

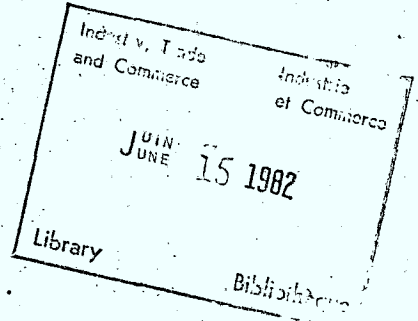
HD
2346
.C2A23
v.[3]

Whipp, James

A profile of small business in Canada :
a background report. 1982

March 1982

lit² 70
4, 16, 17, 18, 20,
24,



A PROFILE OF SMALL BUSINESS IN CANADA: [v. 3]

A BACKGROUND REPORT FOR
THE SMALL BUSINESS FINANCING REVIEW

Prepared for the Small Business Financing
Review by:

James Whipp, Paradigm Consulting
Edward Hughes, Informetrica Ltd.,
J.R. D'Cruz, University of Toronto

ACKNOWLEDGEMENTS

Many people contributed to this project. Belita deLeon provided the programming skills, assisted at times by Andy McLeod of I.P. Sharp Associates. Blaine Knapp, of the Business Finance Division, Statistics Canada, supervised the derivation of the "Independents" population. His knowledge of the Calura data file proved invaluable.

The incorporated and unincorporated summary tax files, and an explanation of their strengths and weaknesses was provided by Earl Hubley, also of Business Finance Division. Don McFetridge, a member of the Review team, gave valuable comments on early versions of the financial ratio analysis.

We also wish to thank Jim Howe and Bob Teskey for providing the opportunity to do the research, and for persevering while we explored the nuances of the data.

Any opinions expressed herein are those of the authors, and do not necessarily reflect the views of the Small Business Financing Review or the Department of Industry, Trade and Commerce.

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	7
II. Principal Observations and Conclusions	9
III. The Business Universe: A Framework for Analysis	11
IV. The Framework Applied	22
The SBFR Business Universe	
The Distribution of Business Activity	
The Size Distribution of Independent Firms	
V. Transition and Normal Firms	35
VI. Financial Ratios and Relations Between Financial Variables	40

APPENDICES

- A: Qualifiers for Selected Small Business Programs
 - 1) The Small Businesses Loans Act
 - 2) The Small Business Tax Credit
 - 3) The Small Business Development Bond
- B: The Debt Structure, Loan Size and Interest Burden of Incorporated Businesses
- C: The Percent Distribution of Firms and Sales By Firm Type Within a Sector: 107 Industries.
- D: The Distribution of the Incorporated Self Employment and Independent Canadian Controlled Small and Medium Businesses by Transition Status
- E: The Incidence of Transition Firm by Quartile: Incorporated self employment and Independent Canadian Controlled Small and Medium Business - 1977
- F: Maximum and Minimum Triad Sales: 107 Industries
- G: Financial Ratio Analysis Summary Tables - 107 Sectors
 - 1) Orthogonal Regression Analysis
 - a) Log Sales vs. Log Assets
 - b) Log Debt vs. Log Assets
 - c) Profit/Sales vs. the first principal/component of a)
 - d) Ebit/Sales vs. the first principal/component of a)
 - 2) Medians and Inter-Quartile Semi-Ranges of Selected Financial Ratios
- H: The Inappropriateness of Conditional Medians of Ratios
- I: Data Sources for the Study
- J: The Industry Coding Structure for the Independent Canadian Controlled Small and Medium Businesses

TABLES

<u>Tables</u>		<u>Page</u>
Table 1	Canadian Business Universe	15
Table 2	Distribution of Firms by Sales Class in 1977 (Incorporated Firms Only)	17
Table 3	Distribution of Firms by Sales Class in 1978 (Unincorporated Firms Only)	18
Table 4	Distributions of Firms by Sales Class in 1977/78 (Incorporated & Unincorporated Firms)	20
Table 5	Derivation of the Independent Canadian Controlled Small and Medium Business Population	22
Table 6	Distribution of Firm and Sales Activity 1977/78 SBFR Universe	25
Table 7	Sectors where "Large" Firms Account for a Major Proportion of Industry Sales	26
Table 8	Sectors where "Affiliates, Small and Medium Foreign Firms Account for a Major Proportion of Industry Sales	26
Table 9	Sectors where Independents Account for a Major Proportion of Industry Sales	27
Table 10	Sectors where Independent Canadian Controlled Small and Medium Businesses Congregate	28
Table 11	Sectors where Self-Employment Firms Congregate	28
Table 12	Sectors where Self-employment and Independents are Concentrated	29
Table 13	Distribution of Independents by Quadrant for 14 IBC Industries (Incorporated and Unincorporated Firms)	31
Table 14	Sales Size of Independent Firms by Quadrant for 14 Industries	33
Table 15	Transition Status for the Industries where Independents Congregate: 1977	37
Table 16	Percentage of Incorporated "Independents" in Transition by Quartile 14 Industries, 1977	38
Table 17	Distribution of Transition Status by Quartile Communications Equipment Manufacturers	39
Table 18	Values of Estimated Parameters for Sectors 404 Business Construction, and 631 Food Stores	46

CHARTS

	<u>Page</u>
Chart 1 A Conceptual Array of the "Business" Universe	11
Chart 2 Derivation of the Small Business Financing Review Universe	16
Chart 3 SBFR All Industry Lorenz Curve	21
Chart 4 Working Model of the Framework for Analysis	23
Chart 5 Lorenz Curve for Industry Sales Independent Canadian Controlled Small & Medium Businesses	30
Chart 6 Conditional Median of Sales-to-Assets Ratio versus Sales: Building Construction	42
Chart 7 Log Sales versus Log Assets: Building Construction.	44
Chart 8 Conditional Median, Mean, 1st and 3rd Quartiles of Profit-To-Sales Ratio Versus The First Principal Component of Assets and Sales.	48

I. INTRODUCTION

Small Business has become a focal point of government and private sector interests in recent years. There are small business advocacy groups in most western countries; in Canada, Great Britain, and the United States, at least, entire government offices are devoted to the concerns of small business. Yet despite a plethora of programs intended to aid and encourage this sector of the business community, and a high level of interest in the subject, the small business segment of the economy remains only vaguely defined. Estimates of the number of such firms range from 200,000 to over a million entities.

The Small Business Financing Review, charged with the task of assessing the effectiveness of federal government programs providing financing aid to small business, realized that as a starting point a detailed profile of the small business community was required. While "New Statistics on Small Business in Canada", a publication of the Small Business Secretariat, represented a significant improvement in the information available on this population, the need for a detailed information base that was computer accessible was felt to be essential to the Review.

The availability (subject, of course, to confidentiality restrictions) from Statistics Canada of unincorporated and incorporated taxation data, offered the hope of constructing a detailed and reasonably complete picture of the small business universe, which would not only be of use to the Review, but would be of considerable interest in its own right, and of value to other researchers. The result is the present study.

The first problem encountered by any such study as this one is the definition of "small business". The literature and government programs abound with definitions, some in terms of sales, others in number of employees, market share, value added, or some other measure. Most are arbitrary, and although we have tried to minimize the arbitrariness, ours is no exception. The approach, outlined in Section III, relies more on the structure of the economy in which small business operates rather than on a preconceived measure of "small".

The object of the study was to delineate, insofar as the data permits, the ways in which firms differ, and the ways in which they are similar. This, it was believed, is the starting point in the analysis of aid policies and programs for small business since only with this information is it possible to predict the contribution of such policies to the government's economic objectives.

The profile presented here derives much of its character and its limitations, from the data from which it was constructed, the principal sources of which were the "T-2" taxation file for incorporated firms, and the "T-1" file for unincorporated firms. Only one variable, firm sales, is common to both these files, and this is what must be used for constructing size distributions of all firms. The T-2 file contains some limited financial information, and so our analysis of financial structure is perforce limited to corporations. Confidentiality rules imposed further compromises and second best solutions, which will be noted where appropriate.

Outline of the Paper

The next section presents the principal observations and conclusions of the study. The basis of these statements is given in the remaining text. Section III provides the framework for the study. Here the definition of Independent Canadian controlled small and medium business is developed. The application of this framework to 1977/78 data may be found in Section IV. Starting with a population of about 1.1 million business entities, a relevant population of about 528,000 firms is identified. These firms are stratified into four groups that are essentially identical to the ones defined in the framework. Confidentiality considerations necessitated some compromises in detail.

The incidence and size distribution of self-employment and independent firms is examined by sector of concentration - where they congregatè, or where they account for a significant portion of sector sales. In Section V, the notion of "normal" and "transition" firms is introduced, and quantified. By defining a population of normal firms, financial ratio analysis can be done with some confidence (Section VI).

Ten Appendices follow. Some explore aspects briefly discussed in the main text, while others present the complete tables previously illustrated by selected industries. The first two appendices examine the firms qualifying for government loan programs to assist small business, and the average loan size, interest burden and debt structure of "normal" firms.

II. PRINCIPAL OBSERVATIONS AND CONCLUSIONS

1. The population of relevance to financing issues consists of 528,575 business entities. Of these, the largest 1100 corporations in Canada, their affiliates and resident foreign firms account for 58% of total sales. The remaining entities (520,000) constitute the small business community. Within this community are 225,000 Canadian owned, independent firms with annual sales in excess of \$100,000 but less than \$30 million. This group of firms accounts for 39% of total sales. The second cluster of small businesses consists of 295,000 "self-employment" firms which have annual sales of less than \$100,000 and which account for 3% of total sales.

2. The distribution of firm size is very skewed, with many small firms and few large ones. Of the 528,535 firms in the SBFR universe, three-quarters had annual sales (in 1977/78) of less than \$200,000; these firms account for about six and one-half percent of total sales. When large firms are removed from the universe, the skewness is not noticeably reduced. Of the "small and medium sized firms", most are very small, and the relatively few larger firms account for most of a sector's sales.

3. Sixty-five percent of the 225 thousand Independent Canadian controlled small and medium businesses are found in just 14 sectors. These are primarily "service" oriented in nature, generally, providing products for local markets. Included in this list are; Special Trade Contractors; Food Stores; Gasoline Service Stations; Motor Vehicle Dealers; Truck Transport; General Merchandise Store; Hotels, Motels and Restaurants. None of these industries are likely sources of research and development, and, except for the tourism industries, none are export intensive.

4. A similar story is true for the self-employment firms. With over 72% found in 16 sectors, they are even more local market, service oriented than the independents. There is, however, considerable overlap in the two groups; 55% of the self-employment and independent firms operate in just 9 industries.

5. Using limited balance sheet data, it was possible to separate "normal" firms from those in a state of transition: these were defined as firms which were entering, exiting, or appeared as turn-arounds. By removing these firms, financial relationships could be estimated for the core of "normal" firms. About 75% of the incorporated independent and self-employment firms were determined as normal.

6. An examination of financial ratios and other relationships, in small and medium-sized independent firms, has turned up no evidence that the smaller firms differ significantly in structure or performance from larger firms in the same industry. In particular, within an industry, no systematic tendency was found for small firms to be more or less profitable, more or less indebted, or to generate more or less sales from a dollar of assets. A very few industries were exceptions to this rule.

7. Very few of the self-employment and independent firms are excluded from qualifying for a Small Business Loans Act loan. Since 1978, the number of loans issued under the program has grown at a rate of 50% per year; it is conceivable that all loans meeting program criteria will be eventually made under the SBLA.

8. Most of the incorporated Independent, Canadian controlled small and medium businesses potentially qualify for the Small Business Tax Credit. However, in all industries studied, a large percentage of firms (usually 40% to 60%) do not have any taxable income, and thus cannot benefit from the reduced tax rate implicit in the program.

9. Any firm which qualified for the Small Business Tax Credit prior to December 31, 1981 would also qualify for a Small Businesses Development Bond if the loan request were for the appropriate reason. Again, this was virtually the entire "Independent" population studied.

10. An examination of the interest burden of incorporated firms shows that a large percentage of firms reported no interest payments at all in 1977. Of the smallest size class (sales less than \$100,00) 55% of firms paid no interest. For those that did pay interest, the interest burden (as a percent of total expenses) was somewhat higher than for larger firms paying interest. Smaller firms, however, did not appear to be more exposed to interest rate shifts than larger firms.

III. THE BUSINESS UNIVERSE: A FRAMEWORK FOR ANALYSIS

The Small Business Financing Review (SBFR) was primarily concerned with isolating a population of firms at which small business financing measures are usually directed. Thus many groups of firms, while important in their own right, were excluded from the business population. These included farmers, fishermen, self-employed professionals, commission salesmen, financial institutions, welfare and non-profit organizations, investment and holding companies, real estate operators, and government enterprises.

Farmers and fishermen, for example, are groups whose financing and other needs are the subject of specialized programs. Government owned enterprises, welfare and other non-profit organizations can also be excluded on the grounds that financing needs are met in a manner which differs from that of ordinary business. Similar considerations were applied to commission salesmen and self-employed professional people.

The residual group of firms defines the SBFR universe. It does not, however, define small business. Chart 1 presents the stratification of the SBFR universe into four types of businesses. Industry classification and legal status (incorporated or unincorporated) are, for the moment, irrelevant.

Chart 1

A Conceptual Array of the "Business" Universe

Self-employment firms	"Independent" Canadian Controlled small and medium businesses	Foreign owned firms	Large Scale Enterprises and their Affiliates
-----------------------	---	---------------------	--

The objective was to classify the population into clusters, with the "Independent Canadian Controlled small and medium businesses" being the group of most interest to the Review. Note, too, that the size of the firm at this juncture is secondary and not explicitly defined.

The rationale for grouping the business population as depicted in Chart 1 follows.

Conceptual Categories in the Business Universe

Large Scale Enterprises

In the business universe there are a number of firms with linked ownership, and more importantly a management and control process that operates the entire enterprise as a unified business entity. Thus, it is common to think in terms of the "Canadian Pacific Group" or the "Molson Group" as being the business enterprise, and to regard the individual, legally incorporated firms within that group as sub-units of the whole. In fact, the existence of legally separate firms within an enterprise is likely an artifact resulting from the processes by which the entity was created (frequently a series of acquisitions over time) or of management decisions regarding taxation or the desirability of isolating certain liabilities from the enterprise assets.

The structure of management decision making and the deployment of financial and other resources frequently crosses boundaries between firms. Thus, the individual firms in the enterprise group could be considered independent only for purposes of reporting income for taxation purposes. For all other managerial purposes, it is the enterprise and not the individual firm that forms the basic unit.

Perhaps more important is the fact that financial institutions tend to treat the enterprise and not the individual firm as the unit for provision of financial services and assessment of credit worthiness. Each chartered bank has a "corporate clients service group" with responsibility for providing a wide range of financial services to each firm in the enterprise group. This distinction constitutes the basis for segregating large scale firms and their affiliates from the rest of the population.

Self-Employment Firms

Businesses where the owner provides the bulk of the labour input defines another group of firms. Since these firms are too small to provide full time employment to persons other than the owner, they can be designated self-employment firms, regardless of their legal status.

In the self-employment firm the distinction between the income, equity and liabilities of the owner and those of the business in many cases is indeterminate. In fact most financial institutions in their dealings with these firms act as though the distinction does not exist.

For example, when a single vehicle taxi company seeks a loan for business purposes, the financial institution will look at the owners' personal credit history and net worth as well as the credit history and unencumbered assets of the business. Banks frequently require the owner and other family members to sign personal notes as security for loan payments and may request mortgages or hypothecation of title on personal, non-business property as collateral. Thus the access of a self employment business to financial resources is very much a function of the financial history and position of the owner as it is the business itself.

This intermingling of financial characteristics of the owner and the business also implies that biases likely occur in statistics about self employment firms. In particular, statistics generated from unincorporated tax returns usually do not show any labour income for such firms; income is generally shown as profits. The close connection between ownership and labour input in the self-employment firm suggests that issues more related to social policy than financing may be of concern to this group.

Foreign-owned Firms

Examination of the ownership linkages of these firms reveals that in many cases they are part of large scale enterprise groups from other countries. Such subsidiaries share many of the characteristics of the affiliates of large scale enterprises in Canada. In particular, financial institutions would likely treat such firms as part of the larger enterprise group, thus according them access to funds on a different basis than that available to the independent, Canadian-owned firm. For policy purposes governments may choose to treat foreign owned firms differently from Canadian owned firms. Furthermore, foreign owned firms, whether or not part of a larger enterprise, may operate in a sufficiently different manner to warrant treatment as a separate analytic group.

While the Review wished to treat foreign-owned small and medium firms as a separate entity, data restrictions made this impossible. (See Section IV)

Independent Canadian Controlled Small and Medium Businesses

The group that remains after removal of the self-employment firms, foreign owned small and medium size firms, and the large scale firms and their affiliates has been designated "Independent" small and medium business. It is this group that forms the central focus of the Review. As "Independents", these firms are not owned or controlled by large scale firms or their affiliates. An Independent firm may, however, own or control another Independent firm. The affiliation linkages that determine independence in this context are with respect to large scale enterprise, not those between small and medium size enterprise.

While small and medium size businesses are independent of large scale enterprise groups in terms of equity linkages and management control, some of them may operate with quasi linkages that confer a similar access to the financing advantages on the enterprise. Examples of these are franchise arrangements, or long term supply contracts.

Apart from the impact of these linkages, firms in this category are generally limited to internal financing or financial markets when seeking funds. It is to be expected, then, that such firms will be treated by financial institutions on the basis of their own financial position and performance. On the other hand, when quasi integration linkages are significant to the firm's success, financial institutions are known to take these linkages into account in making decisions about providing funds.

Currently available data does not allow the researcher to determine impact or incidence of quasi linkages. All these firms are therefore deemed independent, Canadian-controlled small and medium businesses, since all foreign owned or controlled firms have been removed. They are small, though larger than self employed firms but not big because they do not belong to a "large" enterprise group. Actual "size" limits depend upon the data employed.

This framework is the starting point of the study; it has been applied to 1977/78 Canadian data in the following sections. There is little reason to believe that more recent data would seriously alter any of the observations presented in this report.

IV. BUSINESS UNIVERSE 1977/78

The 1977/78 Canadian business universe consisted of some 1.1 million businesses. Of these, farmers, fishermen, professionals and self-employed salesmen represented about 450 thousand "businesses" or 40% of the total.

From the remaining 60 percent, other sectors of activity were also eliminated. These included financial institutions, social organizations, all levels of government crown corporations (federal and provincial), investment and holding companies, real estate operators, and some professionals not previously excluded. This process is depicted in Chart 2. The remaining 529 thousand businesses constitute the Small Business Financing Review Universe; 221,227 were incorporated and 307,308 were unincorporated firms.

Table 1

Canadian Business Universe

1977/78

<u>Type of Business</u>	<u>Number of Businesses</u>
Farmers	268,781
Fishermen	30,869
Professionals	112,056
Salesmen	38,038
Unincorporated	330,684
Incorporated	<u>346,227</u>
TOTAL	1,126,665

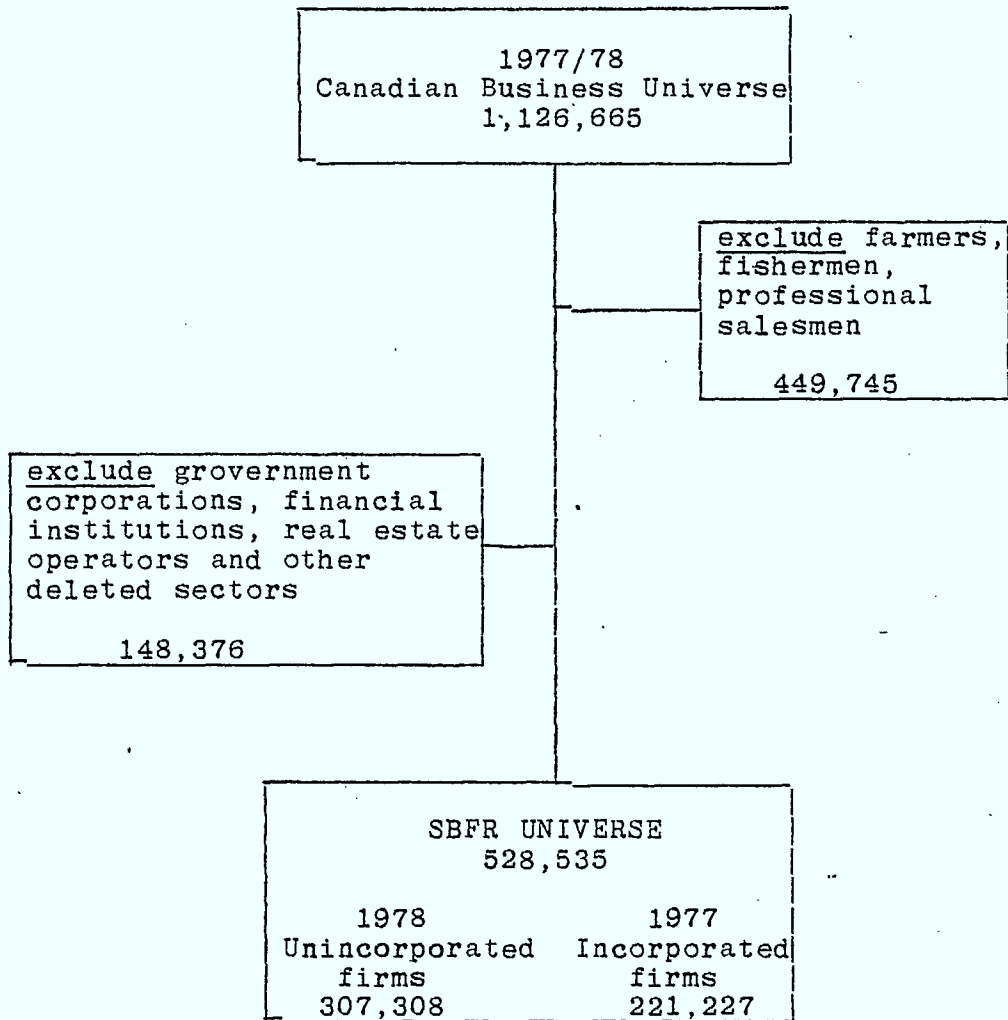
Note: only the incorporated data were for 1977.

The first task in profiling the SBFR universe was to characterize the business population by industry sector, incorporation status and size. Although "size" within a sector may be reasonably defined by a number of characteristics the only variable common to both the unincorporated and incorporated data files was sales.

For reasons of confidentiality this data was available only in terms of firm counts by sales size range for each industry Standard Industrial Classification (SIC). Sales totals for each industry were made available to the Review, except for a few cases where residual disclosure was a possibility. Using this information a sales distribution for each SIC was estimated. Estimated sales totals were constrained to sum to the control totals provided by Statistics Canada. An "All Industry" sales distribution was then computed by summing over each SIC. Table 2 shows that the 221,227 incorporated firms in 1977 generated some \$326.5 billion in sales. More than 50% of these businesses had sales less than \$200,000, and in total accounted for less than 3% of sales by all incorporated business. The largest 1% of incorporated firms all had sales greater than \$15 million, representing 55% of total sales.

Chart 2

Derivation of the Small Business
Financing Review Universe



The unincorporated data file was similar in structure to the incorporated file, although for the year 1978. In this case sales classes which had less than three firms were suppressed by Statistics Canada. Thus, the number of firms by sales class was less than the total number of firms in the sector. These "unallocated" firms were included in the estimation of the sales distribution for each SIC as they accounted for a disproportionate share of a sector's sales.

Table 2
 Distribution of Firms by Sales Class in 1977
 (Incorporated Firms Only)

SBFR:990		SBFR Universe					
Sales Class		Firms	Estimated	(Sales*		(Sales*	
		Number	Amount	Percent		Percent	
			(\$ Million)	(Cumulative)		(Cumulative)	
\$	1 -	49,999		47,866	21.64	1,116.09	0.34
	50,000 -	99,999		28,763	35.09	2,176.76	1.01
	100,000 -	146,999		21,656	44.88	2,684.81	1.83
	150,000 -	199,999		16,353	52.27	2,833.85	2.70
	200,000 -	249,999		12,703	58.01	2,846.23	3.57
	250,000 -	299,999		10,070	62.57	2,771.45	4.42
	300,000 -	399,999		14,754	69.20	5,171.29	6.00
	400,000 -	499,999		10,308	73.89	4,641.62	7.42
	500,000 -	599,999		7,574	77.32	4,187.63	8.71
	600,000 -	699,999		5,712	79.90	3,710.95	8.84
	700,000 -	799,999		4,600	81.98	3,484.69	10.91
	800,000 -	899,999		3,811	83.70	3,233.55	11.90
	900,000 -	999,999		3,143	85.12	3,002.76	12.82
	1,000,000 -	1,999,999		15,229	92.01	23,309.74	19.96
	2,000,000 -	2,999,999		5,797	94.63	14,810.08	24.49
	3,000,000 -	3,999,999		2,871	95.92	10,259.38	27.64
	4,000,000 -	4,999,999		1,807	96.74	8,218.39	30.15
	5,000,000 -	5,999,999		1,202	97.28	6,542.91	32.16
	6,000,000 -	6,999,999		950	97.71	6,125.97	34.03
	7,000,000 -	7,999,999		639	98.00	4,760.03	35.49
	8,000,000 -	8,999,999		505	98.23	4,265.52	30.80
	9,000,000 -	9,999,999		444	98.43	4,192.99	38.08
	10,000,000 -	14,999,999		1,150	98.95	14,091.81	42.40
	15,000,000 -	19,999,999		644	99.24	11,112.35	45.80
	20,000,000 -	24,999,999		357	99.40	7,955.60	48.24
	25,000,000 -	29,999,999		222	99.50	6,051.72	50.09
	30,000,000 -	34,999,999		148	99.57	4,769.02	51.58
	35,000,000 -	39,999,999		126	99.63	4,698.84	52.99
	40,000,000 -	44,999,999		91	89.67	3,845.58	54.17
	45,000,000 -	49,999,999		79	99.70	3,732.32	55.31
	50,000,000 -	74,999,999		224	99.81	13,722.43	59.81
	75,000,000 -	99,999,999		96	99.85	8,236.99	62.04
	100,000,000 -	199,999,999		182	99.93	26,339.47	70.10
	200,000,000 -	299,999,999		54	99.96	13,300.31	74.18
	300,000,000 and above			97	100.00	84,215.08	100.00
TOTAL				221,227	100.00	\$ 326,511.73	100.00

Note: * Total sales class estimates of sales were constrained to sum to Statistics Canada totals.

Source: Statistics Canada and Small Business Financing Review

Table 3 presents the SBFR Universe sales distribution for unincorporated firms in 1978. Almost 60% of the firms have sales of less than \$50,000. In total, unincorporated firms, accounted for 24 billion in sales, resulting from the activity of some 307 thousand firms. Of these the "unallocated" represent about 2 tenths of one percent in terms of firms, but about 2.5 percent of sales.

Table 3

Distribution of Firms by Sales Class in 1978

(Unincorporated Firms Only)

SBFR:990 SBFR Universe

Sales Class	Firms		Estimated Sales*	
	Number	Percent (Cumulative)	Amount (\$ Million)	Percent (Cumulative)
\$ 1 - 49,999	180,565	58.76	4,260.60	17.54
50,000 - 99,999	63,964	79.57	4,648.75	36.68
100,000 - 146,999	25,492	87.87	3,159.63	49.69
150,000 - 199,999	12,802	92.03	2,230.28	58.87
200,000 - 249,999	7,488	94.47	1,678.53	65.78
250,000 - 299,999	4,533	95.94	1,242.65	70.90
300,000 - 399,999	5,250	97.65	1,829.12	78.43
400,000 - 499,999	2,563	98.49	1,149.34	83.16
500,000 - 599,999	1,387	98.94	760.71	86.30
600,000 - 699,999	810	99.20	525.61	88.46
700,000 - 799,999	475	99.36	355.57	89.92
800,000 - 899,999	286	99.45	242.60	90.92
900,000 - 999,999	253	99.53	240.07	91.91
1,000,000 - 1,999,999	578	99.72	859.17	95.45
2,000,000 - 2,999,999	72	99.74	179.57	96.19
3,000,000 - 3,999,999	29	99.75	101.50	96.61
4,000,000 - 4,999,999	10	99.76	45.00	96.79
5,000,000 - 5,999,999	25	99.76	137.50	97.36
6,000,000 - 6,999,999	8	99.77	52.00	97.57
Unallocated	718	100.00	590.04	100.00
TOTAL	307,308	100.00	24,288.25	100.00

Source: Statistics Canada and Small Business Financing Review

Note: *Sales class estimates of sales were constrained to sum to Statistics Canada totals.

In order to present an industry picture it was necessary to combine the incorporated and unincorporated firms' sales distribution. However, the incorporated firms were classified according to the 1960 SIC structure, while the unincorporated firms were classified by the 1970 SIC format. It was necessary to construct a matching of the two coding structures for the business universe under review.

Unfortunately it was not possible to use incorporated and unincorporated data for the same period. At the time of the study's start, the 1978 incorporated file was not yet available, and the 1977 unincorporated data file was of questionable quality.

While the data were for different years, it was felt that deflating the unincorporated data back to 1977 would make little difference to the inferences since unincorporated business represented only 7% of the SBFR Universe total sales. Computational and statistical difficulties would have been severe because of the grouped nature of the data.

Sales distributions for 200 SBFR industries and thirty-one sectors (aggregations of industries) are available for the incorporated firms, unincorporated firms and both combined. The combined SBFR Universe is presented in Table 4. These 528 thousand firms generated some 351 billion dollars in sales. Over 95% of the firms had sales of less than two million dollars, and fully 60% had sales less than \$50,000. By any account most businesses are "small".

Chart 3 summarizes Table 4 by plotting the percentage of firms versus the percentage of sales made by these firms. If all firms were the same size the resulting graph would be a straight line as depicted by the solid line in the chart. The all industry curve, however, is almost a right angle. One percent of the firms account for over 60% of sales, while the smallest 75% of firms (those with sales of less than \$200 thousand dollars) account for barely 6.5% of the \$351 billion in sales.

Having established a measure of size (sales) and determined the members of the study universe the next step in the study was to apply the framework to each SBFR industry. A succinct version of this process is presented in the following section.

Table 4

Distribution of Firms by Sales Class in 1978
(Incorporated and Unincorporated Firms)

SBFR:990 All Industries: SBFR Universe

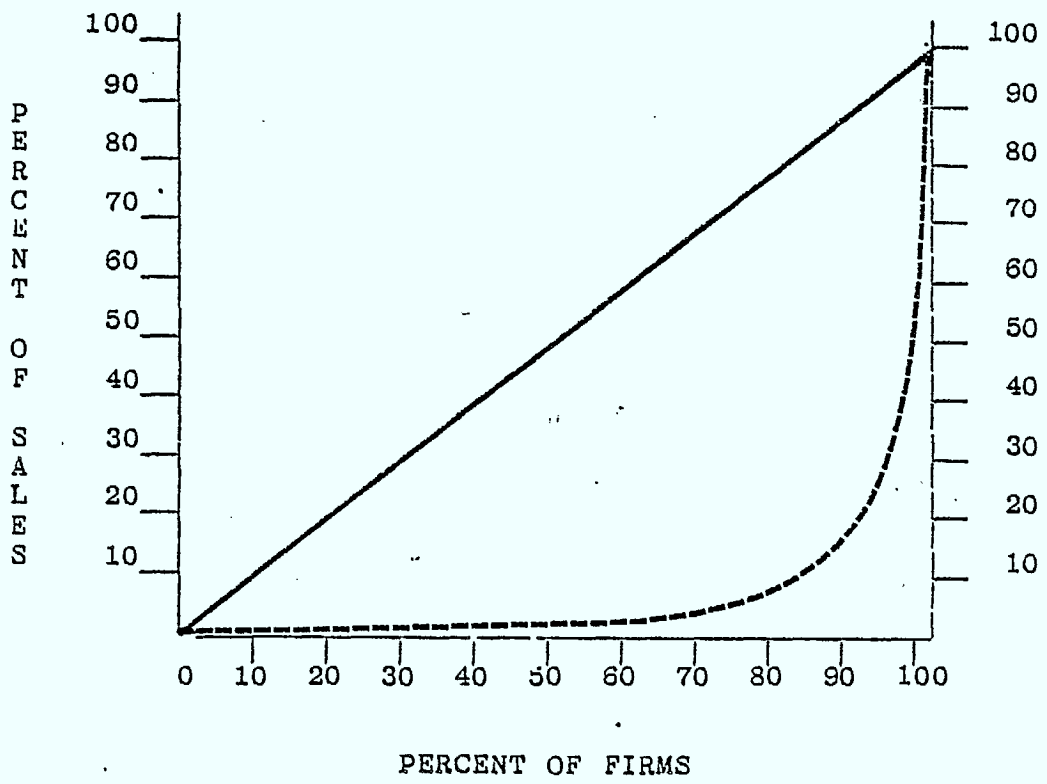
Sales Class	Firms		Estimated Sales*		
	Number	Percent (Cumulative)	Amount (\$ Million)	Percent (Cumulative)	
\$ 1 -	49,999	228,431	43.22	5,376.69	1.53
50,000 -	99,999	93,727	60.95	6,822.50	3.48
100,000 -	146,999	47,148	69.87	5,844.44	5.14
150,000 -	199,999	29,155	75.39	5,064.13	6.59
200,000 -	249,999	20,191	79.21	4,524.77	7.88
250,000 -	299,999	14,603	81.97	4,014.10	9.02
300,000 -	399,999	20,004	85.76	7,000.41	11.02
400,000 -	499,999	12,871	88.19	5,790.96	12.67
500,000 -	599,999	8,961	89.89	4,948.34	15.08
600,000 -	699,999	6,522	91.12	4,236.56	15.09
700,000 -	799,999	5,075	92.08	3,840.26	16.38
800,000 -	899,999	4,097	92.86	3,476.13	17.37
900,000 -	999,999	3,396	93.50	3,242.80	18.30
1,000,000 -	1,999,999	15,807	96.49	24,168.90	25.19
2,000,000 -	2,999,999	5,869	97.60	14,989.65	29.46
3,000,000 -	3,999,999	2,900	98.15	10,360.88	32.41
4,000,000 -	4,999,999	1,817	98.49	8,263.39	34.77
5,000,000 -	5,999,999	1,227	98.73	6,680.41	36.67
6,000,000 -	6,999,999	958	98.91	6,177.97	38.43
7,000,000 -	7,999,999	639	99.03	4,760.03	39.79
8,000,000 -	8,999,999	505	99.12	4,760.03	41.01
9,000,000 -	9,999,999	444	99.21	4,192.59	42.20
10,000,000 -	14,999,999	1,150	99.45	14,091.81	46.22
15,000,000 -	19,999,999	644	99.55	11,112.35	49.39
20,000,000 -	24,999,999	357	99.61	7,955.60	51.65
25,000,000 -	29,999,999	222	99.66	6,051.60	53.38
30,000,000 -	34,999,999	148	99.68	4,769.02	54.74
35,000,000 -	39,999,999	126	99.71	4,695.84	56.08
40,000,000 -	44,999,999	91	99.73	3,845.56	57.17
45,000,000 -	49,999,999	79	99.74	3,732.32	58.24
50,000,000 -	74,999,999	224	99.78	13,722.43	62.15
75,000,000 -	99,999,999	96	99.80	8,236.99	64.50
100,000,000 -	199,999,999	182	99.84	26,339.47	72.01
200,000,000 -	299,999,999	54	99.85	13,300.31	75.80
300,000,000 -	and above	97	99.86	84,315.06	99.23
	Unallocated	718	100.00	500.04	100.00
	TOTAL	528,535	100.00	350,799.98	100.00

Source: Statistics Canada and Small Business Financing Review

Note: * Sales class estimates of sales were constrained to sum to Statistics Canada totals.

Chart 3
SBFR All Industry
Lorenz Curve

-- All Industry Lorenz Curve
___ Equal Sized Firms Lorenz Curve



The Framework Applied

The methodology employed was designed to give the best possible determination of the Independent Canadian Controlled Small and Medium Business population. To do this required some compromises for two of the groups in the theoretical framework; foreign owned firms, and large scale firms and their affiliates. Because of the limited number of firms in these two categories they could not be analysed in the same detail as the self employment, and Independent firms. As residual disclosure of a firm was possible, industry data could not be made available to the Review. Thus it was not possible to compare the balance sheet structure (financial ratios) of independents with foreign firms, or large scale firms and their affiliates.

The data base was produced by Business Finance Division, Statistics Canada, under the direction of the Review. Table 5 presents a simplified derivation of the file. More detail on the data files can be found in Appendix I.

Upon eliminating government and financial corporations, the 1,000 largest enterprises in terms of sales and assets were determined. This defined 1,315 unique enterprises consisting of 8,548 corporations. By coincidence the sales of the 1,000th largest enterprise when sorted by sales was the same as the assets of the 1,000th largest enterprise when sorted by assets: 30 million dollars. For reasons that will be apparent shortly, this figure defines the upper limit of small and medium business in this study.

Table 5

Derivation of the Independent Canadian
Controlled Small and Medium Business Population

1) 1977 Active corporations (Incorporated Firms)	346,623
2) Delete	
a) Government Corporations	664
b) Financial Parents & Their Subsidiaries	1,372
c) Single Financial Corporations	14,354
d) Parents & Subsidiaries of 1,315 Largest Enterprises	8,548
e) Service Corporations	32,992
3) Remaining Corporations	288,693
4) Stratify by Type	
f) Self Employed Corporations	113,404
g) Small & Medium Foreign Controlled	4,121
h) Small & Medium Canadian Controlled	171,168

Note: These final counts for the split files (f, g, h) are higher than those presented in subsequent tables, since some SIC industries had yet to be deleted.

After removing service corporations the remaining 288,693 firms were categorized as self-employment, foreign controlled or Canadian controlled. Self-employment firms were those with annual sales of less than \$100 thousand, except for selected industries where the sales limit was \$50 thousand. (see Appendix J for a list). While these sales limits were selected to reflect the minimum necessary to support more than the owner on a full-time basis (and thus sales less than this amount could therefore support only the "owner") this stratification for incorporated firms was dispensed with in some of the subsequent analysis.

With the removal of foreign corporations, the remaining firms comprised the population of interest: Independent Canadian Controlled Small & Medium businesses.

A list of firm counts for the three groups was supplied to the Review. Upon examination it was decided that an industry must have a minimum of 100 Independent firms to warrant analysis. SIC codes were grouped, first into SBFR industries, and then to meet this requirement were grouped again, where necessary, into 107 Independent Business Categories (IBC's). Many of these IBC's are equivalent to a single three digit SIC industry. A list of this hierarchical grouping may be found in Appendix J. As many SIC industries had three or less foreign firms, Statistics Canada would not provide the sales totals for fear of residual disclosure. However, armed with the sales totals for the Independents, knowing that a self employment firm had sales less than \$100 thousand or \$50 thousand by design, and that an Independent could not have sales greater than \$30 million (since otherwise it would be a member of one of the largest enterprises) a modified version of the framework was constructed. This working model is presented in Chart 4.

Chart 4

Working Model of the Framework

Self Employment Firms	Independent Canadian Controlled Small & Medium Businesses	Foreign Small & Medium Businesses & Affiliates of Large Scale Corporations	Large Scale Corpora- tions
-----------------------------	--	---	-------------------------------------

Self Employment Businesses

Self-employment firms are incorporated or unincorporated firms with sales less than \$100 thousand dollars (or in some cases \$50 thousand dollars). In later analysis, it will be shown that this definition, at least for the incorporated firms, includes too many non self-employment firms.

Large Scale Corporations

Large Scale corporations are those with 1977 sales in excess of \$30 million. They are all be members of the 1,000 largest enterprises (sorted by sales) since the firms that compromised the smallest of the thousand enterprises had combined sales of \$30 million.

Independent Canadian Controlled Small & Medium Business

These firms comprise the population sought in the framework. The incorporated portion was determined by the process outlined in Table 5. Unincorporated firms in this group are those whose sales were more than \$100 thousand (\$50 thousand in some cases) in the reference year. None of the unincorporated firms had sales near \$30 million. In fact, \$30 million is a weak upper bound in most sectors. While significantly higher than past definitions of small business which used values of one to two million in sales as a cut off, a glance at Table 4 shows that only a few more firms are included using a \$30 million limit. The importance of this will be seen subsequently.

Foreign Controlled Small & Medium Businesses and Affiliates

The number of firms and their sales in this group were determined residually in the manner described below. Note that affiliates is a general term referring to the members of any of the 1,315 enterprise groups that did not have sales greater than \$30 million. Because of this, parent corporations or even all the constituent firms of some of the enterprises could be found here.

By subtracting the sales of the Independents from the total sales generated by all firms with sales between \$100 (\$50) thousand and \$30 million, the sales for this group can be calculated for each industry. The same procedure yields the number of firms. Some margin of error is possible if an affiliate or foreign firm has sales less than \$100 (\$50) thousand. The impact of any error, however, is minimal.

The data files used to apply the framework, and perform the various analyses are described briefly in Appendix I. Of some importance is the "triad" file used extensively in Section V, Transition and Normal Firms, and Section VI, Financial Ratios and Relations Between Financial Variables.

The Distribution of Business Activity

The results of applying the methodology just developed to the 528,535 SBFR business universe is shown in Table 6. A succinct summary for each IBC industry may be found in Appendix C.

Table 6
Distribution of Firm And Sales Activity
1977/78 SBFR Universe

	FIRMS		SALES	
	Number	%	Amount (\$Millions)	%
Self-Employment	295,168	55.8	10,286	2.9
Unincorporated	226,909	42.9	7,678	2.2
Incorporated	68,259	12.9	2,607	.7
Independent	225,215	42.6	136,384	38.9
Unincorporated	80,399	15.2	16,610	4.7
Incorporated	144,816	27.4	119,774	34.2
Foreign & Affiliates	7,055	1.3	41,173	11.7
Large Scale	1,097	.2	162,957	46.5
Total	528,535	100.0	350,800	100.0

The largest group in terms of active entities is the one designated Self-Employment firms. Although accounting for 56% of the firms in the SBFR universe they represent only 3% of sales. At the other end of the size spectrum, the 1,097 largest corporations, 2 tenths of one percent of the population are responsible for nearly 47% of all sales. When combined with the Foreign and Affiliate firms we see that 1½ percent of all firms generate 58% of total sales.

The Independent population, however, is a significant proportion of the SBFR business universe. Forty-three percent of business by number, they generated about 39 percent of sales in the reference period. From the standpoint of financing issues and policy objectives they constitute a major target population. Of some interest, then, are the sectors where independent businesses congregate, or play a significant role.

Distribution by Sector

Economic policies, financing assistance and tax incentives are often directed at certain sectors of the economy for the purpose of meeting government objectives. While the largest 1,097 corporations dominate business activity in general, their presence is particularly significant in ten industrial sectors (Table 7) where they represent 80% or more sector sales. These sectors are, to a large extent, primary industries; transportation, mining, crude petroleum and chemicals. Manufacturing is represented by the car industry and communication equipment manufacturers.

Table 7

Sectors where "Large" Firms Account for
a Major Proportion of Industry Sales

<u>Rank</u>	<u>Industry</u>	<u>% of Sector Sales</u>
1	Motor Vehicle, Truck Body & Trailer Manufacturers	95.7
2	Misc. Communication and Utilities	91.3
3	Iron & Steel Mill, Smelting & Refining	90.5
4	Misc. Chemical & Petroleum Industry	88.0
5	Water, Rail & Pipe Line Transportation	86.0
6	Crude Petroleum and Natural Gas	85.0
7	Communications Equipment Manufacturers	82.9
8	Metal & Non-metal Mines	82.1
9	Misc. Food Industry	80.3
10	Misc. Manufacturing Industries (N.E.S.)	80.0

As shown in Table 8 the Affiliates and small and medium Foreign firms are only a significant presence in one sector, and much less important in three others. In general, their presence in the economy is far more diffuse than the large scale firms.

Table 8

Sectors where "Affiliates, Small and Medium Foreign Firms
Account for A Major Proportion of Industry Sales

<u>Rank</u>	<u>Industry</u>	<u>% of Sector Sales</u>
1	Misc. Clothing Industry	88.1
2	Publishing Only	46.0
3	Radio & Television Broadcasting	41.2
4	Sporting Goods & Toy Industry	39.0

Independents dominate a substantial number of sectors in terms of sales (Table 9). None of these, however, are manufacturing, communication or even export based. Rather, they appear to be service and retail oriented industries serving local markets. Classified by number, these firms are even more concentrated, as shown in Table 10. Sixty-five percent of the over 225 thousand Independents are located in just fourteen industries.

Table 9

Sectors where 'Independents' Account for a
Major Proportion of Industry Sales

<u>Rank</u>	<u>Industry</u>	<u>"Independents'" Sales as % of Sector Sales</u>	<u>Number of Independent Firms</u>
1	Tire, battery & accessories stores	91.9	2,233
2	Motor vehicle repair	91.7	7,981
3	Machine shops	88.4	1,032
4	Motor vehicle dealers	86.9	4,841
5	Clothing industry	85.9	1,382
6	Gasoline service stations	85.5	10,420
7	Special trade contractors	84.2	33,078
8	Drug stores	81.2	3,077
9	Hosiery & knitting mills	80.9	230
10	Building construction	80.7	10,662
11	Retail stores, Not Elsewhere Specified	79.5	8,890
12	Misc. personal services	79.3	1,165
13	Blacksmithing & welding shops	78.1	865
14	Photographic services, Not Elsewhere Specified	76.6	912
15	Miscellaneous repair shops	76.5	631
16	Household furniture & appliance stores	75.9	7,756
17	Wholesalers of scrap and waste materials	75.6	639
18	Signs & displays industry	75.3	280
19	Advertising services	73.9	1,062
20	Radio, television, & electrical appliances repair stores	73.2	555
21	Florists' shops	73.2	749
22	Men's clothing stores & custom tailer shops	72.8	1,522
23	Household furniture manufacturers	72.0	874
24	Woman's clothing stores	71.9	2,106

Table 10

Sectors where Independent Canadian Controlled
Small and Medium Businesses Congregate

<u>Rank</u>	<u>Industry</u>	<u>Number of Firms</u>	<u>Cumulative Percent</u>
1	Special Trade Contractors	33,078	14.7
2	Hotels, Motels, Restaurants	15,299	21.5
3	Food Stores	14,730	28.0
4	Building Construction	10,662	32.8
5	Gasoline Service Stations	10,420	37.4
6	Wholesales, Not Elsewhere Specified	8,985	41.4
7	Miscellaneous Service to Business Management	8,892	45.3
8	Retail Stores, Not Elsewhere Specified	8,890	49.3
9	Motor Vehicle Repair Shops	7,981	52.8
10	Household Furniture and Appliance Shops	7,756	56.3
11	Truck Transport	5,968	58.9
12	Motor Vehicle Dealers	4,841	61.1
13	General Merchandise Stores	4,426	63.0
14	Wholesalers of machinery & Equipment not Elsewhere Specified	<u>3,948</u>	<u>64.8</u>
	Sub-total	154,876	64.8
	All-remaining	79,333	35.2
	<u>Total</u>	<u>225,215</u>	<u>100.0</u>

Table 11

Sectors where Self-employment Firms are Concentrated

<u>Rank</u>	<u>Industry</u>	<u>Number of Firms</u>	<u>% unin- corporated</u>	<u>Cumulative % of Total</u>
1	Special Trade Contractors	42,384	91	14.4
2	Truck Transport	30,049	91	24.5
3	Hotels, Motels, Restaurants	23,959	78	32.7
4	Wholesalers, N.E.S.	16,382	60	38.2
5	Retail Stores, N.E.S.	14,140	74	43.0
6	Misc. Services to Business	11,388	35	46.9
7	Food Stores	10,582	90	50.4
8	Barber & Beauty Shops	9,246	96	53.6
9	Misc. Services, N.E.S.	8,469	58	56.4
10	Building Construction	8,039	38	59.2
11	Taxicab	7,989	97	61.9
12	Amusement & Recreation Services	7,779	65	64.5
13	Other Construction	6,359	94	66.7
14	Logging	6,228	87	68.8
15	Motor Vehicle Repair	5,275	91	70.6
16	Service to Buildings	4,504	90	72.1
	Sub-total	212,772		
	All remaining	82,396		
	Self-employment total	<u>295,168</u>		

Table 12

Sectors where Self-employment and Independents
are Concentrated

<u>Rank</u>	<u>Industry</u>	<u>Self- Employment Firms</u>	<u>Independents</u>	<u>Combined</u>
1	Special Trade Contractors	42,384	33,078	75,462
2	Hotels, Motels, Restaurants	23,959	15,299	39,258
3	Truck Transport	30,049	5,968	36,017
4	Wholesalers (Not Elsewhere Specified, N.E.S.)	16,382	8,985	25,367
5	Food Stores	10,582	14,730	25,312
6	Retail Stores N.E.S.	14,140	8,890	23,030
7	Miscellaneous Service to Business	11,388	8,892	20,280
8	Building Construction	8,039	10,662	18,701
9	Motor Vehicle Repair	5,275	7,981	13,256
		<u>162,198</u>	<u>114,485</u>	<u>276,683</u>
	Percentage of Total Firms	55%	51%	53%

Special Trade Contractors are by far the largest group (almost 15% of the Independents) and when combined with Building Construction, construction related firms represent over 19% of all Independent firms. Hotels, Restaurant and Food Stores represent another 14%. Thus a total of one-third of the Independents (or 15% of the firms in the SBFR universe) are found in just four industries.

The phenonemon is also exhibited by the self-employment firms. Over seventy percent of these firms are located in just 16 of the 107 IBC industry sectors. (Table 11). These too are local market service based industries.

There is, in fact, considerable sector overlap where the self-employment and independent firms congregate. As can be seen in Table 12 over one-half of both groups are found in the same nine sectors.

The Size Distribution of the "Independents"

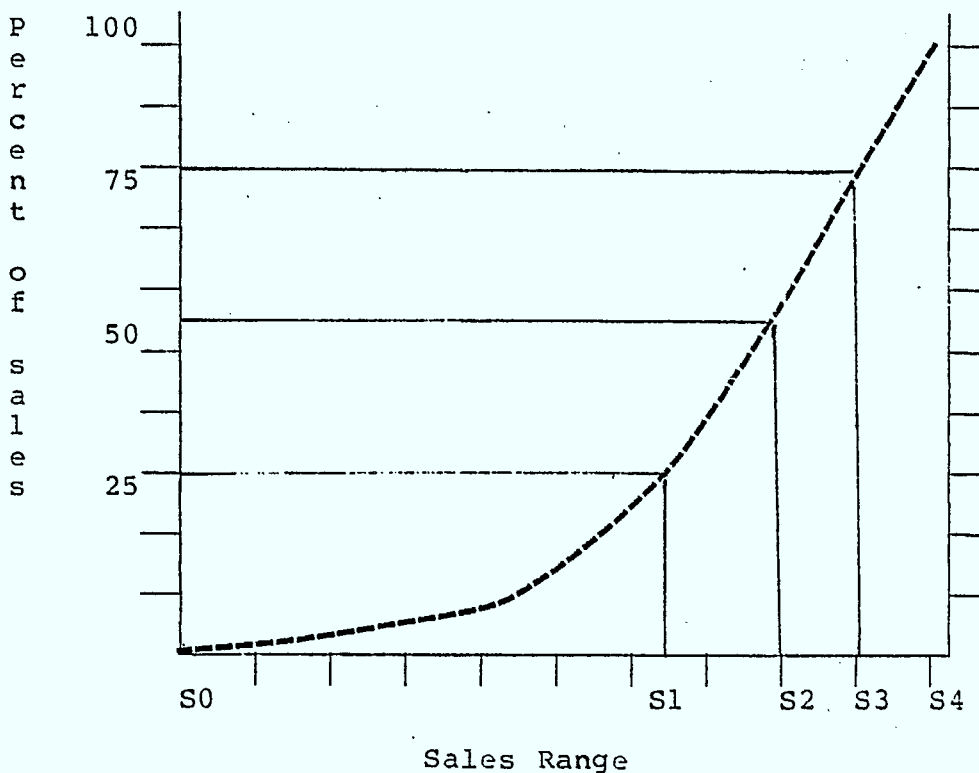
Having looked at the industrial sectors where the Canadian-owned, Independent firms tend to congregate or dominate activity, the size distribution of these firms within a given sector and across sectors is now examined.

The independent firms within the industry were ranked in increasing order of sales size. For the incorporated firms, this was accomplished using the "Triad File" (see Appendix I for a detailed explanation of this data file), which consists of average sales for each three adjacent firms in an industry after they have been sorted by sales size. The result was a very good representation of the sales frequency distribution. When combined with the grouped data for the unincorporated businesses, (which because of their size, was essentially is sales ranges of \$50,000) the equivalent of Chart 5 was constructed for each industry.

Chart 5

Lorenz Curve for Industry Sales

Independent Canadian Controlled Small & Medium Businesses



Those firms that accounted for the first 25% of total group sales were assigned to the First Quadrant (sales less than S1), those which fell into the next 25% - the Second Quadrant, and so on. The quadrants represent four sales size groups, arranged in order of increasing sales size. The proportion of firms that fell into each quadrant was then calculated. Results for the 14 industries where Independents congregate are displayed in Table 13.

Table 13

Distribution of "Independents" by Quadrant for 14 IBC
(Incorporated and Unicorporated Firms)

Industry	Percent of Firms in Quadrant				
	One %	Two %	Three %	Four %	Total %
Special Trade Contractors	74.6	17.9	5.8	1.7	100.0
Hotels, Motels, Restaurants	60.3	24.8	9.7	5.2	100.0
Food Stores	65.2	22.5	9.5	2.8	100.0
Building Construction	74.0	18.8	5.0	2.3	100.0
Gasoline Service Stations	51.0	29.0	13.5	6.5	100.0
Wholesalers, N.E.S.	75.9	17.6	4.4	2.0	100.0
Misc. Services to Business Management	69.7	21.6	7.2	1.5	100.0
Retail Stores, N.E.S.	64.4	23.1	10.3	2.3	100.0
Motor Vehicle Repair Shops	61.9	19.5	14.4	4.1	100.0
Household Furniture & Appliance Shops	59.3	24.2	14.4	2.1	100.0
Truck Transport	73.3	16.9	7.4	2.3	100.0
Motor Vehicle Dealers	72.8	16.1	7.4	3.6	100.0
General Merchandise Stores	76.7	17.4	4.6	1.3	100.0
Wholesalers of Machinery & Equipment, N.E.S.	72.0	18.0	7.4	2.6	100.0

Examination of the size distribution of each of these industries reveals that the distributions are skewed right, just like the All Industry Curve presented in Chart 3. While a small number of Independents in each industry account for a large share of the Independent sales the shape of the curve varies from industry to industry. Despite the variation none of the curves are even nearly straight. If an industry curve, such as that depicted in Chart 5, were a straight line then in Table 13 the percent of firms in each quadrant would be 25%, indicating that all the independents in that industry were the same size.

The absence of firm size homogeneity can be attributed to a number of factors. First, despite our best efforts, we may be observing fundamentally different businesses which, for reasons of convenience, have been designated the same. For instance, a food store can be a bakery, delicatessen, health food retailer, corner grocery store, or a supermarket. It would be quite unreasonable, therefore, to expect to observe all these firms the same (sales) size, even if the industry were in equilibrium.

Referring to Table 13, "General Merchandise Stores" is typical of the more highly skewed distributions. The smallest 77% of these stores account for 25% of industry sales, while 1.3% of the largest stores also account for 25%. In this industry, 6% of the firms in the top two quadrants account for half the industry sales. On the other hand, "Gasoline service stations", a more homogeneous industry, is also more evenly distributed by size - the first quadrant has 51% of the firms (compared with 77% for General Merchandise Stores) and it takes 20% of the firms to cover the top half of the industry independent sales.

Many factors, such as economies of scale, barriers to entry, and conditions of growth or decline of the industry may affect the size distribution within an industry. We may also be observing the influence of start-ups, dying firms, or the effects of limited local markets: rural versus urban markets.

It is not possible with this data to determine any effects due to urban-rural differences or the heterogeneous nature of the businesses comprising an industry. There is some theoretical work which suggests that a skewed distribution of firms is plausible under certain assumptions. Here it is sufficient to note that a limited number of firms in the independent small and medium businesses population generate most of the sales.

The size range of firms in each quadrant is displayed in Table 14 for the same fourteen industries. Thirty million dollars is a weak upper bound for the fourth quadrant for most of these industries. (See Appendix F, where the maximum "triad" sales for all 107 IBC industries is shown.) There are significant variations in the sales range from industry to industry. To some extent, these variations reflect differences in value added by these industries. In those industries where the proportion of value added to sales is low the upper bound of sales in the first quadrant is high. For example, in Motor Vehicle Dealers and Wholesalers of Machinery and Equipment, one would expect to see purchased goods and inventory costs account for a substantial percentage of the sales dollar. On the other hand, in an industry such as Motor Vehicle Repair Shops, where labour input is a large component of sales, the corresponding upper bounds are significantly lower.

Table 14
Sales Size of Independent Firms by
Quadrant for 14 Industries

Industry	Size Range of firms in Quadrant (Annual Sales in \$ thousands)				
	One	Two	Three	Four	
	S0	S1	S2	S3	S4
Special Trade Contractors	\$50	\$209	\$701	\$2,252	30,000
Hotels, Motels, Restaurants, Campgrounds, etc.	100	213	443	1,164	30,000
Food Stores	100	265	696	1,609	30,000
Building Construction	100	511	1,269	4,607	30,000
Gasoline Service Stations	100	269	409	710	30,000
Wholesalers, N.E.S.	100	508	1,300	4,769	30,000
Misc. Service to Business Management	50	172	516	1,313	30,000
Retail Stores, N.E.S.	100	254	601	1,269	30,000
Motor Vehicle Repair Shops	50	109	240	537	30,000
Household Furniture & Appliance Shops	100	278	588	1,225	30,000
Truck Transport	100	324	1,052	3,200	30,000
Motor Vehicle Dealers	100	2390	5,403	10,747	30,000
General Merchandise Stores	100	441	1,716	6,670	30,000
Wholesalers of Machinery & Equipment, N.E.S.	100	838	2,080	5,414	30,000

Note: The values S0 to S4 are determined for each industry from the equivalent of Chart 5.

For example, Firms in Quadrant Two have sales between S1 and S2, i.e. between \$209,000 and \$701,000 for special trade contractors.

The variation in the annual sales ranges of the quadrants from industry to industry illustrates the problem of using an arbitrary sales size figure to establish size classes for dissimilar industries. For example, if a figure such as \$2 million annual sales were used as a ceiling for the small business size class, then in the case of Food Stores it would include all firms in Quadrants One, Two and Three and several firms in Quadrant Four, whereas in the case of Motor Vehicle Dealers it would not even include all the firms in Quadrant One.

To summarize, within the population of Independent Canadian controlled small and medium business:

- (1) Activity is, in general, concentrated with approximately 13% of the largest independent firms accounting for 50% of the sales.
- (2) There are significant inter-sector differences in the degree to which activity is concentrated.
- (3) There are significant inter-sector differences in the size range of firms in each quadrant.

V. TRANSITION AND NORMAL FIRMS

By focussing on the segment of the business universe which is not large or foreign owned, it was found that both the self-employment and independent firms tended to congregate in relatively few industrial sectors. Further examination indicated that within the independent category of firms there was a concentration of activity and inter-sectoral differences in the size distribution of firms.

There are, however, problems with defining a classification along a single dimension. The resulting groups, such as self-employment firms, may not be as "pure" as one might expect. For example, attempting to isolate self-employment firms by selecting only those firms with sales less than, say, 100 thousand dollars inevitably includes non self-employment firms: any "larger" firms in the process of starting-up, or having a bad year for sales, will be classified as self employment.

Thus if firms are grouped according to sales size, those with lower sales are likely to be a more heterogeneous population than those firms with "large" sales.

At any time, each industry contains firms in various states of transition. Some may be in the process of starting-up, others may be exiting, while some may finally be showing a profit after years of losses. Others, of course, will be doing well, having generated retained earnings over the years, and having a profit in the current year. The incidence of these firms provides a "snap-shot" of the dynamics of a sector at a point in time.

A sector with a large proportion of exiting firms, but with only a low percentage of entries or turn-arounds is likely to be a declining sector or an industry experiencing rationalization. High entry and exiting may reflect "churning", particularly in an industry where barriers to entry are low.

Stratifying each sector into these groups, however, also serves another important purpose. Financial ratio analysis has often been used to define norms for an industry (though, as we see in the next section, uncritical use can be very misleading). One would expect that financial ratios for firms in transition would be quite different from those of "normal firms", and in some cases meaningless. For instance, firms with accumulated deficits greater than equity and negative profits would have a positive profit to equity ratio. A high incidence of such firms would result in very misleading financial ratios for a sector. Similarly firms with just marginally positive equity may record very high positive, or very negative profit to equity ratios, neither of which may be indicative of their performance.

Using the triad file for incorporated self-employment and independents, which contained five financial variables on each "triad", transition firms were defined and segregated in each SBFR industry.

Three types of transition firms, and a "normal" firm are defined below. These classes are mutually exclusive, so that at any time a firm belongs to only one group. The definitions are somewhat arbitrary, and should be considered merely as proxies for the categories they attempt to characterize. Nevertheless they appear to be reasonable.

Transition Status Definitions

Type I - "Dying" Firms

Firms classified as Type I had negative or marginally positive equity (less than 5% of assets) and a loss on the current year's operations - negative profit. This classification is a proxy for dying firms. It is likely that this definition understates the true incidence, as smaller firms sometimes record a cumulated deficit as an asset, thereby overstating both assets and equity. Such firms will likely appear as Type III, or "normal firms" (defined below). The incidence of such occurrences is unknown.

Type II - "Turn-arounds"

Transition status Type II represents firms in a turn-around position. These are firms with negative equity, but with a positive profit on the current years operations. On the basis of one years' data it is difficult, however, to classify a firm with certainty. A 'turn-around' may in fact be a 'dying' firm, the years' profit originating from the sale of assets. Despite the lack of precision in categorizing such a firm, the important fact is that it is clearly not a "normal" firm. As above, small firms that have recorded an accumulated deficit as an asset will be classified as Type III or normal firms, thereby understating the true incidence of turn-arounds.

Type III - "Start-ups"

Type III firms, were defined as those with sales less than one-third of their assets, and equity greater than one-third of assets. This group approximates firms in a start-up phase.

The definition, as such, is too strict for some industries (e.g. Crude Petroleum and Natural Gas, where the Sales to Asset ratio is about .4) and not strict enough in others. (e.g. Wholesalers of Tobacco Products, where the sales to asset ratio is almost 5.0).

However, sensitivity tests indicated that varying the definitions did not produce much variation in the number of firms classified as Type III.

Normal Firms

Normal firms are those which are not Type I, II or III. Such firms are characterized by positive equity, relatively large sales as a proportion of assets, and generally positive profits. About 10% of the normal firms, however did show a loss on operations during 1977.

This class of firm represents a population for which ratio analysis is meaningful. Firms in transition either become "normal" as in the case of some start-ups, or disappear completely through receivership, bankruptcy or by merely closing their doors. Appendix D presents the percent of firms in each of the four classifications for the 107 IBC sectors, while Table 15 shows just the 14 Sectors where Independents congregate.

Table 15

Transition Status for the Industries Where
Independents Congregate: 1977

	Transition Status			Total	Normal
	Type I	Type II	Type III	Transition	Status
	%	%	%	%	%
Special Trade Contractors	11.6	3.4	4.3	19.3	80.7
Hotel, Motels, Restaurants	18.6	6.0	13.9	38.5	61.5
Food Stores	11.4	2.7	8.3	22.4	77.6
Building Construction	14.7	3.3	8.3	26.5	73.5
Gasoline Service Stations	9.4	3.4	8.9	21.7	78.3
Wholesalers, NES	13.4	4.9	7.6	25.9	74.1
Misc. Services to Business Management	11.3	5.6	8.7	25.7	74.4
Retail Stores NES	21.2	6.2	5.0	32.4	67.6
Motor Vehicle Repair Shops	11.8	3.4	4.8	24.0	76.0
Household Furniture & Appliance Shops	15.1	3.4	6.3	24.7	75.2
Truck Transport	12.8	5.5	5.2	23.5	76.5
Motor Vehicle Dealers	5.8	1.0	9.6	16.4	83.6
General Merchandise Stores	4.3	1.1	8.5	13.9	86.1
Wholesalers of Machinery and Equipment NES	13.4	3.9	7.1	24.4	75.6
All SBFR Industries	12.8	3.9	7.6	24.3	75.7

Among these 14 industries the percentage of "normal" firms varies from a low of 61.5% (Hotels, Motels, Restaurants) to a high of 86.1% for General Merchandise Stores. As the last line in the Table shows, about 76% of all the firms were classified as "normal" for the entire 107 IBC industries.

There is also substantial variation by transition type. Dying firms (Type I) varied from a low of 4.3% to a high of 21.1% for Retail Stores N.E.S. while the all industry average is about 13%.

Type III firms, approximating start-ups, were about 60%, by number, of dying firms. Thus in the sample year more firms were in the process of exiting than were entering, if our proxy measures are correct.

Examining the complete table in Appendix D illustrates the variation of the three types of transition firms within an industry (this can also be seen in Table 15). Some had high rates of exit and entry (Hotel, Motel, Restaurant) while other had a high percentage of dying firms and a low incidence of "new" firms (Retail Stores N.E.S.). General Merchandise Stores was one of the few industries where "new" firms were a larger percentage than dying firms.

It should be cautioned that characterization of industries in this manner should not be taken too far without further industry specific analysis.

Table 16

Percentage of Firms in Transition by Quartile

14 Industries, 1977

	Percentage of Firms in Transition in a Quartile				Industry
	One	Two	Three	Four	
Special Trade Contractors	48.1	17.8	8.1	3.0	19.2
Hotel, Motels, Restaurants	73.2	36.5	27.0	17.1	38.5
Food Stores	55.1	18.7	9.8	5.9	22.4
Building Construction	57.9	29.3	14.4	4.0	26.4
Gasoline Service Stations	52.7	18.4	10.6	4.9	21.7
Wholesalers, N.E.S.	62.8	24.7	12.5	3.2	25.8
Misc. Services Business					
Management	54.3	24.6	14.4	9.2	25.6
Retail Stores N.E.S.	67.3	34.9	17.7	10.0	32.5
Motor Vehicle Repair Shops	56.8	23.4	10.5	5.2	24.0
Household Furniture & Appliance Shops	60.4	24.1	10.4	4.4	24.8
Truck Transport	49.0	24.4	14.9	5.8	23.5
Motor Vehicle Dealers	51.1	11.1	2.5	1.0	16.4
General Merchandise Stores	42.5	6.3	4.8	1.9	13.9
Wholesalers of Machinery and Equipment N.E.S.	62.7	25.6	6.5	2.9	24.4
All SBFR Industries	56.0	24.4	12.4	4.4	24.3

Perhaps of more interest is the incidence of transition firms along the size dimension (sales). By arranging the firms in each population according to sales size it was possible to select the smallest 25% of firms (the first Quartile), the next 25% of firms (the second Quartile), and so on. Table 16 presents the percentage of firms in a state of transition (Type I to III) by quartile for the same 14 industries (See Appendix E for all 107 Industries. These figures may need some explanation. For example, 19.2% of the Special Trade Contractors (line 1, Table 16) were determined as firms in transition. Such firms, however, tended to be those with very small sales. Of the smallest 25% of firms nearly half (48.1%) were firms in transition, while of those in the Fourth Quartile only 3% were firms in transition.

Thus, within a given industry, the larger a firms' sales the more likely it is to be normal, although a such firm can show a loss.

Since some public policy in the areas of economic development is directed at sectors of "opportunity", transition data on one of these sectors is presented in Table 17. The sector covers manufacturers of communications equipment of whom 64% fall into the "normal" category. The distribution of firm type by size class is shown in Table 17.

Table 17

Distribution of Transition Status by Quartile
Communications Equipment Manufacturers

Quartile	Size Range (\$000 sales)	Transition Status				Normal Status %	Grand Total %
		Type I (Percent of Firms in Quartile)	Type II	Type III	Total		
1	1 to 70	34.4	6.8	34.4	75.6	24.4	100
2	71 to 240	34.4	6.8	0.0	41.2	58.8	100
3	241 to 941	14.0	14.0	0.0	28.0	72.0	100
4	942 to 1,310	0.0	0.0	0.0	0.0	100.0	100
Total, all firms		20.7	6.9	8.6	36.2	63.8	100
Total firms		174					

There is clear relationship between transition status and size in this sector. Three quarters of the firms in the smallest size range are in some sort of transition status and only 24 percent are "normal". None of the firms in the largest size class appear to be in a state of transition.

Summary

To this point we have seen that the Independent population is concentrated in a limited number of sectors, that the sales size distributions are still extremely skewed, despite the removal of the large scale firms, affiliates and foreign business; and that the sales size of small and medium business is industry specific. A limited number of independents, was found to represent most of the activity attributable to small business.

Not all apparently small business is indeed small. A dying "large" firm may have few sales and look like a "small" firm. Of the remaining firms some were start-up (possibly of very large business) and other were turn-arounds (and also potentially large too). While these firms may have potential financing problems, questions about access to funds concern more than just the issue of smallness per se.

One might expect, for small firms at least, that the role of organized financial markets may be limited in start-up situations. Sufficient funding from the owner and "friends" may be necessary to demonstrate the potential viability of the operation to the impersonal, organized financial market, especially if the chief assets of the firm are "personal" ones such as skills and experience. Here again, the issues of access to funds involve more than just "smallness".

Normal firms, then are mostly small businesses that have established a "track-record". For these firms financial ratio analysis makes sense; indeed, this is perhaps the only group where we can look for evidence of differences in financial structure that may reflect differential treatment by financial markets. This is the topic of the next section.

VI. FINANCIAL RATIOS AND RELATIONS BETWEEN FINANCIAL VARIABLES

This section describes an investigation of the relations among financial variables in "normal" firms, that is, free of the distortions imposed by the presence of start-ups and moribund firms. Such "transitional" firms, defined as in the previous section, were accordingly excluded from the sample before the computations described below were made. It was also decided to exclude very small firms, defined as those having either sales or assets less than fifty thousand dollars (for technical reasons it was necessary to do this trimming symmetrically in sales and assets). Since these exclusion criteria are somewhat arbitrary a sensitivity test was carried out, examining the effects of altering the definitions of transitional firms. It was found that the results had little sensitivity to the precise specification of the exclusion criteria so that we can have some confidence that the absence of the transitional firms distorts less than would their presence. The "Triad" files (Appendix I) provided the data used in this study.

Financial ratios have long been used by accountants in the examination of single firms: a change in the value of a key ratio can signal trouble in the firm which might otherwise go unnoticed. For the purposes, however, of statistical analysis and of constructing a picture of an industry as a whole, the uncritical use of financial ratios can mislead: the trouble with debt-to-equity and profit-to-equity ratios, when equity can be negative (or positive but very small) are mentioned in the section "Transition and Normal Firms". There are as well more subtle difficulties having to do with the behaviour of conditional measures when both the variables whose ratio is being taken are subject, as they are here, to random fluctuations. These difficulties are illustrated by the behaviour of the Sales-Assets ratio described in the paragraph "Sales vs. Assets" below, and in Appendix H. We have chosen two ratios for consideration, profit-to-sales and Earnings Before Interest and Taxes or E.B.I.T.-to-assets, in which the difficulties are minor. Other characteristics such as indebtedness, have been examined by estimating the relationships between variables directly, rather than by forming ratios. We have nevertheless prepared a list of medians of selected ratios for all 107 sectors, which appears as Table G2 in Appendix G.

The questions addressed have to do with the effects of firm size on firm performance and firm structure: are small firms more or less profitable than larger firms? Are they more or less indebted? Do they have more or less sales per dollar of assets? These questions are considered separately below, but we should first summarize the limitations of this study:

- (a) Very large firms and affiliates of very large, and foreign, firms are excluded: the exclusion process and the rationale for it are described in Section IV. It might be worthwhile to bring such firms back in to compare them with our small business universe, but so far the difficulty in obtaining large-firm data in a form comparable with our small-firm data has prevented this. The present study is thus a comparison of small and medium-size independent, incorporated businesses

among themselves, and should not be interpreted as generalizing to all businesses without further evidence.

- (b) The five variables in the data permit only a limited look at the financial pattern of business activity; for example, no information on the term-structure of debt is available, except for industry-wide averages given in Statistics Canada publications, which are generally not comparable with the data used here.
- (c) Some distortion is introduced by the process of "triadding". The magnitude of these effects can be estimated by doing the computations on each of the two data sets we have: sales triads and assets triads.

As will be seen below, there is some (usually predictable) difference between the estimates obtained from the two triaddings, and these often exceed the confidence limits obtained from the estimated standard errors. The interpretation of this is that the triadding effects dominate the sampling error (which, because of the large sample sizes used here is generally trivial anyway). Thus a realistic "confidence interval" will include at least the interval between the two estimates, and hypothesis testing should be based on this interval (or, to be conservative, a somewhat larger one) rather than the usual confidence interval based on sampling variation alone. As a rule of thumb, we shall adopt a confidence interval of length twice the difference between the estimates provided by the two triaddings, and centred on their mean.

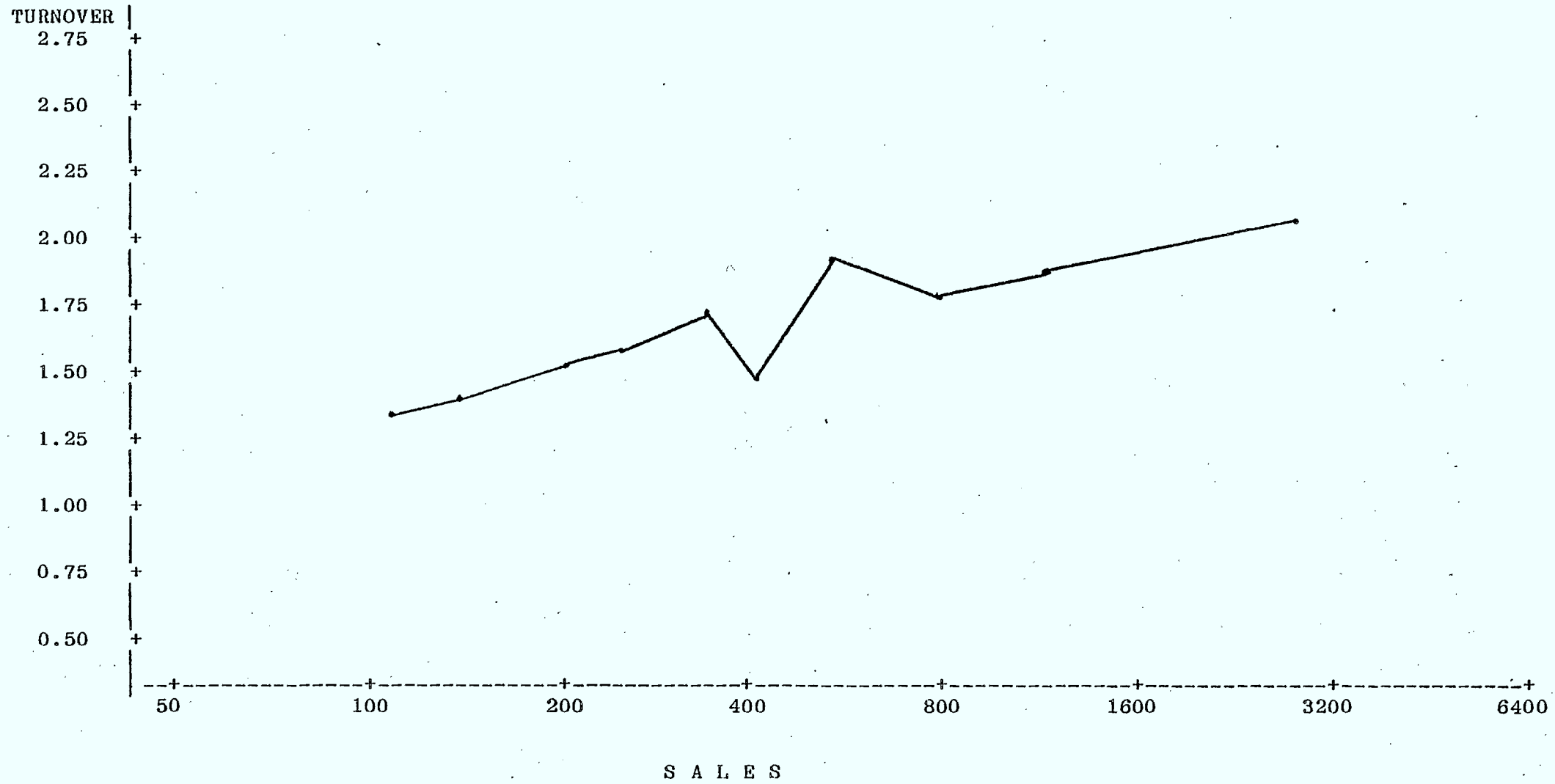
Below we shall describe the results of our investigations, concentrating for expository simplicity on two industry sectors: 404 (Building Construction) and 631 (Food Stores). Table 18 gives the parameter estimates, for these two sectors, of four relationships: Sales vs. Assets, Debt vs. Assets, Profit-to-Sales ratio vs. firm size, and EBIT-to-Assets ratio vs. firm size. The same information is given in a more compact format for all 107 sectors in Appendix G. We now discuss each of the relationships in turn.

Sales vs. Assets

Chart 6 shows the median sales-to-assets ratio plotted against sales for sector 404. It shows a strong increase in this ratio with increasing firm size, from about 1.25 for the smallest firms to about 2.00 at the large end, from which one might be tempted to conclude that larger firms are more efficient at generating output from their assets than are the smaller firms. This conclusion is unwarranted, however, and in fact Chart 6 is quite misleading, for reasons that are explained in Appendix H. It is included here as an example of the pitfalls of uncritical use of financial ratios in statistical analysis. A better way of viewing the sales-assets relation is given in Chart 7 which shows a scatter plot of sales and assets, with logarithmic scales for each. The points form a roughly elliptical cluster, whose "principal axis" computed by extracting the eigenvectors

CHART 6

CONDITIONAL MEDIAN OF SALES TO ASSETS
RATIO VS. SALES (THOUSANDS OF DOLLARS)
IBCODE = 404
BUILDING CONSTRUCTION



of the estimated covariance matrix, have been drawn in. The slope of the "first" (longer) axis is a measure of the mutual dependance between sales and assets, and is analogous to a regression coefficient: in particular, if this slope is 1, then there is no tendency for small firms to have more or less sales per dollar of assets than larger firms.

The distance along the first principal axis, known as the first principal component, is a better measure of firm size than either sales or assets alone, and this is what we shall use below in relating earnings to firm size. This measure, on the logarithmic scale, is a weighted average of the logarithms of sales and assets, so we can write it as

$$PC1 = p \log A + (1-p) \log S, \text{ with } 0 \leq p \leq 1.$$

Then on the original scale (i.e. taking exponentials) we get

$$\text{"Firm Size"} = APS^{1-p}$$

Thus firm size is a geometric weighted average of sales and assets, with the weights determined by the principal axis.

The second principal axis is perpendicular to the first and measures across the ellipse. Thus for a given fixed value of the first principal component, an increasing second P.C. means larger sales and smaller assets. It might therefore be thought that the second P.C. is a measure of capacity utilization, or efficiency, but as indicated below, we are unable to find any evidence of this. It seems more likely that the width of the scatter of points is due to the following sources of noise:

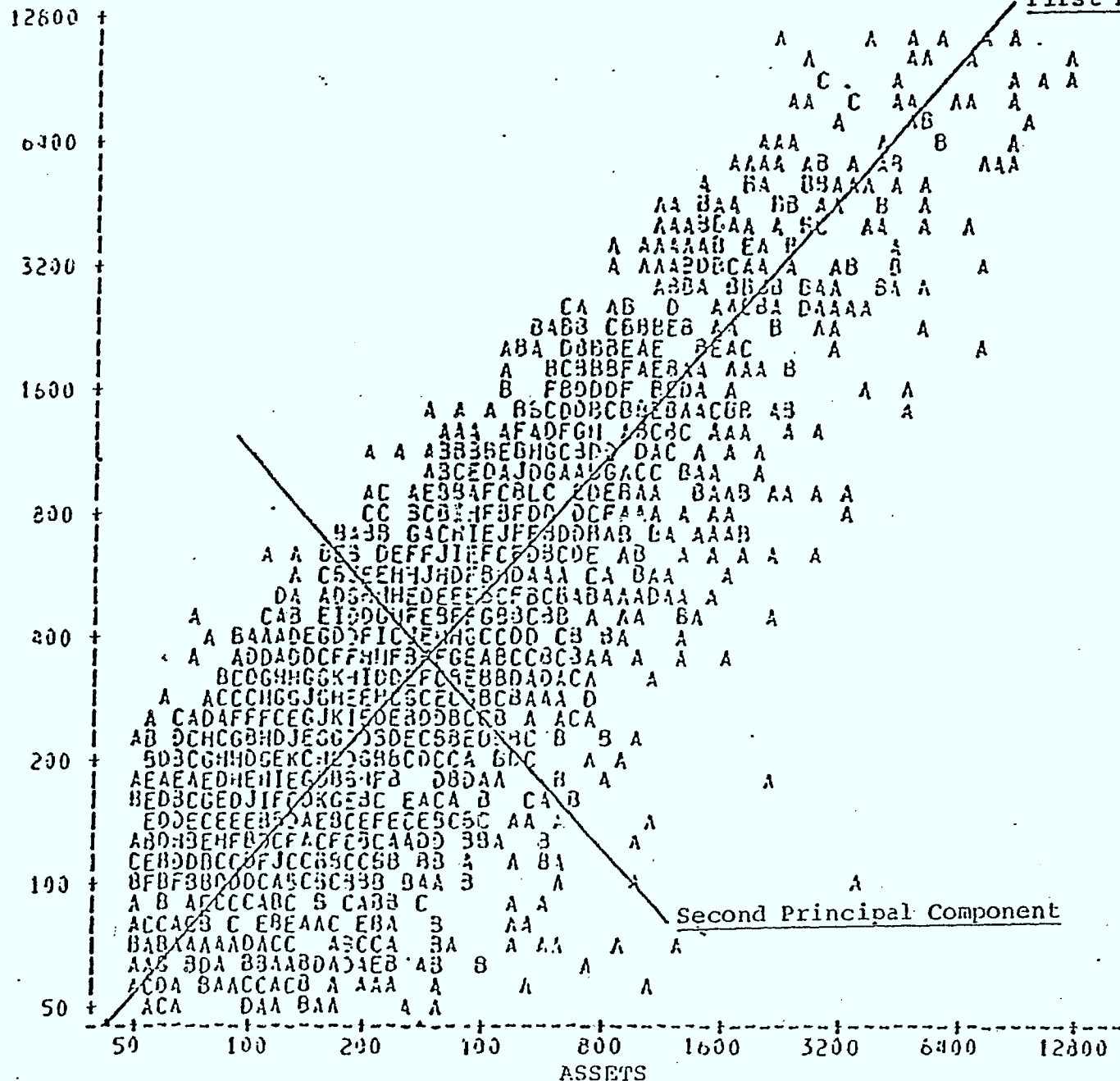
- (a) Even at the three-digit level the Standard Industrial Classification is a somewhat crude description of business activity, and each industry group is a super-position of many sub-industries and sub-markets, each with its characteristic sales-assets relation. Geographic and urban-rural differences will also contribute to widening the spread in what is classified as a single "industry".
- (b) Older firms will show material assets valued at purchase price, and inflation since the purchase will cause the value of the assets to be understated on the firm's books. This is partially offset by the fact that older firms tend to have more retained earnings than newer ones, but the net effect is to introduce some noise into the sales-assets relation, thus causing the spread of points to be wider than otherwise. Another source of noise is the treatment of rentals and leases. Two firms, identical except that one leases most of its equipment and the other purchases it with a bank loan secured by the equipment, will occupy very different positions on the sales-assets scatter because in the second case the equipment is carried on the books as an asset (and the loan as a debt), but in the first case the rental payments are entered as operating expenses, with no addition to assets or to debt.

CHART 7

PLOT OF SALES VS. ASSETS (THOUSANDS):
INDUSTRY 404: BUILDING CONSTRUCTION
"NORMAL" FIRMS

SALES

First Principal Component



Second Principal Component

ASSETS

The computed values of the slope of the first principal axis for sectors 404 and 631, for both sales and assets triads, are shown in Table 18. In the case of 404, the values provided by the two triaddings neatly bracket the value 1, so we have no reason to doubt that the "true" slope is equal to 1, and hence no reason to think that asset-utilization differs appreciably with firm size; this corrects the impression produced by Figure B1.

Sector 631, however, gives a different picture: both sales and assets triads yield slopes considerably larger than 1, and the ad hoc confidence interval described above is from 1.119 to 1.529, and does not include 1. Hence we are almost certainly justified in concluding that this industry (Food Stores) does exhibit an increase in asset-utilization with firm size. It is folklore that large food stores tend to turn over their inventory faster than small ones, and this seems to be confirmed by the results here, since inventories form a substantial part of the assets of a food store.

A look at Table G1 in the Appendix G will show that the pattern of sector 404 is more typical than that of 631: indeed slopes significantly greater than 1 are the exception rather than the rule among the 107 sectors of our universe. It should again be noted, however, that the very large firms have been excluded. It is not ruled out by our results that there are economies of scale at the large end in those industries where large firms dominate.

Debt vs. Assets

We are defining "debt" as assets minus equity, and it might better be called "total liabilities", since it will sometimes include items not normally entered as debt, such as an advance from a shareholder (possibly a relative). From an economic point of view, however, this seems the best notion of debt to use (it has the added virtue of being the only one available in our data), since the liabilities must be carried by someone, regardless of the contractual details of the arrangement. The debt-asset relation was treated in exactly the same way as the sales-asset relation: the principal axis of the log - transformed variables was extracted, with the results shown in Tables 18 and G1. Most of the slopes are slightly greater than 1, although not significantly so in many cases.

There could be a slight upward bias in the slopes resulting from the same sources of error as described in (b) above. If we (plausibly) assume that the larger end of the size scale has a higher proportion of older firms, with understated assets, than the lower end, and that firms that do a lot of leasing tend to be toward the lower end, it can be shown that both of these distortions would work in the same direction on the slope of the debt-assets line, biasing it upward. Our data provide no way of estimating the magnitude of these effects, but given that the estimated slopes are generally only slightly greater than 1 it seems reasonable to conclude that the overall picture is of no, or a very slight, increase in indebtedness as firm size increases.

Table 18

Values of Estimated Parameters for Sectors 404
Business Construction, and 631 Food Stores

	<u>Industry</u>	<u>Sales Triads</u>	<u>Assets Triads</u>
Slope of Principal Axis of logarithms of Sales and Assets	404	1.0972	.9464
	631	1.4265	1.2215
Slope of Principal Axis of logarithms of Debt and Assets	404	1.0769	1.0614
	631	1.0685	1.0456
Intercept of Regression line of Profit-to-sales ratio vs. first P.C.	404	-.010	.025
	631	.0397	.0177
..Slope of Same Regression line	404	.0072	.0028
	631	-.0090	.00070
Intercept of EBIT-to-Assets Ratio vs. first P.C.	404	.118	.129
	631	.142	.105
..Slope of same regression line	404	.0022	-.0019
	631	.0011	.0032

Profit-to-Sales Ratio vs. Firm Size

The profit to sales ratio was regressed against the principal components of sales and assets; results are shown in Tables 18 and B1, and for sector 631 a plot of the conditional median and mean of the same ratio against the first P.C. is shown as Chart 8. It will be seen from the tables that most of the slopes are very near zero, and some are negative. The negative slopes are likely to be the result of the skewness of the conditional distribution at the low end of the size range, a phenomenon very well illustrated by Chart 8; there the conditional mean runs well above the median at the low end and comes close to it at the high end. This phenomenon was found to be quite typical of most of the sectors. Since regression lines in effect are based on the conditional mean, there is probably a slight tendency toward the negative in the estimated slopes. What can be said of the results so far is that they show little tendency for profit margins to vary with firm size, but (as seen from the intercepts) a strong tendency to vary with industry sector.

The second principal component was also included in the regressions, and found in almost all cases to have a significant negative coefficient. This, however, is explainable by a purely arithmetic effect: as the second

P.C. increases holding the first P.C. fixed, sales increase and assets decrease. Since sales is the denominator of the profit-to-sales ratio, it follows, ceteris paribus, that as sales increase the ratio will fall; this occurs even if the second P.C. has no significance for profitability. We tested the strength of the arithmetic effect by regressing the ratio of profit to the first P.C. against the second P.C. All systematic tendency for the coefficient to be negative disappeared and most of the coefficients were insignificant. A similar thing happened when the same experiment was tried with the EBIT regressions described below, and this has led us to the conclusion mentioned above that the second principal component has little or no efficiency content.

EBIT-to-Assets Ratio vs. Firm Size

EBIT (Earning Before Interest and Taxes) was computed as before-tax profit + imputed interest, with interest imputed as 9.6% of (assets - equity) (the average prime rate in 1977 was 8.6%). This is of course a very imperfect proxy for interest actually paid, but makes economic sense as the opportunity cost of the firm's liabilities: whoever is carrying the liabilities is presumably receiving satisfaction equivalent to this opportunity cost, whether in the form of interest payments or some other form of satisfaction. EBIT so defined seems therefore the best measure of the social return which the firm is generating from its assets, since it includes profit (return to equity-holders), interest (return to debt-holders, valued at opportunity cost) and taxes ("return" to government).

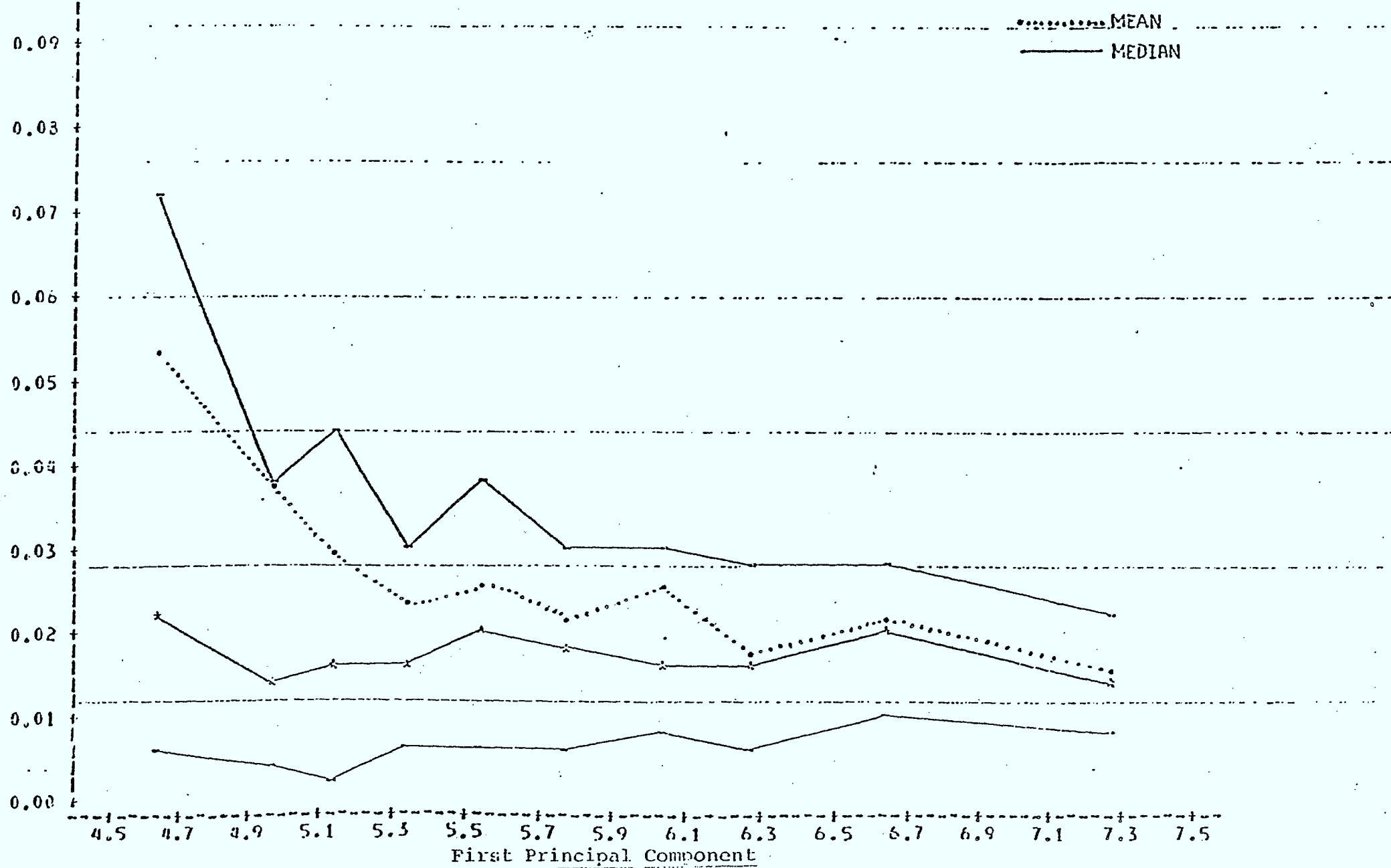
The EBIT-to-assets ratio was treated similarly to profit-to-sales, except that two methods of estimation were used: Ordinary Least Squares (OLS) regression and (3-way) principal components regression, sometimes called "orthogonal regression". Although strictly speaking, these methods estimate different things, in the present case they gave very similar results, and only the coefficients given by the orthogonal regressions are presented in Tables 18 and G1. Again, it will be seen that size effects, as measured by the slopes, are trivial in most cases, but there is considerable variation in the intercepts among sectors. The second P.C. had a consistently positive coefficient, entirely attributable to the arithmetic effect described above.

The overall conclusion seems to be that within a given industry, and with a few exceptions, small firms and larger firms do not look much different. We can find little evidence that asset-utilization, indebtedness, or profitability shows any systematic tendency to vary with firm size.

CHART

CONDITIONAL MEDIAN, MEAN, 1ST AND 3RD QUANTILES OF
PROFIT-TO-SALES RATIO VS. FIRST P.C. OF ASSETS AND SALES
HORIZONTAL SCALE IS LOGARITHMIC
CODE 631

Profit/Sales



APPENDIX A

Qualifiers for Selected Small Business Programs

The SBLA (Small Businesses Loans Act), the SBTC (Small Business Tax Credit) and SBDB (Small Business Development Bond) are defined in terms of limits on sales, taxable income or retained earnings, all of which are found on the triad data file. Thus it was possible to determine the percentage of firms in each industry that would qualify for the programs (if they so choose). Further, it was also possible to see the effect of changing the qualification criteria of the programs on the percentage of firms qualifying.

First we define the criteria for the three programs as they applied at the time of analysis, and note the anomalies that apply to the data at hand.

Small Businesses Loans Act

The Small Businesses Loans Act, administered by the Department of Industry, Trade and Commerce, provides default insurance to "Designated Lenders", including chartered banks and some other institutions, to make loans at "prime plus one" using normal loan criteria to qualifying small businesses. Currently a small business with annual sales of less than \$1.5 million qualifies for a loan of up to \$100 thousand provided that the funds are used for: purchase of fixed or moveable equipment; alteration; construction; purchase of premises, or land. Twenty percent of the funds must be provided by the firm, except for the latter two uses, where the firms contribution may be as low as 10%.

For presentation purposes, the percent of firms qualifying in all sectors has been calculated, even if that sector does not meet the program criteria.

The percentage of firms qualifying with sales of less than one, and two million dollars annually were also computed. The former value was the effective sales criterion in 1977, the year the data were collected, while the latter value indicates the "incremental" effect of raising the limit in a given year.

However, in a period of high inflation the number of firms that cease to qualify will increase each year if the qualifying sales limit is not also raised. Assume that a firms' sales increase with the rate of inflation, and that this is entirely a price effect (i.e. not due to increased volume). As the distribution of firm size remains the same the curve is merely shifted to the right. In year 1 a firm with \$1 more than \$1.5 million of sales would not qualify for a loan. One year later a firm with sales of \$1,363,637 in year 1 would no longer qualify (i.e. in year 2 its sales would be \$1,500,001) despite the fact that no more goods had been sold.

In five years a firm with sales of just over 1 million in the first year (2/3 of the qualifying value) would no longer qualify. Further, since the distribution is skewed right (i.e. as you move towards zero sales there are more and more firms) an increasing number of firms will cease to qualify each year. As Table A-1 indicates, virtually all the Independent Canadian Controlled Small & Medium Businesses in 1977 could qualify for an SBLA loan,

if they so chose (column 1 - sales limit of 1.5 million). The percent of "qualifiers" varies from a low of 61.5% in the Beverage industry to a high of 100% in Radio, TV and Electrical Repair Shops.

Column 2 shows the effect on the number of qualifiers if the sales limit had been left at one million in 1977. Because the size distributions are skewed (more small than large firms) lowering the limit by \$500,000 (Column 2) has more of an impact on the number of qualifiers than does raising the limit by \$500,000 (column 3).

The SBLA was originally created to encourage banks to make term loans when such loans were restricted under the Bank Act. Since the 1967 revisions to the Bank Act the original need for the SBLA has diminished. Loans made under the program, however, have grown at a compound growth rate of almost 50% a year since the interest rate formula of "prime plus one" was introduced in February of 1978.

If the Wynant finding that most term loans (90%) are made with rates of prime plus two or less there seems to be no reasons why all loan applicants meeting SBLA conditions for qualification could not be issued as loans under the SBLA. The rapid growth in loans under this Act may reflect the Banking system's adjustment to this general loan insurance subsidy on the qualifying class of business.

Suppose that loans of amount L are made at the beginning of the period for a rate of "p + q" where p is the prime rate. Assume that the net default rate at the end of the period (after the institutions have realized as much of the capital as possible by selling off the collateral) is s. The rate of return on these loans, is (p+q)(1-s)-s. If the banks want to realize p +.004 (the 40 basis points being the extra transaction costs attributable to making small loans) then equating we have:

$$(1) \quad q = \frac{s(1+p) + .004}{1-s}$$

is the differential to charge for a given prime rate p and risk class s.

If these same loans are made under the SBLA then the banks are guaranteed a return of up to (p+.01) (assuming that no application in case of default is refused by the SBLA). This is made up of two components: the first is the interest earned from the non-default borrower at a rate p+.01; the second is the capital defaulted (sL) and foregone interest (p+.01)sL provided under the SBLA.

The total subsidy paid by the SBLA is (1+p+.01)sL. Note that the subsidy is very sensitive to s, the net default rate, but relatively insensitive to the prime rate p. Doubling s for a fixed p doubles the subsidy. Doubling p say from .10 to .20 for a fixed s, increases the subsidy by only 9%. This subsidy is shared by the borrower and the lending institution. The borrowers share is:

$$(2) \quad (p+q)(1-s)L - (p+.01)(1-s)L = (q-.01)(1-s)L$$

the difference in interest they would have paid, versus what they actually paid. The defaulting borrower is no better off in either case.

Therefore for a given risk class s , and a prime rate p we can determine what proportion of the subsidy the borrower receives.

Table 1 presents the value of q for a given net default rate s , and a prime rate p . Note that q is quite insensitive to changes in p . (doubling in p results in q increasing by only 10 basis points, $s = .01$)

Table 2 presents the borrowers percentage share of the subsidy (the bank's share is 1 minus this amount).

If the banking system is competitive then one would expect the rate offered under the SBLA would be less than "prime plus one" and, in fact, equal to prime plus .004 (or whatever the extra transaction costs associated with small loans). In this case the entire subsidy would be captured by the borrower.

Table 1

Values of q (prime plus q)
For a Given Risk class s , and Prime Rate p

p	s		
	.01	.02	.03
.10	.01515	.02653	.03814
.15	.01566	.02755	.03969
.20	.01616	.02857	.04124

Table 2

Borrowers Percentage of the SBLA Subsidy
For Selected Prime Rates (p) and Risk Classes (s)

p	s		
	.01	.02	.03
.10	.455	.730	.820
.15	.483	.741	.828
.20	.504	.752	.835

The size of the SBLA subsidy is estimated in a paper "The Implicit Subsidy in Federal Business Financing Programs" prepared by Edward Hughes, for the SBFR.

Small Business Tax Credit (SBTC)

Canadian controlled private corporations are entitled to a federal tax reduction of 21 percentage points on the first \$150,000 of business income subject to a cumulative maximum of \$750,000. The qualifying amount is a minimum of active business income, taxable income, net business limit, on \$150,000. The net business limit is \$750,000 less the cumulative deduction account. (Accumulated taxable income less 4/3 of dividends paid.) For most small firms the effective constraints on the deduction are taxable income or net business limit.

We assumed that a firm with equity in excess of \$750,000 had reached the business limit of \$750,000 (or equivalently had a net business limit of zero). This assumption likely excludes too many firms from the population of qualifiers for the SBTC.

Similarly a firm with taxable income of less than \$150,000 in 1977 qualifies for the tax credit. Even if a firm's taxable income were in excess of \$150,000, the first \$150,000 would still qualify for the tax credit if the other criteria were satisfied.

Therefore, a firm was deemed to be a potential qualifier for the small business tax credit if its taxable income was less than \$150,000 and its equity less than \$750,000. Note that if two or more firms are "associated" then they must "share" the tax credit; we have no measure of the extent of this phenomenon. The percentage of firms by industry not excluded from the Small Business Tax credit is presented in Table A-2 (column 1). However, all the firms that qualify do not necessarily benefit from the small business tax credit. A firm must have a non-zero taxable income before the tax credit can confer a benefit. Because of the treatment of taxable income in the Statistics Canada data base (all negative taxable incomes are assigned the value zero) the only way a triad can have zero taxable income is if the three firms comprising a triad had zero taxable income. This proportion is significantly less than the true population proportion. Let q be the probability of a firm having "zero" taxable income. Then in a randomly constructed triad the probability of observing a zero is q^3 . Since we can determine the proportion p of triads with zero taxable income we have:

$$1) \quad q^3 = p$$

or

$$q = p^{1/3}$$

Unfortunately, triadding was not random, but based on decreasing firm sales. Not surprisingly, within an industry, the lower the triads' sales, the more "zero" taxable incomes are observed. Our estimate of p , and hence q , are likely too high as a consequence.

In any particular tax year, about one-half of all filing corporations (53% in 1977) report zero taxable income or a loss for tax purposes. Other work by the Small Business Financing Review shows that the smaller sales size classes have up to 61% of firms not paying taxes.

In Table I-2, column 1 presents the percentage of firms in an industry likely to qualify for the Small Business Tax Credit. Column 2 shows the estimated (p¹/3) number of firms not paying taxes in that year. Column 3 is column 1 minus column 2, and gives the estimated percentage of firms likely benefiting from the tax credit.

While there are several estimation problems because of the nature of the data, and the complexity of the small business tax credit qualifications, the estimated percentage of qualifiers (column 3) is indicative of the impact of the small business tax credit.

The beneficiaries of the SBTC varies from a low of 19.7% in the Crude Petroleum and Natural Gas Industry to a high of 61.3% in other Transportation. Thus the \$748 million tax expenditure in 1977 on the SBTC benefited only a small percentage of the incorporated small business population.

Small Business Development Bond

Prior to the recent budget, a firm could qualify for the Small Business Development Bond (SBDB) if it qualified for the small business tax credit (and was making a qualified investment - usually to acquire land or a new depreciable property or to finance research and development).

Column 1 of the Table A-2 also presents those firms which qualify for an SBDB. Since this is virtually all incorporated firms in the "Independent" population, the potential number of beneficiaries was quite large. SBDB's offered at about "one-half prime plus two", in most cases represented a substantial interest subsidy financed by a tax expenditure (foregone tax revenue).

The extent of the subsidy has been detailed in the paper cited earlier.

In Table I-2, column 1 presents the percentage of firms in an industry likely to qualify for the Small Business Tax Credit. Column 2 shows the estimated (p¹/3) number of firms not paying taxes in that year. Column 3 is column 1 minus column 2, and gives the estimated percentage of firms likely benefiting from the tax credit.

While there are several estimation problems because of the nature of the data, and the complexity of the small business tax credit qualifications, the estimated percentage of qualifiers (column 3) is indicative of the impact of the small business tax credit.

The beneficiaries of the SBTC varies from a low of 19.7% in the Crude Petroleum and Natural Gas Industry to a high of 61.3% in other Transportation. Thus the \$748 million tax expenditure in 1977 on the SBTC benefited only a small percentage of the incorporated small business population.

Small Business Development Bond

Prior to the recent budget, a firm could qualify for the Small Business Development Bond (SBDB) if it qualified for the small business tax credit (and was making a qualified investment - usually to acquire land or a new depreciable property or to finance research and development).

Column 1 of the Table A-2 also presents those firms which qualify for an SBDB. Since this is virtually all incorporated firms in the "Independent" population, the potential number of beneficiaries was quite large. SBDB's offered at about "one-half prime plus two", in most cases represented a substantial interest subsidy financed by a tax expenditure (foregone tax revenue).

The extent of the subsidy has been detailed in the paper cited earlier.

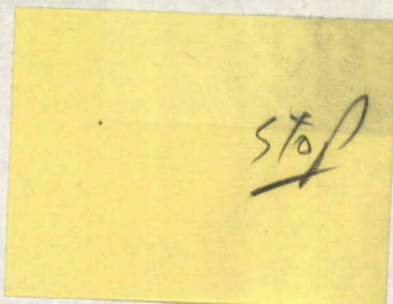


TABLE A-1

The Percentage of Incorporated Independent Canadian Controlled
Small and Medium Firms Qualifying for a Small Business Loan
Under the Small Businesses Loans Act

IBC CODE	INDUSTRY	(millions)		
		\$1.5 Sales Limit	\$1.0 Sales Limit	\$2.0 Sales Limit
		<u>% OF FIRMS QUALIFYING</u>		
30	LOGGING & RELATED SERVICES	93.3	88.1	95.4
50	METAL & NON-METAL MINES & QUARRIES	89.5	83.7	93.0
64	CRUDE PETROLEUM & NATURAL GAS	94.2	91.3	95.3
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	92.2	87.8	94.9
100	MEAT, POULTRY & FISH PROD.	69.0	60.2	73.1
103	FRUIT & VEGETABLE PROCESSING	73.4	65.3	79.6
104	DAIRY PRODUCTS INDUSTRY	63.4	55.3	71.4
106	FEED INDUSTRY	67.5	52.0	74.5
107	BAKERY PRODUCTS INDUSTRY	92.6	89.0	93.9
109	BEVERAGE INDUSTRY	61.5	49.4	72.5
110	MISCELLANEOUS FOOD INDUSTRY	77.7	70.9	80.6
165	PLASTICS FABRICATING INDUSTRY, NES	82.2	75.1	87.8
170	LEATHER PRODUCTS INDUSTRY	72.9	63.5	79.6
190	TEXTILE INDUSTRY	81.2	74.9	84.6
230	HOSIERY & KNITTING MILLS	62.2	50.0	69.5
240	CLOTHING INDUSTRY	75.0	64.1	80.9
247	MISCELLANEOUS CLOTHING INDUSTRY	87.3	80.2	91.2
250	PLYWOOD & WOOD MILLING INDUSTRY	77.0	69.4	82.1
255	MISCELLANEOUS WOOD INDUSTRY	91.0	86.4	94.8
261	HOUSEHOLD FURNITURE MANUFACTURERS	89.6	84.2	93.2
262	MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	78.7	70.6	85.3
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	67.9	57.5	75.4
286	COMMERCIAL PRINTING	93.3	88.8	95.8
288	PUBLISHING ONLY	95.7	94.1	97.3
289	PUBLISHING AND PRINTING	93.5	88.7	94.7

<u>IBC CODE</u>	<u>INDUSTRY</u>	<u>(millions)</u>		
		<u>\$1.5</u> <u>Sales</u> <u>Limit</u>	<u>\$1.0</u> <u>Sales</u> <u>Limit</u>	<u>\$2.0</u> <u>Sales</u> <u>Limit</u>
		<u>% OF FIRMS QUALIFYING</u>		
290	IRON AND STEEL MILLS, SMELTING AND REFINING	79.0	71.6	82.7
300	BOILER, PLATE & STRUCTURAL STEEL	69.7	63.1	77.6
304	METAL STAMPERS, PRESSING AND COATING INDUSTRY	85.6	78.0	90.0
305	WIRE & WIRE PRODUCTS MANUFACTURERS	82.5	73.0	89.0
308	MACHINE SHOPS	94.0	91.4	96.3
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	84.8	78.0	88.2
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	83.4	76.0	89.0
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	77.5	68.5	82.0
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURERS	85.7	78.5	88.1
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	94.0	87.0	96.0
337	COMMUNICATIONS EQUIPMENT MFG.	86.2	77.6	88.0
341	ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MANUFACTURERS	85.7	79.8	89.1
349	CLAY OR STONE PRODUCTS	93.6	91.0	96.1
350	READY-MIX CONCRETE	79.5	65.0	84.1
354	CONCRETE PRODUCTS MANUFACTURERS	86.2	78.0	90.3
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	87.6	77.9	91.7
380	MISC. CHEMICALS AND PETROLEUM PRODUCTS	80.1	72.8	84.3
392	JEWELLERY AND SILVERWARE INDUSTRY	89.0	84.0	92.0
393	SPORTING GOODS AND TOY INDUSTRY	83.6	80.0	89.1
397	SIGNS AND DISPLAYS INDUSTRY	96.1	93.0	98.0
399	MISC. MANUFACTURING INDUSTRIES, NES	91.6	86.1	93.8
404	BUILDING CONSTRUCTION	92.3	88.0	94.4
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	81.7	75.8	85.0

<u>IBC CODE</u>	<u>INDUSTRY</u>	(millions)		
		<u>\$1.5</u> <u>Sales</u> <u>Limit</u>	<u>\$1.0</u> <u>Sales</u> <u>Limit</u>	<u>\$2.0</u> <u>Sales</u> <u>Limit</u>
		<u>% OF FIRMS QUALIFYING</u>		
409	OTHER CONSTRUCTION	86.5	81.2	89.6
421	SPECIAL TRADE CONTRACTORS	95.1	91.4	96.8
500	WATER, RAIL & PIPELINE TRANSPORTATION	93.3	91.3	96.0
501	AIR TRANSPORTATION	91.0	87.0	93.1
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	98.5	96.1	99.2
507	TRUCK TRANSPORT	94.5	91.2	96.4
510	TRANSIT SYSTEMS	94.3	92.0	95.4
512	TAXI CAB OPERATIONS	98.5	97.0	99.0
519	OTHER TRANSPORTATION	97.0	93.5	98.0
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	93.1	87.7	95.4
525	STORAGE AND WAREHOUSING, INCL. GRAIN	96.0	91.7	96.5
543	RADIO AND TELEVISION BROADCASTING	88.2	81.0	91.1
560	MISCELLANEOUS COMMUNICATION & UTILITIES	97.0	94.5	98.5
608	WHOLESALEERS OF PETROLEUM PRODUCTS, COAL AND COKE	91.2	86.1	94.4
611	WHOLESALEERS OF PAPER AND PAPER PRODUCTS	77.0	69.0	81.0
614	WHOLESALEERS OF FOODS	70.0	61.2	76.6
615	WHOLESALEERS OF TOBACCO PRODUCTS	39.6	31.0	45.0
616	WHOLESALEERS OF DRUGS AND TOILET PREPARATIONS	84.7	79.0	89.0
618	WHOLESALEERS OF HOUSEHOLD FURNITURE AND FIXTURES	82.5	76.3	86.1
619	WHOLESALEERS OF MOTOR VEHICLES AND ACCESSORIES	83.2	74.4	87.8
620	WHOLESALEERS OF APPAREL AND DRY GOODS & GENERAL MERCHANDISE	83.0	75.0	87.0
621	WHOLESALEERS OF ELECTRICAL MACHINERY & EQUIPMENT	85.0	79.5	89.0

<u>IBC CODE</u>	<u>INDUSTRY</u>	<u>(millions)</u>		
		<u>\$1.5</u> <u>Sales</u> <u>Limit</u>	<u>\$1.0</u> <u>Sales</u> <u>Limit</u>	<u>\$2.0</u> <u>Sales</u> <u>Limit</u>
		<u>% OF FIRMS QUALIFYING</u>		
622	WHOLESALEERS OF FARM MACHINERY AND EQUIPMENT	75.0	62.1	83.0
623	WHOLESALEERS OF MACHINERY AND EQUIPMENT, NES	88.4	82.3	92.1
624	WHOLESALEERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	84.0	79.0	87.4
625	WHOLESALEERS OF METAL & METAL PRODUCTS, NES	80.1	72.0	83.3
626	WHOLESALEERS OF LUMBER AND BUILDING MATERIAL	80.4	71.5	86.1
627	WHOLESALEERS OF SCRAP AND WASTE MATERIAL	91.0	84.0	92.7
629	WHOLESALEERS, NES	92.0	87.5	94.3
631	FOOD STORES	88.6	81.3	93.0
642	GENERAL MERCHANDISE STORES	86.0	79.6	89.5
652	TIRE, BATTERY & ACCESSORIES STORES	88.6	84.0	92.0
654	GASOLINE SERVICE STATIONS	98.0	95.0	99.0
656	MOTOR VEHICLE DEALERS	60.0	50.0	68.0
658	MOTOR VEHICLE REPAIR SHOP	97.0	99.2	99.7
663	SHOE STORES	97.5	95.1	98.3
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	97.0	94.4	98.0
667	WOMEN'S CLOTHING STORES	97.0	94.0	97.4
669	CLOTHING & DRY GOODS STORES, NES	96.0	93.2	97.0
676	HOUSEHOLD FURNITURE AND APPLIANCE STORES	96.3	92.4	98.0
678	RADIO, TV & ELECTRICAL APPLIANCES REPAIR STORES	100.0	98.0	100.0
681	DRUG STORES	95.6	89.4	97.6
691	BOOK & STATIONERY STORES	97.8	94.7	98.2
692	FLORISTS' SHOPS	99.2	98.0	99.2
694	JEWELLERY STORES & REPAIR SHOPS	98.4	97.0	99.3

<u>IBC CODE</u>	<u>INDUSTRY</u>	(millions)		
		<u>\$1.5</u> <u>Sales</u> <u>Limit</u>	<u>\$1.0</u> <u>Sales</u> <u>Limit</u>	<u>\$2.0</u> <u>Sales</u> <u>Limit</u>
		<u>% OF FIRMS QUALIFYING</u>		
697	TOBACCONISTS	96.5	95.0	98.2
699	RETAIL STORES, NES	96.6	93.5	98.0
850	MISC. AMUSEMENT AND RECREATION SERVICES	98.1	96.6	99.0
862	ADVERTISING SERVICES	94.1	92.0	96.3
869	MISC. SERVICES TO BUSINESS MANAGEMENT	98.7	98.0	99.2
872	BARBER AND BEAUTY SHOPS	99.7	99.5	99.7
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	98.5	97.4	99.0
879	MISC. PERSONAL SERVICES	99.0	98.0	99.5
880	HOTELS, MOTELS, ETC.	97.4	95.0	98.4
893	PHOTOGRAPHIC SERVICES, NES.	97.3	95.7	98.0
896	BLACKSMITHING & WELDING SHOPS	99.0	97.2	99.3
897	MISC. REPAIR SHOPS	96.3	94.1	98.0
898	SERVICES TO BUILDINGS AND DWELLINGS	98.0	95.3	99.0
899	MISCELLANEOUS SERVICES	96.4	94.3	97.6

TABLE A-2

The Percent of Incorporated Independents & Self-Employment Firms
Qualifying For The Small Business Tax Credit,
or Small Business Development Bond

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Firms Qualifying for SBTC and SBDB</u>	<u>Estimated Percentage of Firms with no Taxable Income</u>	<u>Estimated Percentage of Firms Likely to Benefit From The Small Business Tax Credit (% of Firms)</u>
30	LOGGING & RELATED SERVICES	98.9	59.6	39.3
50	METAL & NON-METAL MINES & QUARRIES	90.7	57.1	33.6
64	CRUDE PETROLEUM & NATURAL GAS	83.7	64.0	19.7
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	96.3	52.2	44.1
100	MEAT, POULTRY & FISH PROD.	93.1	52.4	40.7
103	FRUIT & VEGETABLE PROCESSING	91.8	65.9	25.9
104	DAIRY PRODUCTS INDUSTRY	93.8	44.6	49.2
106	FEED INDUSTRY	93.5	46.1	47.4
107	BAKERY PRODUCTS INDUSTRY	97.6	48.5	49.1
109	BEVERAGE INDUSTRY	87.9	47.9	40.0
110	MISCELLANEOUS FOOD INDUSTRY	93.2	52.6	40.6
165	PLASTICS FABRICATING INDUSTRY, NES	94.9	62.9	32.0
170	LEATHER PRODUCTS INDUSTRY	89.8	40.8	49.0
190	TEXTILE INDUSTRY	91.6	54.6	37.0
230	HOSIERY & KNITTING MILLS	86.6	52.7	33.9
240	CLOTHING INDUSTRY	94.6	46.3	48.3
247	MISCELLANEOUS CLOTHING INDUSTRY	97.6	48.1	49.5
250	PLYWOOD & WOOD MILLING INDUSTRY	90.1	53.9	36.2
255	MISCELLANEOUS WOOD INDUSTRY	96.1	58.5	37.6
261	HOUSEHOLD FURNITURE MANUFACTURERS	97.0	62.1	34.9
262	MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	94.1	56.9	37.2
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	88.7	48.3	40.4

The Percent of Incorporated Independents & Self-Employment Firms
 Qualifying For The Small Business Tax Credit,
 or Small Business Development Bond

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Firms Qualifying for SBTC and SBDB</u>	<u>Estimated Percentage of Firms with no Taxable Income</u>	<u>Estimated Percentage of Firms Likely to Benefit From The Small Business Tax Credit (% of Firms)</u>
286	COMMERCIAL PRINTING	98.2	57.1	41.1
288	PUBLISHING ONLY	97.9	59.1	38.8
289	PUBLISHING AND PRINTING	95.9	60.0	35.9
290	IRON AND STEEL MILLS, SMELTING AND REFINING	87.7	55.7	32.0
300	BOILER, PLATE & STRUCTURAL STEEL	86.8	45.1	41.7
304	METAL STAMPERS' PRESSING AND COATING INDUSTRY	95.2	48.5	63.5
305	WIRE & WIRE PRODUCTS MANUFACTURERS	95.2	31.7	37.6
308	MACHINE SHOPS	98.4	57.6	42.0
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	93.5	56.4	38.9
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	92.7	61.8	30.9
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	94.4	61.8	35.7
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURING	92.9	58.7	28.8
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	96.0	64.1	40.4
337	COMMUNICATIONS EQUIPMENT MNFG.	93.1	55.6	30.6
341	ELECTRICAL PRODUCTS, OFFICE AND	94.1	62.5	35.1
349	CLAY OR STONE PRODUCTS	97.4	59.0	43.2
350	READY-MIX CONCRETE	94.3	54.2	42.3
354	CONCRETE PRODUCTS MANUFACTURERS	95.2	52.0	40.9
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	97.4	54.3	41.7
380	MISCELLANEOUS CHEMICALS AND PETROLEUM INDUSTRY	90.6	55.7	34.9

The Percent of Incorporated Independents & Self-Employment Firms
 Qualifying For The Small Business Tax Credit,
 or Small Business Development Bond

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Firms Qualifying for SBTC and SBDB</u>	<u>Estimated Percentage of Firms with no Taxable Income</u>	<u>Estimated Percentage of Firms Likely to Benefit From The Small Business Tax Credit (% of Firms)s</u>
392	JEWELLERY AND SILVERWARE INDUSTRY	96.0	57.5	38.5
393	SPORTING GOODS AND TOY INDUSTRY	96.4	62.0	34.4
397	SIGNS AND DISPLAYS INDUSTRY	99.2	45.5	53.7
399	MISC. MANUFACTURING INDUSTRIES, NES	97.0	62.1	34.9
404	BUILDING CONSTRUCTION	99.0	59.7	39.3
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	92.1	57.7	34.4
409	OTHER CONSTRUCTION	96.2	59.0	37.2
421	SPECIAL TRADE CONTRACTORS	99.4	57.6	41.8
500	WATER, RAIL & PIPELINE TRANSPORTATION	96.7	64.0	32.7
501	AIR TRANSPORTATION	96.2	71.7	24.5
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	99.2	74.2	25.0
507	TRUCK TRANSPORT	99.2	59.5	39.7
510	TRANSIT SYSTEMS	98.9	45.0	53.9
512	TAXI CAB OPERATIONS	99.5	67.5	32.0
519	OTHER TRANSPORTATION	99.6	38.3	61.3
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	99.3	62.1	37.2
525	STORAGE AND WAREHOUSING, INCL. GRAIN	99.3	55.6	43.7
543	RADIO AND TELEVISION BROADCASTING	90.5	48.2	42.3
60	MISCELLANEOUS COMMUNICATION & UTILITIES	93.5	56.5	37.0
608	WHOLESALEERS OF PETROLEUM	98.6	48.3	50.3

TABLE A-2

The Percent of Incorporated Independents & Self-Employment Firms
Qualifying For The Small Business Tax Credit,
or Small Business Development Bond

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Firms Qualifying for SBTC and SBDB</u>	<u>Estimated Percentage of Firms with no Taxable Income</u>	<u>Estimated Percentage of Firms Likely to Benefit From The Small Business Tax Credit (% of Firms)</u>
611	WHOLESALERS OF PAPER AND PAPER PRODUCTS	94.0	44.8	49.2
614	WHOLESALERS OF FOODS	97.9	50.0	47.9
615	WHOLESALERS OF TOBACCO PRODUCTS	93.1	46.4	46.7
616	WHOLESALERS OF DRUGS AND TOILET PREPARATIONS	97.6	48.3	49.3
618	WHOLESALERS OF HOUSEHOLD FURNITURE AND FIXTURES	96.9	58.1	38.8
619	WHOLESALERS OF MOTOR VEHICLES AND ACCESSORIES	97.3	46.6	50.7
620	WHOLESALERS OF APPAREL AND DRY GOODS & GENERAL MERCHANDISE	96.0	47.0	49.0
621	WHOLESALERS OF ELECTRICAL MACHINERY & EQUIPMENT	95.2	58.2	37.0
622	WHOLESALERS OF FARM MACHINERY AND EQUIPMENT	99.1	44.3	54.8
623	WHOLESALERS OF MACHINERY AND EQUIPMENT, NES	97.8	55.2	42.6
624	WHOLESALERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	95.9	49.0	46.9
625	WHOLESALERS OF METAL & METAL PRODUCTS, NES	91.7	48.7	43.0
626	WHOLESALERS OF LUMBER AND BUILDING MATERIAL	95.3	49.3	46.0
627	WHOLESALERS OF SCRAP AND WASTE MATERIAL	97.4	51.5	45.9
629	WHOLESALERS, NES	98.9	55.7	43.2
631	FOOD STORES	99.7	55.3	44.4
642	GENERAL MERCHANDISE STORES	96.4	50.4	46.0
652	TIRE, BATTERY & ACCESSORIES	99.9	51.7	48.2

The Percent of Incorporated Independents & Self-Employment Firms
 Qualifying For The Small Business Tax Credit,
 or Small Business Development Bond

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Firms Qualifying for SBTC and SBDB</u>	<u>Estimated Percentage of Firms with no Taxable Income</u>	<u>Estimated Percentage of Firms Likely to Benefit From The Small Business Tax Credit (% of Firms)</u>
654	GASOLINE SERVICE STATIONS	99.9	56.6	43.3
656	MOTOR VEHICLE DEALERS	98.5	52.0	46.5
658	MOTOR VEHICLE REPAIR SHOP	99.9	58.0	41.9
663	SHOE STORES	98.9	57.0	41.9
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	99.2	50.4	48.8
667	WOMEN'S CLOTHING STORES	98.7	53.2	45.5
669	CLOTHING & DRY GOODS STORES, NES	99.1	57.9	41.2
676	HOUSEHOLD FURNITURE & APPLIANCE STORES	99.8	55.2	44.6
678	RADIO; TV & ELECTRICAL APPLIANCES REPAIR STORES	100.0	53.8	46.2
681	DRUG STORES	99.9	39.6	60.3
691	BOOK & STATIONERY STORES	100.0	60.5	39.5
692	FLORISTS' SHOPS	100.0	60.1	39.9
694	JEWELLERY STORES & REPAIR SHOPS	100.0	49.3	50.7
697	TOBACCONISTS	100.0	59.5	40.5
699	RETAIL STORES, NES	99.9	62.0	37.9
850	MISC. AMUSEMENT AND RECREATION SERVICES	98.8	68.1	30.7
862	ADVERTISING SERVICES	98.7	59.0	39.7
869	MISC. SERVICES TO BUSINESS MANAGEMENT	99.6	51.1	48.5
872	BARBER AND BEAUTY SHOPS	100.0	61.5	38.5
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	99.4	62.4	37.0
879	MISC. PERSONAL SERVICES	98.9	51.5	47.4

The Percent of Incorporated Independents & Self-Employment Firms
 Qualifying For The Small Business Tax Credit,
 or Small Business Development Bond

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Firms Qualifying for SBTC and SBDB</u>	<u>Estimated Percentage of Firms with no Taxable Income</u>	<u>Estimated Percentage of Firms Likely to Benefit From The Small Business Tax Credit (% of Firms)</u>
880	HOTELS, MOTELS, ETC.	99.4	62.0	37.4
893	PHOTOGRAPHIC SERVICES, NES.	99.2	65.2	34.0
896	BLACKSMITHING & WELDING SHOPS	100.0	57.1	42.9
897	MISC. REPAIR SHOPS	100.0	56.0	44.0
898	SERVICES TO BUILDINGS AND DWELLINGS	99.8	61.5	38.3
899	MISCELLANEOUS SERVICES	99.2	64.4	34.8

APPENDIX B

Loan Size, Interest Burden and Debt Structure

Average indebtedness and interest burden of a firm are important for arguments about financial gaps. This Appendix examines the average term loan and operating loan size of firm for very aggregated data. Unlike the earlier analyses, this appendix uses the unweighted T2 corporations sample file. Catalogue 61-207, Corporate Financial Statistics, Statistics Canada explains the derivation of this sample in detail.

The population of interest is "normal" firms. These are firms whose sales-assets relationship suggest that they are not start-ups, turn-arounds or dying firms. Given the data source this classification of normal firms is somewhat crude.

Loan Size

Loan size represents the average short and long term bank indebtedness of a firm, and not the average loan size per se. Table 1 presents the average operating and term loan size outstanding by firm class. For the smallest size class at least 52% of the firms do not have a bank loan of any type, although they may have a loan from another institution or investor. Of those that do have a loan, most have operating loans.

As firm size grows the percent of firms without a bank loan drops steadily to about 10%. These are minimum values. Since the calculations were made on aggregate data it was not possible to determine the number of firms with both an operating and a term loan. About 70% of the larger firms have an operating loan and 20% have a term loan. If a firm with a term loan also has an operating loan then the number of firms without a bank loan is significantly understated in the larger size classes. For instance, for those firms with sales in excess of 25 million and assets greater than 10 million, the percent of firms without a bank loan could be as high as 36% (15.5 + 20.7).

Generally, the average term indebtedness outstanding is less than the average operating line for those firms with a loan of that type. The two largest classes are the exception.

Interest Burden

Interest burden reflects the cost of borrowed funds as a percent of total expenses. (see technical notes). In a period of inflation those firms which have borrowed long will see interest expense as a percent of total expense fall, whereas firms who borrow short (for whatever reason) may experience a relative increase in interest burden.

As Table 2 indicates, over 55% of normal firms with sales of less than \$100 thousand paid no interest at all. Even a third of firms with sales less than \$250,000 paid no mortgage, bond or loan interest of any type. In fact it is possible that as much as 20% of the largest firms in the T2 sample file have no interest bearing debt.

TABLE 1
Average Loan Size Approximate Core Firms
1977 T2 Sample File

Sales Class	and	Asset Class	Minimum % of Firms Without a Bank Loan	Operating Loan		Term Loan	
				% of firms	size (000s)	% of firms	size ('000s)
1-100K		250K	52.4%	40.1%	\$14.0	7.0%	\$17.5
100-250K		250K	31.0	58.2	20.7	10.7	22.9
250-500K		250K	28.0	61.6	28.1	10.3	21.8
		250K-1M	19.4	65.1	72.3	15.3	78.0
500K-1M		250K-1M	21.4	65.1	91.3	13.5	71.8
1M-5M		250K-1M	23.5	65.8	124.6	10.7	68.2
		1M-5M	12.8	70.8	339.0	16.5	258.2
5M-10M		1M-5M	14.6	72.0	480.4	13.4	403.0
		5M-10M	11.2	67.4	1168.2	21.4	947.7
10M-25M		5M-10M	9.2	72.2	1248.2	18.2	878.6
		10M plus	8.6	68.2	2518.9	23.2	3926.4
25M plus		10M plus	15.5	63.8	6442.2	20.7	7439.5

TABLE 2

Adjusted Interest Burden for those
Firms Paying Interest: Approximate core Firms,
T2 Sample File, 1977

Sales Class	and Asset Class	Number of Firms	Overall Interest Burden(%)	Minimum Not Paying Interest	Adjusted Interest Burden	Maximum Not Paying Interest	Adjusted Interest Burden
1-100K	250K	2020	3.2	55.0	7.1	60.0	8.0
100-250K	250K	1377	1.8	29.8	2.5	37.9	2.8
250-500K	250K	831	1.3	18.7	1.6	29.6	1.8
	250K-1M	541	3.6	.8	3.6	27.7	5.0
500K-1M	250K-1M	995	1.8	4.6	1.9	23.8	2.4
1M-5M	250K-1M	1039	1.0	5.5	1.1	22.4	1.3
	1M-5M	1819	1.9	0.0	1.9	21.7	2.4
5M-10M	1M-5M	546	1.1	0.0	1.1	20.1	1.4
	5M-10M	608	2.3	0.0	2.3	24.8	3.1
10M-25M	5M-10M	780	1.1	0.0	1.1	25.5	1.5
	10M plus	712	3.5	0.0	3.5	26.4	4.8
25M-50M	10M plus	552	2.2	0.0	2.2	24.3	2.9
50M-100M	10 plus	323	2.4	0.0	2.4	22.3	3.1
100M plus	10 plus	374	3.7	0.0	3.7	20.3	4.7

However, of firms that do pay interest, firms with sales less than \$100,000 have the highest average interest burden. This apparent anomaly can be explained by examining the debt structure of these firms (see Table 3). Most of the "core firms" have 30% to 40% of their liabilities in the form of equity. The smallest class of firms (line 1, Table 3) average only 10%. The "missing" equity, can be found under "Due to Affiliate and Shareholders". The owners of small firms appear to advance capital to the business in the form of a loan rather than equity. Their return on this investment, however, appears on the company's books as interest payments and not dividends. As a consequence the average interest burden of these firms is overstated. To correct this, interest payments made for shareholder loans would have to be excluded from the calculations. This is not possible with the available data.

The high average interest burden of the smallest firms may in part be due to the higher interest rates small firms pay to compensate lenders for the greater risk. Other work for the Review indicates that the rates smaller firms pay just compensates for the extra risk and administration costs, and averages about one-half of one percent. From a technical point of view, if firms with interest bearing debt tend to have more expenses than those without interest bearing debt, then the average interest burdens presented in Table 2 are too high (since the calculations are based on average total expenses). Thus the fewer firms paying interest the more biased upwards the figures may be.

Most of the smallest businesses, however, are protected from sudden shifts in interest rates since they have no interest bearing debt at all.

Debt Structure

The average debt structure is remarkably similar across size classes. There appears to be slight trend in the proportion of total liabilities held as equity (paid in capital plus retained earnings) as firm size increases. Note that a large proportion of the "equity" in the smallest size class appears as a long term loan from shareholders.

The similarity of the average debt structure is likely to be misleading, particularly in the smaller size classes. From earlier tables it is evident that a large proportion of firms in the smaller size classes do not have any form of interest bearing debt. The liability side of the balance sheet for these firms, then consists of very few items (equity, accounts payable, due to shareholder, other). Thus the debt structure in Table 3 is an "average" of two populations of firms; one group with a very limited balance sheet, and the other group with a "full" balance sheet. This phenomenon may be due to the industry mix in each size class. As these figures cannot be adjusted to account for this fact the debt structure should be viewed as indicative only.

Table 3

Percent Distribution of Liabilities for "Normal" Firms

Sale Class	Asset Class	Number of Firms	Equity	Bank Loans (Short)	Other Loans (Short)	Accounts Payable	Due to Affiliates (Short) Term	Due to Affiliates & Shareholders (Long) Term	Mortgages	Bank Loans (Long)	Funded Debt	Other Loans (Long)	Other Liabilities	Total Liabilities
100K	250K	2020	10.1	12.4	1.7	11.1	6.7	26.9	6.1	2.9	.6	13.9	7.6	100.0
100-250K	250K	1377	23.0	13.6	1.1	17.3	7.1	14.7	4.8	2.8	.4	6.3	9.0	100.0
250-500K	250K	831	33.0	13.6	1.2	22.2	3.8	12.1	4.0	1.7	1.2	5.8	2.3	100.0
	250K-1M	541	30.7	11.3	1.5	12.4	4.3	9.7	9.0	2.9	2.1	8.3	7.8	100.0
500K-1M	250K-1M	995	34.0	13.0	1.3	17.9	4.1	9.0	4.5	2.1	1.1	5.4	6.7	100.0
1M-5M	250K-1M	1039	35.1	13.2	3.0	23.3	4.9	6.0	2.7	1.2	.7	3.3	6.6	100.0
	1M-5M	1819	33.3	13.1	4.8	17.1	5.7	7.2	4.1	2.3	2.3	5.4	4.7	100.0
5M-10M	1M-5M	546	34.4	12.7	3.3	19.9	6.7	5.7	1.9	2.0	1.2	3.8	8.4	100.0
	5M-10M	608	36.7	11.9	1.2	13.9	7.6	7.6	3.2	3.1	1.9	4.1	8.8	100.0
10M-25M	5M-10M	780	36.8	12.5	2.1	18.5	7.7	6.3	1.9	2.2	1.4	2.6	8.0	100.0
	10M plus	712	39.4	7.6	.4	9.3	5.5	7.9	1.9	4.0	5.2	9.1	9.7	100.0
25M-50M	10M plus	552	40.4	7.2	.9	10.0	6.7	12.2	1.2	3.3	3.6	3.9	10.6	100.0

Technical Notes

The various percentages presented in the tables are based on industry totals, rather than totals for firms reporting only these characteristics. (This is a matter of default rather than choice). As a consequence the averages may be understated. For example, if 50% of the firms report interest expense while the other 50% do not then the interest burden as a percent of total expense for those paying interest will likely be understated. Assuming that the magnitude of total expense for a firm is independent of interest expense, then in this example the calculated interest burden would be multiplied by a factor of two. However, a "large" proportion of firms not paying interest is an important observation in its own right.

With respect to the interest calculations the data do not allow us definitely to determine those firms which did not pay interest. Only a lower or upper bound is possible as the example below indicates:

Sales Class: 100 - 250 thousand dollars
Asset Class: 250 thousand dollars or less

<u>Interest Item</u>	<u>Expense</u>	<u># of Firms</u>
Bond interest	39	8 (A)
Mortgage interest	468	104 (B)
Other interest	<u>3,453</u>	<u>885 (C)</u>
Total	3,960	967

Total Expenses 226,892 Total firms 1,377

interest expense = $3960/226,892 = 1.75\%$

minimum not paying interest =

$1377 - \text{minimum of } (A+B+C, 1377) = 410$

weighting factor = $\frac{1337}{(1377-410)} = 1.424$

interest expense
of those paying interest = $1.424 \times 1.75\% = 2.49\%$

From the calculations we see that a minimum of 29.8% of the firms paid no interest at all (410/1377). If we assume that those who pay bond and mortgage interest also pay "other" interest then the maximum number of firms not paying interest is 522, representing 37.8% of the sample. Using this latter assumption the average interest burden would be 2.82%. These calculations arise from the following formulae:

a) interest cost as a % of total expense = $\frac{\text{interest costs}}{\text{total expense}} \times 100$

where the sums are over all firms in a particular class of normal firms.

b) interest cost based on a minimum number of firms not paying interest =

a) $\frac{\text{total number of firms}}{\text{total number of firms} - \text{minimum not paying interest}}$

Note: that this formulation is equivalent to the maximum number of firms paying interest.

c) interest cost based on a maximum number of firms not paying interest =

a) $\frac{x \text{ total number of firms}}{(\text{total number of firms} - \text{maximum not paying interest})}$

Arranging these data in a table we have:

Sales Class: 100K - 250K
Asset Class: 250K
N = 1377

Average Interest Expenses	1.75%
Minimum % not Paying Interest	29.8%
Maximum % not Paying Interest	37.8%
Minimum Interest Burden	2.49%
Maximum Interest Burden	2.82%

Data, such as that above, have been provided for "normal" firms only, in Table 2.

Definitions

Interest Cost

Interest cost, as reported on the expense statement includes the total of:

- i) bond interest and discount
- ii) mortgage interest and discount
- iii) other interest

"Other Interest" includes interest paid on all types of loans.

Total Expenses

Total Expenses includes all operating expenses (total deductions) but excludes the provision for current and deferred Canadian taxes.

Short Term Bank Loans

Include bank over-drafts and outstanding cheques, as well as current loans from Canadian chartered banks.

Short-term Loans

Are those owing to individual shareholders, foreign banks, finance companies, governments and corporations other than affiliates and Canadian chartered banks. Guaranteed certificates and deposit liabilities, in the case of deposit accepting institutions, are shown here, as are chattel mortgages.

Account Payable

Includes only amounts designated as trade accounts payable and trade notes payable. Trade amounts owing to affiliated companies and to incorporated joint ventures are cash dividends payable and interest payable on income bonds and debentures.

Due to Affiliates

Include trade accounts payable and other amounts due to affiliated companies and to joint ventures (except dividends).

Short-term Due to Shareholders or Affiliates

Includes all non-current debt, remuneration or mortgages due to shareholders or affiliated companies.

Long-term Bank Loans

Represents long-term bank loans from Canadian chartered banks, including loans secured by a chattel mortgage. Foreign bank loans are included under other loans.

Mortgages

Consists of total mortgage debt outstanding on real estate, except that due to affiliates.

Funded Debt

Total bond and debenture debt except that owing to affiliated corporations.

Other Liabilities

Residually determined, by subtracting equity, and the other liability items from "total liabilities and equity".

Equity

Consists of preferred and common shares, retained earnings, contributed surplus and other surplus.

Data Sources

The data are taken from the 1977 T2 sample file and includes data from all firms except financial corporations. The calculations (average interest burden, debt structure, average loan size) should be viewed only as indicative since the industry mixture is unlikely to be similar in each sales-asset cell.

In cases where three or less firms reported interest expense in one of the three categories the data was suppressed by Statistics Canada in a manner to avoid residual disclosure. The net effect is to understate average interest cost in some cells. Any effects are negligible.

APPENDIX C

The Percentage Distribution of Firms and Sales
by Firm Type Within a Sector: 107 Industries,
1977/78 Data

The following table presents the percentage distribution of:

- 1) self-employment firms
- 2) Independent Canadian Controlled Small and Medium businesses
- 3) Affiliates and Small & Medium Foreign Firms
- 4) Large Scale Firms

within a sector. The percent of sector sales accounted for by each type is also reported. At the end of each row the number of firms in the sector and total sector sales are recorded. For example, the Logging and Related Services industry had almost 75% (54.9% + 9.4%) of its firms classified as self-employment firms, yet they represented only 13% (10.9 + 2.1) of sector sales. In total there were some 8,382 firms reporting \$1.8 billion in sales.

Note that the percentages may not sum to 100 due to rounding.

TABLE C1

PERCENT DISTRIBUTION OF FIRMS AND SALES BY TYPE OF FIRM

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
30 LOGGING & RELATED SERVICES	#	64.9	9.4	11.0	14.1	.55	.02	100	8,382
	sale	10.9	2.1	13.4	55.9	11.8	6.0	100	1,576.7
50 METAL & NON-METAL MINES & QUARRIES	#	16.1	20.1	6.7	41.0	11.4	4.5	100	845
	sale	0.1	0.1	.19	5.2	12.4	82.1	100	6,452.8
64 CRUDE PETROLEUM & NATURAL GAS	#	22.6	22.0	24.5	17.2	11.3	2.3	100	1,330
	sale	.11	.12	2.6	2.4	9.8	85.0	100	9,501.6
90 DRILLING & MISC. SERVICE INCIDENTAL TO MINING	#	24.6	29.8	2.3	40.6	2.4	.32	100	1,264
	sale	1.1	1.6	.50	54.8	21.9	20.3	100	965.5
100 MEAT, POULTRY & FISH PROD.	#	12.3	9.9	13.8	54.9	5.4	3.8	100	1,010
	sale	.1	.1	.9	22.9	7.8	68.1	100	6,368.8
103 FRUIT & VEGETABLE PROCESSING	#	0	13.6	0	64.4	17.8	4.2	100	191
	sale	0	.1	0	17.8	25.6	56.6	100	1,392.9
104 DAIRY PRODUCTS INDUSTRY	#	3.9	15.2	8.0	59.1	8.9	4.8	100	460
	sale	0	.1	.4	20.7	10.1	68.2	100	3,474.7

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS / \$ SALES IN MILLIONS
106 FEED INDUSTRY	#	6.8	11.4	15.2	62.9	2.6	1.0	100	499
	sale	.1	.2	1.8	48.1	8.1	41.7	100	1,495.9
107 BAKERY PRODUCTS INDUSTRY	#	45.2	8.7	18.8	26.0	.8	.5	100	2,121
	sale	3.5	.6	4.5	27.8	9.0	54.6	100	1,563.4
109 BEVERAGE INDUSTRY	#	8.0	13.1	4.4	57.6	12.6	4.4	100	389
	sale	.1	.1	.2	19.2	15.6	65.0	100	2,517.2
110 MISCELLANEOUS FOOD INDUSTRY	#	42.6	5.3	21.5	21.4	5.8	3.3	100	1,175
	sale	.4	-	1.5	9.5	8.3	80.3	100	5,396.6
165 PLASTICS FABRICATING INDUSTRY, NES	#	9.3	19.9	6.4	55.1	9.2	.1	100	796
	sale	.3	.6	10.2	50.0	34.7	4.2	100	1,114.4
170 LEATHER PRODUCTS INDUSTRY	#	25.1	11.2	3.9	54.4	5.0	.4	100	542
	sale	.7	.3	.5	64.2	24.1	10.1	100	792.9
190 TEXTILE INDUSTRY	#	17.4	15.1	4.5	53.0	8.6	1.4	100	949
	sale	.2	.2	.3	26.1	20.2	53.0	100	2,941.5

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
230 HOSIERY & KNITTING MILLS	#	5.8	9.9	3.7	74.7	5.5	.3	100	293
	sale	.3	.2	.4	80.5	11.8	6.7	100	626.2
240 CLOTHING INDUSTRY	#	11.6	11.9	5.9	68.5	2.1	.1	100	1,860
	sale	.3	.4	1.0	84.9	9.2	4.1	100	2,393.2
247 MISCELLANEOUS CLOTHING INDUSTRY	#	27.6	11.9	11.1	48.3	1.1	0	100	631
	sale	.2	2.8	.4	8.4	88.1	0	100	3,675.6
250 PLYWOOD & WOOD MILLING INDUSTRY	#	28.8	12.5	9.4	44.7	3.8	.7	100	2,926
	sale	.6	.3	1.0	43.7	17.9	36.5	100	5,211.1
255 MISCELLANEOUS WOOD INDUSTRY	#	36.8	17.4	7.1	35.9	2.7	.1	100	878
	sale	2.6	1.6	2.5	59.6	23.0	11.0	100	430.1
261 HOUSEHOLD FURNITURE MANUFACTURERS	#	64.9	10.1	3.7	20.5	.7	-	100	3,602
	sale	8.4	1.7	2.2	69.8	13.4	4.4	100	950.7
262 MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	#	18.8	12.1	3.7	61.0	4.3	.2	100	564
	sale	.6	.5	.6	69.0	22.3	7.0	100	673.1

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS / \$ SALES IN MILLIONS
270 PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	#	1.0	12.8	3.6	63.7	15.4	3.6	100	421
	sale	-	.1	.1	27.5	25.5	46.8	100	1,887.8
286 COMMERCIAL PRINTING	#	26.4	19.8	4.3	47.7	1.7	.1	100	3,708
	sale	2.2	1.8	1.3	62.0	19.6	13.1	100	1,917.6
288 PUBLISHING ONLY	#	12.3	21.3	6.4	54.5	5.3	.1	100	748
	sale	.4	.6	1.1	43.6	46.0	8.2	100	515.2
289 PUBLISHING AND PRINTING	#	21.5	23.2	5.1	43.5	5.5	1.1	100	758
	sale	.6	.6	.6	23.2	27.2	47.8	100	1,286.6
290 IRON AND STEEL MILLS, SMELTING AND REFINING	#	9.0	14.2	6.1	57.0	9.0	4.7	100	344
	sale	-	-	.1	.2	4.2	90.5	100	6,406.5
300 BOILER, PLATE & STRUCTURAL STEEL	#	2.1	13.6	4.9	66.2	11.1	2.1	100	287
	sale	-	.1	.2	29.4	21.7	48.6	100	1,484.9
304 METAL STAMPERS, PRESSING AND COATING INDUSTRY	#	10.9	16.6	1.9	62.7	6.8	1.0	100	1,028
	sale	.2	.4	.2	35.7	20.7	42.9	100	2,169.8

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
305 WIRE & WIRE PRODUCTS MANUFACTURERS	#	8.9	13.3	3.0	56.7	16.7	1.5	100	270
	sale	.1	.2	.2	23.9	37.4	38.2	100	711.4
308 MACHINE SHOPS	#	33.8	18.2	6.2	41.1	.8	0	100	2,184
	sale	4.3	2.9	3.7	84.7	4.4	0	100	637.5
309 MISCELLANEOUS METAL FABRICATING INDUSTRY	#	8.9	17.0	1.9	58.3	12.7	1.2	100	1,050
	sale	.1	.3	.1	29.6	31.6	38.2	100	2,517.2
314 MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	#	6.7	19.0	2.0	54.4	15.5	2.1	100	1,414
	sale	.1	.2	.1	17.9	25.8	55.8	100	5,335.8
319 MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	#	13.1	13.1	2.8	55.6	11.8	3.6	100	390
	sale	-	-	-	2.4	1.8	95.7	100	15533.4
320 OTHER TRANSPORTATION PRODUCTS MANUFACTURING	#	13.1	17.6	.9	42.7	17.6	8.0	100	426
	sale	.1	.1	-	5.9	15.6	78.4	100	4,494.1
330 SHIP BUILDING, BOAT BUILDING AND REPAIR	#	41.3	17.8	5.2	32.3	2.5	.8	100	595
	sale	1.6	.7	1.3	29.6	10.8	56.0	100	519.0

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
337 COMMUNICATIONS EQUIPMENT MNFG.	#	38.0	12.6	1.2	30.0	14.3	3.4	100	413
	sale	.1	.1	-	6.1	10.7	82.9	100	2,677.9
341 ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MANUFACTURERS	#	7.4	23.0	.8	49.0	17.7	2.2	100	498
	sale	.1	.2	.1	16.7	35.4	47.4	100	1,819.0
349 CLAY OR STONE PRODUCTS	#	32.0	25.1	2.8	36.2	4.0	0	100	387
	sale	2.0	2.0	.7	56.9	38.3	0	100	208.0
350 READY-MIX CONCRETE	#	7.2	9.9	6.7	67.5	7.2	1.4	100	345
	sale	.1	.2	.9	42.7	26.0	30.0	100	667.9
354 CONCRETE PRODUCTS MANUFACTURERS	#	15.3	17.9	5.6	57.9	3.0	.3	100	575
	sale	.9	.6	1.1	61.3	17.0	19.1	100	562.0
356 GLASS PRODUCTS & MISC. METAL PRODUCTS	#	22.4	13.7	6.8	50.9	5.6	.7	100	908
	sale	.7	.4	1.0	34.0	22.9	41.0	100	1,300.6
380 MISC. CHEMICALS AND PETROLEUM PRODUCTS	#	6.6	15.0	.8	45.9	26.4	5.4	100	947
	sale	-	-	-	3.6	8.3	88.0	100	20360.7

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
392 JEWELLERY AND SILVERWARE INDUSTRY	#	38.6	16.0	6.8	35.5	2.9	.2	100	586
	sale	1.9	1.1	1.9	51.2	23.2	20.7	100	415.8
393 SPORTING GOODS AND TOY INDUSTRY	#	19.7	23.2	2.3	42.1	11.6	1.2	100	259
	sale	.6	.5	.3	33.3	39.0	26.3	100	402.5
397 SIGNS AND DISPLAYS INDUSTRY	#	36.1	20.1	4.1	38.7	.9	0	100	653
	sale	5.0	3.5	1.9	73.4	16.2	0	100	185.6
399 MISC. MANUFACTURING INDUSTRIES, NES	#	21.0	21.9	3.7	42.3	8.4	2.6	100	3,903
	sale	.2	.2	.2	8.4	11.0	80.0	100	17503.3
404 BUILDING CONSTRUCTION	#	16.3	26.5	10.0	46.7	.3	.1	100	18774
	sale	1.6	2.1	5.0	76.1	4.4	11.2	100	9,298
406 HIGHWAY, BRIDGE AND STREET MAINTENANCE	#	6.7	22.1	3.5	65.2	2.0	.4	100	1,564
	sale	.2	.6	.5	65.7	9.3	23.6	100	2,261.5
409 OTHER CONSTRUCTION	#	69.2	4.5	16.2	9.2	.8	.1	100	8,630
	sale	7.2	.6	8.1	31.7	14.7	37.4	100	3,227.1

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
421 SPECIAL TRADE CONTRACTORS	#	50.8	5.3	20.7	23.0	.1	0	100	75580
	sale	7.6	.7	13.7	70.5	4.5	3.0	100	12077.5
500 WATER, RAIL & PIPELINE TRANSPORTATION	#	21.3	32.5	.6	28.1	15	2.3	100	765
	sale	.1	.1	-	4.0	9.8	85.9	100	5,875.7
501 AIR TRANSPORTATION	#	12.1	36.2	1.8	44.0	4.7	1.2	100	489
	sale	.2	.7	.3	22.3	7.0	69.5	100	968.6
502 SERVICES INCIDENTAL TO AIR TRANSPORTATION	#	21.8	44.4	2.0	28.9	2.8	0	100	536
	sale	3.0	5.6	.8	58.3	32.2	0	100	120.9
507 TRUCK TRANSPORT	#	75.7	7.3	5.9	10.5	.4	-	100	36192
	sale	18.6	2.2	7.6	48.0	12.9	10.7	100	5,373.7
510 TRANSIT SYSTEMS	#	45.4	15.4	4.0	33.1	1.6	.4	100	544
	sale	2.9	1.4	1.8	38.7	26.0	29.2	100	287.7
512 TAXI CAB OPERATIONS	#	90.5	3.1	2.5	3.9	-	0	100	8,538
	sale	48.9	1.5	7.5	41.8	.3	0	100	251.7

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
519 OTHER TRANSPORTATION	#	79.2	7.2	3.7	9.8	-	0	100	4,121
	sale	29.3	3.5	6.0	53.6	7.6	0	100	373.6
520 MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	#	30.7	13.5	17.4	27.8	10.5	.1	100	3,516
	sale	2.0	.8	9.2	60.0	21.0	7.0	100	1,432.6
525 STORAGE AND WAREHOUSING, INCL. GRAIN	#	27.6	15.0	11.8	40.4	4.7	.5	100	787
	sale	1.0	.4	1.6	26.0	15.8	55.2	100	618.9
543 RADIO AND TELEVISION BROADCASTING	#	7.7	20.1	1.7	57.9	12.2	.4	100	691
	sale	.1	.6	.3	43.2	41.2	14.6	100	932.3
560 MISCELLANEOUS COMMUNICATION & UTILITIES	#	65.2	12.6	2.8	15.3	3.0	1.0	100	2,175
	sale	.6	.1	.1	2.7	5.1	91.3	100	6,189.6
608 WHOLESALERS OF PETROLEUM PRODUCTS, COAL AND COKE	#	19.9	20.7	18.3	38.1	2.5	.5	100	2,865
	sale	.5	.6	3.7	20.9	11.9	62.3	100	4,686.7
611 WHOLESALERS OF PAPER AND PAPER PRODUCTS	#	16.4	13.6	4.4	56.7	5.8	3.2	100	434
	sale	.2	.1	.1	19.4	6.9	73.3	100	2,331.4

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
614 WHOLESALERS OF FOODS	#	17.7	12.1	18.3	47.4	3.5	1.0	100	3,844
	sale	.3	.2	2.5	34.9	9.2	52.9	100	11415.3
615 WHOLESALERS OF TOBACCO PRODUCTS	#	0	19.6	0	74.1	4.8	1.6	100	189
	sale	0	.1	0	48.3	3.4	48.2	100	1,360.7
616 WHOLESALERS OF DRUGS AND TOILET PREPARATIONS	#	12.3	24.3	5.4	48.8	8	1.2	100	514
	sale	.9	.5	.6	37.1	23.7	37.7	100	914.9
618 WHOLESALERS OF HOUSEHOLD FURNITURE AND FIXTURES	#	11.6	21.4	3.5	57.6	5.4	.4	100	739
	sale	.4	.7	.6	61.9	21.1	15.3	100	1,024.3
619 WHOLESALERS OF MOTOR VEHICLES AND ACCESSORIES	#	7.6	14.5	5.9	65.1	5.9	1.0	100	1,977
	sale	.2	.3	1.4	38.5	14.0	45.6	100	4,147.3
620 WHOLESALERS OF APPAREL AND DRY GOODS & GENERAL MERCHANDISE	#	38.6	15.0	5.5	37.3	3.1	.4	100	2,564
	sale	1.5	.6	1.5	54.1	14.4	27.9	100	2,367.9
621 WHOLESALERS OF ELECTRICAL MACHINERY & EQUIPMENT	#	9.6	24.0	4.3	55.0	7.1	.8	100	1,844
	sale	.2	.6	.6	44.2	22.3	32.0	100	3,105.6

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$ SALES IN MILLIONS
622 WHOLESALERS OF FARM MACHINERY AND EQUIPMENT	#	11.7	12.6	12.0	62.0	1.8	.1	100	2,186
	sale	.4	.3	3.5	58.4	4.4	32.9	100	2,952.1
623 WHOLESALERS OF MACHINERY AND EQUIPMENT, NES	#	11.8	23.8	3.3	54.1	6.6	.3	100	6,867
	sale	.5	.9	.7	50.4	27.7	19.8	100	7,357.6
624 WHOLESALERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	#	10.5	19.1	7.5	55.8	6.2	.9	100	1,658
	sale	.3	.4	.7	37	19.5	42.0	100	2,922.1
625 WHOLESALERS OF METAL & METAL PRODUCTS, NES	#	6.0	21.6	1.8	56.8	12.0	1.8	100	602
	sale	.1	.2	.1	25.4	26.3	47.8	100	2,171.4
626 WHOLESALERS OF LUMBER AND BUILDING MATERIAL	#	13.1	17.0	7.8	59.4	2.0	.6	100	4,982
	sale	.3	.5	1.3	56.2	9.3	32.4	100	7,790.0
627 WHOLESALERS OF SCRAP AND WASTE MATERIAL	#	41.4	15.2	10.6	31.7	1.1	.1	100	1,511
	sale	3.5	1.3	5.4	70.2	9.3	10.2	100	676.1
629 WHOLESALERS, NES	#	47.4	16.0	14.7	20.1	1.7	.1	100	25830
	sale	4.7	1.6	11.9	47.3	19.4	15.2	100	10471.1

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS / \$SALES IN MILLIONS
631 FOOD STORES	#	37.5	4.3	40.6	17.5	.1	.1	100	25353
	sale	3.0	.3	16.7	25.7	2.1	52.2	100	15219.6
697 TOBACCONISTS	#	31.0	5.6	47.7	15.4	.1	.1	100	832
	sale	4.4	.8	28.4	15.8	.6	50.0	100	312.7
642 GENERAL MERCHANDISE STORES	#	35.7	5.9	31.2	26.4	.3	.5	100	7,681
	sale	1.2	.1	4.2	20.6	1.7	72.2	100	11706.7
652 TIRE, BATTERY & ACCESSORIES STORES	#	21.6	13.8	13.0	51.2	.4	0	100	3,478.
	sale	1.9	1.2	5.4	86.5	5.0	0	100	1,740.8
654 GASOLINE SERVICE STATIONS	#	20.2	7.8	47.7	24.1	.1	-	100	14504
	sale	2.8	.8	48.4	37.1	1.3	9.5	100	4,666.4
656 MOTOR VEHICLE DEALERS	#	11.0	11.8	13.2	61.2	2.6	.2	100	6,505
	sale	.3	.2	2.2	84.6	8.1	4.5	100	12656.9
663 SHOE STORES	#	42.5	10.7	13.4	32.6	.5	.2	100	1,975
	sale	5.8	1.4	5.3	35.9	18.4	33.2	100	763

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS / \$SALES IN MILLIONS
665 MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	#	39.5	11.4	10.9	38.5	.2	0	100	3,113
	sale	5.2	2.1	6.7	66.1	9.6	10.3	100	840
667 WOMEN'S CLOTHING STORES	#	37.9	13.6	14.0	34.0	.5	.1	100	4,387
	sale	6.5	2.4	8.9	62.9	7.5	11.6	100	1,197.7
669 CLOTHING & DRY GOODS STORES, NES	#	43.2	14.5	11.4	30.6	.1	.1	100	4,393
	sale	6.2	2.3	7.3	58.5	2.9	22.6	100	1,228.9
676 HOUSEHOLD FURNITURE AND APPLIANCE STORES	#	36.7	12.3	14.6	36.0	.3	0	100	15324
	sale	5.4	1.7	10.2	65.7	2.1	15.0	100	4,419.2
678 RADIO, TV & ELECTRICAL APPLIANCES REPAIR STORES	#	64.4	5.5	18.6	11.5	0	0	100	1,848
	sale	22.6	2.0	31.4	41.8	2.2	0	100	3,859
681 DRUG STORES	#	6.6	12.6	23.1	56.7	1.0	.1	100	3,859
	sale	.7	.9	16.7	64.5	11.3	6	100	1,944.9
658 MOTOR VEHICLE REPAIR SHOP	#	36.2	3.6	37.8	22.4	0	0	100	13259
	sale	6.7	.6	39.1	52.6	1.0	0	100	1,696.5

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/ \$SALES IN MILLIONS
862 ADVERTISING SERVICES	#	44.3	13.6	11.2	29.4	1.4	0	100	2,617
	sale	4.2	1.3	5.2	68.7	20.7	0	100	621.6
869 MISC. SERVICES TO BUSINESS MANAGEMENT	#	19.6	36.1	7.0	36.4	.9	0	100	20464
	sale	1.9	4.1	6.8	46.9	13.3	26.9	100	4,513.6
872 BARBER AND BEAUTY SHOPS	#	76.7	2.8	13.7	6.8	0	0	100	11627
	sale	42.5	1.6	25.7	27.3	2.9	0	100	483
874 LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	#	55.6	24.4	3.3	16.2	.4	0	100	4,578
	sale	15.5	8.5	4.3	50.5	14.4	6.7	100	551.8
879 MISC. PERSONAL SERVICES	#	41.2	9.5	15.1	28.7	5.5	0	100	2,657
	sale	7.9	1.6	11.8	67.8	10.8	0	100	325.6
880 HOTELS, MOTELS, ETC.	#	47.5	13.3	14.9	24.1	.4	.04	100	39,414
	sale	9.9	2.6	14.2	53.8	7.7	11.9	100	8,117.8
893 PHOTOGRAPHIC SERVICES, NES.	#	48.4	10.4	16.8	24.0	.4	0	100	2,238
	sale	7.9	1.6	11.5	65.1	13.9	0	100	334

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS/\$SALES IN MILLIONS
896 BLACKSMITHING & WELDING SHOPS	#	59.1	12.0	11.6	17.3	-	0	100	2,994
	sale	17.8	3.2	14.2	63.9	.9	0	100	236.3
897 MISC. REPAIR SHOPS	#	64.2	4.0	14.9	16.5	.4	0	100	2,011
	sale	14.6	.9	14.0	62.6	8.0	0	100	203.4
691 BOOK & STATIONERY STORES	#	40.1	18.3	12.5	28.0	1.0	.1	100	1,467
	sale	5.5	2.8	8.5	46.9	26.2	10.1	100	419.6
692 FLORISTS' SHOPS	#	55.2	12.0	12.0	20.7	-	0	100	2,287
	sale	21.4	5.0	18.8	54.4	.3	0	100	263.2
694 JEWELLERY STORES & REPAIR SHOPS	#	48.4	11.7	13.6	26.4	.2	.1	100	3,513
	sale	10.2	3.0	11.0	47.3	4.5	23.9	100	675.6
699 RETAIL STORES, NES	#	45.4	15.8	12.0	26.5	.2	0	100	23,082
	sale	8.6	3.3	12.1	67.7	3.6	4.6	100	4,564.9
850 MISC. AMUSEMENT AND RECREATION SERVICES	#	49.1	26.2	6.7	17.1	.8	.03	100	10,332
	sale	10.2	5.7	12.5	49.3	12.6	9.7	100	1,689.4

INDUSTRY	ITEM	SELF EMPLOYMENT FIRMS		INDEPENDENT CANADIAN SMALL & MEDIUM BUSINESSES		AFFILIATES SMALL & MEDIUM FOREIGN BUSINESSES	LARGE SCALE	GRAND TOTAL	ACTUAL AMOUNTS
		UNINCORP.	INCORP.	UNINCORP.	INCORP.	INCORP.	INCORP.	%	FIRMS / \$SALES IN MILLIONS
898 SERVICES TO BUILDINGS AND DWELLINGS	#	70.0	7.6	9.2	13.2	.1	-	100	5,810
	sale	17.4	1.7	10.1	57.0	1.6	12.3	100	480.2
899 MISCELLANEOUS SERVICES	#	42.1	30.8	2.9	22.8	1.37	-	100	1,1621
	sale	4.8	4.7	1.8	56.5	20.5	11.7	100	2,792.2

APPENDIX D

The Distribution of the Incorporated Self Employment and
Independent Canadian Controlled Small and Medium
Businesses by Transition Status

The problem with classification along a single dimension is that the resulting groups may not be as "pure" as one could hope. By defining self employment firms as those with sales less than \$100 thousand, for example, large firms in the process of starting up or exiting, are inevitably included. Any financial ratio analysis will be misleading if such firms are not removed from the population under study.

In Section V of the study the criteria for separating the

- Type 1: Dying Firms
- Type 2: Turn-Arounds
- Type 3: Start-Ups

firms from the "normal" firms in each IBC industry are given. Some sensitivity tests on these criteria were performed.

TABLE D1

The Distribution of the Incorporated Self Employment and Independent Canadian Controlled Small and Medium Businesses

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Transition Status</u>			<u>Total Transition</u>	<u>Normal</u>
		<u>Type I</u>	<u>Type II</u>	<u>Type III</u>		
		(% of firms)				
30	LOGGING & RELATED SERVICES	11.3	3.8	8.1	23.2	76.8
50	METAL & NON-METAL MINES & QUARRIES	9.3	2.9	16.3	28.5	71.5
64	CRUDE PETROLEUM & NATURAL GAS	8.7	5.8	39.5	54.0	46.0
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	7.1	1.4	9.8	18.3	81.7
100	MEAT, POULTRY & FISH PROD.	9.7	1.9	6.0	17.6	82.4
103	FRUIT & VEGETABLE PROCESSING	14.3	-	6.1	20.4	79.6
104	DAIRY PRODUCTS INDUSTRY	2.7	-	15.2	17.9	82.1
106	FEED INDUSTRY	4.9	3.3	13.0	21.2	78.8
107	BAKERY PRODUCTS INDUSTRY	8.6	3.7	6.9	19.2	80.8
109	BEVERAGE INDUSTRY	6.6	-	14.3	20.9	79.1
110	MISCELLANEOUS FOOD INDUSTRY	21.4	2.9	4.9	29.2	70.8
165	PLASTICS FABRICATING INDUSTRY, NES	19.3	4.1	4.6	28.0	72.0
170	LEATHER PRODUCTS INDUSTRY	11.0	0.9	2.5	14.4	85.6
190	TEXTILE INDUSTRY	10.2	2.8	3.7	16.7	83.3
230	HOSIERY & KNITTING MILLS	3.7	-	4.9	8.6	91.4
240	CLOTHING INDUSTRY	7.7	2.4	5.0	15.1	84.9
247	MISCELLANEOUS CLOTHING INDUSTRY	2.4	0.8	2.4	5.6	94.4
250	PLYWOOD & WOOD MILLING INDUSTRY	9.4	2.0	8.3	19.7	80.3
255	MISCELLANEOUS WOOD INDUSTRY	15.5	1.9	7.1	24.5	75.5
261	HOUSEHOLD FURNITURE MANUFACTURERS	22.3	3.5	1.6	27.4	72.6
262	MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	11.8	2.2	4.4	18.4	81.6
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	4.7	1.9	6.6	13.2	86.8
36	COMMERCIAL PRINTING	11.1	4.7	4.2	20.0	80.0

IBC	INDUSTRY TITLE	Transition Status			Total	
		Type I	Type II	Type III	Transition	Normal
		(% of firms)				
288	PUBLISHING ONLY	22.2	5.8	4.8	32.8	67.2
289	PUBLISHING AND PRINTING	13.6	5.9	6.5	26.0	74.0
290	IRON AND STEEL MILLS, SMELTING AND REFINING	11.1	3.7	4.9	19.7	80.3
300	BOILER, PLATE & STRUCTURAL STEEL	9.2	1.3	5.3	15.8	84.2
304	METAL STAMPERS, PRESSING AND COATING INDUSTRY	8.5	1.1	5.2	14.8	85.2
305	WIRE & WIRE PRODUCTS MANUFACTURERS	6.4	3.2	6.4	16.0	84.0
308	MACHINE SHOPS	9.5	2.8	4.9	17.2	82.8
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	10.7	3.0	3.8	17.5	82.5
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	15.1	4.1	6.1	25.3	74.7
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	18.0	3.4	4.5	25.9	74.1
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURING	19.1	-	3.6	22.7	77.3
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	25.3	1.0	8.1	34.4	65.6
337	COMMUNICATIONS EQUIPMENT MNFG.	20.7	6.9	8.6	36.2	63.8
341	ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MANUFACTURERS	21.9	3.4	3.4	28.7	71.3
349	CLAY OR STONE PRODUCTS	11.5	2.6	7.7	21.8	78.2
350	READY-MIX CONCRETE	6.8	1.1	5.7	13.6	86.4
354	CONCRETE PRODUCTS MANUFACTURERS	8.3	2.1	7.6	18.0	82.0
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	11.3	3.1	4.1	18.5	81.5
380	MISC. CHEMICALS AND PETROLEUM PRODUCTS	14.7	6.3	5.2	26.2	73.8
392	JEWELLERY AND SILVERWARE INDUSTRY	11.0	2.0	2.0	15.0	85.0
393	SPORTING GOODS AND TOY INDUSTRY	21.8	7.3	1.8	30.9	69.1

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Transition Status</u>			<u>Total</u>	
		<u>Type I</u>	<u>Type II</u>	<u>Type III</u>	<u>Transition</u>	<u>Normal</u>
		(% of firms)				
397	SIGNS AND DISPLAYS INDUSTRY	5.5	3.2	3.9	12.6	87.4
399	MISC. MANUFACTURING INDUSTRIES, NES	13.3	3.7	4.0	21.0	79.0
404	BUILDING CONSTRUCTION	14.9	3.3	8.3	26.5	73.5
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	7.3	3.1	8.4	18.8	81.2
409	OTHER CONSTRUCTION	8.7	3.1	7.1	18.9	81.1
421	SPECIAL TRADE CONTRACTORS	11.6	3.4	4.3	19.3	80.7
500	WATER, RAIL & PIPELINE TRANSPORTATION	16.0	6.7	16.0	38.7	61.3
501	AIR TRANSPORTATION	23.1	1.5	7.7	32.3	67.7
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	24.6	6.9	6.2	37.7	62.3
507	TRUCK TRANSPORT	12.8	5.6	5.2	23.6	76.4
510	TRANSIT SYSTEMS	3.4	-	9.1	12.5	87.5
512	TAXI CAB OPERATIONS	12.6	3.0	12.6	28.2	71.8
519	OTHER TRANSPORTATION	5.2	0.9	5.2	11.3	88.7
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	19.5	4.4	5.4	29.3	70.7
525	STORAGE AND WAREHOUSING, INCL. GRAIN	11.0	4.1	8.3	23.4	76.6
543	RADIO AND TELEVISION BROADCASTING	11.2	6.7	3.4	21.3	78.7
560	MISCELLANEOUS COMMUNICATION & UTILITIES	8.0	4.5	20.5	33.0	67.0
608	WHOLESALEERS OF PETROLEUM PRODUCTS, COAL AND COKE	5.9	2.7	11.7	20.3	79.7
611	WHOLESALEERS OF PAPER AND PAPER PRODUCTS	5.0	1.0	5.0	11.0	89.0
614	WHOLESALEERS OF FOODS	7.4	2.8	7.5	17.7	82.3
615	WHOLESALEERS OF TOBACCO PRODUCTS	-	1.7	13.8	15.5	84.5

<u>IBC</u>	<u>INDUSTRY TITLE</u>	<u>Transition Status</u>			<u>Total</u>	
		<u>Type I</u>	<u>Type II</u>	<u>Type III</u>	<u>Transition</u>	<u>Normal</u>
		(% of firms)				
616	WHOLESALERS OF DRUGS AND TOILET PREPARATIONS	11.3	1.6	8.1	21.0	79.0
618	WHOLESALERS OF HOUSEHOLD FURNITURE AND FIXTURES	10.8	1.6	4.6	17.0	83.0
619	WHOLESALERS OF MOTOR VEHICLES AND ACCESSORIES	9.9	1.9	7.1	18.9	81.1
620	WHOLESALERS OF APPAREL AND DRY GOODS & GENERAL MERCHANDISE	7.4	1.8	7.6	16.8	83.2
621	WHOLESALERS OF ELECTRICAL MACHINERY & EQUIPMENT	14.9	2.9	4.4	22.2	77.8
622	WHOLESALERS OF FARM MACHINERY AND EQUIPMENT	4.4	1.1	8.9	14.4	85.6
623	WHOLESALERS OF MACHINERY AND EQUIPMENT, NES	13.4	3.9	7.1	24.4	75.6
624	WHOLESALERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	4.4	2.2	10.7	17.3	82.7
625	WHOLESALERS OF METAL & METAL PRODUCTS, NES	9.0	2.6	9.0	20.6	79.4
626	WHOLESALERS OF LUMBER AND BUILDING MATERIAL	7.8	2.8	9.7	20.3	79.7
627	WHOLESALERS OF SCRAP AND WASTE MATERIAL	9.0	1.7	7.3	18.0	82.0
629	WHOLESALERS, NES	13.4	4.9	7.6	25.9	74.1
631	FOOD STORES	11.4	2.7	8.3	22.4	77.6
642	GENERAL MERCHANDISE STORES	4.4	1.1	8.5	14.0	86.0
652	TIRE, BATTERY & ACCESSORIES STORES	12.6	2.8	8.4	23.8	76.2
654	GASOLINE SERVICE STATIONS	9.4	3.4	8.9	21.7	78.3
656	MOTOR VEHICLE DEALERS	5.8	1.0	9.6	16.4	83.6
658	MOTOR VEHICLE REPAIR SHOP	15.8	3.4	4.8	24.0	76.0
663	SHOE STORES	9.2	2.8	5.6	17.6	82.4
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	7.7	1.2	5.8	14.7	85.3

IBC	INDUSTRY TITLE	Transition Status			Total	
		Type I	Type II	Type III	Transition	Normal
		(% of firms)				
667	WOMEN'S CLOTHING STORES	11.7	3.7	6.2	21.6	78.4
669	CLOTHING & DRY GOODS STORES, NES	14.4	3.2	5.8	23.4	76.6
676	HOUSEHOLD FURNITURE AND APPLIANCE STORES	15.1	3.4	6.4	24.9	75.1
678	RADIO, TV & ELECTRICAL APPLIANCES REPAIR STORES	7.8	7.8	2.9	18.5	81.5
681	DRUG STORES	2.6	0.6	10.0	13.2	86.8
691	BOOK & STATIONERY STORES	17.7	4.0	4.4	26.1	73.9
692	FLORISTS' SHOPS	19.7	4.4	5.2	29.3	70.7
694	JEWELLERY STORES & REPAIR SHOPS	9.1	2.5	4.3	15.9	84.1
697	TOBACCONISTS	8.8	7.0	5.3	21.1	78.9
699	RETAIL STORES, NES	21.2	6.2	5.0	32.4	67.6
850	MISC. AMUSEMENT AND RECREATION SERVICES	19.0	6.9	10.5	36.4	63.6
862	ADVERTISING SERVICES	17.1	6.9	6.9	30.9	69.1
869	MISC. SERVICES TO BUSINESS MANAGEMENT	11.3	5.6	8.8	25.7	74.3
872	BARBER AND BEAUTY SHOPS	12.1	8.4	2.4	22.9	77.1
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	11.5	6.1	9.4	27.0	73.0
879	MISC. PERSONAL SERVICES	8.0	2.7	10.4	21.1	78.9
880	HOTELS, MOTELS, ETC.	18.6	6.0	13.9	38.5	61.5
893	PHOTOGRAPHIC SERVICES, NES.	21.9	4.3	0.4	26.6	73.4
896	BLACKSMITHING & WELDING SHOPS	11.0	3.1	4.5	18.6	81.4
897	MISC. REPAIR SHOPS	7.3	2.9	0.7	10.9	89.1
898	SERVICES TO BUILDINGS AND DWELLINGS	11.0	5.2	2.7	18.9	81.1
899	MISCELLANEOUS SERVICES	16.2	5.7	10.9	32.8	67.2

APPENDIX E

The Incidence of Transition Firms
by Quartile: Incorporated Self Employment
and Independent Canadian Controlled Small
and Medium Business - 1977

Each Quartile represents 25% of the firms by number. Thus in the first quartile of the Logging & Related Services, industry 57.9% (of the 25%) of the firms were in a state of transition. In all, about one in four firms in this sector was determined as not "normal".

NOTE: Quartile One is the smallest 25% of firms, while Quartile Four contains the largest 25% of the firms.

TABLE E1

The Incidence of Transition Firms
by Quartile and by Industry

IBC	INDUSTRY TITLE	Quartile				All Industry
		One (Percent of Firms in Transition)	Two	Three	Four	
30	LOGGING & RELATED SERVICES	57.9	16.5	15.2	3.0	23.2
50	METAL & NON-METAL MINES & QUARRIES	69.8	30.2	14.0	-	28.5
64	CRUDE PETROLEUM & NATURAL GAS	76.7	62.8	44.2	32.6	54.1
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	48.6	16.2	5.4	2.7	18.3
100	MEAT, POULTRY & FISH PROD.	51.9	5.6	9.3	3.7	17.6
103	FRUIT & VEGETABLE PROCESSING	53.8	16.7	-	8.3	19.7
104	DAIRY PRODUCTS INDUSTRY	67.9	-	3.6	-	17.9
106	FEED INDUSTRY	58.1	16.1	9.7	-	21.0
107	BAKERY PRODUCTS INDUSTRY	43.5	16.4	11.5	4.9	19.1
109	BEVERAGE INDUSTRY	65.2	17.4	-	-	20.7
110	MISCELLANEOUS FOOD INDUSTRY	50.0	53.8	3.8	8.0	28.9
165	PLASTICS FABRICATING INDUSTRY, NES	56.0	36.7	12.2	6.1	27.8
170	LEATHER PRODUCTS INDUSTRY	33.3	20.7	3.3	-	14.3
190	TEXTILE INDUSTRY	50.0	14.8	1.9	-	16.7
230	HOSIERY & KNITTING MILLS	28.6	-	4.8	-	8.3
240	CLOTHING INDUSTRY	41.6	14.5	2.4	1.6	15.0
247	MISCELLANEOUS CLOTHING INDUSTRY	15.6	6.5	-	-	5.5
250	PLYWOOD & WOOD MILLING INDUSTRY	48.9	18.7	8.6	2.2	19.6
255	MISCELLANEOUS WOOD INDUSTRY	61.5	17.9	15.4	2.6	24.4
261	HOUSEHOLD FURNITURE MANUFACTURERS	53.3	29.3	21.7	5.5	27.5
262	MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	55.9	8.8	5.9	2.9	18.4
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	33.3	15.4	-	3.8	13.1
286	COMMERCIAL PRINTING	52.2	20.2	6.7	1.0	20.0
38	PUBLISHING ONLY	62.5	27.7	19.1	21.3	32.6

NOTE: - implies no firms in transition.

IBC	INDUSTRY TITLE	Quartile				All Industry
		One (Percent of Firms in Transition)	Two	Three	Four	
289	PUBLISHING AND PRINTING	62.8	26.2	7.1	7.1	25.8
290	IRON AND STEEL MILLS, SMELTING AND REFINING	47.6	10.0	20.0	-	19.4
300	BOILER, PLATE & STRUCTURAL STEEL	52.6	10.5	-	-	15.8
304	METAL STAMPERS, PRESSING AND COATING INDUSTRY	39.7	13.2	4.4	1.5	14.7
305	WIRE & WIRE PRODUCTS MANUFACTURERS	43.8	12.5	-	6.7	15.7
308	MACHINE SHOPS	45.4	15.9	6.5	0.9	17.2
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	51.5	15.2	3.0	-	17.4
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	60.5	22.1	15.1	3.5	25.3
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	65.2	22.7	9.1	4.5	25.4
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURING	52.4	19.0	14.3	4.8	22.6
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	64.0	48.0	16.0	8.3	34.1
337	COMMUNICATIONS EQUIPMENT MNFG.	73.3	42.9	26.7	-	35.7
341	ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MANUFACTURERS	56.7	46.7	10.0	-	28.3
349	CLAY OR STONE PRODUCTS	50.0	26.3	5.0	5.3	21.6
350	READY-MIX CONCRETE	40.9	13.6	-	-	13.6
354	CONCRETE PRODUCTS MANUFACTURERS	48.6	13.9	8.3	-	17.7
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	49.0	12.5	6.1	6.3	18.5
380	MISC. CHEMICALS AND PETROLEUM PRODUCTS	56.3	31.3	10.4	6.4	26.1
392	JEWELLERY AND SILVERWARE INDUSTRY	32.0	24.0	4.0	-	15.0

IBC	INDUSTRY TITLE	Quartile				All Industry
		One (Percent of Firms in Transition)	Two	Three	Four	
393	SPORTING GOODS AND TOY INDUSTRY	78.6	28.6	14.3	-	30.4
397	SIGNS AND DISPLAYS INDUSTRY	28.1	15.6	6.3	-	12.5
399	MISC. MANUFACTURING INDUSTRIES, NES	50.7	17.8	12.9	2.4	21.0
404	BUILDING CONSTRUCTION	57.9	29.3	14.4	4.0	26.4
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	48.2	19.5	7.0	-	18.7
409	OTHER CONSTRUCTION	45.3	22.4	5.1	2.0	18.8
421	SPECIAL TRADE CONTRACTORS	48.1	17.8	8.1	3.0	19.2
500	WATER, RAIL & PIPELINE TRANSPORTATION	78.9	45.9	15.8	13.5	38.5
501	AIR TRANSPORTATION	63.6	25.0	30.3	9.4	32.1
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	66.7	46.9	21.2	15.6	37.6
507	TRUCK TRANSPORT	49.0	24.4	14.9	5.8	23.5
510	TRANSIT SYSTEMS	50.0	-	-	-	12.5
512	TAXI CAB OPERATIONS	58.0	26.5	18.0	10.2	28.2
519	OTHER TRANSPORTATION	33.9	5.2	3.4	1.7	11.1
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	58.0	26.1	22.4	10.6	29.3
525	STORAGE AND WAREHOUSING, INCL. GRAIN	51.4	22.2	13.9	5.6	23.3
543	RADIO AND TELEVISION BROADCASTING	42.2	31.1	8.9	2.3	21.1
560	MISCELLANEOUS COMMUNICATION & UTILITIES	60.0	34.0	28.0	10.0	33.0
608	WHOLESALEERS OF PETROLEUM PRODUCTS, COAL AND COKE	54.7	13.7	7.2	5.8	20.3
611	WHOLESALEERS OF PAPER AND PAPER PRODUCTS	36.0	8.0	-	-	11.0

IBC	INDUSTRY TITLE	Quartile				All Industry
		One (Percent of Firms in Transition)	Two	Three	Four	
614	WHOLESALERS OF FOODS	50.5	12.1	5.8	2.1	17.6
615	WHOLESALERS OF TOBACCO PRODUCTS	60.0	-	-	-	15.0
616	WHOLESALERS OF DRUGS AND TOILET PREPARATIONS	45.2	32.3	6.5	-	21.0
618	WHOLESALERS OF HOUSEHOLD FURNITURE AND FIXTURES	38.8	22.9	4.1	2.1	17.0
619	WHOLESALERS OF MOTOR VEHICLES AND ACCESSORIES	57.3	11.5	3.8	3.1	18.9
620	WHOLESALERS OF APPAREL AND DRY GOODS & GENERAL MERCHANDISE	43.8	11.7	7.2	4.5	16.8
621	WHOLESALERS OF ELECTRICAL MACHINERY & EQUIPMENT	51.7	24.4	10.0	2.5	22.1
622	WHOLESALERS OF FARM MACHINERY AND EQUIPMENT	47.1	9.6	0.7	-	14.4
623	WHOLESALERS OF MACHINERY AND EQUIPMENT, -NES	62.7	25.6	6.5	2.9	24.4
624	WHOLESALERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	57.3	8.7	1.9	1.0	17.2
625	WHOLESALERS OF METAL & METAL PRODUCTS, NES	53.8	17.9	7.7	2.6	20.5
626	WHOLESALERS OF LUMBER AND BUILDING MATERIAL	59.2	16.5	4.4	0.9	20.3
627	WHOLESALERS OF SCRAP AND WASTE MATERIAL	44.1	19.0	6.8	1.7	17.9
629	WHOLESALERS, NES	62.8	24.7	12.5	3.2	25.8
631	FOOD STORES	55.1	18.7	9.8	5.9	22.4
642	GENERAL MERCHANDISE STORES	42.5	6.3	4.8	1.9	13.9
652	TIRE, BATTERY & ACCESSORIES STORES	56.9	19.1	6.4	12.8	23.8
654	GASOLINE SERVICE STATIONS	52.7	18.4	10.6	4.9	21.7

IBC	INDUSTRY TITLE	Quartile				All Industry
		One (Percent of Firms in Transition)	Two	Three	Four	
656	MOTOR VEHICLE DEALERS	51.1	11.1	2.5	1.0	16.4
658	MOTOR VEHICLE REPAIR SHOP	56.8	23.4	10.5	5.2	24.0
33	SHOE STORES	47.9	16.9	5.6	-	17.6
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	46.2	10.9	1.6	-	14.6
667	WOMEN'S CLOTHING STORES	58.0	20.1	6.3	1.7	21.6
669	CLOTHING & DRY GOODS STORES, NES	58.8	25.5	6.7	2.4	23.3
676	HOUSEHOLD FURNITURE AND APPLIANCE STORES	60.4	24.1	10.4	4.4	24.8
678	RADIO, TV & ELECTRICAL APPLIANCES REPAIR STORES	30.8	23.1	19.2	-	18.3
681	DRUG STORES	46.2	1.8	2.3	2.3	13.1
691	BOOK & STATIONERY STORES	61.4	33.9	5.3	3.6	26.0
692	FLORISTS' SHOPS	66.7	33.9	8.1	8.1	29.2
694	JEWELLERY STORES & REPAIR SHOPS	51.4	7.3	2.7	1.8	15.8
697	TOBACCONISTS	40.0	35.7	7.1	-	20.7
699	RETAIL STORES, NES	67.3	34.9	17.7	10.0	32.5
850	MISC. AMUSEMENT AND RECREATION SERVICES	68.3	38.4	23.4	15.3	36.4
862	ADVERTISING SERVICES	58.5	33.0	24.5	7.5	30.9
869	MISC. SERVICES TO BUSINESS MANAGEMENT	54.3	24.6	14.4	9.2	25.6
872	BARBER AND BEAUTY SHOPS	45.2	26.9	12.9	6.5	22.9
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	61.9	28.4	11.0	6.5	26.9
879	MISC. PERSONAL SERVICES	56.4	17.0	5.3	5.3	21.0
880	HOTELS, MOTELS, ETC.	73.2	36.5	27.0	17.1	38.4
893	PHOTOGRAPHIC SERVICES, NES.	56.3	26.6	17.2	6.3	26.6
896	BLACKSMITHING & WELDING SHOPS	47.9	16.4	8.2	1.4	18.5
897	MISC. REPAIR SHOPS	31.4	11.8	-	-	10.8
898	SERVICES TO BUILDINGS AND DWELLINGS	38.6	23.0	10.0	4.0	18.9
899	MISCELLANEOUS SERVICES	60.9	38.0	22.5	9.7	32.8

APPENDIX F

Maximum and Minimum Triad Sales
by IBC Industry
1977

The incorporated Independent Canadian controlled small and medium business, and incorporated self employment firms were combined for the financial ratio analysis. The sales of the smallest triad, in any industry, can be no lower than \$1,000 since the sales of the smallest firm was restricted to this value in the original construction of the tax file. Any firm with sales below this value, was likely deemed an "inactive firm".

By construction, the sales of the largest independent (or self employment) firm could be no larger than 30 million dollars. Examination of the largest triad, in each of the 107 industries reveals that this is a weak upper-bound for all but nine sectors. Of course, the sales of the largest independent firm lies somewhere between the largest triad's sales and \$30 million. The following chart summarize the distribution of the largest triad:

Size Distribution of the
Maximum Triad

Maximum Triad Sales in an industry (\$ million)	% of IBC industries
0-5	8.6
5-10	13.3
10-15	16.2
15-20	27.6
20-25	25.7
25-30	<u>8.6</u>
Total	100.0

TABLE F1

Maximum and Minimum Triad Sales*
By Industry

IBC	Industry	Sales of Largest Triad	Sales of Smallest Triad
		(\$,000)	
30	LOGGING & RELATED SERVICES	11,511.3	1.0
50	METAL & NON-METAL MINES & QUARRIES	16,974.7	1.0
64	CRUDE PETROLEUM & NATURAL GAS	15,841	1.0
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	19,504.7	1.0
100	MEAT, POULTRY & FISH PROD.	27,345.7	1.5
103	FRUIT & VEGETABLE PROCESSING	19,020.7	6.6
104	DAIRY PRODUCTS INDUSTRY	25,390.3	1.0
106	FEED INDUSTRY	22,989.3	2.0
107	BAKERY PRODUCTS INDUSTRY	19,609.3	1.0
109	BEVERAGE INDUSTRY	20,036	1.3
110	MISCELLANEOUS FOOD INDUSTRY	21,262.3	2.5
165	PLASTICS FABRICATING INDUSTRY, NES	17,240.3	1.0
170	LEATHER PRODUCTS INDUSTRY	23,572	1.3
190	TEXTILE INDUSTRY	21,443	1.0
230	HOSIERY & KNITTING MILLS	21,407	3.8
240	CLOTHING INDUSTRY	20,343.3	1.0
247	MISCELLANEOUS CLOTHING INDUSTRY	14,097.3	1.8
250	PLYWOOD & WOOD MILLING INDUSTRY	23,359.7	1.0
255	MISCELLANEOUS WOOD INDUSTRY	8,725.3	1.0
261	HOUSEHOLD FURNITURE MANUFACTURERS	16,112.7	1.0
262	MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	15,970.3	1.0
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	18,309	1.2
286	COMMERCIAL PRINTING	16,541	1.0
88	PUBLISHING ONLY	15,898.7	1.0

* the sales of the largest firm in each industry lies somewhere between the largest triad's sales and \$30 million.

Maximum and Minimum Triad Sales*
By Industry

3C	Industry	Sales of Largest Triad	Sales of Smallest Triad
		(\$,000)	
289	PUBLISHING AND PRINTING	15,702.3	1.0
290	IRON & STEEL MILLS, SMELTING & REFINING		
300	BOILER, PLATE & STRUCTURAL STEEL	23,347	2.7
304	METAL STAMPERS, PRESSING AND COATING INDUSTRY	18,373.7	1.3
305	WIRE & WIRE PRODUCTS MANUFACTURERS	8,784	1.0
308	MACHINE SHOPS	11,398.7	1.0
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	16,074.3	1.0
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	19,446.3	1.0
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	15,631	1.0
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURING	19,573	1.4
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	11,331.7	1.0
337	COMMUNICATIONS EQUIPMENT MNFG.	13,132	1.3
341	ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MANUFACTURERS	16,651.7	1.0
349	CLAY OR STONE PRODUCTS	11,961.3	1.3
350	READY-MIX CONCRETE	11,272	5.0
354	CONCRETE PRODUCTS MANUFACTURERS	10,587.5	1.7
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	15,337.7	1.0
380	MISC. CHEMICALS AND PETROLEUM PRODUCTS	22,092.3	1.0
392	JEWELLERY AND SILVERWARE INDUSTRY	10,480	5.0
393	SPORTING GOODS AND TOY INDUSTRY	9,319.3	1.0
397	SIGNS AND DISPLAYS INDUSTRY	5,394.7	2.2

* the sales of the largest firm in each industry lies somewhere between largest triad's sales and \$30 million.

Maximum and Minimum Triad Sales*
By Industry

IC	Industry	Sales of Largest Triad	Sales of Smallest Triad
		(\$,000)	
399	MISC. MANUFACTURING INDUSTRIES, NES	21,222	1.0
404	BUILDING CONSTRUCTION	21,432.7	1.0
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	22,928	1.0
409	OTHER CONSTRUCTION	19,806	1.0
421	SPECIAL TRADE CONTRACTORS	23,533.3	1.0
500	WATER, RAIL & PIPELINE TRANSPORTATION	20,411.7	1.0
501	AIR TRANSPORTATION	9,026.3	1.0
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	3,742.3	1.0
507	TRUCK TRANSPORT	20,147.3	1.0
510	TRANSIT SYSTEMS	5,052.7	1.0
512	TAXI CAB OPERATIONS	3,376.3	1.0
519	OTHER TRANSPORTATION	6,432.3	1.0
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	21,241.3	1.0
525	STORAGE AND WAREHOUSING, INCL. GRAIN	8,688	1.2
543	RADIO AND TELEVISION BROADCASTING	16,162.3	1.8
560	MISCELLANEOUS COMMUNICATION & UTILITIES	8,394.3	1.0
608	WHOLESALEERS OF PETROLEUM PRODUCTS, COAL AND COKE	21,073	1.0
611	WHOLESALEERS OF PAPER AND PAPER PRODUCTS	21,966	1.0
614	WHOLESALEERS OF FOODS	24,984.3	1.0
615	WHOLESALEERS OF TOBACCO PRODUCTS	22,721.7	2.0

* the sales of the largest firm in each industry lies somewhere between the largest triad's sales and \$30 million.

Maximum and Minimum Triad Sales*
By Industry

3C	Industry	Sales of Largest Triad	Sales of Smallest Triad
		(\$,000)	
616	WHOLESALERS OF DRUGS AND TOILET PREPARATIONS	18,396.3	1.0
618	WHOLESALERS OF HOUSEHOLD FURNITURE AND FIXTURES	21,407	1.0
619	WHOLESALERS OF MOTOR VEHICLES AND ACCESSORIES	25,536	1.0
620	WHOLESALERS OF APPAREL AND DRY GOODS & GENERAL MERCHANDISE	18,251	1.0
621	WHOLESALERS OF ELECTRICAL MACHINERY & EQUIPMENT	25,283.3	1.0
622	WHOLESALERS OF FARM MACHINERY AND EQUIPMENT	9,762.7	1.0
623	WHOLESALERS OF MACHINERY AND EQUIPMENT, NES	20,166.7	1.0
624	WHOLESALERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	15,866.7	1.0
625	WHOLESALERS OF METAL & METAL PRODUCTS, NES	16,694	1.0
626	WHOLESALERS OF LUMBER AND BUILDING MATERIAL	25,990.7	1.0
627	WHOLESALERS OF SCRAP AND WASTE MATERIAL	17,984	1.0
629	WHOLESALERS, NES	26,141.7	1.0
631	FOOD STORES	25,556	1.0
642	GENERAL MERCHANDISE STORES	28,263	1.0
652	TIRE, BATTERY & ACCESSORIES STORES	13,761	1.0
654	GASOLINE SERVICE STATIONS	15,699.7	1.0
656	MOTOR VEHICLE DEALERS	28,831	1.0
658	MOTOR VEHICLE REPAIR SHOP	10,644.7	1.0
33	SHOE STORES	9,808	1.0

* the sales of the largest firm in each industry lies somewhere between the largest triad's sales and \$30 million.

Maximum and Minimum Triad Sales*
By Industry

3C	Industry	Sales of Largest Triad	Sales of Smallest Triad
		(\$,000)	
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	11,227.3	1.0
667	WOMEN'S CLOTHING STORES	22,943.7	1.0
669	CLOTHING & DRY GOODS STORES, NES	12,775.7	1.0
676	HOUSEHOLD FURNITURE AND APPLIANCE STORES	14,687.7	1.0
678	RADIO TELEVISION & ELECTRICAL APPLIANCES REPAIR SHOPS		
681	DRUG STORES	14,891.7	1.0
691	BOOK & STATIONERY STORES	6,021.7	1.0
692	FLORISTS' SHOPS	4,760	1.0
694	JEWELLERY STORES & REPAIR SHOPS	3,949.3	1.0
697	TOBACCONISTS	2,082	1.0
699	RETAIL STORES, NES	15,606.3	1.0
850	MISC. AMUSEMENT AND RECREATION SERVICES	20,665.3	1.0
862	ADVERTISING SERVICES	9,681.3	1.0
869	MISC. SERVICES TO BUSINESS MANAGEMENT	20,585	1.0
872	BARBER AND BEAUTY SHOPS	2,782	1.0
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	4,654.3	1.0
879	MISC. PERSONAL SERVICES	3,011	1.0
880	HOTELS, MOTELS, ETC.	21,430.3	1.0
893	PHOTOGRAPHIC SERVICES, NES.	13,879	1.0
896	BLACKSMITHING & WELDING SHOPS	3,019.7	1.0
37	MISC. REPAIR SHOPS	6,077.7	3.3
898	SERVICES TO BUILDINGS AND DWELLINGS	11,018.7	1.0
899	MISCELLANEOUS SERVICES	16,001.7	1.0

* the sales of the largest firm in each industry lies somewhere between the largest triad's sales and \$30 million.

APPENDIX G

Financial Ratio Analysis Summary Tables

Table G1 reports the results of four regressions carried out on on all 107 SBFR industries. These regressions are described in the section "Financial Ratios and Relations between Financial Variables". The four regressions were carried out on two data sets, corresponding to the columns headed "Sales Triads" and "Assets Triads" (See Appendix C). The regressions are:

- a) An "Orthogonal Regression" (Principal Axis Regression) of the logarithm of Sales vs. the logarithm of Assets. The slopes of the regression lines are reported in the first line of each industry block in table G1.
- b) An orthogonal regression of the logarithm of Debt vs. the logarithm of Assets. The slope of the lines are reported in in the second line of each industry block in table G1.
- c) A regression of the Profit-to-Sales ratio vs. the first principal component of log Sales and log Assets. The intercept is given in the third line of each industry block in table G1. The slope is given in line 4.
- d) An orthogonal regression of the EBIT-to-Assets ratio vs. the first principal component of log Sales and log Assets. The intercept is given in line 5 of each industry block in table G1. The slope is given in line 6.

Table G2 gives, for each SBFR industry, the medians of four financial ratios defined in the column headings. Under each median, in parentheses, is given the "interquartile semi-range", defined as half the difference between the third and first quartiles. This is a measure of the variability of the ratio, analogous to a standard error.

TABLE G1

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
30	LOGGING & RELATED SERVICES	SLOPE SALES-ASSETS PCI	1.253	1.100
		SLOPE DEBT-ASSETS PCI	1.056	1.010
		INTCPT PR/SA VS. PCI	0.131	0.102
		... SLOPE SAME LINE	-.016	-.006
		INTCPT EBIT/AS VS. PCI	0.216	0.158
		... SLOPE SAME LINE	0.003	0.002
50	METAL & NON-METAL MINES & QUARRIES	SLOPE SALES-ASSETS PCI	1.077	0.964
		SLOPE DEBT-ASSETS PCI	0.994	0.979
		INTCPT PR/SA VS. PCI	0.008	0.001
		... SLOPE SAME LINE	0.012	0.013
		INTCPT EBIT/AS VS. PCI	0.133	0.080
		... SLOPE SAME LINE	0.005	0.003
64	CRUDE PETROLEUM & NATURAL GAS	SLOPE SALES-ASSETS PCI	1.045	0.864
		SLOPE DEBT-ASSETS PCI	1.115	1.076
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.324	0.364
		... SLOPE SAME LINE	0.001	-.015
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	SLOPE SALES-ASSETS PCI	1.026	0.983
		SLOPE DEBT-ASSETS PCI	1.083	1.092
		INTCPT PR/SA VS. PCI	0.159	0.112
		... SLOPE SAME LINE	-.008	-.001
		INTCPT EBIT/AS VS. PCI	0.208	0.159
		... SLOPE SAME LINE	-.001	-.001
100	MEAT, POULTRY & FISH PROD.	SLOPE SALES-ASSETS PCI	1.181	1.105
		SLOPE DEBT-ASSETS PCI	1.040	1.036
		INTCPT PR/SA VS. PCI	0.160	0.059
		... SLOPE SAME LINE	-.018	-.002
		INTCPT EBIT/AS VS. PCI	0.256	0.144
		... SLOPE SAME LINE	-.007	-.000
104	DAIRY PRODUCTS INDUSTRY	SLOPE SALES-ASSETS PCI	1.153	1.050
		SLOPE DEBT-ASSETS PCI	1.146	1.163
		INTCPT PR/SA VS. PCI	.	0.037
		... SLOPE SAME LINE	.	0.003
		INTCPT EBIT/AS VS. PCI	0.110	0.025
		... SLOPE SAME LINE	0.003	0.009
106	FEED INDUSTRY	SLOPE SALES-ASSETS PCI	1.167	1.018
		SLOPE DEBT-ASSETS PCI	1.084	1.115
		INTCPT PR/SA VS. PCI	.	0.012
		... SLOPE SAME LINE	.	0.004
		INTCPT EBIT/AS VS. PCI	0.047	0.027
		... SLOPE SAME LINE	0.006	0.007
107	BAKERY PRODUCTS INDUSTRY	SLOPE SALES-ASSETS PCI	1.086	0.978
		SLOPE DEBT-ASSETS PCI	1.074	1.040
		INTCPT PR/SA VS. PCI	0.174	0.125
		... SLOPE SAME LINE	-.018	-.008
		INTCPT EBIT/AS VS. PCI	0.315	0.232
		... SLOPE SAME LINE	-.014	-.009

NOTE: PCI means first Principal Component
Missing values mean too few
observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
30	LOGGING & RELATED SERVICES	SLOPE SALES-ASSETS PCI	1.253	1.100
109	BEVERAGE INDUSTRY	SLOPE SALES-ASSETS PCI	0.999	1.007
		SLOPE DEBT-ASSETS PCI	1.075	1.153
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.086	0.010
		... SLOPE SAME LINE	0.002	0.008
110	MISCELLANEOUS FOOD INDUSTRY	SLOPE SALES-ASSETS PCI	1.203	1.057
		SLOPE DEBT-ASSETS PCI	1.031	1.026
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.193	0.128
		... SLOPE SAME LINE	0.001	-.000
165	PLASTICS FABRICATING INDUSTRY, NES	SLOPE SALES-ASSETS PCI	1.025	0.989
		SLOPE DEBT-ASSETS PCI	1.030	1.032
		INTCPT PR/SA VS. PCI	0.071	0.057
		... SLOPE SAME LINE	-.005	-.002
		INTCPT EBIT/AS VS. PCI	0.173	0.131
		... SLOPE SAME LINE	-.005	-.002
170	LEATHER PRODUCTS INDUSTRY	SLOPE SALES-ASSETS PCI	1.061	0.946
		SLOPE DEBT-ASSETS PCI	1.093	1.039
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.067	0.013
		... SLOPE SAME LINE	0.003	0.003
190	TEXTILE INDUSTRY	SLOPE SALES-ASSETS PCI	0.972	0.929
		SLOPE DEBT-ASSETS PCI	1.028	1.019
		INTCPT PR/SA VS. PCI	-.036	-.032
		... SLOPE SAME LINE	0.006	0.005
		INTCPT EBIT/AS VS. PCI	0.011	-.020
		... SLOPE SAME LINE	0.005	-.000
230	HOSIERY & KNITTING MILLS	SLOPE SALES-ASSETS PCI	1.065	0.958
		SLOPE DEBT-ASSETS PCI	1.048	1.020
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.014	-.041
		... SLOPE SAME LINE	0.007	0.011
240	CLOTHING INDUSTRY	SLOPE SALES-ASSETS PCI	1.068	0.959
		SLOPE DEBT-ASSETS PCI	1.071	1.039
		INTCPT PR/SA VS. PCI	-.005	-.003
		... SLOPE SAME LINE	0.006	0.008
		INTCPT EBIT/AS VS. PCI	0.006	-.027
		... SLOPE SAME LINE	0.009	0.007
247	MISCELLANEOUS CLOTHING INDUSTRY	SLOPE SALES-ASSETS PCI	1.065	1.012
		SLOPE DEBT-ASSETS PCI	1.042	1.096
		INTCPT PR/SA VS. PCI	0.059	0.055
		... SLOPE SAME LINE	0.000	0.000
		INTCPT EBIT/AS VS. PCI	0.096	0.099
		... SLOPE SAME LINE	0.004	0.001

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
250	PLYWOOD & WOOD MILLING INDUSTRY	SLOPE SALES-ASSETS PCI	1.068	0.996
		SLOPE DEBT-ASSETS PCI	1.033	1.024
		INTCPT PR/SA VS. PCI	0.001	-.013
		... SLOPE SAME LINE	0.007	0.009
		INTCPT EBIT/AS VS. PCI	0.031	0.034
		... SLOPE SAME LINE	0.008	0.006
255	MISCELLANEOUS WOOD INDUSTRY	SLOPE SALES-ASSETS PCI	1.088	0.983
		SLOPE DEBT-ASSETS PCI	1.073	1.083
		INTCPT PR/SA VS. PCI	0.072	0.031
		... SLOPE SAME LINE	-.004	-.003
		INTCPT EBIT/AS VS. PCI	0.115	0.089
		... SLOPE SAME LINE	0.002	-.002
261	HOUSEHOLD FURNITURE MANUFACTURERS	SLOPE SALES-ASSETS PCI	1.024	0.959
		SLOPE DEBT-ASSETS PCI	1.006	0.968
		INTCPT PR/SA VS. PCI	0.051	-.024
		... SLOPE SAME LINE	-.001	0.007
		INTCPT EBIT/AS VS. PCI	0.099	0.035
		... SLOPE SAME LINE	-.000	0.002
262	MISCELLANEOUS FURNITURE & FIXTURES MANUFACTURERS	SLOPE SALES-ASSETS PCI	0.996	0.952
		SLOPE DEBT-ASSETS PCI	0.997	0.997
		INTCPT PR/SA VS. PCI	-.008	0.030
		... SLOPE SAME LINE	0.005	0.002
		INTCPT EBIT/AS VS. PCI	0.002	0.092
		... SLOPE SAME LINE	0.004	0.002
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	SLOPE SALES-ASSETS PCI	1.075	0.964
		SLOPE DEBT-ASSETS PCI	0.984	1.020
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.098	-.016
		... SLOPE SAME LINE	0.002	-.004
286	COMMERCIAL PRINTING	SLOPE SALES-ASSETS PCI	1.026	0.965
		SLOPE DEBT-ASSETS PCI	0.983	0.977
		INTCPT PR/SA VS. PCI	0.034	0.030
		... SLOPE SAME LINE	0.003	0.005
		INTCPT EBIT/AS VS. PCI	0.104	0.086
		... SLOPE SAME LINE	0.001	0.001
288	PUBLISHING ONLY	SLOPE SALES-ASSETS PCI	1.104	0.993
		SLOPE DEBT-ASSETS PCI	1.087	1.095
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.070	0.081
		... SLOPE SAME LINE	0.008	0.005
289	PUBLISHING AND PRINTING	SLOPE SALES-ASSETS PCI	0.980	0.960
		0.972 DEBT-ASSETS PCI	0.972	0.930
		INTCPT PR/SA VS. PCI	0.064	0.032
		... SLOPE SAME LINE	0.006	0.009
		INTCPT EBIT/AS VS. PCI	0.133	0.099
		... SLOPE SAME LINE	0.002	0.003

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
290	IRON AND STEEL MILLS, SMELTING AND REFINING	SLOPE SALES-ASSETS PCI	0.961	0.950
		SLOPE DEBT-ASSETS PCI	1.113	1.021
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.072	0.116
		... SLOPE SAME LINE	-.001	-.002
300	BOILER, PLATE & STRUCTURAL STEEL	SLOPE SALES-ASSETS PCI	1.002	0.942
		SLOPE DEBT-ASSETS PCI	1.019	0.996
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.053	-.025
		... SLOPE SAME LINE	0.001	0.001
304	METAL STAMPERS, PRESSING AND COATING INDUSTRY	SLOPE SALES-ASSETS PCI	1.076	0.948
		SLOPE DEBT-ASSETS PCI	1.101	1.042
		INTCPT PR/SA VS. PCI	0.089	0.044
		... SLOPE SAME LINE	-.005	0.001
		INTCPT EBIT/AS VS. PCI	0.181	0.099
		... SLOPE SAME LINE	-.002	-.002
305	WIRE & WIRE PRODUCTS MANUFACTURERS	SLOPE SALES-ASSETS PCI	1.013	0.957
		SLOPE DEBT-ASSETS PCI	1.041	1.031
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.224	0.080
		... SLOPE SAME LINE	-.008	-.001
308	MACHINE SHOPS	SLOPE SALES-ASSETS PCI	1.007	0.972
		SLOPE DEBT-ASSETS PCI	1.032	0.999
		INTCPT PR/SA VS. PCI	0.066	0.017
		... SLOPE SAME LINE	0.001	0.006
		INTCPT EBIT/AS VS. PCI	0.116	0.080
		... SLOPE SAME LINE	0.001	0.001
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	SLOPE SALES-ASSETS PCI	1.069	0.998
		SLOPE DEBT-ASSETS PCI	1.046	0.990
		INTCPT PR/SA VS. PCI	0.032	0.008
		... SLOPE SAME LINE	0.002	0.008
		INTCPT EBIT/AS VS. PCI	0.027	0.022
		... SLOPE SAME LINE	0.008	0.007
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	SLOPE SALES-ASSETS PCI	1.007	0.975
		SLOPE DEBT-ASSETS PCI	1.050	1.070
		INTCPT PR/SA VS. PCI	0.102	0.049
		... SLOPE SAME LINE	-.005	0.002
		INTCPT EBIT/AS VS. PCI	0.136	0.077
		... SLOPE SAME LINE	-.001	0.002
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	SLOPE SALES-ASSETS PCI	1.030	0.983
		SLOPE DEBT-ASSETS PCI	1.050	1.017
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.131	0.079
		... SLOPE SAME LINE	0.000	0.001

NOTE: PCI means first Principal Component
Missing values mean too few
observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURING	SLOPE SALES-ASSETS PCI	1.003	0.976
		SLOPE DEBT-ASSETS PCI	0.990	1.021
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	-.161	-.036
		... SLOPE SAME LINE	0.021	0.010
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	SLOPE SALES-ASSETS PCI	1.084	1.036
		SLOPE DEBT-ASSETS PCI	0.968	0.998
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.103	0.108
		... SLOPE SAME LINE	0.002	-.000
341	ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MANUFACTURERS	SLOPE SALES-ASSETS PCI	1.028	1.002
		SLOPE DEBT-ASSETS PCI	0.961	0.946
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.086	0.122
		... SLOPE SAME LINE	0.001	-.006
349	CLAY OR STONE PRODUCTS	SLOPE SALES-ASSETS PCI	.	1.026
		SLOPE DEBT-ASSETS PCI	.	1.071
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	.	0.028
		... SLOPE SAME LINE	.	0.008
350	READY-MIX CONCRETE	SLOPE SALES-ASSETS PCI	1.099	0.984
		SLOPE DEBT-ASSETS PCI	0.978	0.993
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	-.070	-.014
		... SLOPE SAME LINE	0.017	0.008
354	CONCRETE PRODUCTS MANUFACTURERS	SLOPE SALES-ASSETS PCI	1.115	0.940
		SLOPE DEBT-ASSETS PCI	1.084	1.039
		INTCPT PR/SA VS. PCI	0.166	0.131
		... SLOPE SAME LINE	-.015	-.006
		INTCPT EBIT/AS VS. PCI	0.248	0.172
		... SLOPE SAME LINE	-.006	-.004
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	SLOPE SALES-ASSETS PCI	0.986	0.936
		SLOPE DEBT-ASSETS PCI	1.035	1.025
		INTCPT PR/SA VS. PCI	0.026	0.024
		... SLOPE SAME LINE	0.005	0.005
		INTCPT EBIT/AS VS. PCI	0.066	0.035
		... SLOPE SAME LINE	0.004	0.002
380	MISC. CHEMICALS AND PETROLEUM PRODUCTS	SLOPE SALES-ASSETS PCI	1.065	0.990
		SLOPE DEBT-ASSETS PCI	1.044	1.005
		INTCPT PR/SA VS. PCI	0.017	0.005
		... SLOPE SAME LINE	0.005	0.006
		INTCPT EBIT/AS VS. PCI	0.042	0.016
		... SLOPE SAME LINE	0.007	0.005

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
392	JEWELLERY AND SILVERWARE INDUSTRY	SLOPE SALES-ASSETS PCI	1.092	1.036
		SLOPE DEBT-ASSETS PCI	0.995	0.982
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.009	-.063
		... SLOPE SAME LINE	0.011	0.015
397	SIGNS AND DISPLAYS INDUSTRY	SLOPE SALES-ASSETS PCI	0.910	0.851
		SLOPE DEBT-ASSETS PCI	1.063	1.046
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.164	0.092
		... SLOPE SAME LINE	-.002	-.001
399	MISC. MANUFACTURING INDUSTRIES, NES	SLOPE SALES-ASSETS PCI	1.054	0.990
		SLOPE DEBT-ASSETS PCI	1.043	1.011
		INTCPT PR/SA VS. PCI	0.037	0.048
		... SLOPE SAME LINE	0.003	0.001
		INTCPT EBIT/AS VS. PCI	0.129	0.116
		... SLOPE SAME LINE	0.001	-.001
404	BUILDING CONSTRUCTION	SLOPE SALES-ASSETS PCI	1.097	0.946
		SLOPE DEBT-ASSETS PCI	1.077	1.061
		INTCPT PR/SA VS. PCI	0.041	0.053
		... SLOPE SAME LINE	0.000	-.000
		INTCPT EBIT/AS VS. PCI	0.118	0.129
		... SLOPE SAME LINE	0.002	-.002
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	SLOPE SALES-ASSETS PCI	1.064	0.995
		SLOPE DEBT-ASSETS PCI	1.039	1.019
		INTCPT PR/SA VS. PCI	0.121	0.072
		... SLOPE SAME LINE	-.010	0.000
		INTCPT EBIT/AS VS. PCI	0.203	0.136
		... SLOPE SAME LINE	-.005	-.000
409	OTHER CONSTRUCTION	SLOPE SALES-ASSETS PCI	1.079	1.051
		SLOPE DEBT-ASSETS PCI	1.076	1.040
		INTCPT PR/SA VS. PCI	0.048	0.041
		... SLOPE SAME LINE	-.000	0.001
		INTCPT EBIT/AS VS. PCI	0.127	0.114
		... SLOPE SAME LINE	0.001	0.001
421	SPECIAL TRADE CONTRACTORS	SLOPE SALES-ASSETS PCI	1.090	1.040
		SLOPE DEBT-ASSETS PCI	1.095	1.048
		INTCPT PR/SA VS. PCI	0.065	0.071
		... SLOPE SAME LINE	-.003	-.002
		INTCPT EBIT/AS VS. PCI	0.132	0.138
		... SLOPE SAME LINE	0.001	-.001
500	WATER, RAIL & PIPELINE TRANSPORTATION	SLOPE SALES-ASSETS PCI	1.109	0.975
		SLOPE DEBT-ASSETS PCI	1.086	1.070
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.163	0.055
		... SLOPE SAME LINE	0.001	0.007

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
501	AIR TRANSPORTATION	SLOPE SALES-ASSETS PCI	1.067	1.003
		SLOPE DEBT-ASSETS PCI	1.037	1.004
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.134	0.108
		... SLOPE SAME LINE	0.001	0.001
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	SLOPE SALES-ASSETS PCI	1.078	0.877
		SLOPE DEBT-ASSETS PCI	1.001	0.988
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.031	-.018
		... SLOPE SAME LINE	0.008	0.007
507	TRUCK TRANSPORT	SLOPE SALES-ASSETS PCI	1.150	1.082
		SLOPE DEBT-ASSETS PCI	1.056	1.002
		INTCPT PR/SA VS. PCI	0.095	0.080
		... SLOPE SAME LINE	-.009	-.005
		INTCPT EBIT/AS VS. PCI	0.175	0.150
		... SLOPE SAME LINE	-.001	-.000
510	TRANSIT SYSTEMS	SLOPE SALES-ASSETS PCI	1.080	1.001
		SLOPE DEBT-ASSETS PCI	1.083	1.064
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.214	0.194
		... SLOPE SAME LINE	-.006	-.005
512	TAXI CAB OPERATIONS	SLOPE SALES-ASSETS PCI	1.130	0.956
		SLOPE DEBT-ASSETS PCI	1.067	0.979
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	-.009	0.018
		... SLOPE SAME LINE	0.013	0.009
519	OTHER TRANSPORTATION	SLOPE SALES-ASSETS PCI	1.112	1.008
		SLOPE DEBT-ASSETS PCI	1.036	1.035
		INTCPT PR/SA VS. PCI	0.126	0.139
		... SLOPE SAME LINE	-.012	-.010
		INTCPT EBIT/AS VS. PCI	0.202	0.209
		... SLOPE SAME LINE	-.003	-.005
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	SLOPE SALES-ASSETS PCI	1.479	1.200
		SLOPE DEBT-ASSETS PCI	1.081	1.050
		INTCPT PR/SA VS. PCI	0.047	0.028
		... SLOPE SAME LINE	-.006	0.002
		INTCPT EBIT/AS VS. PCI	0.121	0.104
		... SLOPE SAME LINE	0.008	0.005
525	STORAGE AND WAREHOUSING, INCL. GRAIN	SLOPE SALES-ASSETS PCI	1.197	0.852
		SLOPE DEBT-ASSETS PCI	1.161	1.092
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.139	0.136
		... SLOPE SAME LINE	0.003	-.003

NOTE: PCI means first Principal Component
Missing values mean too few
observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
543	RADIO AND TELEVISION BROADCASTING	SLOPE SALES-ASSETS PCI	1.032	0.833
		SLOPE DEBT-ASSETS PCI	1.055	1.010
		INTCPT PR/SA VS. PCI	-.153	-.149
		... SLOPE SAME LINE	0.040	0.036
		INTCPT EBIT/AS VS. PCI	-.002	-.086
		... SLOPE SAME LINE	0.014	0.010
560	MISCELLANEOUS COMMUNICATION & UTILITIES	SLOPE SALES-ASSETS PCI	1.019	0.860
		SLOPE DEBT-ASSETS PCI	0.992	0.940
		INTCPT PR/SA VS. PCI	.	0.020
		... SLOPE SAME LINE	.	0.012
		INTCPT EBIT/AS VS. PCI	0.146	0.100
		... SLOPE SAME LINE	-.000	-.001
608	WHOLESALEERS OF PETROLEUM PRODUCTS, COAL AND COKE	SLOPE SALES-ASSETS PCI	1.359	1.132
		SLOPE DEBT-ASSETS PCI	1.070	1.038
		INTCPT PR/SA VS. PCI	0.078	0.084
		... SLOPE SAME LINE	-.011	-.007
		INTCPT EBIT/AS VS. PCI	0.181	0.156
		... SLOPE SAME LINE	-.001	-.002
611.	WHOLESALEERS OF PAPER AND PAPER PRODUCTS	SLOPE SALES-ASSETS PCI	1.077	1.021
		SLOPE DEBT-ASSETS PCI	1.041	1.047
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.121	0.132
		... SLOPE SAME LINE	-.001	-.000
614	WHOLESALEERS OF FOODS	SLOPE SALES-ASSETS PCI	1.347	1.086
		SLOPE DEBT-ASSETS PCI	1.134	1.082
		INTCPT PR/SA VS. PCI	0.101	0.077
		... SLOPE SAME LINE	-.015	-.004
		INTCPT EBIT/AS VS. PCI	0.185	0.173
		... SLOPE SAME LINE	-.002	-.003
615	WHOLESALEERS OF TOBACCO PRODUCTS	SLOPE SALES-ASSETS PCI	.	1.498
		SLOPE DEBT-ASSETS PCI	.	1.317
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	.	0.130
		... SLOPE SAME LINE	.	0.003
616	WHOLESALEERS OF DRUGS AND TOILET PREPARATIONS	SLOPE SALES-ASSETS PCI	1.199	1.051
		SLOPE DEBT-ASSETS PCI	1.085	1.050
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.172	0.064
		... SLOPE SAME LINE	-.002	0.007
618	WHOLESALEERS OF HOUSEHOLD FURNITURE AND FIXTURES	SLOPE SALES-ASSETS PCI	1.124	1.024
		SLOPE DEBT-ASSETS PCI	1.064	1.051
		INTCPT PR/SA VS. PCI	0.056	0.019
		... SLOPE SAME LINE	-.004	0.004
		INTCPT EBIT/AS VS. PCI	0.097	0.019
		... SLOPE SAME LINE	0.002	0.006

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
619	WHOLESALEERS OF MOTOR VEHICLES AND ASSECCORIES	SLOPE SALES-ASSETS PCI	1.102	1.014
		SLOPE DEBT-ASSETS PCI	1.080	1.064
		INTCPT PR/SA VS. PCI	0.054	0.028
		... SLOPE SAME LINE	-.001	0.004
		INTCPT EBIT/AS VS. PCI	0.098	0.075
		... SLOPE SAME LINE	0.003	0.004
620	WHOLESALEERS OF APPAREL DRY GOODS & GENERAL MERCHANDISE	SLOPE SALES-ASSETS PCI	1.185	1.042
		SLOPE DEBT-ASSETS PCI	1.114	1.083
		INTCPT PR/SA VS. PCI	0.088	0.076
		... SLOPE SAME LINE	-.012	-.003
		INTCPT EBIT/AS VS. PCI	0.110	0.093
		... SLOPE SAME LINE	0.002	0.003
621	WHOLESALEERS OF ELECTRICAL MACHINERY & EQUIPMENT	SLOPE SALES-ASSETS PCI	1.119	1.036
		SLOPE DEBT-ASSETS PCI	1.008	0.996
		INTCPT PR/SA VS. PCI	0.059	0.026
		... SLOPE SAME LINE	-.003	0.003
		INTCPT EBIT/AS VS. PCI	0.124	0.085
		... SLOPE SAME LINE	0.001	0.003
622	WHOLESALEERS OF FARM MACHINERY AND EQUIPMENT	SLOPE SALES-ASSETS PCI	1.260	1.058
		SLOPE DEBT-ASSETS PCI	1.146	1.109
		INTCPT PR/SA VS. PCI	0.059	0.041
		... SLOPE SAME LINE	-.004	-.001
		INTCPT EBIT/AS VS. PCI	0.147	0.100
		... SLOPE SAME LINE	0.003	0.001
623	WHOLESALEERS OF MACHINERY AND EQUIPMENT, NES	SLOPE SALES-ASSETS PCI	1.063	0.986
		SLOPE DEBT-ASSETS PCI	1.049	1.024
		INTCPT PR/SA VS. PCI	0.076	0.054
		... SLOPE SAME LINE	-.003	0.001
		INTCPT EBIT/AS VS. PCI	0.125	0.099
		... SLOPE SAME LINE	0.001	-.000
624	WHOLESALEERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	SLOPE SALES-ASSETS PCI	1.068	1.026
		SLOPE DEBT-ASSETS PCI	1.069	1.043
		INTCPT PR/SA VS. PCI	0.078	0.061
		... SLOPE SAME LINE	-.003	-.001
		INTCPT EBIT/AS VS. PCI	0.128	0.108
		... SLOPE SAME LINE	0.000	0.001
625	WHOLESALEERS OF METAL & METAL PRODUCTS, NES	SLOPE SALES-ASSETS PCI	1.120	1.016
		SLOPE DEBT-ASSETS PCI	1.060	1.029
		INTCPT PR/SA VS. PCI	0.138	0.024
		... SLOPE SAME LINE	-.015	0.000
		INTCPT EBIT/AS VS. PCI	0.209	0.103
		... SLOPE SAME LINE	-.005	-.002
626	WHOLESALEERS OF LUMBER AND BUILDING MATERIAL	SLOPE SALES-ASSETS PCI	1.166	1.055
		SLOPE DEBT-ASSETS PCI	1.059	1.040
		INTCPT PR/SA VS. PCI	0.068	0.048
		... SLOPE SAME LINE	-.007	-.001
		INTCPT EBIT/AS VS. PCI	0.120	0.092
		... SLOPE SAME LINE	0.002	0.002

NOTE: PCI means first Principal Component
Missing values mean too few
observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
627	WHOLESALEERS OF SCRAP AND WASTE MATERIAL	SLOPE SALES-ASSETS PCI	1.126	1.015
		SLOPE DEBT-ASSETS PCI	1.099	1.033
		INTCPT PR/SA VS. PCI	0.083	0.059
		... SLOPE SAME LINE	-.006	0.001
		INTCPT EBIT/AS VS. PCI	0.138	0.099
		... SLOPE SAME LINE	0.000	0.001
629	WHOLESALEERS, NES	SLOPE SALES-ASSETS PCI	1.309	1.188
		SLOPE DEBT-ASSETS PCI	1.140	1.065
		INTCPT PR/SA VS. PCI	0.125	0.106
		... SLOPE SAME LINE	-.018	-.011
		INTCPT EBIT/AS VS. PCI	0.201	0.191
		... SLOPE SAME LINE	-.002	-.002
631	FOOD STORES	SLOPE SALES-ASSETS PCI	1.427	1.222
		SLOPE DEBT-ASSETS PCI	1.069	1.046
		INTCPT PR/SA VS. PCI	0.066	0.045
		... SLOPE SAME LINE	-.011	-.003
		INTCPT EBIT/AS VS. PCI	0.142	0.105
		... SLOPE SAME LINE	0.001	0.003
642	GENERAL MERCHANDISE STORES	SLOPE SALES-ASSETS PCI	1.098	1.027
		SLOPE DEBT-ASSETS PCI	1.973	1.080
		INTCPT PR/SA VS. PCI	0.071	0.048
		... SLOPE SAME LINE	-.006	-.001
		INTCPT EBIT/AS VS. PCI	0.133	0.097
		... SLOPE SAME LINE	-.002	-.000
652	TIRE, BATTERY & ACCESSORIES STORES	SLOPE SALES-ASSETS PCI	1.149	1.080
		SLOPE DEBT-ASSETS PCI	1.102	1.078
		INTCPT PR/SA VS. PCI	0.074	0.041
		... SLOPE SAME LINE	-.007	-.001
		INTCPT EBIT/AS VS. PCI	0.139	0.101
		... SLOPE SAME LINE	0.000	0.002
654	GASOLINE SERVICE STATIONS	SLOPE SALES-ASSETS PCI	1.857	1.126
		SLOPE DEBT-ASSETS PCI	1.203	1.118
		INTCPT PR/SA VS. PCI	0.076	0.060
		... SLOPE SAME LINE	-.017	-.004
		INTCPT EBIT/AS VS. PCI	0.125	0.120
		... SLOPE SAME LINE	0.004	0.001
656	MOTOR VEHICLE DEALERS	SLOPE SALES-ASSETS PCI	1.239	1.065
		SLOPE DEBT-ASSETS PCI	1.110	1.110
		INTCPT PR/SA VS. PCI	0.053	0.026
		... SLOPE SAME LINE	-.007	-.000
		INTCPT EBIT/AS VS. PCI	0.091	0.053
		... SLOPE SAME LINE	0.002	0.003
658	MOTOR VEHICLE REPAIR SHOP	SLOPE SALES-ASSETS PCI	1.101	0.910
		SLOPE DEBT-ASSETS PCI	1.091	1.011
		INTCPT PR/SA VS. PCI	0.032	-.009
		... SLOPE SAME LINE	0.004	0.016
		INTCPT EBIT/AS VS. PCI	0.083	0.031
		... SLOPE SAME LINE	0.006	0.007

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
663	SHOE STORES	SLOPE SALES-ASSETS PCI	1.069	0.982
		SLOPE DEBT-ASSETS PCI	1.041	0.974
		INTCPT PR/SA VS. PCI	0.011	-.011
		... SLOPE SAME LINE	0.008	0.015
		INTCPT EBIT/AS VS. PCI	-.005	-.021
		... SLOPE SAME LINE	0.012	0.013
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	SLOPE SALES-ASSETS PCI	1.086	0.958
		SLOPE DEBT-ASSETS PCI	1.030	0.975
		INTCPT PR/SA VS. PCI	-.018	-.005
		... SLOPE SAME LINE	0.012	0.015
		INTCPT EBIT/AS VS. PCI	0.012	0.019
		... SLOPE SAME LINE	0.011	0.008
667	WOMEN'S CLOTHING STORES	SLOPE SALES-ASSETS PCI	1.041	0.970
		SLOPE DEBT-ASSETS PCI	1.013	0.966
		INTCPT PR/SA VS. PCI	0.014	-.009
		... SLOPE SAME LINE	0.011	0.014
		INTCPT EBIT/AS VS. PCI	0.050	0.017
		... SLOPE SAME LINE	0.008	0.008
669	CLOTHING & DRY GOODS STORES, NES	SLOPE SALES-ASSETS PCI	1.135	1.020
		SLOPE DEBT-ASSETS PCI	1.020	0.960
		INTCPT PR/SA VS. PCI	-.008	-.030
		... SLOPE SAME LINE	0.009	0.014
		INTCPT EBIT/AS VS. PCI	0.035	0.012
		... SLOPE SAME LINE	0.010	0.009
676	HOUSEHOLD FURNITURE AND APPLIANCE STORES	SLOPE SALES-ASSETS PCI	1.089	1.014
		SLOPE DEBT-ASSETS PCI S	1.053	0.993
		INTCPT PR/SA VS. PCI	0.010	0.004
		... SLOPE SAME LINE	0.004	0.005
		INTCPT EBIT/AS VS. PCI	0.060	0.062
		... SLOPE SAME LINE	0.005	0.003
681	DRUG STORES	SLOPE SALES-ASSETS PCI	1.397	1.132
		SLOPE DEBT-ASSETS PCI	1.401	1.220
		INTCPT PR/SA VS. PCI	0.134	0.112
		... SLOPE SAME LINE	-.028	-.009
		INTCPT EBIT/AS VS. PCI	0.211	0.187
		... SLOPE SAME LINE	-.003	-.002
691	BOOK & STATIONERY STORES	SLOPE SALES-ASSETS PCI	1.094	1.010
		SLOPE DEBT-ASSETS PCI	0.994	0.924
		INTCPT PR/SA VS. PCI	0.053	-.023
		... SLOPE SAME LINE	-.001	0.010
		INTCPT EBIT/AS VS. PCI	0.160	0.036
		... SLOPE SAME LINE	-.002	0.005
692	FLORISTS' SHOPS	SLOPE SALES-ASSETS PCI	0.974	0.764
		SLOPE DEBT-ASSETS PCI	1.223	1.125
		INTCPT PR/SA VS. PCI	0.065	0.098
		... SLOPE SAME LINE	-.001	0.005
		INTCPT EBIT/AS VS. PCI	0.149	0.153
		... SLOPE SAME LINE	-.002	-.008

NOTE: PCI means first Principal Component
Missing values mean too few
observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
694	JEWELLERY STORES & REPAIR SHOPS	SLOPE SALES-ASSETS PCI	1.041	0.974
		SLOPE DEBT-ASSETS PCI	0.961	0.961
		INTCPT PR/SA VS. PCI	-0.013	-0.008
		... SLOPE SAME LINE	0.016	0.015
		INTCPT EBIT/AS VS. PCI	0.070	0.077
		... SLOPE SAME LINE	0.008	0.003
699	RETAIL STORES, NES	SLOPE SALES-ASSETS PCI	1.201	1.090
		SLOPE DEBT-ASSETS PCI	1.074	1.021
		INTCPT PR/SA VS. PCI	0.068	0.043
		... SLOPE SAME LINE	-0.007	-0.001
		INTCPT EBIT/AS VS. PCI	0.147	0.120
		... SLOPE SAME LINE	0.000	0.001
850	MISC. AMUSEMENT AND RECREATION SERVICES	SLOPE SALES-ASSETS PCI	1.037	0.908
		SLOPE DEBT-ASSETS PCI	1.129	1.085
		INTCPT PR/SA VS. PCI	0.132	0.100
		... SLOPE SAME LINE	-0.011	-0.004
		INTCPT EBIT/AS VS. PCI	0.187	0.154
		... SLOPE SAME LINE	0.003	-0.004
862	ADVERTISING SERVICES	SLOPE SALES-ASSETS PCI	1.050	0.942
		SLOPE DEBT-ASSETS PCI	1.123	1.065
		INTCPT PR/SA VS. PCI	0.066	0.058
		... SLOPE SAME LINE	-0.003	0.003
		INTCPT EBIT/AS VS. PCI	0.135	0.085
		... SLOPE SAME LINE	0.000	-0.003
869	MISC. SERVICES TO BUSINESS MANAGEMENT	SLOPE SALES-ASSETS PCI	1.100	0.933
		SLOPE DEBT-ASSETS PCI	1.165	1.065
		INTCPT PR/SA VS. PCI	0.243	0.291
		... SLOPE SAME LINE	-0.023	-0.020
		INTCPT EBIT/AS VS. PCI	0.366	0.379
		... SLOPE SAME LINE	-0.011	-0.018
872	BARBER AND BEAUTY SHOPS	SLOPE SALES-ASSETS PCI	1.227	1.114
		SLOPE DEBT-ASSETS PCI	1.164	1.234
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	-0.078	-0.003
		... SLOPE SAME LINE	0.029	0.018
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	SLOPE SALES-ASSETS PCI	1.123	1.046
		SLOPE DEBT-ASSETS PCI	1.057	1.049
		INTCPT PR/SA VS. PCI	0.104	0.164
		... SLOPE SAME LINE	-0.009	-0.017
		INTCPT EBIT/AS VS. PCI	0.205	0.229
		... SLOPE SAME LINE	-0.004	-0.008
879	MISC. PERSONAL SERVICES	SLOPE SALES-ASSETS PCI	1.010	0.899
		SLOPE DEBT-ASSETS PCI	1.048	1.037
		INTCPT PR/SA VS. PCI	0.007	0.008
		... SLOPE SAME LINE	0.015	0.018
		INTCPT EBIT/AS VS. PCI	0.103	0.123
		... SLOPE SAME LINE	0.005	-0.001

NOTE: PCI means first Principal Component
Missing values mean too few observations for a valid estimate

PARAMETER ESTIMATES FOR ALL SECTORS

IBC CODE	INDUSTRY TITLE	PARAMETER ESTIMATED	SALES TRIADS	ASSETS TRIADS
880	HOTELS, MOTELS, ETC.	SLOPE SALES-ASSETS PCI	1.078	0.852
		SLOPE DEBT-ASSETS PCI	1.127	1.059
		INTCPT PR/SA VS. PCI	0.122	0.090
		... SLOPE SAME LINE	-.011	0.002
		INTCPT EBIT/AS VS. PCI	0.168	0.133
		... SLOPE SAME LINE	-.001	-.002
893	PHOTOGRAPHIC SERVICES, NES.	SLOPE SALES-ASSETS PCI	1.125	1.070
		SLOPE DEBT-ASSETS PCI	1.057	1.003
		INTCPT PR/SA VS. PCI	0.071	0.048
		... SLOPE SAME LINE	-.001	0.004
		INTCPT EBIT/AS VS. PCI	0.148	0.129
		... SLOPE SAME LINE	0.003	0.003
896	BLACKSMITHING & WELDING SHOPS	SLOPE SALES-ASSETS PCI	1.156	1.019
		SLOPE DEBT-ASSETS PCI	1.123	1.081
		INTCPT PR/SA VS. PCI	0.094	0.086
		... SLOPE SAME LINE	-.008	-.001
		INTCPT EBIT/AS VS. PCI	0.158	0.127
		... SLOPE SAME LINE	0.001	0.003
897	MISC. REPAIR SHOPS	SLOPE SALES-ASSETS PCI	1.060	0.994
		SLOPE DEBT-ASSETS PCI	1.005	1.028
		INTCPT PR/SA VS. PCI	.	.
		... SLOPE SAME LINE	.	.
		INTCPT EBIT/AS VS. PCI	0.158	0.170
		... SLOPE SAME LINE	-.000	-.006
898	SERVICES TO BUILDINGS AND DWELLINGS	SLOPE SALES-ASSETS PCI	1.174	1.092
		SLOPE DEBT-ASSETS PCI	1.033	1.020
		INTCPT PR/SA VS. PCI	0.080	0.083
		... SLOPE SAME LINE	-.004	-.001
		INTCPT EBIT/AS VS. PCI	0.192	0.144
		... SLOPE SAME LINE	0.000	0.004
899	MISCELLANEOUS SERVICES	SLOPE SALES-ASSETS PCI	1.037	0.912
		SLOPE DEBT-ASSETS PCI	1.081	1.059
		INTCPT PR/SA VS. PCI	0.146	0.113
		... SLOPE SAME LINE	-.013	-.004
		INTCPT EBIT/AS VS. PCI	0.125	0.179
		... SLOPE SAME LINE	-.005	-.005

NOTE: PCI means first Principal Component
Missing values mean too few
observations for a valid estimate

TABLE G2

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
30	LOGGING & RELATED SERVICES	1.712 (0.50)	0.694 (0.14)	0.176 (0.06)	0.064 (0.04)
50	METAL & NON-METAL MINES & QUARRIES	1.060 (0.25)	0.621 (0.13)	0.141 (0.04)	0.076 (0.05)
64	CRUDE PETROLEUM & NATURAL GAS	0.421 (0.13)	0.652 (0.16)	0.176 (0.05)	0.255 (0.09)
90	DRILLING & MISC. SERVICE INCIDENTAL TO MINING	1.549 (0.32)	0.639 (0.14)	0.203 (0.07)	0.098 (0.05)
100	MEAT, POULTRY & FISH PROD.	2.765 (1.00)	0.626 (0.13)	0.146 (0.06)	0.032 (0.02)
103	FRUIT & VEGETABLE PROCESSING	1.628 (0.43)	0.668 (0.15)	0.112 (0.04)	0.025 (0.02)
104	DAIRY PRODUCTS INDUSTRY	3.353 (0.61)	0.507 (0.11)	0.153 (0.05)	0.032 (0.02)
106	FEED INDUSTRY	2.641 (0.66)	0.644 (0.10)	0.121 (0.03)	0.021 (0.02)
107	BAKERY PRODUCTS INDUSTRY	2.274 (0.55)	0.597 (0.13)	0.155 (0.06)	0.041 (0.03)
109	BEVERAGE INDUSTRY	1.838 (0.56)	0.557 (0.13)	0.130 (0.06)	0.040 (0.03)
110	MISCELLANEOUS FOOD INDUSTRY	2.128 (0.65)	0.637 (0.14)	0.154 (0.05)	0.046 (0.03)
165	PLASTICS FABRICATING INDUSTRY, NES	1.672 (0.33)	0.677 (0.12)	0.130 (0.05)	0.040 (0.03)
170	LEATHER PRODUCTS INDUSTRY	1.816 (0.30)	0.635 (0.11)	0.120 (0.04)	0.032 (0.02)
190	TEXTILE INDUSTRY	1.812 (0.37)	0.630 (0.11)	0.126 (0.05)	0.037 (0.03)
230	HOSIERY & KNITTING MILLS	1.763 (0.26)	0.634 (0.09)	0.117 (0.04)	0.033 (0.03)
240	CLOTHING INDUSTRY	2.285 (0.45)	0.611 (0.12)	0.134 (0.04)	0.033 (0.02)
247	MISCELLANEOUS CLOTHING INDUSTRY	1.922 (0.42)	0.583 (0.10)	0.142 (0.03)	0.047 (0.02)

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
250	PLYWOOD & WOOD MILLING INDUSTRY	1.691	0.659	0.137	0.043
255	MISCELLANEOUS WOOD INDUSTRY	1.784 (0.34)	0.643 (0.13)	0.134 (0.04)	0.047 (0.03)
261	HOUSEHOLD FURNITURE MANUFACTURERS	1.899	0.692	0.115	0.026
262	MISCELLANEOUS FURNITURE & FISTURES MANUFACTURERS	1.872	0.663	0.105	0.024
270	PAPER BOX, BAG & MISCELLANEOUS PAPER CONVERTERS	1.869 (0.35)	0.662 (0.12)	0.126 (0.05)	0.033 (0.03)
286	COMMERCIAL PRINTING	1.956 (0.34)	0.646 (0.12)	0.142 (0.05)	0.042 (0.03)
288	PUBLISHING ONLY	1.819 (0.54)	0.662 (0.15)	0.151 (0.06)	0.046 (0.04)
289	PUBLISHING AND PRINTING	1.849 (0.48)	0.638 (0.14)	0.156 (0.06)	0.048 (0.04)
290	IRON AND STEEL MILLS, SMELTING & REFINING	1.640	0.623	0.110	0.033
300	BOILER, PLATE & STRUCTURAL STEEL	1.601	0.649	0.090	0.018
304	METAL STAMPERS, PRESSING AND COATING INDUSTRY	1.703	0.610	0.139	0.052
305	WIRE & WIRE PRODUCTS MANUFACTURERS	1.784 (0.34)	0.629 (0.15)	0.139 (0.06)	0.045 (0.03)
308	MACHINE SHOPS	1.670 (0.30)	0.618 (0.13)	0.140 (0.05)	0.047 (0.03)
309	MISCELLANEOUS METAL FABRICATING INDUSTRY	1.671 (0.30)	0.628 (0.16)	0.133 (0.05)	0.042 (0.03)
314	MISCELLANEOUS MACHINERY & EQUIPMENT MANUFACTURERS	1.602 (0.33)	0.674 (0.13)	0.136 (0.05)	0.041 (0.03)
319	MOTOR VEHICLE, TRUCK BODY & TRAILER MANUFACTURERS	1.903 (0.42)	0.687 (0.11)	0.116 (0.05)	0.027 (0.03)
320	OTHER TRANSPORTATION PRODUCTS MANUFACTURERS	1.472	0.689	0.139	0.042

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
330	SHIP BUILDING, BOAT BUILDING AND REPAIR	1.578 (0.53)	0.690 (0.15)	0.118 (0.06)	0.042 (0.05)
337	COMMUNICATIONS EQUIPMENT MANUFACTURERS	1.386	0.742	0.142	0.046
341	ELECTRICAL PRODUCTS, OFFICE AND STORE EQUIPMENT MNFG.	1.663	0.655	0.139	0.047
349	CLAY OR STONE PRODUCTS	1.484 (0.32)	0.552 (0.16)	0.143 (0.05)	0.048 (0.04)
350	READY-MIX CONCRETE	1.664 (0.33)	0.618 (0.12)	0.148 (0.04)	0.048 (0.03)
354	CONCRETE PRODUCTS MANUFACTURERS	1.429	0.631	0.138	0.053
356	GLASS PRODUCTS & MISC. METAL PRODUCTS	1.804	0.649	0.138	0.053
380	MISC. CHEMICALS AND PETROLEUM PRODUCTS	1.786	0.616	0.130	0.040
392	JEWELLERY AND SILVERWARE INDUSTRY	1.564	0.675	0.145	0.048
393	SPORTING GOODS AND TOY INDUSTRY	1.624	0.669	0.138	0.044
397	SIGNS AND DISPLAYS INDUSTRY	1.721 (0.33)	0.688 (0.17)	0.158 (0.04)	0.052 (0.03)
399	MISC. MANUFACTURING INDUSTRIES, NES	1.692	0.629	0.151	0.054
404	BUILDING CONSTRUCTION	1.508 (0.62)	0.755 (0.12)	0.126 (0.04)	0.037 (0.03)
406	HIGHWAY, BRIDGE AND STREET MAINTENANCE	1.582 (0.44)	0.656 (0.12)	0.131 (0.06)	0.044 (0.04)
409	OTHER CONSTRUCTION	1.765 (0.48)	0.642 (0.14)	0.132 (0.07)	0.039 (0.04)
421	SPECIAL TRADE CONTRACTORS	2.135 (0.52)	0.654 (0.14)	0.148 (0.06)	0.040 (0.03)

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
500	WATER, RAIL & PIPELINE TRANSPORTATION	1.082 (0.47)	0.710 (0.16)	0.140 (0.07)	0.084 (0.07)
501	AIR TRANSPORTATION	1.022 (0.27)	0.764 (0.09)	0.106 (0.04)	0.041 (0.05)
502	SERVICES INCIDENTAL TO AIR TRANSPORTATION	1.031 (0.45)	0.806 (0.10)	0.123 (0.04)	0.042 (0.05)
507	TRUCK TRANSPORT	1.730 (0.44)	0.723 (0.13)	0.146 (0.05)	0.044 (0.03)
510	TRANSIT SYSTEMS	1.296 (0.25)	0.727 (0.09)	0.147 (0.04)	0.057 (0.03)
512	TAXI CAB OPERATIONS	1.744 (0.73)	0.596 (0.13)	0.117 (0.04)	0.034 (0.03)
519	OTHER TRANSPORTATION	1.390 (0.27)	0.700 (0.12)	0.159 (0.04)	0.061 (0.03)
520	MISCELLANEOUS SERVICES INCIDENTAL TO TRANSPORT	1.548 (1.11)	0.710 (0.13)	0.147 (0.06)	0.039 (0.04)
525	STORAGE AND WAREHOUSING, INCL. GRAIN	0.917 (0.619)	0.718 (0.162)	0.125 (0.044)	0.049 (0.049)
543	RADIO AND TELEVISION BROADCASTING	1.025 (0.36)	0.690 (0.17)	0.158 (0.05)	0.082 (0.05)
560	MISCELLANEOUS COMMUNICATION & UTILITIES	1.116 (0.51)	0.674 (0.15)	0.131 (0.05)	0.054 (0.05)
608	WHOLESALEERS OF PETROLEUM PRODUCTS, COAL AND COKE	2.378 (1.01)	0.665 (0.14)	0.141 (0.05)	0.027 (0.02)
611	WHOLESALEERS OF PAPER AND PAPER PRODUCTS	2.470 (0.46)	0.625 (0.11)	0.113 (0.04)	0.026 (0.02)
614	WHOLESALEERS OF FOODS	3.511 (1.21)	0.638 (0.13)	0.139 (0.04)	0.020 (0.01)
615	WHOLESALEERS OF TOBACCO PRODUCTS	4.964	0.595	0.122	0.013
616	WHOLESALEERS OF DRUGS AND TOILET PREPARATIONS	2.161 (0.45)	0.635 (0.11)	0.139 (0.05)	0.037 (0.03)

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
618	WHOLESALEERS OF HOUSEHOLD FURNITURE AND FIXTURES	1.957 (0.42)	0.691 (0.13)	0.128 (0.04)	0.028 (0.02)
619	WHOLESALEERS OF MOTOR VEHICLES & ACCESSORIES	2.120	0.619	0.136	0.036
620	WHOLESALEERS OF APPAREL & DRY GOODS & GENERAL MERCHANDISE				
621	WHOLESALEERS OF ELECTRICAL MACHINERY & EQUIPMENT	2.179 (0.46)	0.671 (0.11)	0.133 (0.04)	0.030 (0.02)
622	WHOLESALEERS OF FARM MACHINERY AND EQUIPMENT	2.024 (0.43)	0.723 (0.10)	0.134 (0.03)	0.031 (0.02)
623	WHOLESALEERS OF MACHINERY AND EQUIPMENT, NES	1.989 (0.45)	0.675 (0.12)	0.138 (0.04)	0.036 (0.02)
624	WHOLESALEERS OF HARDWARE, PLUMBING & HEATING EQUIPMENT	2.108	0.596	0.136	0.038
625	WHOLESALEERS OF METAL & METAL PRODUCTS, NES	1.919 (0.40)	0.633 (0.11)	0.128 (0.05)	0.036 (0.03)
626	WHOLESALEERS OF LUMBER AND BUILDING MATERIAL	2.135 (0.48)	0.669 (0.12)	0.134 (0.04)	0.033 (0.02)
627	WHOLESALEERS OF SCRAP AND WASTE MATERIAL	1.899 (0.57)	0.567 (0.18)	0.135 (0.05)	0.042 (0.03)
629	WHOLESALEERS, NES	1.923 (0.67)	0.649 (0.14)	0.146 (0.05)	0.041 (0.03)
631	FOOD STORES	4.396 (1.46)	0.680 (0.15)	0.140 (0.05)	0.017 (0.01)
642	GENERAL MERCHANDISE STORES	2.466 (0.52)	0.567 (0.14)	0.114 (0.04)	0.025 (0.02)
652	TIRE, BATTERY & ACCESSORIES STORES	2.226 (0.47)	0.737 (0.12)	0.137 (0.04)	0.030 (0.02)
654	GASOLINE SERVICE STATIONS	3.876 (1.60)	0.697 (0.14)	0.132 (0.05)	0.015 (0.01)
656	MOTOR VEHICLE DEALERS	3.504 (0.67)	0.763 (0.09)	0.111 (0.03)	0.012 (0.01)

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
658	MOTOR VEHICLE REPAIR SHOP	2.222 (0.52)	0.663 (0.16)	0.145 (0.05)	0.039 (0.03)
663	SHOE STORES	2.022 (0.52)	0.609 (0.14)	0.137 (0.04)	0.039 (0.02)
665	MEN'S CLOTHING STORES AND CUSTOM TAILOR SHOPS	1.873 (0.28)	0.587 (0.14)	0.132 (0.04)	0.041 (0.03)
667	WOMEN'S CLOTHING STORES	2.058 (0.42)	0.591 (0.15)	0.153 (0.04)	0.045 (0.03)
669	CLOTHING & DRY GOODS STORES, NES	2.008 (0.41)	0.626 (0.15)	0.137 (0.04)	0.037 (0.02)
676	HOUSEHOLD FURNITURE AND APPLIANCE STORES	2.124 (0.40)	0.691 (0.14)	0.123 (0.04)	0.026 (0.02)
678	RADIO, TV & ELECTRICAL APPLIANCES REPAIR STORES	2.153 (0.62)	0.621 (0.15)	0.122 (0.05)	0.024 (0.03)
681	DRUG STORES	2.622 (0.56)	0.564 (0.16)	0.167 (0.05)	0.044 (0.03)
691	BOOK & STATIONERY STORES	2.142 (0.36)	0.718 (0.12)	0.131 (0.04)	0.031 (0.02)
692	FLORISTS' SHOPS	2.338 (0.67)	0.620 (0.12)	0.140 (0.04)	0.034 (0.02)
694	JEWELLERY STORES & REPAIR SHOPS	1.506 (0.25)	0.621 (0.14)	0.161 (0.04)	0.068 (0.03)
697	TOBACCONISTS	3.898 (0.84)	0.690 (0.12)	0.137 (0.03)	0.015 (0.01)
699	RETAIL STORES, NES	2.062 (0.56)	0.749 (0.13)	0.136 (0.04)	0.032 (0.02)
850	MISC. AMUSEMENT AND RECREATION SERVICES	1.011 (0.40)	0.662 (0.17)	0.133 (0.05)	0.060 (0.05)
862	ADVERTISING SERVICES	2.069 (0.91)	0.742 (0.12)	0.145 (0.05)	0.036 (0.03)
869	MISC. SERVICES TO BUSINESS MANAGEMENT	1.092 (0.54)	0.663 (0.16)	0.197 (0.08)	0.121 (0.08)

Medians and Interquartile Semi-Ranges of
Selected Financial Ratios
I.Q. Semi-Range is Half of (3rd Quartile - 1st Quartile)
and is Printed Below Corresponding Ratio

IBC Code	Industry Title	Sales to Assets	Debt to Assets	Ebit to Assets	Profit to Sales
872	BARBER AND BEAUTY SHOPS	2.483 (0.62)	0.592 (0.15)	0.172 (0.06)	0.047 (0.03)
874	LAUNDRIES, CLEANERS AND PRESSERS (EXPT. SELF-SERVICE)	1.589	0.638	0.138	0.046
879	MISC. PERSONAL SERVICES	0.982 (0.27)	0.609 (0.16)	0.136 (0.04)	0.077 (0.04)
880	HOTELS, MOTELS, ETC.	1.410 (0.57)	0.753 (0.15)	0.129 (0.05)	0.039 (0.03)
893	PHOTOGRAPHIC SERVICES, NES.	1.772 (0.37)	0.634 (0.13)	0.155 (0.06)	0.056 (0.04)
896	BLACKSMITHING & WELDING SHOPS	1.749	0.644	0.153	0.053
897	MISC. REPAIR SHOPS	1.907 (0.36)	0.667 (0.15)	0.151 (0.06)	0.048 (0.03)
898	SERVICES TO BUILDINGS AND DWELLINGS	2.624 (0.57)	0.591 (0.11)	0.190 (0.07)	0.052 (0.03)
899	MISCELLANEOUS SERVICES	0.996 (0.42)	0.772 (0.14)	0.138 (0.04)	0.064 (0.05)

APPENDIX H

The Inappropriateness of Conditional Medians of Ratios

We argue here that the apparent increase in sales per dollar of assets with increasing firm size, suggested by Chart 6, Section VI is an artifact of the measures chosen for display; we shall show that this increase will be observed even if the relation between sales and assets is exactly the same for small and larger firms.

We begin by assuming that the logarithms of sales and assets have, within an industry, a bivariate normal distribution. This will in practice be only approximately true, but the effect described here holds under a wide variety of distributions; the normality assumption merely simplifies the description. We further suppose the "null hypothesis" that the sales-asset relation is one of proportionality: that a dollar of assets in a small firm generates about the same sales as a dollar of assets in a larger firm. This hypothesis can be expressed mathematically as follows: after suitable normalization (adding a constant to either log Sales or log Assets) the joint density function of log Sales and log Assets is symmetric in the two variables. As a consequence, the probability contours consist of concentric ellipses whose principal axes lie on the forty-five-degree line, as in figure H1. The proportionality hypothesis is expressed by the fact that the principal axis has slope equal to 1.

Consider now the conditional expectation (which, under the normality assumption, is the same as the conditional median) of log Assets, conditioned on log Sales. This is just the regression line, shown in figure H1 as the line L. It is the line joining the points of vertical tangency of the probability ellipses. Since the principal axis has slope 1, the regression line necessarily has slope less than 1. Say the relation is given by:

$$\log A = C + d \log S \quad , \text{ with } d \neq 1.$$

From this relation follows

$$\log S - \log A = -C + (1-d)\log S$$

and taking exponentials gives

$$S/A = K s^{1-d}$$

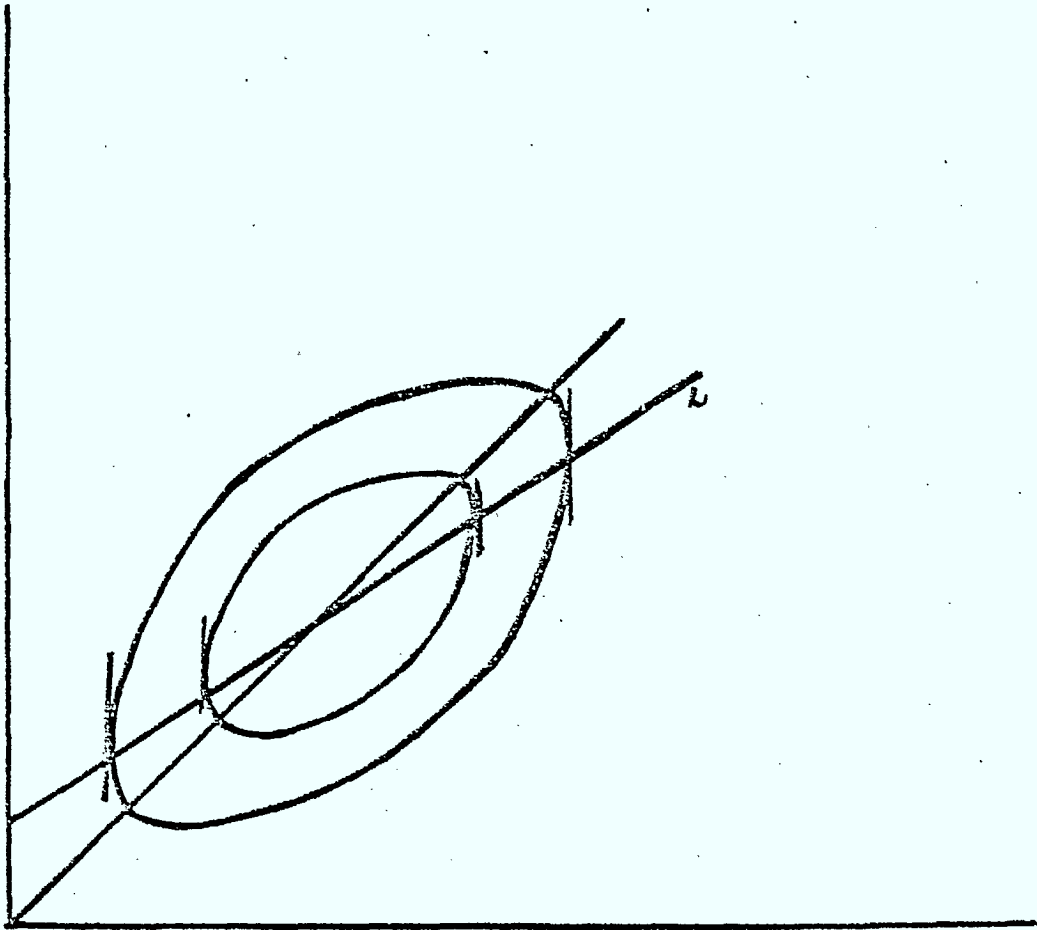
where K is a positive constant.

Now since $1-d$ is positive, this is an increasing function of sales, just as we saw in Chart 6. Hence the median Sales-Assets ratio will increase with sales, even under the hypothesis of strict symmetry of the joint distribution. A similar argument shows that the ratio decreases with increasing Assets.

It follows, then, that proportionality cannot be tested with the slope of the regression line, or by the conditional median, or any conditional measure. The proper test is based on the slope of the principal axis, and the first principal component provides a better measure of "size" than either sales or assets separately.

Figure H1

Log Assets



Log Sales

APPENDIX I

The Data Sources For the Study

Four data files were required to develop a working version of the framework for analysis. Two of the data files consist of selected financial statistics on incorporated and unincorporated firms as derived from tax returns submitted to Revenue Canada, Taxation. The third file records corporate ownership linkages and the extent of foreign control for all firms responding to Statistics Canada under the Corporations and Labour Unions Reporting Act. This file is described in detail in Statistics Canada Catalogue 61-210. All firms with assets greater than \$250 thousand or annual sales in excess of \$500 thousand must report under CALURA.

The ownership linkage file was essential for the derivation of the incorporated, Independents, self-employment and small and medium foreign firms presented in Table 5 of the main text.

Of the tax based files the first, derived from corporate tax returns (usually called the T-2 file) contains an identifier number unique to the firm, a three digit SIC code applied by Statistics Canada, and six items of financial data transcribed directly from the firms' tax return: total sales, total assets, equity, pre-tax profits, taxable income and provincial allocation of taxable income. For reasons of confidentiality the data were supplied to the Review as firm counts by sales range for each SIC industry. Sales totals for each industry were also provided except where residual disclosure was a possibility. With this information it was possible to estimate a sales distribution for each SIC industry.

The second tax file is a sample of personal tax returns reporting business income. The sample is roughly half of all those reporting business income, and employs a take-all strategy in the larger sales ranges. The data were provided to the review by the same sales ranges as the T2 file weighted for the correct number of filers in each sales range. With Statistics Canada's control totals it was possible to estimate reasonable sales distributions for unincorporated business in each SIC industry. Sales was the only variable available on this file.

The fourth file was the "triad" file of incorporated self employment and independent Canadian controlled small and medium businesses (groups F and H in Table 5).

The cut-down version of the T2 file would be the ideal vehicle for analysis of financial relations, but for reasons of confidentiality was not available. To circumvent this difficulty while preserving as much as possible of the information in the file, two "Triad files", the "Sales-Triads" and the "Assets-Triads", were produced. The procedure for the Sales-Triads was:

- a) The file was sorted first by industry, and within an industry in decreasing order of the sales variable.
- b) Adjacent firms in an industry were grouped three at a time into "Triads" (the last triad might contain four or five firms if the number of firms in the industry is not a multiple of three).
- c) Each variable was totaled over each triad, and the triad-totals written out to the Sales-triad file.

Each record in the Sales-triad file, then, represents three firms, whose sales are closest to one another, and the five variables reported for each triad are the totals for the three firms. The Assets-Triad file was produced in the same way, but using the Assets variable for the initial sorting.

This file was used to examine the size distribution, and the incidence of normal and transition firms in each industry. Ratio analysis was also conducted on normal firms, using the five financial characteristics available for each firm (provincial allocation of taxable income was deleted because of the possibility of disclosure - the figures would have made little sense in any event).

T2 Universe File: Variable Definitions

Revenue Canada records five characteristics of every corporation filing a tax return. These variables are defined, somewhat euphemistically, as:

- (1) Sales
- (2) Assets
- (3) Equity
- (4) Profits
- (5) Taxable Income.

These data are collected from the audited financial statements enclosed with the return, except for taxable income which is captured directly from the T2 return.

(1) Sales

Sales, in fact, are gross business income, and represent revenues from all sources as reported on the profit and loss statement. Included are:

- (a) Sales of products (net of returns, allowances, discounts, sales and excise taxes when these are easily identifiable)

- (a) Sales of products (net of returns, allowances, discounts, sales and excise taxes when these are easily identifiable)
- (b) Sales of services
- (c) Gross rents and royalties
- (d) Investment income
- (e) Commissions, subsidies and grants
- (f) Total gross revenue from joint ventures (even though the company's share may be significantly less than 100%) Note that Statistics Canada adjusts the sample file for this over-counting, and attempts to adjust the universe file too. The 1977 corrections were apparently "ad-hoc" in nature, and thus not very reliable. Arrangements have been made to correct problems in future years' data.

The extent of "bias" in the 1977 file, however, is unknown.

Note that capital gains and discounts earned are not part of sales.

(2) Assets

Assets are defined as the total of the left-hand side of the balance sheet. Since the treatment of accumulated depreciation and accumulated deficit is not consistent across firms there is some concern as to the interpretation of the figures. This is particularly true of smaller firms where accumulated depreciation may be recorded as a liability (thereby overstating assets) and a deficit account which exceeds shareholders contribution to equity may be recorded as an asset. The frequency of such an occurrence is unknown.

(3) Equity

Equity is total shareholders' equity as recorded on the balance sheet. Equity includes the total value of common and preferred shares, earned surplus (or minus the deficit account, except as noted under the definition of Assets) as well as the revaluation surplus and contributed surplus.

Profits arising from subsidiaries that are held on an "equity" basis, (i.e. portfolio investment) are also reported here.

The T2 Universe file definition does not include loans from shareholders or affiliates, although the sample file definition does. Thus, equity in the universe file tends to be understated by this amount, and liabilities (residually determined) are correspondingly overstated.

Many of the companies on the universe file have a negative equity, reflecting a deficit account that exceeds all other contributions to equity.

(4) Profits

Profits are before taxes and before adjustments for non-recurring items. This is equivalent to gross revenue less operating expenses.

(5) Taxable Income

Taxable Income is captured directly from the Corporate Income Tax Return (line 127). The amount taxable may, in fact, be negative. Statistics Canada has set all such occurrences to zero.

APPENDIX J

Industry Coding Structure for the Independent Canadian
Controlled Small and Medium Businesses

This Appendix illustrate how the 1960 SIC codes for corporated firms were collapsed into, first, SBFR industries, and second, into the 107 Independent Business Codes (IBC industries) used in much of the Analysis.

SBFR Industries with self-employment firms designated as those with sales less than \$50,000 are denoted by an "*". For all other SBFR's the self-employment sales limit was \$100,000.

Coding Structure for the Small and Medium,
"Independent" File

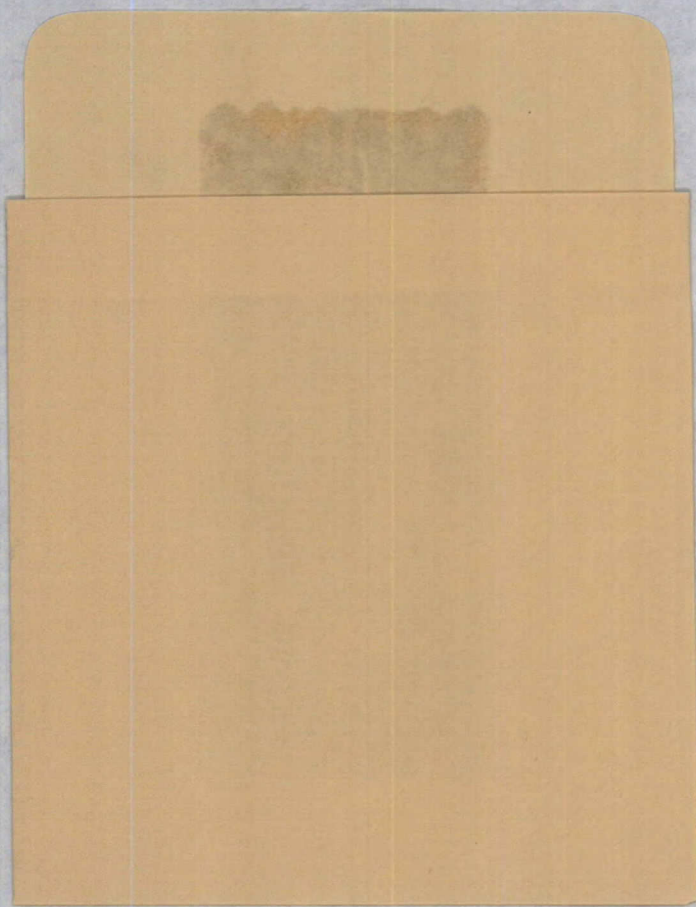
<u>Independent Business Code</u>	<u>Description</u>	<u>S.B.F.R. Code</u>	<u>1960 SIC Codes</u>
030	Logging & related services	031 *039	031 039
050	Metal & non-metal mines & quarries	051 052 057 058 059 061 071 073 079 083 087	051 052 057 058 053 054 055 056 059 061 071 072 073 077 079 083 087
064	Crude petroleum & natural gas	064	063 064 065 066
090	Drilling & Misc. service incidental to mining	096 098 099	096 098 099
100	Meat, poultry & fish products	101 102	101 103 111
103	Fruit & vegetable processing	103	112
104	Dairy products industry	104	105 107
106	Feed industry	106	123
107	Bakery products industry	107	128 129
109	Beverage industry	109	141 143 145 147
110	Miscellaneous food industry	105 108 152 153	124 125 131 133 135 139 151 153
165	Plastics fabricating industry, NES	165	385

<u>Independent Business Code</u>	<u>Description</u>	<u>S.B.F.R. Code</u>	<u>1960 SIC Codes</u>
170	Leather products industry	172	172
		174	174
		175	175
		179	179
190	Textile industry	181	183
		182	193
			197
		183	201
		184	213
		185	211
			215
		186	216
		187	221
			223
		189	212
	214		
	218		
	229		
230	Hosiery & knitting mills	231	231
		239	239
240	Clothing industry	243	243
		244	244
		245	245
247	Miscellaneous clothing industry	246	246
		248	248
		249	247
			249
250	Plywood & Wood Milling industry	252	252
		254	251
			254
255	Miscellaneous Wood industry	256	256
		258	258
		259	259
261	Household furniture manufacturers	261	261
262	Miscellaneous furniture & fixture manufacturers	266	266
		268	268
		264	264
270	Paper box, bag & misc. paper converters	273	273
		274	274
286	Commercial printing	286	286
			287
288	Publishing only	*288	288
289	Publishing & printing	289	289
290	Iron & steel mills, smelting & refining	291	291
		292	292
		294	294
		295	295
300	Boiler, plate & structural steel	301	301
		302	302
304	Metal stampers, pressing & coating industry	304	304

<u>Independent Business Code</u>	<u>Description</u>	<u>S.B.F.R. Code</u>	<u>1960 SIC Codes</u>
305	Wire & wire products manufacturers	305	305
308	Machine shops	308	308
309	Miscellaneous metal fabricating industry	296 297 298 307 309	296 297 298 307 309
314	Miscellaneous machinery & equipment manufac- turers	311 315 316	311 315 316
319	Motor vehicle, truck body & trailer manu- facturers	323 324	323 324
320	Other transportation product manufacturers	321 326 329 325	321 326 329 325
330	Shipbuilding, boat- building & repair	327 328	327 328
337	Communications equip- ment manufacturers	334 335	334 335
341	Elect. products, office & store equip- ment manufacturers	331 332 339	331 332 318 337 339
349	Clay or stone products	351 353	351 353
350	Ready-Mix concrete	355	348
354	Concrete product manufacturers	354	347
356	Glass products & misc. metal products	356	303 356
380	Miscellaneous chemicals & petroleum industry	365 369 374 375 376 377 378 379	365 369 374 375 376 377 372 378 371 379
392	Jewellery & silverware industry	392	382
393	Sporting goods & toy industry	393	393
397	Signs & displays industry	397	397

<u>Independent Business Code</u>	<u>Description</u>	<u>S.B.F.R. Code</u>	<u>1960 SIC Codes</u>	
399	Miscellaneous manufac- turing industries, NES	162	161	
		271	163	
		352	169	
		357	271	
		358	341	
		359	357	
		336	343	
		338	345	
			352	
			354	
			355	
			359	
			336	
			338	
			373	373
			391	381
			399	219
		272		
		306		
		383		
		384		
		395		
		399		
404	Building Construction	404	404	
406	Highway, bridge & street maintenance	406	406	
409	Other construction	409	409	
421	Special trade contrac- tors	*421	421	
500	Water rail & pipeline transportation	503	506	
		504	504	
		515	515	
501	Air Transportation	501	501	
502	Service incidental to air transportation	502	502	
507	Truck transport	507	507	
510	Transit systems	508	508	
		509	509	
512	Taxicab operations	*512	512	
519	Other transportation	519	519	
520	Misc. service inciden- tal to transport	505	505	
		516	516	
		*517	517	
525	Storage & warehousing, including grain	524	524	
		*527	527	
543	Radio and television broadcasting	543	543	
560	Misc. communication and utilities	544	544	
		545	545	
		548	548	
		572	572	
		574	574	
		*576	576	
	579	579		

<u>Independent Business Code</u>	<u>Description</u>	<u>S.B.F.R. Code</u>	<u>1960 SIC Codes</u>
608	Wholesalers of Petro- leum products coal & coke	608	606 608 693
611	Wholesalers of paper & paper products	611	611
614	Wholesalers of food	614	614
615	Wholesalers of tobacco products	615	615
616	Wholesalers of drugs & toilet preparations	616	616
618	Wholesalers of house- hold furniture and fix	618	618
619	Wholesalers of motor vehicles & accessories	619	619
620	Wholesalers of apparel & dry goods & general merchandise	612 617	613 617
621	Wholesalers of Elect- rical machinery, equip- ment	621	621
622	Wholesalers of farm machinery & equipment	622	622
623	Wholesalers of machin- ery & equipment NES	623	623
624	Wholesalers of hardware, plumbing & heating equipment	624	624
625	Wholesalers of metal & metal products, NES	625	625
626	Wholesalers of lumber & building material	626	626
627	Wholesalers of scrap & waste material	627	627
629	Wholesalers, N E S	629	602 604 629
631	Food stores.	631	631
642	General merchandise stores	642	642 647 649
652	Tire, battery & acces- sories stores	652	652
654	Gasoline service stations	654	654
656	Motor vehicle dealers	656	656
658	Motor vehicle repair shops	*658	658
663	Shoe stores	663	663



<u>Independent Business Code</u>	<u>Description</u>	<u>S.B.F.R. Code</u>	<u>1960 SIC Codes</u>
665	Men's clothing stores & custom tailor shops	665	242 665
667	Women's clothing stores	667	667
669	Clothing & dry goods stores, NES	669	669
676	Household furniture & appliance stores	676	673 676
678	Radio, television, & electrical appliances repair stores	*678	678
681	Drug stores	681	681
691	Book & stationery stores	691	691
692	Florists' shops	692	692
694	Jewellery stores & repair shops	694 695	694 695
697	Tobacconists	697	697
699	Retail stores, NES	696 699	696 699
850	Misc. amusement & recreation services	843 849	853 851 859
862	Advertising services	862	862
869	Misc. services to busi- ness management	*869	869#
872	Barber & Beauty shops	872	872
874	Laundries, cleaners & pressers (except self- service)	*874	874
879	Misc. personal services	*879	877 878 879
880	Hotels, motels, etc.	881 883	875 876
893	Photographic services, NES	*893	893
896	Blacksmithing & welding shops	*896	894
897	Misc. repair shops	*897	896
898	Service to buildings & dwellings	*898	897
899	Misc. services	*045 *871 899	045 871 899

Note that 866 Offices of Lawyers & Notaries was inadvertently included in IBC 869 during processing.

