

The Performance of Chartered Bank Acquisitions in Canada^{*)}

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Summary

Canada has a banking system with a few relatively large banks with nationwide branch networks, which are closely regulated by the Federal Government under the Bank Act. Canadian chartered banks are said to be a vital force in the nation's economy.

There have been a considerable number of mergers and acquisitions in Canada as shown by the Annual Report of Directors of Investigation and Research in Canada, totaling 460 domestic and 593 foreign mergers and acquisitions in 1988. However, the Canadian evidence is usually restricted to various reports and a wide variety of legal aspects in relation to Canadian antitrust policy. This study intends to measure the performance of four chartered bank acquisitions in Canada, which acquired investment dealers due to the deregulation of finance sector. The data are taken from the Canadian Banks Statistical Review for the period 1984 and 1988 by Canadian Bond Rating Service.

We test the differences of each of 14 financial ratios of chartered banks before and after acquisitions and those of non-acquiring chartered banks by using t and F tests as a univariate approach and discriminant analysis as multivariate approach. These 14 financial ratios represent liquidity, profitability, the rate of growth and cost related ratios.

We draw the following conclusions :

- 1) Acquisitions require substantial cash flows, as well as other types of financing.

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- 2) Acquisitions reduce inter-bank deposits.
- 3) Acquisitions contribute to an increase the growth rate of total assets.
- 4) Acquisitions lessen the financial superiority of acquiring banks after acquisitions compared to non-acquiring banks.
- 5) Acquiring banks have greater stability of their 14 financial ratios.
- 6) Discriminant analysis strongly supports the previous results.

1. Introduction

Canada moved to a banking structure with relatively few large banks with nationwide branch networks from one with a large number of locally based banks for over one hundred years. In 1987, there were 51 banks in Canada, the number of Canadian-owned banks was reduced to a historical low of seven.¹⁾ Canadian chartered banks are said to be a vital force in the nation's economy, acting as a sort of "finance go between". With assets of more than \$550 billion at the end of 1989, chartered banks in Canada serve as major lenders to business, farmers and consumers.

The banks in Canada are closely regulated by the federal government under the Bank Act²⁾ which is usually revised every 10 years. The 1980 Bank Act allowed for the establishment of foreign or Canadian owned banks whose shares could be "closely held", that is, controlled by one or small number of shareholders. The shares of Schedule I banks are "widely held" with no one interest allowed to hold more than 10%. Schedule II banks include all foreign and Canadian owned banks whose shares are closely held, which have some restrictions on branching and size except U. S. owned Schedule II banks.³⁾ As of July 1990, there are seven Schedule I banks and 57 Schedule II banks in Canada.⁴⁾

The number of mergers and acquisitions increased in Canada through the 1980s and exceeded one thousand for the first time in 1987.⁵⁾ Mergers and acquisitions in Canada are reviewed by the Director of Investigation and Research, in order to determine whether they prevent or lessen or are likely to prevent or lessen competition substantially. The number of mergers and acquisitions examinations started were 40, 146, 191 for 1986-87, 1987-88, and

1) See Binhammer [3].

2) More details on the Bank Act are provided in CCH Canadian Limited [11].

3) This is because of the Canada-U. S Free Trade Agreement.

4) See the Canadian Bankers' Association [9].

5) See Bibler [2].

1988-89, respectively.

While there are a large number of empirical studies to measure the performance of corporate mergers and acquisitions in the U. S., Canadian evidence is usually limited to various reports including motives and the number of mergers and acquisitions on an annual basis, and to a wide variety of legal aspects in relation to Canadian antitrust policy.

Only Professor Espen Eckbo [20] at the University of British Columbia presented systematic tests of the alleged causes and consequences of Canadian mergers and acquisitions. His main empirical result is that the acquiring and the acquired firms listed on the Toronto Stock Exchange on average earn large and significant gains from mergers and takeovers activity.

Table 1 List of Large Bank Mergers and Acquisitions in Canada, 1978 to 1989

Year	Acquiring Banks or Firms	Acquired Banks or Firms	Value of Transaction (\$ Millions)
1978	Montreal City and District Savings Bank	Credit Foncier Franco-Canadian	123
1979	Bank Canadian National	Provincial Bank of Canada	100+
1981	G. Donald Love (60%) Toronto-Dominion Bank (40%) Love increased his holdings from 10% to 60%	Oxford Development Group	327
1986	Lloyds Bank PLC (Canadian Subsidiary)	90% of the assets of Continental Bank of Canada (# 7 in Canada)	160
1987	Bank of Montreal	Nesbitt Thomson Deacon Inc. (75%)	292
	Bank of Nova Scotia	McLeog Young Weir (100%)	419
	Royal Bank of Canada	Dominion Securities Ltd. (75%)	385
	Canadian Imperial Bank of Commerce (Creation of a joint venture merchant bank)	Gordon Capital	400
1988-89	Banca Commerciale Italiana S. P. A. Bank of Montreal	Irving Bank Canada	
	Banque Nationale du Canada	Province of B. C. Second Mortgage Portfolio Geoffrion Leclerc Inc. Levesque, Beaubien et Compagnie Inc.	
	Barclays Bank Agricultural Finance Corporation	Deutz Allis Credit Corporation of Canada	
	Hong Kong Bank of Canada	Midland Bank Canada	

Stanbury [49] for 1978-87, Director of Investigation and Research [16] does not show the value of transactions for 1988-89 but shows the acquisition of the Wood Gundy Corporation by C. I. B. C..

This finding coincides with much evidence reported for the U. S. and is in contrast to a series of studies covering both stock listed and non-stock listed firms in Japan conducted by Hoshino [24-26].

As is shown by Table 1, there were thirteen large bank mergers and acquisitions in Canada over the period from 1978 to 1989. We investigate the effects of acquisitions of investing dealers by four Canadian chartered banks conducted in 1987. They are Bank of Montreal, Bank of Nova Scotia, Royal Bank of Canada and Canadian Imperial Bank of Commerce.

In Section 2, the data, hypotheses and approach are explained to compare the financial characteristics of acquiring and non-acquiring chartered banks in Canada. The results of univariate analysis and discriminant analysis are described in Sections 3 and 4. Section 5 is a conclusion.

2. Data, Hypotheses and Approach

The chartered banks analyzed are shown in Table 2. There are six Canadian domestic banks : 1) Bank of Montreal, 2) The Bank of Nova Scotia, 3) Canadian Imperial Bank of Commerce, 4) National Bank of Canada, 5) The Royal Bank of Canada, and 6) The Toronto-Dominion Bank. In 1987 the four banks numbered from 1) to 3) and 5) acquired the securities companies shown in Table 1. In addition to Canadian chartered banks, there are 57 foreign chartered banks in Canada. We compare financial characteristics between four acquiring Canadian chartered banks and 59 non-acquiring chartered banks.

The fourteen financial ratios shown in Table 3 were provided by the Canadian Bond Rating Service for the year between 1984 and 1988 to measure the effects of acquisitions among chartered banks and securities companies. A comparative ratio analysis is employed to analyze groups of

1. acquiring chartered banks before and after acquisitions ;
2. non-acquiring chartered banks before and after acquisitions ;
3. acquiring and non-acquiring chartered banks before acquisitions ;
4. acquiring and non-acquiring chartered banks after acquisitions ;
5. overall acquiring and non-acquiring chartered banks ; and
6. chartered banks before and after acquisitions.

Six null hypotheses, essentially that there were no financial differences between each pair of groups, are tested using both univariate and multivariate analysis.

Table 2 List of Selected Chartered Banks

I	Canadian Domestic Banks
1	Bank of Montreal
2	The Bank of Nova Scotia
3	Canadian Imperial Bank of Commerce
4	National Bank of Canada
5	The Royal Bank of Canada
6	The Toronto-Dominion Bank
II	Canadian Foreign Banks
1	ABN Bank Canada
2	ANZ Bank Canada
3	BT Bank of Canada
4	Banca Commerciale Italiana of Canada
5	Banca Nazionale del Lavoro of Canada
6	Banco Central of Canada
7	Bank of America Canada
8	Bank of Boston Canada
9	Bank of Credit & Commerce Canada
10	Bank Hapoalim (Canada)
11	Bank Leumi le-Israel (Canada)
12	The Bank of Tokyo Canada
13	Banque Nationale de Paris (Canada)
14	Barclays Bank of Canada
15	The Chase Manhattan Bank of Canada
16	Chemical Bank of Canada
17	Citibank Canada
18	Credit Commercial de France (Canada)
19	Credit Lyonnais Canada
20	Credit Suisse Canada
21	Dai-ichi Kangyo Bank (Canada)
22	Daiwa Bank Canada
23	Deutsche Bank (Canada)
24	Dresdner Bank Canada
25	First Interstate Bank of Canada
26	The First National Bank of Chicago (Canada)
27	Fuji Bank Canada
28	Hanil Bank Canada
29	Hongkong Bank of Canada
30	The Industrial Bank of Japan (Canada)
31	International Commercial Bank of Cathay (Canada)
32	Irving Bank Canada
33	Israel Discount Bank of Canada
34	Korea Exchange Bank of Canada
35	Lloyds Bank Canada
36	Manufacturers Hanover Bank of Canada
37	Mellon Bank Canada
38	Mitsubishi Bank of Canada
39	The Mitsui Bank of Canada
40	Morgan Bank of Canada
41	National Bank of Detroit, Canada
42	National Bank of Greece (Canada)
43	National Westminster Bank of Canada
44	Overseas Union Bank of Singapore (Canada)
45	Paribas Bank of Canada
46	Republic National Bank of New York (Canada)
47	Sanwa Bank Canada
48	Security Pacific Bank Canada
49	Societe Generale (Canada)
50	Standard Chartered Bank of Canada
51	State Bank of India (Canada)
52	The Sumitomo Bank of Canada
53	Swiss Bank Corporation (Canada)
54	Taiyo Kobe Bank (Canada)
55	Tokai Bank Canada
56	Union Bank of Switzerland (Canada)
57	United Overseas Bank (Canada)

Table 3 List of Financial Ratios

X1	Cash Resources/Total Assets
X2	Other Liquid Assets/Total Assets
X3	Total Loans/Total Assets
X4	Deposits/Total Assets
X5	Inter-Bank Deposits/Total Deposits
X6	ROA-Pretax = Net Income before provision for income & tax/Average Assets
X7	ROA-After Tax = Net Income before extraordinary items special LDC provisions/Average Assets
X8	ROE-After Tax = As ROA-Pretax but divided by average total shareholders' equity
X9	Other Income/Average Assets
X10	Percent Growth of Total Assets
X11	Yield on Loans = Income from loans & lease financing/ Average Total Loans
X12	Cost of Funds = Interest Expense on Deposits/Average Total Deposits
X13	Non-Interest Expense/Average Assets
X14	Non-Interest Expense/Total Revenue

Canadian Bond Rating Service [10]

Group 1 shows the effects of acquisitions but may also include changes in financial position due to other factors, such as general economic performance and internal growth. Group 2 presents changes due to factors other than acquisitions. The comparison in group 3 indicates whether there are differences in the value of the financial ratios between those chartered banks which subsequently acquire and those that do not prior any effects of acquisitions. Likewise, group 4 shows the effects of acquisitions, as well as including the differences in financial ratios between acquiring and non-acquiring banks before acquisitions. Group 5 shows a general comparison of the financial ratios between acquiring and non-acquiring banks including the effects of acquisitions and also describes the original differences between the two groups before acquisitions. Group 6 compares the financial differences of banks before and after acquisitions.

3. Univariate Analysis of Acquisition Performance

We compare the differences of the 14 financial ratios of chartered banks before and after acquisitions with the ratios of non-acquiring chartered banks. The results are shown in Table 4.

When both acquiring and non-acquiring chartered banks have significant differences on

their means, or when both have no differences, then no change of financial position from before to after acquisition is observed. That is, no change is caused by the acquisition.

By comparing columns (I) and (II) of Table 4, there are three financial ratios which have statistically significant differences in their means with respect to either acquiring chartered banks or non-acquiring chartered banks before and after acquisitions. They are X1 : cash resources/total assets, X5 : inter-bank deposits/total deposits, and X10 : percent growth of total assets.

The cash resources/total assets ratio means (X1) are 11.61% vs. 6.36% for acquiring chartered banks before and after acquisitions. This difference is significant at the 5% level. They are 26.32% vs. 17.53% for corresponding non-acquiring banks before and after acquisitions without any significant differences. This indicates acquisitions require substantial cash resources, as well as other types of financing, which is understandable.

The inter-bank deposits/total deposits ratios (X5) are 21.54% vs. 12.52% for acquiring chartered banks before and after acquisitions, a statistically significant difference at the 0.1% level ; and, 32.30% vs. 29.02% in means for non-acquiring banks. This shows that acquisitions tend to reduce inter-bank deposits.

The growth ratio of total assets (X10) is not statistically different for acquiring banks but is for non-acquiring banks. These ratios are 5.42% vs. 7.86% for acquiring banks and 33.24% vs. 22.20% for non-acquiring banks with 0.5% significant difference in means. This shows that acquisitions contribute to an increase in the growth rate of total assets one year after acquisitions.

By comparing column (III), acquiring and non-acquiring banks before acquisitions, and column (IV) after acquisitions, we find five ratios which have statistically significant differences in their means. They are X1 : cash resources/total assets, X4 : deposits/total assets, X6 : ROA-pretax, X7 : ROA-after tax, and X8 : ROE-after tax.

The deposits/total assets ratios have statistically significant means, 86.39% vs. 83.67% for acquiring and non-acquiring banks before acquisitions, at the 0.1% level, but no significant difference after acquisitions. This indicates that acquisitions reduce deposits relative to total assets.

The three profitability ratios, ROA-pretax, ROA-after tax, and ROE-after tax have the same trend. There are statistically significant differences in their means for acquiring and non-acquiring banks before acquisitions, but not after acquisitions. The ratios are 0.85% vs. 0.65% for ROA-pretax (X6), 0.59% vs. 0.38% for ROA-after tax (X7), and 13.38% vs. 5.75% for ROE-after tax (X8), before acquisitions. This shows the superior profitability of acquiring

Table 4 Comparison of Acquiring and Non-Acquiring Chartered Banks before and after Acquisitions

Financial Variables	(I) Acquiring Banks before and after Acquisitions		(II) Non-Acquiring Banks before and after Acquisitions		(III) Acquiring and Non-Acquiring Banks before Acquisitions		(IV) Acquiring and Non-Acquiring Banks after Acquisitions	
	X1	11.61 3.63	a 6.36 3.23	26.32 19.67	17.53 17.60	11.61 3.63	c 26.32 c 19.67	6.36 3.23
X2	4.50 0.67	4.36 0.59	4.06 5.10	6.12 c 9.62	4.50 0.67	4.06 c 5.10	4.36 0.59	6.17 b 9.62
X3	70.84 3.02	71.73 1.50	58.93 18.87	56.43 20.28	70.84 3.02	c 58.93 c 18.87	71.73 1.50	c 56.43 a 20.28
X4	86.39 1.80	c 78.35 1.74	83.67 8.46	c 74.77 c 11.79	86.39 1.80	c 83.67 c 8.46	78.35 1.04	74.77 a 11.79
X5	21.54 3.89	c 12.52 1.85	32.30 25.50	29.02 24.11	21.54 3.89	c 39.30 c 25.50	12.52 1.85	c 39.02 a 24.11
X6	0.85 0.24	c 1.40 0.42	0.65 0.69	a 0.94 c 1.04	0.85 0.24	a 0.65 c 0.69	1.40 0.42	0.94 1.04
X7	0.59 0.16	0.83 0.28	0.38 0.45	0.75 c 1.51	0.59 0.16	c 0.38 c 0.45	0.83 0.28	0.75 1.51
X8	13.38 2.61	15.82 2.69	5.75 6.65	7.05 5.70	13.38 2.61	c 5.75 c 6.65	15.82 2.69	7.05 a 5.70
X9	0.81 0.09	c 1.21 0.10	0.54 0.66	a 0.78 a 0.82	0.81 0.09	c 0.54 c 0.66	1.21 0.10	c 0.78 a 0.82
X10	5.42 3.60	7.86 0.81	33.24 44.48	b 22.20 c 18.35	5.42 3.60	c 33.23 c 48.48	7.86 0.81	c 22.20 b 18.35
X11	11.51 0.64	a 10.63 0.11	10.76 4.38	b 9.74 c 1.74	11.51 0.64	a 10.76 c 4.38	10.63 0.11	c 9.74 a 1.74
X12	8.27 0.69	a 7.05 0.31	8.54 2.49	c 7.84 c 1.01	8.27 0.69	8.54 c 2.49	7.05 0.31	7.84 1.01
X13	2.15 0.63	2.30 0.13	1.63 1.06	2.09 c 2.29	2.15 0.63	1.63 1.06	2.30 0.13	2.09 a 2.29
X14	18.42 1.69	c 22.78 1.19	15.86 9.21	a 19.45 c 12.63	18.42 1.69	15.86 c 9.21	22.78 1.19	19.45 a 12.63

a : indicates statistically significant differences at the 5% level.

b : at the 0.5% level.

c : at the 0.1% level.

banks before acquisitions. However, the ratios have no significant differences in their means after acquisitions, indicating negative performance.

Column (V) is a comparison of financial ratios between acquiring chartered banks and non-acquiring chartered banks. There are 12 ratios which have statistically significant differences in their means among acquiring and non-acquiring banks. Two ratios, the cash resources/total assets ratio (X1) and the inter-bank deposits/total deposits ratio (X5) have

Table 4 Continued

Financial Variables	(V) Comparison between Acquiring Banks and Non- Acquiring Banks			(VI) Comparison of Banks before and after Acquisitions		
	X1	10.56	c	24.36	25.55	c
	4.07	c	19.55	19.44		17.36
X2	4.47		4.56	4.09		6.04
	0.64	c	6.43	4.97	c	9.40
X3	71.02	c	58.37	59.55		57.14
	2.76	c	19.19	8.26		11.54
X4	84.78	a	81.68	83.81	c	74.93
	3.75	c	9.99	8.26	c	11.54
X5	19.74	c	39.23	38.36		37.79
	5.13	c	25.15	25.15		24.20
X6	0.96	a	0.71	0.66	a	0.97
	0.35	c	0.79	0.67	c	1.03
X7	0.64	a	0.46	0.39		0.75
	0.20	c	0.82	0.44	c	1.47
X8	13.87	c	6.04	6.15		7.45
	2.72	c	6.47	6.72		5.88
X9	0.89	c	0.59	0.55	a	0.80
	0.19	c	0.70	0.64	a	0.81
X10	5.91	c	3.36	31.77	b	21.54
	30.78	c	43.81	47.59	c	18.17
X11	11.34	c	10.53	10.80	c	9.78
	0.67	b	3.97	4.27	c	1.71
X12	8.03		8.39	8.53	c	7.80
	0.80	c	2.26	2.42	c	1.00
X13	2.18	a	1.73	1.66		2.10
	0.56	c	1.43	1.04	c	2.23
X14	19.29	c	16.66	16.00	a	19.60
	2.39	c	10.16	8.99	c	12.36

higher means for non-acquiring banks. They are 10.56% vs. 24.36% for X1 and 19.74% vs. 39.23% for X5 for acquiring and non-acquiring banks respectively. This demonstrates the superiority of non-acquiring banks.

Ten out of the 12 ratios have higher means for acquiring banks. They are the total loans/total assets ratio (X3), the deposits/total assets ratio (X4), ROA-pretax (X6), ROA-after tax (X7), ROE-after tax (X8), the other income/average assets ratio (X9), the percent growth of

total assets (X10), yields on loans (X11), the non-interest expense/average assets ratio (X13), and the non-interest expense/total revenue ratio (X14). All these ratios show the superior financial characteristics of acquiring banks.

All financial ratios have statistically significant differences in their standard deviations. Non-acquiring banks have higher values indicating greater stability for acquiring banks in Canada. This is in contrast to studies on mergers conducted in Japan by Hoshino [24].

The last column (VI) of Table 4 is general comparison of chartered banks before and after acquisitions in Canada. There are eight ratios with statistically significant differences in their means. Five have higher values for banks before acquisitions than banks after

Table 5 Yearly Comparisons before and after Acquisitions

Financial Variables	One year before and one year after Acquisitions		Two years before and one year after Acquisitions		Three years before and one year after Acquisitions	
X1	20.39 17.41	17.01 17.36	21.99 17.53	17.01 17.36	23.76 a 18.44	17.01 17.36
X2	4.94 7.54	6.04 9.40	4.68 6.00 c	6.04 9.40	4.14 5.29 c	6.04 9.40
X3	61.28 17.61	57.14 20.06	61.24 16.98	57.14 20.06	60.52 17.83	57.14 20.06
X4	82.48 c 8.42 a	74.93 11.54	83.00 c 8.03 c	74.93 11.54	83.57 c 8.05 c	74.93 11.54
X5	35.84 24.34	37.79 24.20	36.99 24.16	37.79 24.20	37.60 24.68	37.79 24.20
X6	0.80 1.08	0.96 1.03	0.73 0.82 a	0.96 1.03	0.68 a 0.70 c	0.96 1.03
X7	0.45 0.54 c	0.75 1.47	0.45 0.55 c	0.75 1.47	0.41 0.47 c	0.75 1.47
X8	7.10 9.23 c	7.45 5.88	6.82 7.82 a	7.45 5.88	6.33 6.85	7.45 5.88
X9	0.72 0.69	0.80 0.81	0.65 0.64 a	0.80 0.81	0.60 0.61 b	0.80 0.81
X10	22.29 21.74	21.54 18.17	23.51 26.06 c	21.54 18.17	26.04 29.37 c	21.54 18.17
X11	9.75 1.75	9.78 1.71	10.22 1.77	9.78 1.71	11.14 c 4.17 c	9.78 1.71
X12	7.55 1.72 c	7.80 1.00	8.17 1.68 c	7.80 1.00	8.75 c 1.87 c	7.80 1.00
X13	1.74 1.02 c	2.10 2.23	1.71 0.99 c	2.10 2.23	1.71 0.99 c	2.10 2.23
X14	18.63 9.15 a	19.60 12.36	17.34 8.61 c	19.60 12.36	16.68 8.48 c	19.60 12.36

acquisitions. They are (X1) the cash resources/total assets ratio (25.55% vs. 17.01%), (X4) the deposits/total assets ratio (83.81% vs. 74.93%), (X10) the percent growth of total assets (31.77% vs. 21.54%), (X11) yields on loans (10.80% vs. 9.78%), and (X12) the cost of funds (8.53% vs. 7.80%). The remaining three ratios, ratio (X6) ROA-pretax (0.66% vs. 0.97%), (X9) the other income/average assets, (0.55% vs. 0.80%) and (X14) the non-interest expense/total revenue ratio (16.00% vs. 19.60%) have lower values for banks before acquisitions. Banks before acquisitions enjoy higher growth rates of total assets and costs, but lower profitability compared to banks after acquisitions.

Table 5 shows yearly comparisons before and after acquisitions. Comparing one year before and after acquisitions, only (X4), the deposits/total assets ratio has a statistically significant difference in its means, 82.48% vs. 74.93% before and after acquisitions, respectively. This trend is observed in similar comparisons two years before and one year after and three years before and one year after.

Comparing three years before and one year after acquisitions, X1, the cash resources/total assets ratio, X6, the ROA-pretax, X11, yields on loans, and X12, the cost of funds are also have statistically significant differences in their means. This is inconsistent with the result described above.

4. A Multivariate Analysis of Acquisition Performance

Fourteen financial ratios were used to compare the financial characteristics of acquiring and non-acquiring chartered banks in Canada using discriminant analysis.

Table 6 displays the classification and accuracy of discriminant analysis. On the right side, the number of non-acquiring chartered banks with correct predictions before acquisitions was 169 and that of incorrect predictions was 47. The number of non-acquiring chartered bank with correct predictions after acquisitions was 44 and there were 18 incorrect cases. The sum of the diagonal elements, $169 + 44 = 213$, represents the total number of correctly discriminated cases which, when divided by the total number of cases 278 yields the accuracy, 76.62%. The discrimination of acquiring chartered banks before and after acquisitions was perfect, with an accuracy of 100%. When both acquiring and non-acquiring chartered banks are combined as a single data set, accuracy is 87.71%.

The standardized discriminant function between acquiring and non-acquiring chartered banks is as follows.

Table 6 Discrimination Before and After Acquisitions

Acquiring Chartered Banks				Non-Acquiring Chartered Banks					
Act	Predic.	Before Acquisition	After Acquisition	Total	Act	Predic.	Before Acquisition	After Acquisition	Total
Before Acquisitions		12	0	12	Before Acquisitions		169	47	216
After Acquisitions		0	3	3	After Acquisitions		18	44	62
Total		12	3	15	Total		182	91	278
Accuracy 100%				Accuracy 76.62%					

Combined General Comparison Before and After Acquisitions				
Act	Prediction	Before Acquisition	After Acquisition	Total
Before Acquisitions		15	0	15
After Acquisitions		36	242	278
Total		51	242	293
Accuracy 87.71%				

Table 7 Discrimination of Acquiring and Non-Acquiring Banks

Before Acquisitions				After Acquisitions					
Act	Predic.	Acquiring Banks	Non-Acquiring Banks	Total	Act	Predic.	Acquiring Banks	Non-Acquiring Banks	Total
Acquiring Banks		12	0	12	Acquiring Banks		3	0	3
Non-Acquiring Banks		21	195	216	Non-Acquiring Banks		6	56	62
Total		33	195	228	Total		9	56	65
Accuracy 90.79%				Accuracy 90.77%					

Combined General Comparison of Acquiring and Non-Acquiring Banks				
Act.	Predic.	Acquiring Banks	Non-Acquiring Banks	Total
Acquiring Banks		181	47	228
Non-Acquiring Banks		20	45	65
Total		201	92	293
Accuracy 77.13%				

$$Z = 0.26695X_3 - 0.28440X_5 - 1.02231X_6 + 1.33468X_8 \\ - 0.16016X_{10} - 0.19406X_{12} + 0.33813X_{14}$$

z : discriminant value

The canonical discriminant functions evaluated at group means (group centroids) are 1.84027 for the acquiring group and -0.09929 for the non-acquiring group.

The classification accuracy of acquiring banks and non-acquiring banks before acquisitions is 90.79%, which is about the same as one after acquisitions (90.77%). However, combined general comparison of acquiring and non-acquiring banks provides much lower accuracy (77.13%).

5. Conclusion

In the early 1980s, banks in Canada ranked among the largest in the world ; by 1987, only one Canadian bank was in the top 60. Dugan [18] finds that cautious lending practices⁶⁾ and a few basic structural advantages have helped the six big Canadian banks avoid the problems of the U. S. bank industry. All of the big six banks were profitable in the fiscal year that ended October 31, 1990 and their stocks have outperformed the Toronto Stock Exchange 300 index recently.

Since 1987, the federal government has been working on new legislation for the financial services industry. Financial institutions are now permitted to own 100% of securities firms. Five of the six big banks bought major brokerages, and Toronto-Dominion built up its own investment bank. These efforts have not been financial successes. The results of this paper indicate that these acquisitions had a negative effect upon banks' profitability and cost related ratios but lead to an increase in the growth rate in the short run.

Secondly, acquiring chartered banks generally show superior financial characteristics in terms of profitability and costs compared to non-acquiring banks, and much higher stability of their financial ratios.

Canadian chartered banks face challenges, both home and abroad. The breakdown of barriers between different types of financial institutions in Canada and adapting to the globalization of the financial community has been difficult.

6) The Globe and Mail reported that Canadian banks have scaled back foreign activities everywhere except North America and the Caribbean. For instance, the Royal Bank of Canada closed its commercial lending operation in Europe and sold its British equities business, and the Canadian Imperial Bank of Commerce disposed of its British commercial loan portfolio recently. (See Milner [37])

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