of Acquired Firms in the Canadian Food Industry

Published by authority of the Minister responsible for Statistics Canada.

October 2002

Catalogue No. 21-601-MIE2002057

Frequency: Occasional

Ottawa

La version française est disponible sur demande (n° 21-601-MIF2002057 au catalogue)

Note of appreciation: Canada owes the success of its statistical system to a longstanding partnership between Statistics Canada and the citizens, businesses and governments of Canada. Accurate and timely statistical information could not be produced without their continued co-operation and good will.

Table of contents

List of appendices

List of tables

List of figures

Financial Characteristics of Acquired Firms in the Canadian Food Industry

Martin S. Beaulieu

Abstract

Mergers and acquisitions represent an important reallocation of resources. In 1998, the value of these transactions jumped to almost $160 billion [1] in Canada. The motives for firms to merge or acquire other firms change for different periods and industries.

This study provides a financial profile of Canadian corporations in the food industry that were acquired during the 1996-98 period. Overall, acquired firms did not represent a significant share of the total sales of incorporated Canadian food firms. Firms with balanced (or matched) growth-resources, less liquidity and leverage were more likely to be acquired in 1997 and 1998. Large firms with matched growth-resources were also more likely to be taken over.

1 Introduction

In the past, the role of mergers and acquisitions in the economy has generated many questions and issues. Questions about these activities have changed as the regulations, the demand for products and the competitive environment have evolved. Even in Canada, a relatively small market for mergers and acquisitions, they are of interest because they are related to issues of business concentration, corporate control, foreign ownership and the potential for the exercise of oligopolistic market power.

In 1998, the total value of Canadian mergers and acquisitions jumped to almost $160 billion of which domestic assets accounted for $110 billion. This represented a 31% increase over the previous five-year average [2].

Financial economic and industrial organisation literature offers several theories to explain why firms are merged or acquired. Some economists see this type of activity as a way to create "… large benefits for shareholders and for the economy as a whole by loosening control over vast amounts of resources and enabling them to move more quickly to their highest-valued use. This is a healthy market operation…playing an important role in helping the economy adjust to major changes in competition and regulation of the past decade." [3]

The intensity of mergers and acquisitions has fluctuated in the past. They have intensified or slowed in waves associated with different business cycles and structural changes. [4] In the U.S., the first wave occurred at the beginning of the twentieth century. This was referred to as the wave of "mergers for monopoly". There were relatively more direct mergers between competitors. This type of mergers was identified as "horizontal mergers".

The second wave in the 1920s, the "mergers for oligopoly", involved relatively more mergers between firms with prior buyer-seller relationships. This type of mergers was identified as "vertical mergers".

[1] Statistics Canada, 2001. This figure includes domestic assets exchanged and Canadian direct investment abroad.
[2] Statistics Canada, 2001.
[3] Jensen (1988), p.23.
[4] See Melicher et al. (1983) and Golbe and White (1993).

Both waves (for monopoly and oligopoly) were characterised by firms motivated to increase their market power through economies of scale and control over larger market share. [5]

Starting in the 1960s, the third wave became known as the "conglomerate merger" wave. Mergers between unrelated firms characterized this period. Some links between the distribution and/or production facilities may have existed but conglomerates were mainly built to diversify companies. Greater diversification was seen by some as a way for firms to be less sensitive to business fluctuations in different sectors of the economy. Others suggested that it was a means to by-pass regulations discouraging horizontal and vertical mergers. In the mid-1970s and 1980s, mergers were used as a way to refocus on core business and to restructure and consolidate firms in industries facing excess capacity and increased competition.

In the 1990s, mergers and acquisitions appear to have been related to changes in the trade environment, structural changes in some industries, and the desire of management to obtain sufficient size and scale to better compete in a global market. Mergers and acquisitions represented a faster way to grow than building new plants and facilities.

Each wave had different economic, financial, regulatory and trade environments. In consequence, certain characteristics that made firms more attractive as merger partners changed from one period to another. For example, liquidity and leverage position of acquired firms may have become less important factors in the 1990s as a soaring stock market favoured the acquisition of many companies through the exchanges of stock instead of cash.

In the financial economic and industrial organisation literature, several factors at the industry or firm level have been suggested to explain why firms became attractive merger partners or acquisition targets. However, it is difficult to provide a consistent and unique picture that adequately portrays different periods, countries and industries. The purpose of this study is to compare the financial characteristics of acquired firms to not-acquired firms in the Canadian food industry during the 1996-98 period. This study uses the entire population of firms' financial statements rather than a sample. This represents a departure from the literature where a sample of financial statements is often used. The sampling and statistical methods had led to discussions on potential sampling bias, incorrect inference to the studied population and relaxed uses of underlying statistical model assumptions. Moreover, our research focuses on firms that were acquired. The scope is limited to the exchange of domestic assets between Canadian and/or foreign firms.

[5] Stigler (1950) in Melicher et al. (1983).

2 Methodology

2.1 Data sources

The acquisition activity in this study includes corporations in the food processing industries that changed corporate control as defined by the Canadian *Corporations Returns Act*. The Act requires corporations conducting business in Canada with annual gross revenue exceeding $15 million, or with assets over $10 million, or having long-term debt or equity owing directly or indirectly to non-residents exceeding a book value of $200 thousand, to file an annual ownership report.

Acquisitions were attributed to the year in which the transactions were completed, not announced. This study focuses on acquisition transactions "whereby an existing legal entity or enterprise obtains control of an existing corporation through an increased acquisition of voting share. Significant asset purchases are also included, but are limited to cases where 100% of the assets of a legal entity have been purchased". [6]

The study includes transactions between Canadian and/or foreign entrepreneurs via inward foreign direct investment. The population of acquired firms was selected from Statistics Canada's report on mergers and acquisitions for the 1994-98 period. [7] In this report, purchases of foreign companies by Canadian corporations via outward foreign direct investment were excluded, as were transactions between holding companies. [8]

2.2 Statistical unit

The main source of accounting data for both acquired and not-acquired firms was Statistics Canada's administrative databases, which include corporation income tax returns collected via CCRA. The statistical unit of analysis for this study was the legal corporation. No attempt was made to consolidate data at the statistical enterprise level. [9]

Not-acquired firms were selected with the same thresholds used for corporations filing an ownership report with CCRA (annual gross revenue exceeding $15 million or assets exceeding $10 million).

We made the assumption that a firm's performance prior to an event was an important factor in explaining the acquisition. For acquisitions completed in the reference year 1998, 1997 tax data were used to calculate different financial ratios, and 1995-1997 data was used to calculate the firm's growth. For other reference years (1996 and 1997), the same approach was taken (financial ratios based on previous years and firm's growth based on previous three years).

---

[6] See Statistics Canada (1994a), catalogue 61-221, p.50. The second type of M&A activity, divestiture, is excluded in this study. Divestiture includes transaction "whereby an existing legal entity or enterprise loses control of a subsidiary corporation, and where the voting shares of the divested subsidiary have been widely distributed (without any identifiable acquiror)".

[7] Statistics Canada, Guèvremont P. Canadian Economic Observer, Nov.2001.

[8] Guèvremont excludes the assets of the "Investment and Holding Companies" industry in order to minimize the effect of double-counting, as their assets are generally the liabilities of other industries. His report covers most of the business sector of the Canadian domestic economy (non-profit government business enterprises operating in Canada).

[9] Statistical enterprise is defined as a "family of businesses under common control; the enterprise consists of one or more corporations, divisions, or plants engaged in relatively integrated activity, for which a consolidated set of financial statements is produced". For details see Statistics Canada (1994b), p.66 or Statistics Canada (1998) p.41.

2.3 Industry benchmarks

In order to control for industry differences and heterogeneity in industry structure and performance[10], benchmarks needed to be established to compare firms performance. Performance and other financial indicators are more likely to vary between industries rather than across firms within the same industry.

One method of benchmarking firms' performance often found involved calculating relative deviations from industry means or median values of all firms in the industry. Dividing a firm's ratio by its respective industry average expresses the firm's similarity or difference to other firms in the industry. [11] This method has the advantage of making ratios more comparable across different industries and periods. Deviations from industry averages resulted in continuous variables that could not be reported in summary tables.

Instead, firms were grouped into three categories, "low", "medium" or "high". For each financial ratio and indicator, firms were classified in the "low" group if they ranked below the 33rd percentile. Firms were classified in the "high" group if they ranked above the 66th percentile.
They remaining firms were classified in the "medium" group. The percentiles were established for each industry at the Standard Industry Classification (SIC) 3 digits level.

This method presented several advantages. It was systematic and dealt with outliers. In contrast to other approaches [12], this method did not exclude a firm because of one or more "faulty" ratios. Other "valid" ratios for these firms were kept for further analysis. "Faulty" ratios were placed in the "low" or "high" group.

It would have been possible to estimate values for outliers and missing values. However, this was not done it had the potential to introduce bias. For each variable, a category "missing" was used to classify all or part of a firm record that had missing values. If we had kept only firms with complete records, this would have significantly limited the number of units in the study.

Another advantage of benchmarking performance using percentiles is that no data transformation is required and the population does not have to be normally distributed. Firms are ranked on their performance and compared with their industry peers at the Standard Industrial Classification 3 digit level. Interpretation of results is also simplified, as no transformation is required to change results back to a more understandable unit of measurement.

3 Findings

This section is organised in three parts. First, we briefly describe the population of financial statements for the food industry and its various sub-industries. In the second part, we present the acquired and not-acquired firms' frequency distributions for different financial characteristics. In the last part, the distributions are analysed for different combinations of characteristics.

---

[10] Financial ratios are unlikely to be normally distributed. Some authors suggested that industry-relative measures may avoid any problem caused by the non-normal distribution of the explanatory variables.

[11] Another possible way to obtain industry-adjusted measures would be to subtract the industry median from the firm value. However, it would still be difficult to make cross-section comparisons because of the magnitude of the difference and the difficulty in interpreting the model results based on the sign of the industry-adjusted measures.

[12] In the literature, some trimmed outliers below and above pre-defined thresholds (i.e. trim 1% of the tails). Other imputed/omitted any outliers beyond so many standard deviations (s) from the mean (i.e. replace by the appropriate 2.5s limit observations between 2.5s and 4s, and omitted those above/below 4s).

3.1 Population characteristics

Overall, sales of all incorporated companies in the food industry grew by 3.8% over the 1993-98 period. Total sales increased for most segments except for firms in tobacco and food wholesale sectors. Total annual sales increased from $133 billion to $160 billion over the period. In 1998, the food processing sector had the lion's share of total sales with nearly a third of sales. It was followed by the food wholesale sector (25.5%) and the farm sector (10.9%, see Table 1).

The food industry is quite "asymmetric" in terms of concentration at the various points in the food chain from production to distribution. The farm sector is not concentrated. In fact, it is one of the best examples of perfect competition that we have in our economy. In other segments, such as the grain elevator or the farm products wholesale industries, sales were concentrated in the hands of fewer firms. Industry concentration was measured as the ratio of the sales of the top four firms to the total industry sales. This is a gross estimation of the industry concentration, as it does not consider sales by unincorporated firms. Also, sales for a firm with several lines of business in different sub-industries were reported in the main industry in which the firm was classified. Sales breakdowns by the different lines of business were not available.

Over the 1994-1998 period, market share of acquired firms accounted for between 1% to almost 4% of total annual incorporated food companies' sales. On average, the largest share of acquired companies was in the food processing industry, followed by the food product wholesale industry.[13] Acquisition intensity was measured as the ratio of the total sales value of acquired firms to the total sale value of all firms in its respective industry, both for the year prior to the transactions.

Table 1: Population characteristics and acquisition intensity

Industry (SIC 2 digits)	Average annual change -% 1998-93	Sales [1] - $ million 1998	% of total sales	Sales of top 4 firms. - % 1998-93	Acquisition intensity [3] -% 1998	1997	1996	1995	1994
Agriculture	9.4	17,317	10.9	4.5	0.2	0.1	0.0	0.1	0.1
Service incidental to agriculture	5.3	2,348	1.5	12.9	x	x	x	0.0	0.1
Food processing	5.6	50,020	31.4	13.3	2.2	1.7	0.3	1.6	1.4
Beverage	8.3	8,104	5.1	59.4	0.1	x	0.0	0.4	0.1
Tobacco products (inc.wholesale)	-1.4	9,270	5.8	71.6	x	0	x	x	x
Grain elevator	F	3,599	2.3	91.9	x	0	0	0	x
Farm products (wholesale)	8.5	12,948	8.1	46.4	x	x	x	0.3	0.2
Food (wholesale)	-0.5	40,618	25.5	26.7	x	0.2	0.5	0.5	0.6
Farm mach., equip. & supplies (wh.)	7.7	9,757	6.1	30.9	0	0	x	0.0	0.0
Agriculture supplies (wholesale)	7.1	5,409	3.4	28.2	0.4	x	0.1	0.0	x
Food industry (excluding retail)	3.8	159,390	100.0		3.0	3.8	1.0	2.9	3.1

Notes: 1. Includes sales of all incorporated firms with fiscal year end in the reference year.
2. Proxy. Excludes unincorporated firms and firms' sales in a different SIC than the one it is classified.
3. Estimated sales of acquired firms over total sales the year prior to the acquisition.
SIC - Standard Industrial Classification
Due to rounding, figures may not add up to totals. F too unreliable to be published x confidential

Source: Statistics Canada, administrative database of corporation income tax returns

[13] Share of total sales of all firms that were not acquired in years prior to the reference year. .

3.2 Distributions of acquired and not-acquired firms

Figure 1 presents the distributions of acquired and not-acquired food industry companies in 1996, 1997 and 1998. (Tables are presented in Appendix A). For several financial characteristics, distributions of acquired firms were not similar to the distributions of not-acquired firms. For example, acquired firms in 1998 were more likely to have less liquidity, grow slowly or to be large the year before their acquisition. Firms acquired in 1997 were less active, or had less liquidity, while acquired firms in 1996 were more likely to be less profitable, more active or more leveraged. However, few characteristics were common for the three years.

Overall, not-acquired firms represented between 92% to 99% of all firms, depending on the year observed. For this reason, the distribution of not-acquired firms, based on the 33rd and 66th percentile for each variable, was similar among “low”, “medium” and “high” groups (nearly a third in each group) and very similar to the distribution of the whole population. The financial characteristics [14] were calculated from the information provided on corporate income tax returns for the years prior to the reference period when the acquisitions were completed.

Firms acquired in 1998 had the following characteristics in 1997. There were relatively fewer acquired firms in the “high” leverage group. Almost 40% of them were in the “low” leverage group. Acquiring firms might have considered firms with unused debt capacity as attractive targets. Firms’ debt capacity was measured by the debt to equity ratio.

Forty percent of acquired firms were in the “low” liquidity group. Potential targets for acquisition may have been firms that require funds to finance their working capital or take advantage of investment opportunities. Liquidity was defined as the net working capital (current assets less current liabilities) over the total assets.

Over 40% of the acquired firms had slower growth compared to their industry peers, and less than 20% had grown at a faster pace. Some fast growing firms may not have the resources to grow further and became potential acquisition targets. Other acquired firms may have had slower growth due to the characteristics of their industry and become targets for growing companies preferring to expand their operation by acquiring firms instead of building new plants which would have increased the overall industry capacity. Growth was measured as the annual average sales growth in the previous two years prior to the year of the acquisition.

Almost 40% of the acquired firms were large firms. However, the group of small acquired firms was not far behind. Firm size was measured by the total sale values.

In summary, acquired firms in 1998 were more likely to be larger, less leveraged, have more liquidity and a slow growth in the year prior to their acquisition.

Firms acquired in 1997 had the following characteristics in the year prior to their acquisition. Over 40% of the acquired firms were in the “low” activity group. Activity measured a firm’s efficiency in producing sales per dollar of assets. A low activity generally reflects poor use of assets.

Although a large part of acquired firms were in the “medium” leverage group, the second group in importance was the firms in the “high” leverage group. Four out of ten acquired firms were in the

[14] The choice of financial ratios was based on variables identified in literature related to mergers and firm performance but limited by the data available.

“low” liquidity or “high” sales group. Less than 20% of acquired firms were in the “low” growth. These attributes were also observed for firms acquired in 1998.

Firms acquired in 1996 had the following characteristics in 1995. Half of them were in the “low” gross profit margin group. The gross profit margin represents the amount of operating profit/loss generated by each dollar of sales. [15]

More active firms were more likely to be acquired. Over 45% of acquired firms were in the “high” activity group. A high activity may indicate a high demand for the firm’s products and increasing cash flows. More than four out of ten acquired firms were in the “high” leverage group. There were as many acquired firms in the “low” growth group as in the “high” growth group.

In many instances, there were as many acquired firms in the “low” group as in the “high” group. The analysis of frequency distributions, which combined more than one characteristic, provides more insights into the interaction of these characteristics and helps explain apparent contradiction. This analysis is presented in the next section.

[15] Other profit indicators are presented in Tables in Appendix A. Pre-tax profit/loss over sales measures the amount of net profit per dollar of sales. The other one, pre-tax profit/loss over total assets, provides a measure of the amount of net profit per dollar invested in the firm, regardless if dollar invested in the firm was provided by the owners or lend to the firm.

Figure 1: Distributions of acquired and not-acquired firms

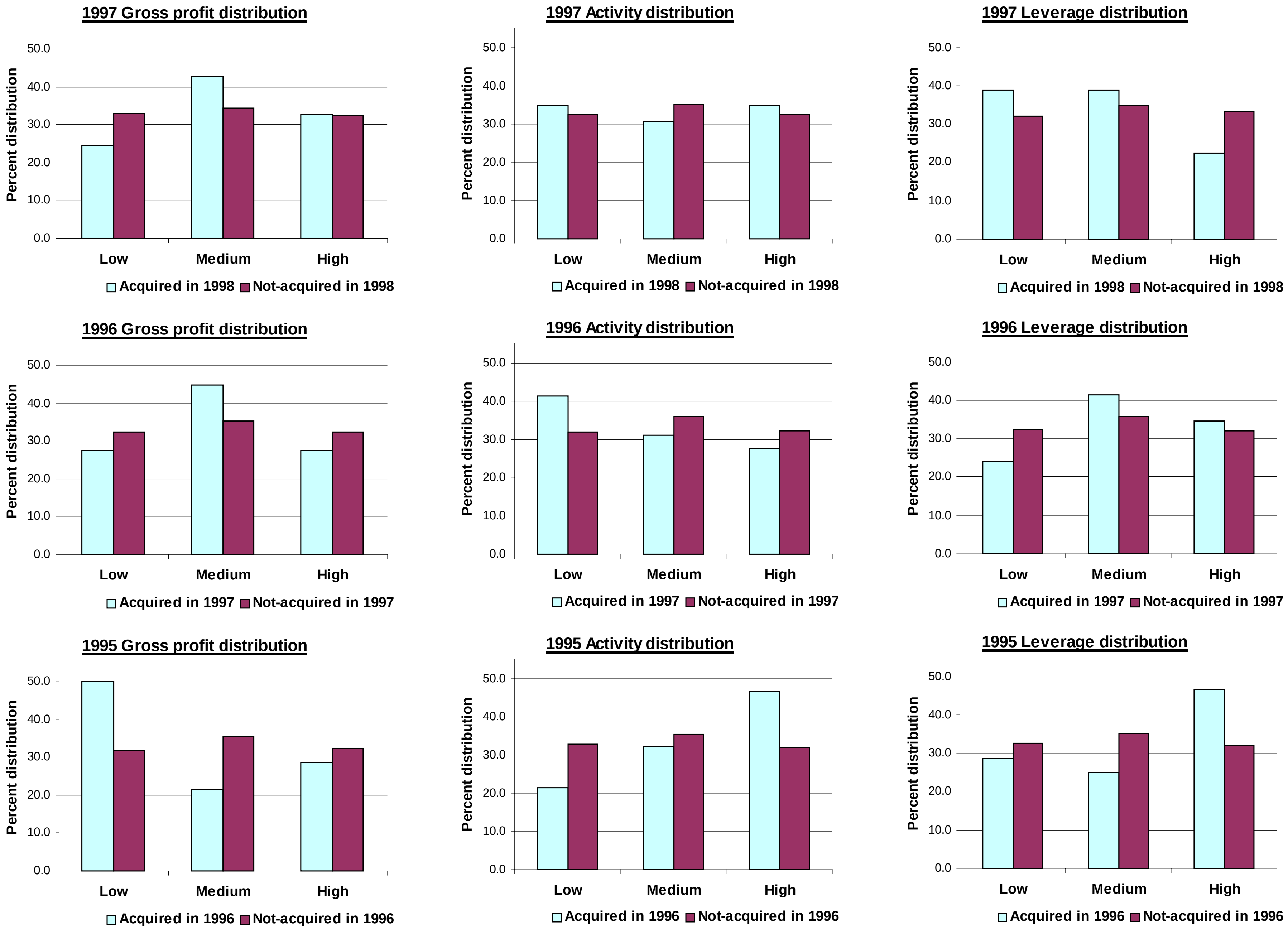
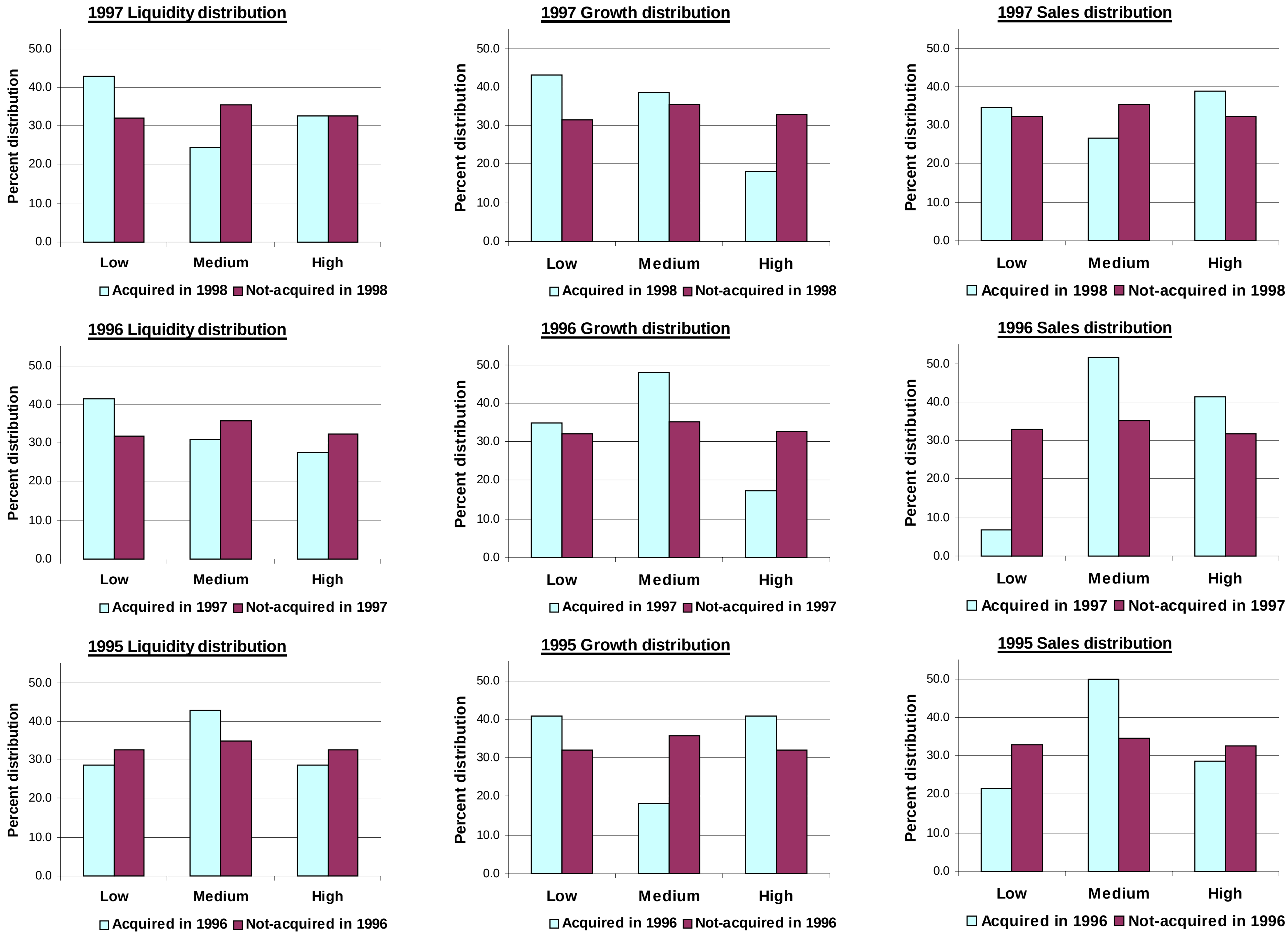


Figure 1: Distributions of acquired and not-acquired firms (continued)



Sources: Statistics Canada, administrative database of corporation income tax returns.

3.3 Distributions of acquired firms for different characteristics combinations

In this section, we analysed the acquired firms' distributions which combined more than one characteristic. Table 2 presents the frequency distribution of acquired firms and the way this contrast with that of not-acquired firms. The score indicator is used to rank both differences from the highest to the lowest. [16] All possible combinations are presented in Appendix C.

Firms with matched (or balanced) growth-resources and less liquidity were more likely to be acquired. Almost 40% of firms acquired in 1998 and 1997 had these characteristics. Larger firms with matched growth-resources were also more likely to be acquired. Almost 35% of firms acquired had this profile compared to only 24% for the not-acquired firms. As suggested by Palepu (1986), low-growth and resource-rich ("high" liquidity and "low" leverage) or high-growth and resource-poor firms ("low" liquidity and "high" leverage) were identified with unmatched growth-resources. For all other combinations, firms were considered to have matched growth and resources.

Table 2: Distributions of acquired firms by two characteristics

	year	First variable	Group[1]	Second variable		Acquired %	Not-acquired %	Difference from not-acquired_%	Score[2]
1	1998	Growth resources	Match	Liquidity	Low	38.8	20.1	18.7	44.5
2	1997	Growth resources	Match	Liquidity	Low	37.9	20.6	17.4	42.6
3	1996	Leverage	High	Profit	Low	28.6	15.2	13.4	42.0
4	1996	Growth resources	Match	Activity	High	35.7	24.9	10.9	34.7
5	1998	Growth resources	Match	Sales	High	34.7	23.5	11.2	34.3
6	1997	Growth resources	Match	Sales	High	34.5	23.2	11.3	34.3
7	1996	Leverage	Low	Activity	High	21.4	9.4	12.1	33.5
8	1996	Liquidity	High	Leverage	Low	25.0	17.6	7.4	32.4
9	1996	Liquidity	High	Activity	High	21.4	10.9	10.5	31.9
10	1996	Leverage	High	Activity	High	21.4	11.3	10.1	31.5
11	1998	Sales	Low	Liquidity	Low	20.4	10.4	10.0	30.4
12	1996	Growth resources	Match	Profit	Low	32.1	23.6	8.5	30.0
13	1998	Liquidity	High	Leverage	Low	24.5	19.2	5.3	29.8
14	1996	Activity	Low	Growth	High	17.9	6.3	11.6	29.4
15	1998	Leverage	Low	Growth	Low	20.4	11.4	9.0	29.4
16	1996	Liquidity	Low	Profit	Low	21.4	13.6	7.8	29.3

Notes: 1. "Low" are below 33rd percentile and "High" are above 66th percentile, both calculated at the Standard Industrial Classification 3 digits level.
Low-growth, resource-rich ("high" liquidity and "low" leverage) or high-growth, resource-poor firms ("low" liquidity and "high" leverage) were identified with unmatched growth-resources. All other combinations were identified as matched growth-resource.
2. Score is the difference the acquired percent and the not-acquired percent. Growth resources percents were lowered by a third to take account of the lower number of cells in cross-tables (2 by 3 or 6 cells table instead of a 3 by 3 or 9 cells table).

Source: Statistics Canada, administrative database of corporation income tax returns

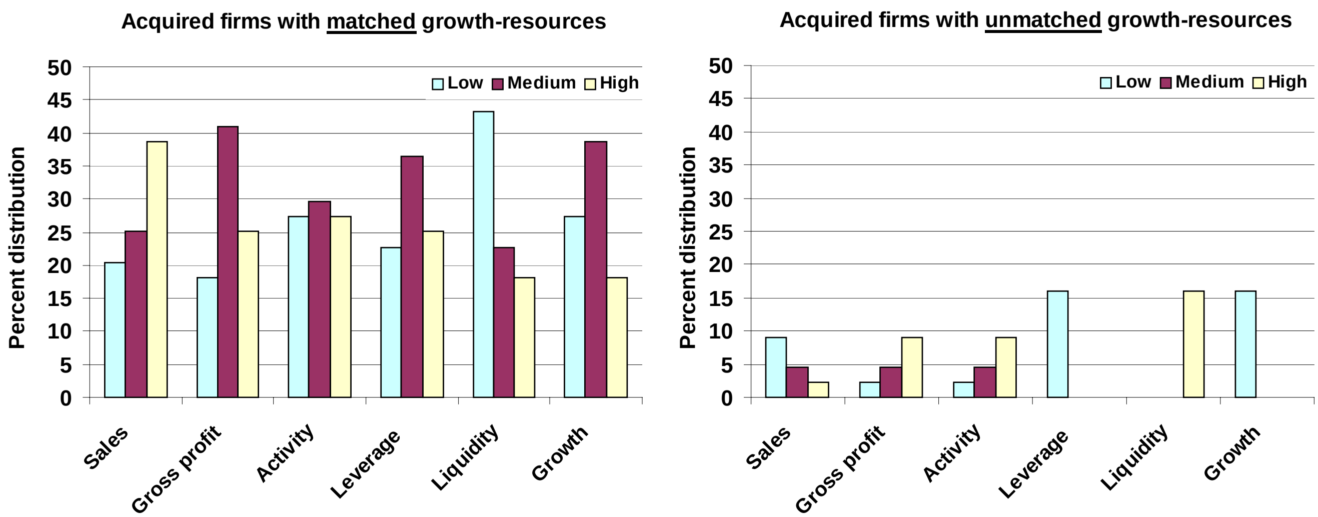
[16] Table 2 reports only the top 25 observations. The analysis focuses on firms in the "low" and "high" groups, however the distributions were calculated using all groups.

Not much information could be observed when the growth-resource variable was analysed by itself. Over 80% of the acquired and not-acquired firms in 1996 and 1998 were in the matched growth-resources group (Table B4 in Appendix B). There were relatively more (about 10%) of acquired firms in 1997 that were in the matched grow-resources group. Interestingly, the growth-resource variable combined with the liquidity variable was able to identify a large percent of acquired firms.

Firms acquired in 1998, with balanced growth-resource (Figure 2 on the left side), were more likely to be larger and having less liquidity. Acquired firms with matched growth-resource were more predominant in the average gross profit, leverage and growth categories.

Acquired firms, with unmatched growth-resource, were more likely to be more profitable, active and liquid. They were also more predominant in the "low" sales, leverage and growth categories. Figures for 1996 and 1997 are presented in Appendix C.

Figure 2: Distributions of acquired firms in 1998 by growth-resources characteristics



Sources: Statistics Canada, administrative database of corporation income tax returns.

Acquired firms in 1996 had a different profile. Highly leveraged and less profitable firms, less leveraged and more active firms, or less active and high growth firms were more likely to be taken. Activity and growth seem to have an inverse relationship as there were a significant number of acquired firms either in the "low" activity and "high" growth or the "high" activity and "low" growth group.

Summary and conclusion

Over the 1994-1998 period, market share of acquired firms accounted for between 1% and 4% of total sales of incorporated firms in the food industry. The largest shares of acquired companies sales were in the food processing industry, followed by these in the food product wholesale industry.

Frequency distributions of acquired and not-acquired firms were dissimilar for several financial characteristics. However, each characteristic provided limited information when it was analysed without considering other characteristics. A buyer or merger partner may consider several factors before merging with or taking over another firm.

Firms with matched growth-resources, less liquidity and leverage tend to have been the type of firm acquired in 1997 and 1998. Large firms with matched growth-resources were also predominant among the firms taken over. Acquired firms in 1996 had a different profile. Highly leveraged and less profitable firms, less leveraged and more active firms or less active and growing firms were more likely to be taken over.

This study focused on acquired firms, which constitute only one component of the total mergers and acquisition activities. Analysing characteristics of acquired firms provides some insight into why firms merged. However, it does not assess possible synergy effects between acquiring firms and acquired firms. An ideal empirical study should include both acquired and acquiring firms. It should also include firms operating in all industries, as an acquiring firm may not be necessarily classified in the acquired firm's industry.

Our design was constrained by the limited amount of acquired firms in the Canadian food industry. Additional research would be required to verify if the observed profile would hold if larger data sets and other industries and periods were examined.

References

Golbe, D. L. and L.J. White. 1993. "Catch a wave: the time series behavior of mergers." *The Review of Economics and Statistics.* 75, 3: 493-499.

Jensen, M.C. 1988. "Takeovers: their causes and consequences." *Journal of Economic Perspectives*. 2, 1: 21-48.

Melicher, R.W., J. Ledolter and L.J. D'Antonio. 1983. "A time series analysis of aggregate merger activity." *The Review of Economics and Statistics.* 65, 423-430.

Palepu, K.G. 1986. "Predicting takeover targets: a methodological and empirical analysis." *Journal of Accounting and Economics.* 8, 1: 3-35.

Statistics Canada. 1994a. "CALURA, Mergers and acquisitions, 1991-93. (Catalogue no. 61-221). Ottawa: Minister responsible for Statistics Canada.

______. 1994b. "Calura, Corporations" (Catalogue no. 61-220). Ottawa: Minister responsible for Statistics Canada.

______. 1998. "Financial and taxation statistics for enterprise" (Catalogue no. 61-219-XPB). Ottawa: Minister responsible for Statistics Canada.

______. 2001. Guèvremont, P. "Mergers, acquisitions and foreign control." *Canadian Economic Observer* (Catalogue no. 11-010-XPB, November 2001). Ottawa: Minister responsible for Statistics Canada.

Appendix A
Table A1: Characteristics of firms acquired in 1998

Indicators in 1997		Group[1]	Event in 1998: Acquired obs.	Acquired median	Not-acquired obs.	Not-acquired median	Column %: Acq.	Column %: Not-acq.	Row %: Acq.	Row %: Not-acq.
Profitability		All	49	0.01	913	0.01	100.0	100.0	5.1	94.9
	Operating profit over sales	Low	12	-0.02	301	-0.01	24.5	33.0	3.8	96.2
		Medium	21	0.01	315	0.01	42.9	34.5	6.3	93.8
		High	16	0.06	297	0.04	32.7	32.5	5.1	94.9
	Pre-tax profit over sales	All	49	0.01	913	0.01	100.0	100.0	5.1	94.9
		Low	9	0.00	304	0.00	18.4	33.3	2.9	97.1
		Medium	20	0.01	316	0.01	40.8	34.6	6.0	94.0
		High	20	0.06	293	0.05	40.8	32.1	6.4	93.6
	Pre-tax profit over assets	All	49	0.05	913	0.04	100.0	100.0	5.1	94.9
		Low	12	-0.01	301	0.00	24.5	33.0	3.8	96.2
		Medium	19	0.05	317	0.04	38.8	34.7	5.7	94.3
		High	18	0.19	295	0.13	36.7	32.3	5.8	94.2
Activity		All	49	2.84	913	3.31	100.0	100.0	5.1	94.9
	Sales over assets	Low	17	1.46	296	1.68	34.7	32.4	5.4	94.6
		Medium	15	3.20	321	3.12	30.6	35.2	4.5	95.5
		High	17	7.88	296	6.54	34.7	32.4	5.4	94.6
Leverage		All	49	2.10	911	2.71	100.0	100.0	5.1	94.9
	Debt over equity	Low	19	0.58	293	0.84	38.8	32.2	6.1	93.9
		Medium	19	2.53	317	2.57	38.8	34.8	5.7	94.3
		High	11	7.51	301	9.57	22.4	33.0	3.5	96.5
Liquidity		All	49	0.10	913	0.13	100.0	100.0	5.1	94.9
	Working capital over assets	Low	21	-0.03	292	-0.02	42.9	32.0	6.7	93.3
		Medium	12	0.12	324	0.13	24.5	35.5	3.6	96.4
		High	16	0.37	297	0.34	32.7	32.5	5.1	94.9
Growth	Avg. sales growth 1995-97	All	44	6.1	795	9.5	100.0	100.0	5.2	94.8
		Low	19	-2.6	251	-0.8	43.2	31.6	7.0	93.0
		Medium	17	9.7	282	8.8	38.6	35.5	5.7	94.3
		High	8	24.1	262	27.4	18.2	33.0	3.0	97.0
Size	Sales	All	49	32,800	913	25,642	100.0	100.0	5.1	94.9
		Low	17	16,047	296	16,420	34.7	32.4	5.4	94.6
		Medium	13	28,246	323	26,170	26.5	35.4	3.9	96.1
		High	19	82,753	294	72,281	38.8	32.2	6.1	93.9
	Profit/loss before taxes	All	49	611	913	226	100.0	100.0	5.1	94.9
		Low	12	-100	301	1	24.5	33.0	3.8	96.2
		Medium	15	236	321	209	30.6	35.2	4.5	95.5
		High	22	1,697	291	1,769	44.9	31.9	7.0	93.0
	Total dept	All	49	6,657	913	6,010	100.0	100.0	5.1	94.9
		Low	17	1,691	296	2,201	34.7	32.4	5.4	94.6
		Medium	19	7,531	317	6,007	38.8	34.7	5.7	94.3
		High	13	37,752	300	15,757	26.5	32.9	4.2	95.8

Notes: 1. "Low" are below 33rd percentile and "High" are above 66th percentile, both calculated at the Standard Industrial Classification 3 digits level.

x confidential Due to rounding, figures may not add up to totals.

Source: Statistics Canada, administrative database of corporation income tax returns

Table A2: Characteristics of firms acquired in 1997

Indicators in 1996		Group[1]	Event in 1997: Acquired obs.	Acquired median	Not-acquired obs.	Not-acquired median	Column % Acq.	Column % Not-acq.	Row % Acq.	Row % Not-acq.
Profitability		All	29	0.01	935	0.01	100.0	100.0	3.0	97.0
	Operating profit over sales	Low	8	-0.01	302	-0.01	27.6	32.3	2.6	97.4
		Medium	13	0.01	331	0.01	44.8	35.4	3.8	96.2
		High	8	0.10	302	0.04	27.6	32.3	2.6	97.4
	Pre-tax profit over sales	All	29	0.01	935	0.01	100.0	100.0	3.0	97.0
		Low	11	0.00	299	0.00	37.9	32.0	3.5	96.5
		Medium	10	0.02	334	0.01	34.5	35.7	2.9	97.1
		High	8	0.10	302	0.05	27.6	32.3	2.6	97.4
	Pre-tax profit over assets	All	29	0.03	935	0.04	100.0	100.0	3.0	97.0
		Low	13	0.00	297	0.00	44.8	31.8	4.2	95.8
		Medium	11	0.07	333	0.04	37.9	35.6	3.2	96.8
		High	5	0.09	305	0.14	17.2	32.6	1.6	98.4
Activity		All	29	2.80	935	3.33	100.0	100.0	3.0	97.0
	Sales over assets	Low	12	2.02	298	1.73	41.4	31.9	3.9	96.1
		Medium	9	2.80	335	3.24	31.0	35.8	2.6	97.4
		High	8	5.21	302	7.53	27.6	32.3	2.6	97.4
Leverage		All	29	2.31	933	2.50	100.0	100.0	3.0	97.0
	Debt over equity	Low	7	0.88	302	0.76	24.1	32.4	2.3	97.7
		Medium	12	2.36	332	2.53	41.4	35.6	3.5	96.5
		High	10	8.40	299	9.45	34.5	32.0	3.2	96.8
Liquidity		All	29	0.09	935	0.14	100.0	100.0	3.0	97.0
	Working capital over assets	Low	12	-0.02	298	-0.03	41.4	31.9	3.9	96.1
		Medium	9	0.09	335	0.14	31.0	35.8	2.6	97.4
		High	8	0.25	302	0.33	27.6	32.3	2.6	97.4
Growth	Avg. sales growth 1994-96	All	23	4.3	815	9.5	100.0	100.0	2.7	97.3
		Low	8	-1.2	262	-1.5	34.8	32.1	3.0	97.0
		Medium	11	7.2	287	9.2	47.8	35.2	3.7	96.3
		High	4	20.2	266	26.8	17.4	32.6	1.5	98.5
Size	Sales	All	29	39,295	935	25,130	100.0	100.0	3.0	97.0
		Low	2	x	308	16,353	6.9	32.9	0.6	99.4
		Medium	15	30,145	329	26,099	51.7	35.2	4.4	95.6
		High	12	127,507	298	76,780	41.4	31.9	3.9	96.1
	Profit/loss before taxes	All	29	283	935	258	100.0	100.0	3.0	97.0
		Low	10	-86	299	0	34.5	32.0	3.2	96.8
		Medium	8	280	337	236	27.6	36.0	2.3	97.7
		High	11	5,757	299	2,261	37.9	32.0	3.5	96.5
	Total dept	All	29	7,350	935	5,910	100.0	100.0	3.0	97.0
		Low	7	3,003	303	2,008	24.1	32.4	2.3	97.7
		Medium	7	7,149	337	5,910	24.1	36.0	2.0	98.0
		High	15	31,015	295	18,159	51.7	31.6	4.8	95.2

Notes: 1. "Low" are below 33rd percentile and "High" are above 66th percentile, both calculated at the Standard Industrial Classification 3 digits level.

x confidential Due to rounding, figures may not add up to totals.

Source: Statistics Canada, administrative database of corporation income tax returns

Table A3: Characteristics of firms acquired in 1996

			Event in 1996				Column %		Row %	
			Acquired		Not-acquired		Acq.	Not-acq.	Acq.	Not-acq.
Indicators in 1995		Group[1]	obs.	median	obs.	median				
Profitability		All	28	0.00	974	0.01	100.0	100.0	2.8	97.2
	Operating profit over sales	Low	14	-0.01	311	0.00	50.0	31.9	4.3	95.7
		Medium	6	0.01	346	0.01	21.4	35.5	1.7	98.3
		High	8	0.05	317	0.05	28.6	32.5	2.5	97.5
	Pre-tax profit over sales	All	28	0.01	974	0.01	100.0	100.0	2.8	97.2
		Low	11	0.00	314	0.00	39.3	32.2	3.4	96.6
		Medium	7	0.01	345	0.01	25.0	35.4	2.0	98.0
		High	10	0.05	315	0.06	35.7	32.3	3.1	96.9
	Pre-tax profit over assets	All	28	0.04	974	0.04	100.0	100.0	2.8	97.2
		Low	11	0.00	314	0.00	39.3	32.2	3.4	96.6
		Medium	6	0.04	346	0.04	21.4	35.5	1.7	98.3
		High	11	0.19	314	0.14	39.3	32.2	3.4	96.6
Activity		All	28	3.95	974	3.33	100.0	100.0	2.8	97.2
	Sales over assets	Low	6	1.10	319	1.50	21.4	32.8	1.8	98.2
		Medium	9	4.69	343	3.23	32.1	35.2	2.6	97.4
		High	13	7.52	312	7.56	46.4	32.0	4.0	96.0
Leverage		All	28	2.70	970	2.24	100.0	100.0	2.8	97.2
	Debt over equity	Low	8	0.65	317	0.62	28.6	32.7	2.5	97.5
		Medium	7	2.63	341	2.32	25.0	35.2	2.0	98.0
		High	13	7.38	312	8.63	46.4	32.2	4.0	96.0
Liquidity		All	28	0.14	974	0.13	100.0	100.0	2.8	97.2
	Working capital over assets	Low	8	-0.04	317	-0.03	28.6	32.5	2.5	97.5
		Medium	12	0.14	340	0.13	42.9	34.9	3.4	96.6
		High	8	0.33	317	0.32	28.6	32.5	2.5	97.5
Growth	Avg. sales growth 1993-95	All	22	8.4	834	9.7	100.0	100.0	2.6	97.4
		Low	9	1.3	268	-0.9	40.9	32.1	3.2	96.8
		Medium	4	7.8	298	9.6	18.2	35.7	1.3	98.7
		High	9	31.2	268	29.8	40.9	32.1	3.2	96.8
Size	Sales	All	28	27,754	974	25,780	100.0	100.0	2.8	97.2
		Low	6	17,634	319	16,571	21.4	32.8	1.8	98.2
		Medium	14	26,516	338	26,270	50.0	34.7	4.0	96.0
		High	8	69,878	317	76,191	28.6	32.5	2.5	97.5
	Profit/loss before taxes	All	28	196	974	280	100.0	100.0	2.8	97.2
		Low	12	24	312	0	42.9	32.0	3.7	96.3
		Medium	6	198	347	260	21.4	35.6	1.7	98.3
		High	10	1,415	315	2,257	35.7	32.3	3.1	96.9
	Total dept	All	28	6,163	974	5,739	100.0	100.0	2.8	97.2
		Low	10	2,636	315	1,907	35.7	32.3	3.1	96.9
		Medium	9	5,398	343	5,477	32.1	35.2	2.6	97.4
		High	9	14,433	316	19,759	32.1	32.4	2.8	97.2

Notes: 1. "Low" are below 33rd percentile and "High" are above 66th percentile, both calculated at the Standard Industrial Classification 3 digits level.

x confidential Due to rounding, figures may not add up to totals.

Source: Statistics Canada, administrative database of corporation income tax returns

Appendix B Table B1 Distributions of acquired and not-acquired firms in 1998

Row variable		Column variable	Not acquired in 1998 _%			Acquired in 1998 _%		
			Low	Medium	High	Low	Medium	High
Activity	Low	Profit	10.9	7.4	14.3	14.3	4.1	16.3
Activity	Medium	Profit	11.8	12.2	11.2	6.1	16.3	8.2
Activity	High	Profit	10.4	14.8	7.1	4.1	22.5	8.2
Leverage	Low	Profit	7.2	9.4	15.5	4.1	14.3	20.4
Leverage	Medium	Profit	10.4	14.7	9.7	8.2	22.5	8.2
Leverage	High	Profit	15.4	10.2	7.5	12.2	6.1	4.1
Liquidity	Low	Profit	13.0	10.0	9.1	16.3	16.3	10.2
Liquidity	Medium	Profit	10.7	15.3	9.4	4.1	12.2	8.2
Liquidity	High	Profit	9.4	9.1	14.1	4.1	14.3	14.3
Sales	Low	Profit	11.6	10.1	10.7	10.2	10.2	14.3
Sales	Medium	Profit	11.4	12.5	11.5	6.1	18.4	2.0
Sales	High	Profit	10.0	11.8	10.4	8.2	14.3	16.3
Leverage	Low	Activity	12.6	8.6	11.0	18.4	6.1	14.3
Leverage	Medium	Activity	10.3	13.7	10.8	8.2	12.2	18.4
Leverage	High	Activity	9.6	12.8	10.7	8.2	12.2	2.0
Liquidity	Low	Activity	11.3	11.0	9.8	18.4	12.2	12.2
Liquidity	Medium	Activity	11.6	13.9	9.8	8.2	10.2	6.1
Liquidity	High	Activity	9.6	10.2	12.8	8.2	8.2	16.3
Sales	Low	Activity	15.5	9.0	7.9	18.4	6.1	10.2
Sales	Medium	Activity	8.5	14.2	12.8	4.1	10.2	12.2
Sales	High	Activity	8.6	12.0	11.6	12.2	14.3	12.2
Liquidity	Low	Leverage	5.2	10.4	16.5	6.1	20.4	16.3
Liquidity	Medium	Leverage	7.8	16.4	11.2	8.2	10.2	6.1
Liquidity	High	Leverage	19.2	8.0	5.4	24.5	8.2	0.0
Sales	Low	Leverage	11.2	10.7	10.5	16.3	8.2	10.2
Sales	Medium	Leverage	12.1	11.9	11.5	8.2	14.3	4.1
Sales	High	Leverage	8.9	12.3	11.0	14.3	16.3	8.2
Sales	Low	Liquidity	10.4	11.2	10.8	20.4	4.1	10.2
Sales	Medium	Liquidity	9.9	13.1	12.5	8.2	10.2	8.2
Sales	High	Liquidity	11.8	11.1	9.3	14.3	10.2	14.3
Growth resources	Match	Profit	22.8	26.0	23.8	16.3	36.7	22.5
Growth resources	Mismatch	Profit	4.6	4.4	5.4	2.0	4.1	8.2
Growth resources	Match	Activity	22.9	26.0	23.7	24.5	26.5	24.5
Growth resources	Mismatch	Activity	4.1	4.2	6.2	2.0	4.1	8.2
Growth resources	Match	Leverage	21.0	30.7	21.0	20.4	32.7	22.5
Growth resources	Mismatch	Leverage	8.2	0.0	6.2	14.3	0.0	0.0
Growth resources	Match	Liquidity	20.1	30.6	22.0	38.8	20.4	16.3
Growth resources	Mismatch	Liquidity	6.2	0.0	8.2	0.0	0.0	14.3
Growth resources	Match	Sales	23.2	26.0	23.5	18.4	22.5	34.7
Growth resources	Mismatch	Sales	5.5	5.4	3.5	8.2	4.1	2.0
Profit	Low	Growth	10.9	7.8	8.8	8.2	8.2	2.0
Profit	Medium	Growth	7.9	10.4	12.1	18.4	12.2	10.2
Profit	High	Growth	8.8	12.6	7.8	12.2	14.3	4.1
Activity	Low	Growth	9.9	10.0	7.1	8.2	14.3	4.1
Activity	Medium	Growth	9.0	11.5	9.7	14.3	12.2	4.1
Activity	High	Growth	8.7	9.3	11.9	16.3	8.2	8.2
Leverage	Low	Growth	11.4	11.1	6.7	20.4	8.2	6.1
Leverage	Medium	Growth	8.0	12.1	10.7	6.1	18.4	8.2
Leverage	High	Growth	8.1	7.7	11.3	12.2	8.2	2.0
Liquidity	Low	Growth	7.4	8.9	10.0	16.3	14.3	8.2
Liquidity	Medium	Growth	8.1	11.0	11.5	6.1	10.2	4.1
Liquidity	High	Growth	12.1	11.0	7.1	16.3	10.2	4.1
Sales	Low	Growth	10.5	7.7	10.4	16.3	6.1	4.1
Sales	Medium	Growth	8.5	11.0	12.0	12.2	10.2	4.1
Sales	High	Growth	8.6	12.2	6.3	10.2	18.4	8.2

Table B2 Distributions of acquired and not-acquired firms in 1997

Row variable		Column variable	Not acquired in 1997 _% Low	Medium	High	Acquired in 1997 _% Low	Medium	High
Activity	Low	Profit	10.5	5.9	15.5	6.9	13.8	20.7
Activity	Medium	Profit	11.4	15.1	9.3	13.8	10.3	6.9
Activity	High	Profit	10.4	14.4	7.5	6.9	20.7	0.0
Leverage	Low	Profit	6.8	9.1	16.5	0.0	10.3	13.8
Leverage	Medium	Profit	11.3	13.9	10.4	13.8	17.2	10.3
Leverage	High	Profit	14.3	12.3	5.5	13.8	17.2	3.5
Liquidity	Low	Profit	13.2	9.5	9.1	10.3	20.7	10.3
Liquidity	Medium	Profit	12.0	14.3	9.7	10.3	13.8	6.9
Liquidity	High	Profit	7.1	11.6	13.6	6.9	10.3	10.3
Sales	Low	Profit	11.9	9.8	11.3	0.0	0.0	6.9
Sales	Medium	Profit	10.5	15.0	9.8	13.8	20.7	17.2
Sales	High	Profit	9.9	10.6	11.4	13.8	24.1	3.5
Leverage	Low	Activity	12.3	9.2	10.8	13.8	6.9	3.5
Leverage	Medium	Activity	9.7	15.3	10.6	17.2	13.8	10.3
Leverage	High	Activity	10.0	11.3	10.8	10.3	10.3	13.8
Liquidity	Low	Activity	10.9	10.8	10.1	17.2	6.9	17.2
Liquidity	Medium	Activity	11.5	14.6	9.9	10.3	17.2	3.5
Liquidity	High	Activity	9.5	10.4	12.3	13.8	6.9	6.9
Sales	Low	Activity	15.4	9.1	8.4	3.5	3.5	0.0
Sales	Medium	Activity	7.3	14.6	13.4	27.6	10.3	13.8
Sales	High	Activity	9.2	12.1	10.5	10.3	17.2	13.8
Liquidity	Low	Leverage	5.0	10.5	16.3	3.5	20.7	17.2
Liquidity	Medium	Leverage	8.0	17.4	10.5	13.8	6.9	10.3
Liquidity	High	Leverage	19.3	7.7	5.3	6.9	13.8	6.9
Sales	Low	Leverage	12.4	10.8	9.7	6.9	0.0	0.0
Sales	Medium	Leverage	10.8	13.4	11.0	10.3	24.1	17.2
Sales	High	Leverage	9.1	11.4	11.4	6.9	17.2	17.2
Sales	Low	Liquidity	10.9	11.3	10.7	0.0	3.5	3.5
Sales	Medium	Liquidity	9.2	13.9	12.1	24.1	6.9	20.7
Sales	High	Liquidity	11.7	10.7	9.4	17.2	20.7	3.5
Growth resources	Match	Profit	23.9	26.6	24.2	20.7	37.9	17.2
Growth resources	Mismatch	Profit	4.0	4.4	4.2	0.0	0.0	3.5
Growth resources	Match	Activity	23.0	27.8	23.9	31.0	24.1	20.7
Growth resources	Mismatch	Activity	4.0	3.6	4.9	0.0	3.5	0.0
Growth resources	Match	Leverage	23.3	31.2	20.3	20.7	34.5	20.7
Growth resources	Mismatch	Leverage	6.7	0.0	5.9	3.5	0.0	0.0
Growth resources	Match	Liquidity	20.6	31.1	23.0	37.9	27.6	10.3
Growth resources	Mismatch	Liquidity	5.9	0.0	6.7	0.0	0.0	3.5
Growth resources	Match	Sales	24.4	27.1	23.2	3.5	37.9	34.5
Growth resources	Mismatch	Sales	5.0	4.1	3.4	3.5	0.0	0.0
Profit	Low	Growth	10.1	10.7	7.1	6.9	10.3	3.5
Profit	Medium	Growth	9.0	10.0	12.0	10.3	20.7	6.9
Profit	High	Growth	9.0	10.0	9.4	10.3	6.9	3.5
Activity	Low	Growth	10.3	8.3	8.5	13.8	10.3	6.9
Activity	Medium	Growth	9.3	13.5	8.6	10.3	10.3	6.9
Activity	High	Growth	8.5	8.9	11.5	3.5	17.2	0.0
Leverage	Low	Growth	11.2	9.2	9.5	13.8	6.9	3.5
Leverage	Medium	Growth	9.4	12.4	9.3	3.5	20.7	10.3
Leverage	High	Growth	7.5	9.0	9.7	10.3	10.3	0.0
Liquidity	Low	Growth	6.8	9.4	10.3	10.3	24.1	3.5
Liquidity	Medium	Growth	10.4	11.6	9.1	13.8	3.5	10.3
Liquidity	High	Growth	10.9	9.7	9.1	3.5	10.3	0.0
Sales	Low	Growth	12.1	7.9	9.4	6.9	0.0	0.0
Sales	Medium	Growth	7.8	11.7	11.7	10.3	24.1	3.5
Sales	High	Growth	8.2	11.0	7.4	10.3	13.8	10.3

Table B3 Distributions of acquired and not-acquired firms in 1996

Row variable		Column variable	Not acquired in 1996 _% Low	Medium	High	Acquired in 1996 _% Low	Medium	High
Activity	Low	Profit	10.6	6.8	15.5	14.3	0.0	7.1
Activity	Medium	Profit	10.5	14.9	9.8	21.4	3.6	7.1
Activity	High	Profit	10.8	13.7	7.4	14.3	17.9	14.3
Leverage	Low	Profit	6.2	8.9	17.6	3.6	7.1	17.9
Leverage	Medium	Profit	10.6	15.4	9.2	17.9	0.0	7.1
Leverage	High	Profit	15.2	11.1	5.9	28.6	14.3	3.6
Liquidity	Low	Profit	13.6	10.2	8.6	21.4	7.1	0.0
Liquidity	Medium	Profit	10.9	13.9	10.2	21.4	7.1	14.3
Liquidity	High	Profit	7.4	11.2	13.9	7.1	7.1	14.3
Sales	Low	Profit	10.1	10.3	12.3	14.3	7.1	0.0
Sales	Medium	Profit	11.8	13.6	9.3	32.1	3.6	14.3
Sales	High	Profit	10.1	11.4	11.1	3.6	10.7	14.3
Leverage	Low	Activity	13.6	9.7	9.4	3.6	3.6	21.4
Leverage	Medium	Activity	9.5	14.4	11.2	7.1	14.3	3.6
Leverage	High	Activity	9.8	11.0	11.3	10.7	14.3	21.4
Liquidity	Low	Activity	12.1	10.2	10.1	7.1	7.1	14.3
Liquidity	Medium	Activity	10.8	13.3	10.9	10.7	21.4	10.7
Liquidity	High	Activity	10.0	11.7	10.9	3.6	3.6	21.4
Sales	Low	Activity	15.6	8.6	8.6	7.1	7.1	7.1
Sales	Medium	Activity	7.4	15.1	12.2	10.7	14.3	25.0
Sales	High	Activity	9.9	11.6	11.2	3.6	10.7	14.3
Liquidity	Low	Leverage	6.3	10.2	15.9	0.0	10.7	17.9
Liquidity	Medium	Leverage	8.8	15.2	11.1	3.6	10.7	28.6
Liquidity	High	Leverage	17.6	9.8	5.2	25.0	3.6	0.0
Sales	Low	Leverage	12.2	11.0	9.5	3.6	10.7	7.1
Sales	Medium	Leverage	11.1	12.0	11.6	10.7	10.7	28.6
Sales	High	Leverage	9.4	12.2	11.1	14.3	3.6	10.7
Sales	Low	Liquidity	10.0	10.7	12.0	10.7	3.6	7.1
Sales	Medium	Liquidity	11.1	11.7	11.9	14.3	25.0	10.7
Sales	High	Liquidity	11.2	12.7	8.8	3.6	14.3	10.7
Growth resources	Match	Profit	23.6	27.7	24.2	32.1	17.9	14.3
Growth resources	Mismatch	Profit	3.2	3.5	3.4	3.6	3.6	7.1
Growth resources	Match	Activity	23.8	26.9	24.9	14.3	14.3	35.7
Growth resources	Mismatch	Activity	3.1	3.5	3.5	3.6	3.6	7.1
Growth resources	Match	Leverage	23.7	30.0	21.9	17.9	17.9	28.6
Growth resources	Mismatch	Leverage	5.1	0.0	5.1	7.1	0.0	7.1
Growth resources	Match	Liquidity	22.0	30.2	23.4	21.4	25.0	17.9
Growth resources	Mismatch	Liquidity	5.1	0.0	5.1	7.1	0.0	7.1
Growth resources	Match	Sales	23.6	27.5	24.4	17.9	32.1	14.3
Growth resources	Mismatch	Sales	3.9	3.6	2.6	0.0	3.6	10.7
Profit	Low	Growth	10.0	9.1	7.7	14.3	7.1	14.3
Profit	Medium	Growth	10.1	9.5	11.7	7.1	3.6	10.7
Profit	High	Growth	7.4	12.1	8.1	10.7	3.6	7.1
Activity	Low	Growth	9.0	11.7	6.3	0.0	0.0	17.9
Activity	Medium	Growth	10.8	10.4	9.2	14.3	0.0	3.6
Activity	High	Growth	7.7	8.6	12.1	17.9	14.3	10.7
Leverage	Low	Growth	9.5	12.0	7.3	7.1	7.1	10.7
Leverage	Medium	Growth	10.0	10.1	9.9	7.1	3.6	7.1
Leverage	High	Growth	8.0	8.6	10.3	17.9	3.6	14.3
Liquidity	Low	Growth	8.7	9.6	8.8	10.7	7.1	10.7
Liquidity	Medium	Growth	9.8	9.1	11.3	14.3	0.0	10.7
Liquidity	High	Growth	9.1	12.0	7.4	7.1	7.1	10.7
Sales	Low	Growth	8.0	10.7	8.8	10.7	0.0	7.1
Sales	Medium	Growth	9.4	10.9	10.8	10.7	14.3	10.7
Sales	High	Growth	10.1	9.0	7.9	10.7	0.0	14.3

Table B4 Distributions of acquired and not-acquired firms by growth-resources

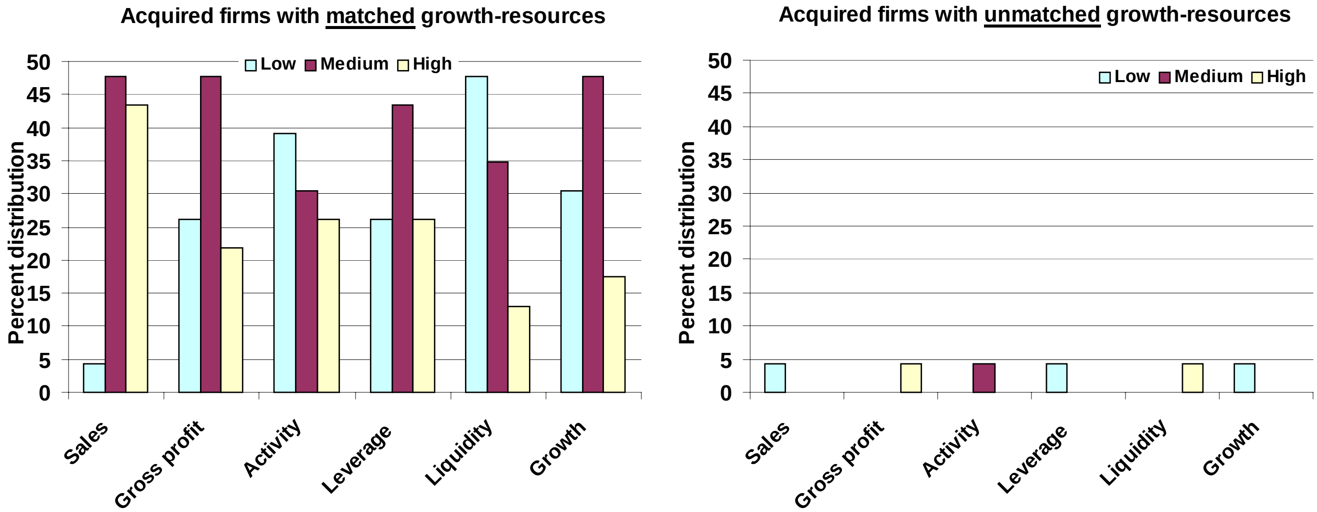
	Group[1]	Not-acquired in 1998 _ %		Acquired in 1998 _ %		Not-acquired in 1997 _ %		Acquired in 1997 _ %		Not-acquired in 1996 _ %		Acquired in 1996 _ %	
		Mismatch	Match	Mismatch	Match	Mismatch	Match	Mismatch	Match	Mismatch	Match	Mismatch	Match
All		17	83	16	84	14	86	4	96	12	88	18	82
Sales by GRM[2]	**Low**	6	27	9	20	6	28	4	4	5	28	0	23
	Medium	6	30	5	25	5	31	0	48	4	32	5	41
	High	4	27	2	39	4	27	0	43	3	29	14	18
Profit by GRM	**Low**	5	26	2	18	5	27	0	26	4	28	5	41
	Medium	5	30	5	41	5	30	0	48	4	32	5	23
	High	6	27	9	25	5	28	4	22	4	28	9	18
Activity by GRM	**Low**	5	26	2	27	5	26	0	39	4	28	5	18
	Medium	5	30	5	30	4	32	4	30	4	31	5	18
	High	7	27	9	27	6	27	0	26	4	29	9	45
Leverage by GRM	**Low**	9	24	16	23	8	27	4	26	6	28	9	23
	Medium	0	35	0	36	0	36	0	43	0	35	0	23
	High	7	24	0	25	7	23	0	26	6	26	9	36
Liquidity by GRM	**Low**	7	23	0	43	7	24	0	48	6	26	9	27
	Medium	0	35	0	23	0	36	0	35	0	35	0	32
	High	9	25	16	18	8	26	4	13	6	27	9	23
Growth by GRM	**Low**	9	22	16	27	8	25	4	30	6	26	9	32
	Medium	0	35	0	39	0	35	0	48	0	36	0	18
	High	7	26	0	18	7	26	0	17	6	26	9	32

Notes: 1. "Low" are below 33rd percentile and "High" are above 66th percentile, both calculated at the Standard Industrial Classification 3 digits level.
2. Low-growth, resource-rich ("high" liquidity and "low" leverage) or high-growth, resource-poor firms ("low" liquidity and "high" leverage) were identified with unmatched growth-resources. All other combinations were identified as matched growth-resource.
Due to rounding, figures may not add up to totals.

Source: Statistics Canada, administrative database of corporation income tax returns

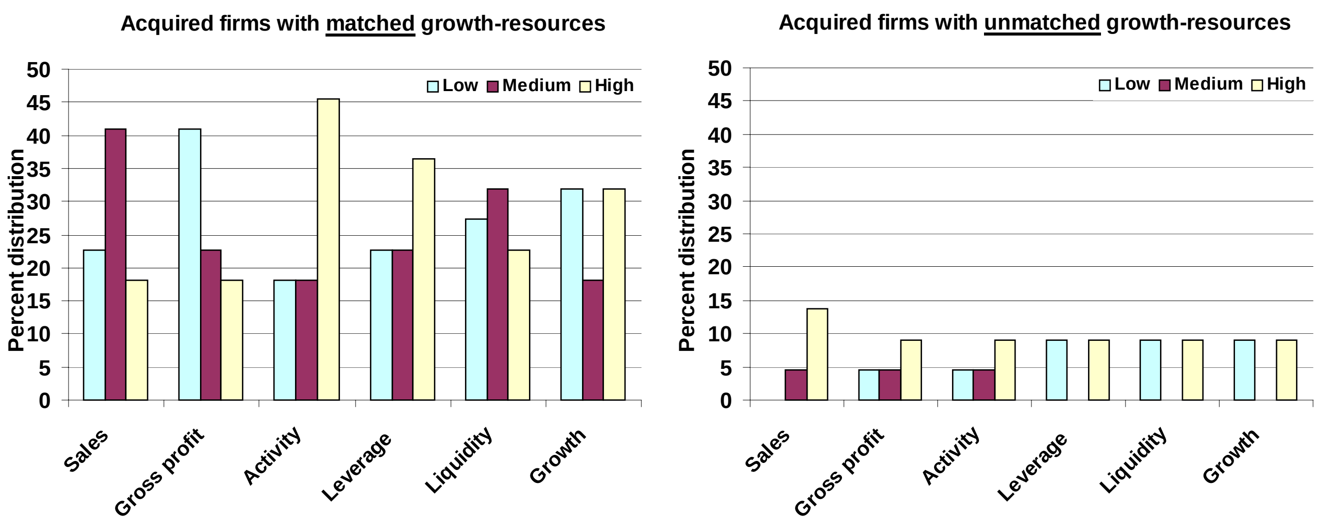
Appendix C

Figure C1 Distributions of acquired firms in 1997 by growth-resources characteristics



Sources: Statistics Canada, administrative database of corporation income tax returns.

Figure C2 Distributions of acquired firms in 1996 by growth-resource characteristics



Sources: Statistics Canada, administrative database of corporation income tax returns.

Agriculture and Rural Working Paper Series

(* The *Agriculture and Rural Working Paper Series* is now available on Statistics Canada's Web Site (www.statcan.ca). From the *Our products and services* page, choose *Research papers (free)*, then *Agriculture*.)

No.1	(21-601-MPE80001)	**A Description of Theil's RMPSE Method in Agricultural Statistical Forecasts (1980)**, Stuart Pursey
No.3	(21-601-MPE81003)	**A Review of the Livestock Estimating Project with Recommendations for the Future (1981)**, Bernard Rosien and Elizabeth Leckie
No.4	(21-601-MPE84004)	**An Overview of the Canadian Oilseed Industry (1984)**, Glenn Lennox
No.5	(21-601-MPE84005)	**Preliminary Analysis of the Contribution of Direct Government Payments to Realized Net Farm Income (1984)**, Lambert Gauthier
No.6	(21-601-MPE84006)	**Characteristics of Farm Entrants and their Enterprises in Southern Ontario for the Years 1966 to 1976 (1984)**, Jean B. Down
No.7	(21-601-MPE84007)	**A Summary of Commodity Programs in the United States (1984)**, Allister Hickson
No.8	(21-601-MPE84008)	**Prairie Summerfallow Intensity: An Analysis of 1981 Census Data (1984)**, Les Macartney
No.9	(21-601-MPE85009)	**The Changing Profile of the Canadian Pig Sector (1985)**, Mike Shumsky
No.10	(21-601-MPE86010)	**Revisions to the Treatment of Imputed House Rents in the Canadian Farm Accounts, 1926-1979 (1986)**, Mike Trant
No.11	(21-601-MPE92011)	**The Ratio Estimator: an Intuitive Explanation and Its Use in Estimating Agriculture Variables (1992)**, François maranda and Stuart Pursey
No.12	(21-601-MPE91012)	**The Impact of Geographic Distortion Due to the Headquarters Rule (1991)**, Rick Burroughs
No.13	(21-601-MPE91013)	**The Quality of Agriculture Data - Strengths and Weaknesses (1991)**, Stuart Pursey
No.14	(21-601-MPE92014)	**Alternative Frameworks for Rural Data (1992)**, A.M. Fuller, Derek Cook and Dr. John Fitzsimons
No.15	(21-601-MPE93015)	**Trends and Characteristics of Rural and Small Town Canada (1993)**, Brian Bigs, Ray Bollman and Michael McNames
No.16	(21-601-MPE92016)	**The Microdynamics and Farm Family Economics of Structural Change in Agriculture (1992)**, Phil Ehrensaft and Ray Bollman
No.17	(21-601-MPE93017)	**Grains and Oilseeds Consumption by Livestock and Poultry, Canada and Provinces 1992**, Livestock and Animal Products Section
No.18	(21-601-MPE94018)	**Trends and Patterns of Agricultural Structural Change: Canada / US Comparison**, Ray Bollman, Leslie A. Whitener and Fu Lai Tung
No.19	(21-601-MPE94019)	**Farm Family Total Income by Farm Type, Region and Size for 1990 (1994)**, Saiyed Rizvi, David Culver, Lina Di Piétro and Kim O'Connor
No.20	(21-601-MPE91020)	**Adjustment in Canadian Agriculture (1994)**, George McLaughlin
No.21	(21-601-MPE93021)	**Microdynamics of Farm Size Growth and Decline: A Canada-United States Comparison**, Fred Gale and Stuart Pursey
No.22	(21-601-MPE92022)	**The Structures of Agricultural Household Earnings in North America: Positioning for Trade Liberalization**, Leonard Apedaile, Charles Barnard, Ray Bollman and Blaine Calkins
No.23	(21-601-MPE92023)	**Potatoes: A Comparison of Canada/USA Structure**, Glenn Zepp, Charles Plummer and Barbara McLaughlin
No.24	(21-601-MPE94024)	**Farm Structure Data: A US-Canadian Comparative Review**, Victor J. Oliveira, Leslie A. Whitener and Ray Bollman
No.25	(21-601-MPE94025)	**Grain Marketing Statistics Statistical Methods Working Paper Version 2**, Karen Gray
No.26	(21-601-MPE94026)	**Farm Business Performance: Estimates from the Whole Farm Database**, W. Steven Danford
No.27	(21-601-MPE94027)	**An Attempt to Measure Rural Tourism Employment**, Brian Biggs
No.28*	(21-601-MIE95028)	**Delineation of the Canadian Agricultural Ecumene for 1991**, Timothy J. Werschler
No.29	(21-601-MPE95029)	**Mapping the Diversity of Rural Economies: A preliminary Typology of Rural Canada**, Liz Hawkins
No.30*	(21-601-MIE96030)	**Structure and Trends of Rural Employment: Canada in the Ciontext of OECD Countries**, Ron Cunningham and Ray D. Bollman
No.31*	(21-601-MIE96031)	**A New Approach to Non-CMA/CA Areas**, Linda Howatson-Leo and Louise Earl

Agriculture and Rural Working Paper Series (continued)

(* The *Agriculture and Rural Working Paper Series* is now available on Statistics Canada's Web Site (www.statcan.ca). From the *Our products and services* page, choose *Research papers (free)*, then *Agriculture*.)

No.32	(21-601-MPE96032)	**Employment in Agriculture and Closely Related Industries in Rural Areas: Structure and Change 1981-1991**, Sylvain Cloutier
No.33*	(21-601-MIE98033)	**Hobby Farming - For Pleasure or Profit?**, Stephen Boyd
No.34*	(21-601-MIE98034)	**Utilization of Document Imaging Technology by the 1996 Canadian Census of Agriculture**, Mel Jones and Ivan Green
No.35*	(21-601-MIE98035)	**Employment Patterns in the Non-Metro Workforce**, Robert Mendelson
No.36*	(21-601-MIE98036)	**Rural and Small Town Population is Growing in the 1990s**, Robert Mendelson and Ray D. Bollman
No.37*	(21-601-MIE98037)	**The Composition of Business Establishments in Smaller and Larger Communities in Canada**, Robert Mendelson
No.38*	(21-601-MIE98038)	**Off-farm Work by Census-farm Operators: An Overview of Structure and Mobility Patterns**, Michael Swidinsky, Wayne Howard and Alfons Weersink
No.39*	(21-601-MIE99039)	**Human Capital and Rural Development: What Are the Linkages?**, Ray D. Bollman
No.40*	(21-601-MIE99040)	**Computer Use and Internet Use by Members of Rural Households**, Margaret Thompson-James
No.41*	(21-601-MIE99041)	**RRSP Contributions by Canadian Farm Producers in 1994**, Marco Morin
No.42*	(21-601-MIE99042)	**Integration of Administrative Data with Survey and Census Data**, Michael Trant and Patricia Whitridge
No.43*	(21-601-MIE01043)	**The Dynamics of Income and Employment in Rural Canada: The Risk of Poverty and Exclusion**, Esperanza Vera-Toscano, Euan Phimister and Alfons Weersink
No.44*	(21-601-MIE01044)	**Rural Youth Migration Between 1971 and 1996**, Juno Tremblay
No.45*	(21-601-MIE01045)	**Measuring Economic Well-Being of Rural Canadians Using Income Indicators**, Carlo Rupnik, Margaret Thompson-James and Ray D. Bollman
No.46*	(21-601-MIE01046)	**The Geographical Patterns of Socio-Economic Well-Being of First Nations Communities in Canada**, Robin P. Armstrong
No.47*	(21-601-MIE01047)	**Distribution and Concentration of Canadian Livestock**, Martin S. Beaulieu
No.48*	(21-601-MIE01048)	**Intensive Livestock Farming: Does Farm Size Matter?**, Martin S. Beaulieu
No.49*	(21-601-MIE01049)	**Agriculture Statistics for Rural Development**, Ray D. Bollman
No.50*	(21-601-MIE01050)	**Rural and Small Town Employment: Structure by Industry**, Roland Beshiri and Ray D. Bollman
No.51*	(21-601-MIE01051)	**Working Time: How do Farmers Juggle with it and How has it Impacted Their Farmily Total Income**, Sylvain Cloutier
No.52*	(21-601-MIE01052)	**Growers of Genetically Modified Grain Corn and Soybeans in Quebec and Ontario: A Profile**, Bernard Hategekimana
No.53*	(21-601-MIE02053)	**Integration of Canadian and U.S. Cattle Markets**, Rita Athwal
No.54*	(21-601-MIE02054)	**Genetically Modified Grain Corn and Soybeans in Quebec and Ontario in 2000 and 2001,** Bernard Hategekimana
No.55*	(21-601-MIE02055)	**Recent Migration Patterns in Rural and Small Town Canada,** Neil Rothwell et al
No.56*	(21-601-MIE02056)	**Performance in the Food Retailing Segment of the Agri-Food Chain**, David Smith and Michael Trant