

# **CANADIAN BANK MERGERS, RESCUES AND FAILURES**

Marie Hélène Noiseux

A Thesis

in

the

John Molson School of Business

Presented in Partial Fulfilment of the Requirements for the Degree of Doctor  
of Philosophy at Concordia University  
Montreal, Quebec, Canada

August 2002

© Marie Hélène Noiseux, 2002

**CONCORDIA UNIVERSITY**

**School of Graduate Studies**

This is to certify that the thesis prepared

By: Mrs. Marie Hélène Noiseux

Entitled : Canadian Bank Mergers, Rescues and Failures

and submitted in partial fulfilment of the requirements for the degree of

**Doctor of Philosophy (Administration)**

complies with the regulations of this University and meets the accepted standards with respect to originality and quality.

Signed by the final examining committee:

\_\_\_\_\_ Chair

\_\_\_\_\_ External Examiner

\_\_\_\_\_ External to Program

\_\_\_\_\_ Examiner

Dr. Ian Rakita

\_\_\_\_\_ Examiner

Dr. Jean Roy

\_\_\_\_\_ Thesis Supervisor

Dr. Lawrence Kryzanowski

Approved by \_\_\_\_\_  
Chair of Department or Graduate Program Director

\_\_\_\_\_ 20 \_\_\_\_\_

\_\_\_\_\_  
Dean of Faculty

## ABSTRACT

### Canadian Bank Mergers, Rescues and Failures

Marie Hélène Noiseux, Ph.D.  
Concordia University, 2002

This thesis consists of three essays. The first essay (thesis chapter two) investigates the 29 bank combinations between 1900 and 1931 that reduced the Canadian banking sector from 35 to 11 banks. The concentration of the Canadian banking industry is examined using the four-firm and the Hirshman-Herfindahl (HHI) indexes using monthly data on bank branches per institution and region, and nationally. Most of the substantial increase and variation in bank concentration in the national and regional HHIs based on bank branches are explained by merger activity. The second essay (thesis chapter three) examines the merger of La Banque Nationale (LBN) with La Banque d'Hochelaga (LBdH). This merger was facilitated by a generous financial arrangement with the Quebec government, and continuing federal government loans. As Bennett and Loucks (1996) conclude, political connections ensured a long period of forbearance for LBN and facilitated LBN's rescue. Accounting and reporting window dressing also assisted the rescue of the economically insolvent and too-important-to-fail LBN. These findings support the conclusions of Kryzanowski and Roberts (1993, 1999) that forbearance and window dressing played an important role in preventing the failure of many Canadian banks during the 1920s and 1930s. The third essay (thesis chapter four) examines the failure costs of the 29 Canadian bank failures since Confederation for various stakeholder groups over four sub periods with different safety net regimes. The determinants (including safety net regime) of four total loss measurement metrics are estimated. With the introduction of explicit deposit insurance and the abolition of

double liability, the proportion of total losses directly borne by banks and the government increased significantly, and the proportion borne directly by shareholders of the failed bank decreased significantly. This finding supports the conclusion of Kane (1985) that deposit insurance creates moral hazard among bank stakeholders. These results also extend the work of Kryzanowski and Roberts (1993, 1998, 1999) by suggesting that forbearance heightened bank-specific losses and lessened bank industry-specific losses during the two most recent sub periods due to careful monitoring and control of bank failure and closure by the government and the CBA (Canadian Bankers Association).

## **ACKNOWLEDGEMENTS**

I wish to thank Dr. Kryzanowski who is an exceptional director. He was available, patient and always supportive even when delays were very short. His valued advice helped me throughout the program and guided me for the beginning of my career. The two other members of my thesis committee, Dr. Rakita and Dr. Roy, were also available and very helpful.

I am grateful to my family. My mother, who finished her Ph.D. ten years ago, was very helpful in both guiding and encouraging me. My father kindly introduced me to finance and administration at an early age.

I am thankful to my two wonderful and patient sons, Maxence and Blaise, who were born during my studies and are delighted to discover a “new” mother.

Finally, I dedicate this thesis to my amazing husband Nicholas who has been so patient, compassionate, caring and loving.

## TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>CHAPTER 1</b>  |           |
| <b>INTRODUCTION .....</b>   | <b>1</b>  |
| <b>CHAPTER 2</b>  |           |
| <b>CANADIAN BANK CONSOLIDATION VIA BANK COMBINATION</b>   |           |
| <b>BETWEEN 1900 AND 1931 .....</b>  | <b>10</b> |
| 2.1 INTRODUCTION.....   | 10        |
| 2.2 BRIEF REVIEW OF THE LITERATURE .....  | 13        |
| 2.3 EVOLUTION OF THE CANADIAN BANKING INDUSTRY AND<br>LEGISLATION OVER THE STUDIED PERIOD .....                           | 17        |
| 2.3.1 Evolution of the Canadian Economy over the Studied Period .....   | 17        |
| 2.3.2 Evolution of Canadian Bank Legislation over the Studied Period .....  | 18        |
| 2.4 THE CHRONOLOGICAL EVOLUTION OF THE MERGER DEBATE<br>DURING THE STUDIED PERIOD.....                                    | 19        |
| 2.5 AN ANALYSIS OF THE EARLIER PERIOD OF BANK CONSOLIDATION<br>BY BANK COMBINATION .....                                  | 24        |
| 2.6 DATA, SAMPLE AND EMPIRICAL METHODOLOGY .....  | 27        |
| 2.7 THE DETERMINANTS OF THE PRICE PAID PER DOLLAR OF ASSETS<br>FOR THE ACQUIRED BANKS OVER THE STUDIED PERIOD .....       | 30        |
| 2.8 THE EVOLUTION OF BANK CONCENTRATION OVER THE STUDIED<br>PERIOD .....  | 33        |
| 2.9 THE IMPACT OF MERGERS AND FAILURES ON THE<br>NATIONAL AND REGIONAL BRANCH HHI SERIES OVER<br>THE STUDIED PERIOD ..... | 37        |
| 2.9.1 Impact of Bank Mergers on National Branch HHI Series.....   | 37        |
| 2.9.2 Impact of Bank Mergers on Regional HHI Series Conditioned on<br>Dominant Market of Acquired Bank.....               | 39        |
| 2.9.3 Impact of Bank Mergers on Regional HHI Series Conditioned on<br>Dominant Market of Acquirer Bank .....              | 40        |
| 2.9.4 Impact of Bank Failures on National and Regional Branch HHI Series .....  | 42        |
| 2.10 CONCLUDING REMARKS.....  | 43        |

|   |            |
|---|------------|
| <b>CHAPTER 3</b>  |            |
| <b>LESSONS FROM LIFTING THE VEIL ON THE 1924 FINANCIAL RESCUE OF LA BANQUE NATIONALE.....</b>                                 | <b>45</b>  |
| 3.1 INTRODUCTION.....   | 45         |
| 3.2 BRIEF REVIEW OF THE LITERATURE RELATED TO BANK RESCUES.....   | 48         |
| 3.3 THE MERGER OF LA BANQUE NATIONALE AND LA BANQUE D’HOCHELAGA .....   | 51         |
| 3.3.1 Financial Problems at La Banque Nationale .....   | 52         |
| 3.3.2 Financial Problems at La Banque d’Hochelaga .....   | 62         |
| 3.3.3 Financial Needs .....   | 63         |
| 3.3.4 Provincial Government Rescue.....   | 64         |
| 3.3.5 The Financial Assistance from Quebec.....   | 65         |
| 3.3.6 Unusual Use of the Loan by La Banque d’Hochelaga .....  | 67         |
| 3.4 THE IMPACT OF THE FINANCIAL RESCUE ON THE DIFFERENT INVOLVED PARTIES .....  | 71         |
| 3.4.1 Stakeholders of La Banque d’Hochelaga.....  | 72         |
| 3.4.2 Stakeholders of La Banque Nationale.....  | 73         |
| 3.4.3 The Provincial Government and Taxpayers.....  | 74         |
| 3.5 POST-MERGER PUBLIC REACTIONS .....  | 76         |
| 3.6 CONCLUDING REMARKS.....   | 77         |
| <b>CHAPTER 4</b>  |            |
| <b>LOSSES INCURRED BY VARIOUS GROUPS OF STAKEHOLDERS FROM CANADIAN BANK FAILURES UNDER DIFFERENT SAFETY NET REGIMES .....</b> | <b>78</b>  |
| 4.1 INTRODUCTION.....   | 78         |
| 4.2 BRIEF REVIEW OF THE LITERATURE .....  | 82         |
| 4.3 SAMPLE, DATA AND SOME DESCRIPTIVE STATISTICS.....   | 84         |
| 4.4 PROPORTIONAL SHARES OF CURRENT DOLLAR TOTAL LOSSES ASSUMED BY EACH STAKEHOLDER GROUP.....                                 | 90         |
| 4.5 FOUR METRICS FOR MEASURING TOTAL LOSSES INCURRED FROM CANADIAN BANK FAILURES.....   | 92         |
| 4.6 DETERMINANTS OF EACH OF THE FOUR MEASUREMENT METRICS OF TOTAL LOSSES FROM BANK FAILURES.....                              | 95         |
| 4.6.1 ANOVA Results.....  | 95         |
| 4.6.2 Regression Results.....   | 95         |
| 4.7 CONCLUSION .....  | 101        |
| <b>CHAPTER 5</b>  |            |
| <b>MAJOR FINDINGS, IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH.....</b>   | <b>104</b> |
| 5.1 THE MAJOR FINDINGS .....  | 107        |
| 5.2 POSSIBLE AVENUES OF FUTURE RESEARCH .....   | 109        |
| <b>BIBLIOGRAPHY .....</b>   | <b>111</b> |

## APPENDICES

### APPENDIX 1

|                       |     |
|-----------------------|-----|
| List of Acronyms..... | 120 |
|-----------------------|-----|

### APPENDIX 2

|   |     |
|---|-----|
| List of the Position Held by Each Person Referred to in the Text or References..... | 122 |
|---|-----|

### APPENDIX 3

|  |     |
|--|-----|
| Evolution of Canadian Banking Legislation Over the Period, 1871-1931 ..... | 125 |
| A3.1 The Bank Act of 1871 .....  | 126 |
| A3.2 The Bank Act Revision of 1880 .....                                   | 126 |
| A3.3 The Bank Act Revision of 1890 .....                                   | 127 |
| A3.4 The Bank Act Revision of 1900 .....                                   | 127 |
| A3.5 The Bank Act Revision of 1913 .....                                   | 128 |
| A3.6 The Bank Act Revision of 1923 .....                                   | 128 |

### APPENDIX 4

|  |     |
|--|-----|
| Specific Bank Combinations Over the Studied Period, 1900-1931 .....  | 130 |
| A4.1 The Absorption by Merger of The Halifax Banking Company by The Canadian Bank of Commerce in 1903.....   | 131 |
| A4.2 The Absorption by Merger of The People's Bank of Halifax by The Bank of Montreal in 1905 .....          | 131 |
| A4.3 The Amalgamation of the Northern Bank and Crown Bank in 1908 .....                                      | 132 |
| A4.4 The Absorption by Merger of the Western Bank of Canada by the Standard Bank of Canada in 1909 .....     | 133 |
| A4.5 The Absorption by Merger of the Union Bank of Halifax by the Royal Bank in 1910.....                    | 133 |
| A4.6 The Absorption by Merger of the Eastern Township Bank by the Canadian Bank of Commerce in 1912.....     | 134 |
| A4.7 The Absorption by Merger of the Traders Bank of Canada by the Royal Bank of Canada in 1912.....         | 134 |
| A4.8 The Absorption by Merger of the Bank of New Brunswick by the Bank of Nova Scotia in 1913 .....          | 135 |
| A4.9 The Absorption by Merger of La Banque Internationale du Canada by the Home Bank of Canada in 1913 ..... | 136 |
| A4.10 The Absorption by Merger of the Metropolitan Bank by the Bank of Nova Scotia in 1914.....              | 137 |
| A4.11 The Absorption by Merger of the Quebec Bank by the Royal Bank of Canada in 1917.....                   | 138 |
| A4.12 The Absorption by Merger of the Bank of British North America by the Bank of Montreal in 1918.....     | 139 |
| A4.13 The Absorption by Merger of Northern Crown Bank by the Royal Bank of Canada in 1918.....               | 140 |
| A4.14 The Absorption by Merger of the Bank of Ottawa by the Bank of Nova Scotia in 1919.....                 | 141 |
| A4.15 The Absorption by Merger of the Merchants Bank of Canada by the Bank of Montreal in 1922 .....         | 142 |
| A4.16 The Absorption by Merger of the Bank of Hamilton by the Canadian Bank of Commerce in 1923 .....        | 143 |



|       |  |     |
|-------|--|-----|
| A4.17 | The Absorption by Merger of the Sterling Bank of Canada by the Standard Bank of Canada in 1924 .....   | 145 |
| A4.18 | The Absorption by Merger of the Union Bank of Canada by the Royal Bank of Canada in 1925 .....         | 146 |
| A4.19 | The Absorption by Merger of the Molson Bank by the Bank of Montreal in 1925 .....                      | 147 |
| A4.20 | The Absorption by Merger of the Standard Bank of Canada by the Canadian Bank of Commerce in 1928 ..... | 148 |
| A4.21 | The Absorption by Merger of the Weyburn Security Bank by the Imperial Bank of Canada in 1931 .....     | 150 |

## APPENDIX 5

|       |   |     |
|-------|---|-----|
|       | Specific Bank Failures Over the Studied Period, 1867-2001 ..... | 151 |
| A5.1  | Failure of Commercial Bank of New Brunswick in 1868 .....       | 152 |
| A5.2  | Failure of Bank of Acadia in 1873 .....                         | 152 |
| A5.3  | Failure of Metropolitan Bank of Montreal in 1876 .....          | 152 |
| A5.4  | Failure of the Mechanics Bank of Montreal in 1879 .....         | 152 |
| A5.5  | Failure of Bank of Liverpool in 1879 .....                      | 152 |
| A5.6  | Failure of Consolidated Bank of Canada in 1879 .....            | 153 |
| A5.7  | Failure of Stadacona Bank in 1879 .....                         | 153 |
| A5.8  | Failure of Bank of Prince Edward Island in 1881 .....           | 153 |
| A5.9  | Failure of Exchange Bank of Canada in 1883 .....                | 153 |
| A5.10 | Failure of The Maritime Bank in 1887 .....                      | 153 |
| A5.11 | Failure of Pictou Bank in 1887 .....                            | 153 |
| A5.12 | Failure of Bank of London in 1887 .....                         | 154 |
| A5.13 | Failure of The Central Bank in 1887 .....                       | 154 |
| A5.14 | Failure of Federal Bank in 1888 .....                           | 154 |
| A5.15 | Failure of Commercial Bank of Manitoba in 1893 .....            | 154 |
| A5.16 | Failure of La Banque du Peuple in 1895 .....                    | 154 |
| A5.17 | Failure of la Banque Ville-Marie in 1899 .....                  | 154 |
| A5.18 | Failure of Bank of Yarmouth in 1905 .....                       | 155 |
| A5.19 | Failure of The Ontario Bank in 1906 .....                       | 155 |
| A5.20 | Failure of the Sovereign Bank in 1908 .....                     | 155 |
| A5.21 | Failure of La Banque de St. Jean in 1908 .....                  | 156 |
| A5.22 | Failure of La Banque de St. Hyacinthe in 1908 .....             | 157 |
| A5.23 | Failure of St. Stephens Bank in 1910 .....                      | 157 |
| A5.24 | Failure of the Farmers Bank of Canada in 1910 .....             | 157 |
| A5.25 | Failure of the Bank of Vancouver in 1914 .....                  | 158 |
| A5.26 | Failure of Home Bank in 1923 .....                              | 158 |
| A5.27 | Failure of Northland Bank in 1985 .....                         | 159 |
| A5.28 | Failure of Canadian Commercial Bank in 1985 .....               | 159 |
| A5.29 | Failure of Bank of Credit and Commerce in 1991 .....            | 159 |

## LIST OF FIGURES

### Chapter 2

|             |   |     |
|-------------|---|-----|
| Figure 2.1  | Canadian Bank Branches .....  | 161 |
| Figure 2.2  | Number of Bank Branches in Main Canadian Regions.....   | 161 |
| Figure 2.3  | Annual Four Firm Concentration Ratio of the Canadian Banking Industry .....                         | 162 |
| Figure 2.4  | Annual Four Firm Concentration Ratios in the Main Regions for the<br>Canadian Banking Industry..... | 162 |
| Figure 2.5  | Market Share of the Four Biggest Canadian Banks.....  | 163 |
| Figure 2.6  | Monthly HHI of Canadian Banking Industry .....  | 164 |
| Figure 2.7  | Regional HHIs of the Canadian Banking Industry .....  | 164 |
| Figure 2.8  | First Differences of Canadian HHI .....   | 165 |
| Figure 2.9  | First Differences of Regional HHI for Atlantic Provinces .....                                      | 165 |
| Figure 2.10 | First Differences of Regional HHI for British Columbia .....  | 166 |
| Figure 2.11 | First Differences of Regional HHI for The Prairies .....  | 166 |
| Figure 2.12 | First Differences of Regional HHI for Quebec .....  | 167 |
| Figure 2.13 | First Differences of Regional HHI for Ontario .....   | 167 |
| Figure 2.14 | Comparison of Two Different Indexes Used to Calculate HHI.....                                      | 168 |

## LIST OF TABLES

### Chapter 2

|            |   |     |
|------------|---|-----|
| Table 2.1  | Number of Chartered Bank Branches in Canada as of Various Selected Years ...  | 170 |
| Table 2.2  | Dates and Sources of the Bank Combinations during the Period, 1900-1931 .....   | 171 |
| Table 2.3  | Prices Paid for the Acquired Banks during the Period, 1900-1931.....  | 173 |
| Table 2.4  | Financial Information for the Bank Combination during the Period, 1900-1931 .....   | 175 |
| Table 2.5  | Correlation Matrix for the Independent and the Dependent Variables .....  | 177 |
| Table 2.6  | Regression Results for the Determinants of the Price Paid per Dollar of Assets for the Sample of Bank Combinations .....  | 178 |
| Table 2.7  | National HHI of the Canadian Banking Industry Based on the Number of Branches .....   | 179 |
| Table 2.8  | Paired Two Sample Test of the Means for Branch HHIs and Deposit HHIs .....  | 180 |
| Table 2.9  | Number of Branches of the Canadian Combination from 1900 until 1931.....  | 181 |
| Table 2.10 | Regression Results for the Impact of Bank Mergers on National HHI .....   | 183 |
| Table 2.11 | Regression Results for the Impact of Bank Mergers on Regional Branch HHI Based on the Dominant Market of the Acquired Bank Using Number of Branches .....       | 184 |
| Table 2.12 | Regression Results for the Impact of Bank Mergers on Regional Branch HHI Conditioned on the Dominant Market of the Acquired Bank Using Market Shares.....       | 185 |
| Table 2.13 | Regression Results for the Impact of Bank Mergers on Regional Branch HHI Conditioned on the Dominant Market of the Acquirer Bank Using Number of Branches ..... | 186 |
| Table 2.14 | Regression Results for the Impact of Bank Mergers on Regional Branch HHI Conditioned on the Dominant Market of the Acquirer Bank Using Market Shares.....       | 187 |
| Table 2.15 | Number of Branches of the Canadian Bank Failures from 1900 until 1931 .....   | 188 |
| Table 2.16 | Regression Results for the Impact of Bank Failures on National Branch HHI.....  | 189 |

### Chapter 3

|           |  |     |
|-----------|--|-----|
| Table 3.1 | Total Loans Outstanding for La Banque Nationale .....  | 190 |
| Table 3.2 | Monthly Financial Returns in Dollars for La Banque Nationale .....   | 191 |
| Table 3.3 | Regular Dividends and Extraordinary Dividends of the Banking Sector.....   | 192 |
| Table 3.4 | Monthly Financial Returns in Dollars for La Banque Nationale for Various<br>Dates in 1924 .....  | 193 |
| Table 3.5 | Ratio of Realized Assets to Liability .....  | 194 |
| Table 3.6 | Financial Statements Before and After the Merger .....   | 195 |
| Table 3.7 | Various Canadian Bond Yields and Spreads, 1920-1964 .....  | 196 |
| Table 3.8 | Impact of the Financial Rescue Involving a “Bridge Financing”<br>Arrangement of \$15 Million from the Quebec Government on Each of the<br>Involved Parties ..... | 197 |

### Chapter 4

|            |  |     |
|------------|--|-----|
| Table 4.1  | Aggregate Statistics for U.S. National Bank Failures for the Period, 1865-<br>1905 .....   | 198 |
| Table 4.2  | Financial Data of Canadian Chartered Banks that Have Gone into<br>Liquidation, 1867-1923.....  | 199 |
| Table 4.3  | Financial Data and Losses Resulting from Failures of Canadian Chartered<br>Banks that Have Gone into Liquidation, 1867-1923 .....                                      | 201 |
| Table 4.4  | Financial Data (in \$000) of Canadian Chartered Bank that Have Gone into<br>Liquidation, 1923-2001.....  | 203 |
| Table 4.5  | Losses (\$) and Losses per Dollar of Assets (%) of Chartered Banks that Have<br>Gone into Liquidation, 1923-2001 .....   | 204 |
| Table 4.6  | The Balances Required to Meet the Claims of Notes and Unclaimed Deposits<br>for Defunct Canadian Banks, as of April 11, 1938.....                                      | 205 |
| Table 4.7  | Amount Collected from Double Liability Assessments from Shareholders of<br>failed banks from 1867 until 1923 .....   | 206 |
| Table 4.8  | Current Dollar Losses Assumed by Shareholders during Bank Failures, 1867-<br>1991 .....  | 207 |
| Table 4.9  | Proportion of Current Dollar Losses Assumed by each Stakeholder Group<br>from Bank Failures, 1867-1991 .....   | 209 |
| Table 4.10 | Tobit Regression on Proportion of Current Dollar Losses Assumed by Each<br>Stakeholder Group Using a Dummy Variable for the Second and Fourth<br>Time Sub Periods..... | 210 |
| Table 4.11 | Losses in Constant Dollars of 1868 that Are Assumed by Stakeholders from<br>Bank Failures, 1867-1991 .....   | 211 |
| Table 4.12 | Losses in Constant Dollars of 1868 Per Capita that Are Assumed by<br>Stakeholders from Bank Failures, 1867-1991 .....  | 212 |
| Table 4.13 | Proportional Losses on Total Assets of Each Failed Bank Assumed by<br>Stakeholders from Bank Failures, 1867-1991 .....   | 213 |
| Table 4.14 | Proportional Losses on Total Bank Assets of the Industry Assumed by<br>Stakeholders from Bank Failures, 1867-1991 .....  | 214 |
| Table 4.15 | Average Losses on a Dollar of Total Assets Assumed by Stakeholders from<br>Canadian Bank Failures, 1867-1923 .....   | 215 |
| Table 4.16 | ANOVA of the Variation of the Four Measures of Losses Across the Four<br>Studied Sub Periods .....   | 216 |

|            |   |     |
|------------|---|-----|
| Table 4.17 | Correlation Matrix for the Independent Variables and Each of the Four<br>Dependent Loss Variables.....        | 217 |
| Table 4.18 | Regression on Total Losses from Bank Failure in Constant Dollars .....  | 218 |
| Table 4.19 | Regression on Total Losses Per Capita in Constant Dollars from Bank<br>Failure.....                           | 218 |
| Table 4.20 | Tobit Regression on Total Losses per Dollar of Assets of the Failed Bank.....                                 | 219 |
| Table 4.21 | Tobit Regression on Total Losses per Dollar of Total Assets of the Banking<br>Industry from Bank Failure..... | 219 |

## **Appendices**

|            |  |     |
|------------|--|-----|
| Table A5.1 | Guarantors of the Liabilities of the Ontario Bank .....  | 220 |
| Table A5.2 | Balance Due to the Assisting Bank by International Assets, Limited<br>(Sovereign Bank Failure) ..... | 221 |



## CHAPTER 1

### INTRODUCTION

The numerous publications on bank mergers cover a wide range of topics. Berger *et al.* (1999) produce an extensive review of the consolidation of the financial services industry, primarily within a U.S. context. They find that consolidation improves profit efficiency and diversifies risk, scarcely improves cost efficiency, hardly affects services to small clients, might ameliorate the payment system efficiency, and can increase systemic costs by increasing systematic risk or enlarging the safety net. Several other recent publications continue in the same vein and focus on the costs and benefits of mergers. Kane (2000a) finds that stockholders of acquirers gain value through mergers of large banks. Cyree *et al.* (2000) find that the growth of larger banks tends to be externally generated. A number of articles deal with concentration of the banking industry and merger waves. These include Boot *et al.* (1998) who examine the reasons underlying precipitated bank mergers. Broadus (1998) concludes that the merger wave that started in the 1980's is due to the evolution of communication and technology. Calomiris (1999) analyzes the efficiency of nine merger cases during merger waves. Strahan (2000) analyzes the causes and consequences of the merger wave. Cetorelli and Gambera (2002) find that bank concentration helps industries that need external financing but also causes general depressing effects on growth in all sectors. Some authors draw more general conclusions on banking regulation and mergers. For example, Kashyap (1999) proposes that bank mergers will and should continue in Europe and in the United States, and should not occur in Japan where the biggest banks are not profitable.

With regard to bank rescues, Sprague (1986) argues that bank bailouts are too expensive and unjustifiably protect banks against natural market forces. The Federal Deposit Insurance Corporation (FDIC, 1997) has conducted a lengthy study outlining the various methods used by

the FDIC to resolve bank failures in the 1980's and early 1990's. Bennett and Loucks (1996) find that failed banks with more political power or connections are allowed to remain open longer and have a much higher probability of being rescued. Since the Asian crisis, literature about bailouts of banks and countries that go through banking crises has expanded (e.g., Kane 2000b). The Federal Reserve Bank of San Francisco (1997) notes that to face its banking crises Japan has adopted a program of Prompt Corrective Action, created a Financial Supervisory Agency that will supervise all types of financial institutions, and has tried to improve the transparency of the financial position of financial institutions. Kaplan-Appio (2002) and De Bonis *et al.* (1999) also address various issues dealing with banking crises. Some articles, such as Wolgast (2001), deal with the too big too fail dilemma.

Much of the early literature on bank failures deals with the prediction of bank failures. These include Sinkey (1975), Henebry (1996), Cole and Gunther (1995, 1998), and more recently, Reboredo (2002). Articles dealing with bank runs and bank failure contagion include Park (1991), Temzelides (1997), Akhigbe and Madura (2001) and Cooper and Ross (2002). The wave of bank failures in the United States in the 1980's has fostered interest in investigations of the costs and benefits of deposit insurance. Bhattacharya and Thakor (1994) and Bhattacharya *et al.* (1998) provide an overview of banking theory and regulation, and put emphasis on regulations for improving the deposit insurance scheme. Kane (1985) argues that the introduction of deposit insurance may introduce moral hazard among stakeholders. Kaufman (1996) shows that bank regulations tend to be ineffective, and often increase the probability and the cost of bank failures. Kaufman argues that the cost of bank failure is smaller before the implementation of the Federal Reserve System in 1914. Another stream of the bank failure literature concentrates on the quantification of the losses sustained by stakeholders. Bovenzi and Murton (1988) find that liquidation costs subsequent to bank failure average 30% of total assets. James (1991) finds an average loss-to-asset ratio of 30% for U.S. bank failures for the period, 1985-1988. Volkman



(1998) discusses efforts by regulators to effect the global convergence of bank regulation after the failure of the U.K. Barings Bank and the New York branch of the Japanese Daiwa Bank.

Some studies on banking legislation use historical or archival data. Flood and Kwan (1995) analyze the causes of American bank failures during the 1914-34 period. They find that high failure rates follow an important increase in the number of banks. Saunders and Wilson (1999) investigate the impact of consolidation and various safety net designs on bank capital for the Canadian, American and British banking systems over the century from 1893 until 1992. They conclude that high bank capital levels have been replaced by consolidation and various safety-net protections such as deposit insurance. Chu (1996) compares the occurrence of bank failures from 1935-1964 under three different deposit insurance regimes; namely, the virtually free banking system in Hong Kong, and the implicit and explicit deposit insurance systems in Canada and the United States, respectively. Chu finds that bank failures do not occur more frequently under free banking, and concludes that a balance is necessary between the costs of such regulation and the losses encountered after bank failure. Kane and Wilson (2001) find that large bank shareholders have benefited from implicit and explicit deposit insurance in Canada and in United States, respectively. Based on their empirical findings, Gueyie and Lai (2002) are not able to conclude that moral hazard is present in the Canadian banking industry under a flat-rate system of deposit insurance.

Since Canada has experienced few bank rescues, mergers or failures since 1930, researchers interested in these aspects of the Canadian banking experience concentrate on the period from Confederation in 1867 through the 1930s. Based on an investigation of bank failures and panics from 1870 until 1913, Williamson (1989) obtains estimates of losses to depositors on total deposits of 7% in Canada and 11% in the United States. Kryzanowski and Roberts (1993, 1999) find that the Canadian banks were economically insolvent in the 1920's and in the 1930's, and that forbearance and window dressing played an important role in preventing the failure of

many Canadian banks during this time period. They also find that the Government and the CBA pursued a policy of avoiding explicit bank failures by, amongst other strategies, carefully managing the impact of any bank failures.

Maintaining an appropriate regulatory environment for Canadian banks is an ongoing challenge for the Canadian government and regulatory agencies, and primarily is accomplished through regular reviews of the Canadian Bank Act. After 1992, reviews of the Bank Act are every five years instead of every decade. The major challenge faced in each revision is to find the appropriate regulatory configuration that ensures that the Canadian banking industry is low risk and profitable, offers appropriate services to all clienteles, is not unduly concentrated, and is competitive both nationally and internationally. This requires rules and regulations that strike a delicate balance between the entrance of new banks to foster innovation and competition, the exit of current banks through merger or acquisition or closure when they are economically insolvent and at minimal cost and disruption, and the merger of existing banks to ensure that Canadian banks can meet competitive growth while maintaining an adequate level of domestic competition by ensuring that the Canadian banking industry is not unduly concentrated.

The latest revision to the Canadian Bank Act, which began in 1997, illustrates the attempt to strike a balance between these competing factors. The changes embodied in Bill C-8, which was adopted in 2001, attempt to facilitate managerial flexibility to sustain bank growth without undue risk taking by bank managements by facilitating external growth through mergers, acquisitions, joint ventures and holding companies.

Since mergers between the major Canadian banks would increase the level of concentration in the Canadian banking industry (Task Force on the Future of the Canadian Financial Services Sector,

1998),<sup>1</sup> the adopted Bill C-8 contains several measures to enhance competition. Examples include an increase in the maximum holding of shares by any one individual from 10% to 20% for a widely held bank (deemed to be a bank with more than \$5 billion of equity), the reduction of the minimum capital requirements for a new bank from \$10 million to \$5 million, and less rigid requirements for the entrance of foreign banks into the Canadian market place.

While the Canadian banking industry is well capitalized and surpasses capital standard requirements stipulated by the Office of the Superintendent of Financial Institutions, the adopted Bill C-8 contains measures to ensure that the system remains safe. For instance, OSFI is given more enforcement power to discipline regulated financial institutions that do not comply with the law. From 1997-1999, OSFI has also reviewed its risk assessment methods to improve its supervisory methods.

While the most recent revision of the Canadian Bank Act is grounded in contemporary practices, experiences and research, the Canadian banking industry has been relatively free of industry consolidation through merger, bank closure due to bank failure and successful bank rescues since World War II. Unfortunately, little research (as discussed above) exists on the earlier period when the Canadian banking industry underwent several important organizational changes. Bank legislation also evolved significantly from Confederation until 1930. This includes the introduction of protection for note holders, stricter enforcement of double liability, implicit deposit insurance and introduction and expansion of bank inspections. The banking industry consolidated during the period from 1900 to 1931 with twenty-nine bank combinations, and the banking system underwent several shocks from 1868 until 1923 due to the failure of 26 banks. The richness of change during this period make this period an attractive one for testing the impact of changes in regulation, and the demise, rescue and merger of banks. Also, this period is sufficiently removed from the present that previously confidential governmental, regulatory and bank records are now available for analysis.

---

<sup>1</sup> Background Paper #1(1998) and McFetridge (1998) both address policy issues related to competition.

To partially rectify this deficiency in the literature, this thesis examines three major issues from this early period. The first major issue is the impact on bank industry concentration from banking industry consolidation through merger during the period 1900-1931. Such consolidation was at first reasonably unfettered by government merger policy, and was later increasingly controlled by government policy as the public became increasingly concerned about the increasing concentration of the banking industry. The second major issue is how banks are rescued and how far the affected parties will go to effect a rescue. To this end, the thesis examines the rescue of La Banque Nationale in 1924 and the surrounding events to uncover the role played by forbearance, political connections and resolve, and widow-dressing of various sorts in the financial statements and the reporting thereof of both pre-merger and post-merger entities. This analysis is facilitated by access to previously confidential material that is housed at the National Archives of Canada, Quebec and Nova Scotia, and access to the private archives of the National Bank. The third major issue is the impact of various safety net regimes on total bank losses from bank failure on the stakeholders of the failed bank and on the banking industry. Particular issues of interest here are whether deposit insurance and protection for note holders creates a moral hazard problem as hypothesized by Kane (1985), and whether the existence of double liability has a significant impact on total losses and on the relative losses incurred by shareholders.

The thesis consists of five chapters. In this the first chapter, the thesis is situated within the existing literature, and is linked to contemporary concerns in the banking industry. The underlying motivation for addressing the topics researched herein is provided. The chapter concludes with a brief summary of each of the following four chapters.

The second chapter examines the impact of Canadian banking industry consolidation through bank combination on banking industry concentration during the period 1907-1931. To this end, the evolution of national and regional bank concentration based on branches, and the effects of bank combinations on concentration are examined. The determinants of the price paid for acquired banks over this time period also are identified.

Several bank combinations and relatively few bank failures over this time period significantly increased the concentration of the Canadian banking industry to a national Hirshman-Herfindahl Index (HHI) based on bank branches of 15% and to a national four firm concentration ratio of 70% by 1931. The level of concentration in 1931 was even higher in some of the regional markets. For example, the HHI was nearly 30% and the four firm concentration ratio was nearly 90% in Quebec in 1931. The individual bank mergers explain most of the variation in the national and regional HHIs based on bank branches. The price paid for the acquired bank per dollar of bank assets varies significantly and directly with the amount of reserves per dollar of assets of the acquired bank, and significantly and inversely with the leverage of the acquired bank.

The third chapter examines the financial and political dimensions of the absorption of the failing La Banque Nationale (henceforth LBN) into La Banque d'Hochelaga (henceforth LBdH). After many months of capital forbearance by the federal government, the Quebec government provides "bridge financing" assistance of \$15 million to facilitate the merger. Both the use of questionable accounting and financial reporting methods, and the costs and benefits of the merger to all the involved parties are examined in this chapter.

The rescue of the insolvent and too-important-to-fail LBN vividly illustrates the importance of various factors in rescuing a financial zombie from failure. These factors include political connections at both the national and provincial levels, various forms of forbearance and window dressing, various forms of creative financial assistance from various levels of government, and management restructuring with more politically connected managers. As was the case for our problem banks in the 1920s, the Canadian Banker's Association (CBA) was highly involved in an opaque manner in dealing with the resolution of these problem banks up to and after their merger. The findings of this chapter support the conclusions of Kryzanowski and Roberts (1993, 1999) that forbearance and window dressing played an important role in preventing the failure of many Canadian banks during the 1920s and 1930s, and of

Bennett and Loucks (1996) that failed banks are allowed to remain open longer and have a much higher probability of being rescued if they have more political power or connections.

The total losses for different bank stakeholders from all 29 bank failures since Confederation under four different safety net regimes are studied in chapter four. These regimes include the existence of a Circulation Redemption fund to protect note holders, the existence of implicit or explicit deposit insurance to protect depositors, and the existence of double liability for shareholders to protect other bank stakeholders. The total losses and losses incurred by each group of bank stakeholders are examined using four different loss measures: losses in constant dollars of 1868, losses per capita in constant dollars of 1868, losses per dollar of assets of the failed bank, and losses per dollar of industry assets.

Total Canadian bank losses are comparable to the losses of U.S. national banks at the beginning of the twentieth century but are lower after the introduction of deposit insurance in Canada. After the introduction of explicit deposit insurance and the abolition of double liability, Canadian taxpayers and banks (through the CDIC and the government) assume the greatest proportion of losses from bank failure. In contrast, Canadian bank shareholders incur a significantly smaller proportion of the losses of Canadian bank failures during this same sub period. The findings reported in this chapter extend the findings of Kryzanowski and Roberts (1993, 1998, 1999) by showing that the proportion of losses from bank failures assumed by different stakeholder groups changed significantly after the introduction of deposit insurance. The findings also corroborate the findings of Kane (1985) that the introduction of deposit insurance reduces systematic risk but creates moral hazard among the stakeholders. Constant dollar losses per bank failure and constant dollar losses per capita per bank failure also are significantly higher, on average, after the introduction of explicit deposit insurance. Average losses per dollar of assets of the failed bank are significantly higher only for the sub period with strict enforcement of double liability and implicit deposit insurance when compared to the sub period (1883-1899) with note holder protection and weak enforcement of double liability. Finally, average losses per dollar of total

assets of the banking industry are significantly lower for sub periods whose common characteristic is deposit insurance (implicit and explicit, respectively).

The thesis concludes with chapter five. The chapter begins with a summary of the global findings of this thesis and follows with the major findings of the three middle chapters of the thesis. Where appropriate, the implications of the findings for banking policy and regulation are discussed. The chapter ends with a presentation of various avenues of future research that are likely to be of interest to academics, banking executives, bank stakeholders, governments and regulators.

## CHAPTER 2

### CANADIAN BANK CONSOLIDATION VIA BANK COMBINATION BETWEEN 1900 AND 1931

#### 2.1 INTRODUCTION

The most recent wave of bank mergers in Canada occurred during the period 1900-1931.<sup>2</sup> The period began with legislation designed to facilitate bank combinations in order to minimize failures and losses by facilitating the consolidation of the Canadian banking sector.<sup>3</sup> This consolidation, which ultimately resulted in 28 bank mergers and one bank amalgamation, continued unabated even after the legislation controlling bank combinations became more restrictive in the Bank Acts of 1913 and 1923. From 1901 to 1931, the Canadian banking sector was reduced from 35 to 11 banks. These surviving banks had head offices only in Montreal and Toronto. While Carr *et al.* (1995, p. 138) assert, “neither the Canadian Bankers Association (CBA)<sup>4</sup> nor the Canadian government arranged the mergers for insolvent institutions”, Kryzanowski and Roberts (1993, 1999) argue that both the government and the CBA played important rescue roles during this period and through the Great Depression. Our evidence supports the latter position.

The contemporary desire of Canadian banks to consolidate through bank combinations is an issue of considerable public concern. As in the early part of the 1900’s, the current merger debate primarily focuses on the negative impacts of greater industry concentration versus the alleged necessity of having

---

<sup>2</sup>The next major bank combination between the Bank of Toronto and the Dominion Bank occurred in 1955.

<sup>3</sup> For example, the Bank Act of 1913 requires that the federal Finance Minister approve the merger.

<sup>4</sup> A list of the acronyms used herein is given in Appendix 1.



big and sound banks to compete internationally, and on the net impact of greater industry concentration on the level of service provided by banks to the Canadian population. In the earlier period, the Canadian public was strongly opposed to bank combinations unless they were designed to rescue failing or failed banks because of a concern about the impact of bank combinations on the level of industry concentration. Thus, an examination of the various combinations of healthy and/or failing banks during this earlier time period may provide useful lessons for how current bank consolidation via bank combination could proceed.

Thus, to better understand the ongoing debate about the impact of bank combinations, this chapter has three major objectives. The first major objective is to analyze the causes, circumstances and financial health of the 29 Canadian bank combinations consummated between 1900 and 1931. In doing so, we account for the legal and economic context of that period. We examine the role and opinion of the public, the government and the Canadian Bankers Association concerning the bank combinations. The second major objective is to analyze the evolution of branch concentration in Canada during that period, and to observe how the bank combinations affected the level of branch concentration both nationally and regionally over time. The third major objective is to evaluate the determinants of the pricing of the consummated bank combinations over the 1900-1931 time period.

This chapter makes four main contributions to the literature. First, this chapter reveals the circumstances and many of the related descriptive details of most of the consummated bank combinations during the 1900-1931 period. It also discusses the legal and economic context underlying these bank combinations. During the first decade of the 1900s, bank combinations had little affect on bank concentration, and did not lead to close intervention by the then governments. Starting in 1912, the absorbed banks were in weak financial positions, and the acquired banks started to be bigger in size. Thus, the resulting business combinations tended to increase banking industry concentration. In 1913 and due to public concern, the government changed the legislation to require the approval of the Finance Minister before any bank merger agreement could be signed. During the last decade of this earlier

period, 1920-1931, most banks that are absorbed had severe financial problems. During the depression of 1922, the Finance Minister and the CBA are aware of several problematic banks. While the public strongly opposes bank combinations because of the fear of bank monopoly, it also shows a lack of confidence in the banking system after the failure of the Home Bank in 1923. The government introduces government inspection, continues to hide the financial difficulties of the banks, and delays bank combinations until they are unavoidable. During this decade, the federal government and the CBA play a preponderant role in the maintenance of an apparently solid banking system.

The second major contribution of this chapter is that we find that bank combinations changed banking concentration dramatically over the studied time period. The national HHI, when calculated using bank branches, triples from 5% in 1901 to 15% in 1931. Thus, a period of significant bank consolidation precedes the Great Depression in Canada. Several regional markets become even more concentrated. For example, the Quebec HHI is nearly 30% in 1931.

The third major contribution of this chapter is that, unlike bank failures over this period, most of the bank mergers individually had a significant effect on the monthly variation of the national HHI, and the regional HHIs. However, as a group, both the bank mergers and bank failures had significant impacts on the monthly changes in the national HHI, and in the regional HHIs.

The fourth major contribution of this chapter is that we identify two significant determinants of merger pricing during this period of time. These determinants are the amount of reserves per dollar of assets of the acquired banks, and the debt/equity ratios of the acquired banks.

The remainder of this chapter is organized as follows. In the next section, the literature on bank industry concentration and on bank combinations is reviewed. In section three, changes in the Canadian banking industry and in banking legislation over the studied period are discussed. In section four, the merger debate during the studied period is reviewed. In section five, the bank combinations over the studied period are analyzed. In section six, the sample, the sources of the data and the empirical

methodology used herein are described. In section seven, the determinants of the pricing of bank mergers over the studied period are identified empirically. In section eight, the change in banking industry concentration over the studied period is examined. In section nine, we examine the results of regressions performed to evaluate the impact of the mergers and failures on the monthly changes in the national and regional HHIs. Section ten concludes the chapter.

## **2.2 BRIEF REVIEW OF THE LITERATURE**

Eckardt (1913) studies the distribution of Canadian bank branches for 1911-12. He finds that the numbers of branches do not vary with changes in the population of Canada or with industrial activity. He finds that Canada has an average of 2803 inhabitants per bank branch. The Neufeld (1972) overview of the number of Canadians per bank branch is presented in Table 2.1.

**[Please insert Table 2.1 about here.]**

Beckart (1929) notes that the number of Canadian bank branches peaks at 4923 in September 1921, and that the number of branches increases dramatically after the war of 1914-1918. Beckart argues that Canada is over-banked, and that the number of branches will decrease until the end of that decade. There is one branch per 8000 Canadians in 1900, one branch per 1800 Canadians in 1920, and 1 branch per 2450 Canadians in 1925. Avery *et al.* (1999) find that mergers of banks within a ZIP code region, which have some branch overlap, result in a reduction of branches per capita.

Holladay (1938) studies branch concentration using decennial data. He finds that the four banks having the largest assets in 1929 had 70% of the branches in 1934 and approximately 80% of the market in terms of assets, liabilities, paid up capital and deposits. This high degree of concentration is due to the numerous business combinations that were executed in the first three decades of the twentieth century. In his description of the early history of Canadian banking, Neufeld (1972, p. 83) states:

Over the years the feeling seems to have grown that no government could permit a chartered bank to fail in a way that would lead to loss of funds by depositors and holders of chartered bank notes. Formally, however, the government has never endorsed this view, and it is likely that in the future as in the past, such loss would be avoided by timely mergers acquiesced in by the Ministers of Finance.

Hall (1923) strongly opposes mergers and the centralization of banking control.<sup>5</sup> He suggests the emergence of very small banks with capital above \$25,000, official governmental guarantees on all deposits subject to some premiums, government coercion against bank mergers, and audit inspection.

Lorrain (undated) replies to various arguments advanced by the groups opposed to mergers.<sup>6</sup> First, he notes that contrary to public opinion in 1928, bank concentration increases the availability of credit since it eliminates weaker banks. Second, smaller businesses still have access to credit. Third, using excess deposits elsewhere as needed is helpful to the economy. Fourth, while mergers are trendy, they are not harmful, since bigger and more powerful institutions are better equipped to compete and face danger. Fifth, new smaller banks should be established that would respect local needs. Establishing a rediscounting facility to help these new banks may not work. According to Lorrain, while the U.S. Federal Reserve System helps to rediscount through 9000 banks, the remaining 27,000 small and medium sized banks regularly fail or merge in order to achieve a larger size.

A study summarizes the benefits of bank mergers in Great Britain.<sup>7</sup> This study concludes that, with only five remaining big banks, Great Britain now has more competition between banks, more branches and more resources to help international trade, a more efficient redistribution of credit, less risk of bank failure, and more bank scale economies.

Cartinhour (1931) examines American bank mergers that occur between 1915 and 1930. He observes that merger motivations are to better serve large customers, to acquire new business and new

---

<sup>5</sup> Hall, Henry C., November 1, 1923, Victoria, British Columbia, PANS.

<sup>6</sup> Lorrain, Leon, undated, Standard-Commerce file, NAC.

<sup>7</sup> From a Banker, *Canadian Banking: Some Aspects of Merger Policy*, undated, CBA.

branches, to keep pace with competition, and to avoid failure. Bond (1969) examines the Canadian bank mergers effected between 1890 and 1920. He observes that most absorbed banks are slow growing and undersized with local branches. He finds that economies of scale may partially explain the merger movement over this period.

Bremer (1932) tries to certify that all target banks that merged since 1923 were almost insolvent.<sup>8</sup> The Secretary of the Canadian Bankers' Association is offended by the query, and replies that the sole reason for the mergers was the small sizes of the banks that could eventually lead to financial problems.<sup>9</sup> Bremer (1932) inquires whether the prospect of impending solvency for these combined banks is closer to reality.<sup>10</sup> We are unable to find a response to the query made by Bremer. It appears that the CBA attempts to hide, as much as was possible, any financial problems experienced by the combined banks. The evidence that we provide below supports the assertion made by Bremer.

The literature on the benefits of bank combinations is extensive. A study by the New York State Banking Department (1964) on branch banking, bank mergers and public interest for the period 1950-1962 finds that the vast majority of mergers in New York State are advantageous to the public interest in terms of the provision of new services.

Pettway (1980) finds that market returns may indicate that a bank has problems before it fails, and that market returns proxy for private information. This assumes that no implicit government guarantee exists that the failing bank will not be allowed to close. Rhoades (1998) observes that nine large bank mergers all realized their projected cost reductions, and that only four really did well in improving cost efficiency. Cyree et al. (2000) find that larger banks tend to grow more externally. Haynes and Thompson (1999) find significant productivity gains for UK bank mergers over the period 1981-1993. Kane (2000a) finds that stockholders of acquirers gain value through mergers of large banks. Hughes et

---

<sup>8</sup> Letter from Bremer to The Secretary of the Canadian Bankers' Association, May 16, 1932, CBA.

<sup>9</sup> Letter from Ross to Bremer, May 25, 1932, CBA.

<sup>10</sup> Letter from Bremer to The Secretary of the Canadian Bankers' Association, May 26, 1932, CBA.

*al.* (1999) find that bank mergers resulting in interstate consolidation are the most rewarding. Mishkin (1999) notes that larger institutions create some dangers because of their higher systematic risk that can be mitigated by cautious regulatory supervision. Mishkin also states that larger institutions offer an opportunity to reduce the span of deposit insurance. Calomiris (1999) argues that several econometric problems involved in studies of bank mergers may explain the pessimistic view that bank mergers do not add value. Berger et *al.* (1999) produce an extended review of the consolidation of the financial service industry, and primarily about American banks. They find that consolidation improves profit efficiency and diversifies risk, scarcely improves cost efficiency, hardly affects services to small clients, might ameliorate the payment system efficiency, and can increase systemic costs by increasing systematic risk or enlarging the safety net.

Based on his conjecture that merger policy can be country- or continent-specific, Kashyap (1999) proposes that bank mergers will and should continue in Europe and in the United States, and should not occur in Japan where the biggest banks are not profitable. Boot (1999) finds that stronger domestic banks are in a better position to enter into foreign markets. For example, the Belgian, Spanish and Swedish banking systems are weaker within Europe and have a stronger presence in other European markets. In contrast, the Dutch, Swiss and German banking systems are stronger within Europe and have a stronger presence in other European markets. Vennet (1996) finds that domestic mergers between EC credit institutions of same size and cross-border acquisitions enhance the performance of the combination while domestic takeovers are motivated by defensive and managerial motives.

Aintablian and Roberts (2000) find that mergers of Canadian financial institutions are valuable to shareholders, as is found by others for U.S. financial institutions. They also find that in-pillar and domestic acquisitions are especially rewarding. A background paper (1998) to the Task Force on the Future of the Canadian Financial Services Sector states that the rule “big shall not buy big” should be reviewed because mergers of Canadian Banks can lead to stronger international players which can benefit all Canadians. Roy (1998) examines the room for public participation in three foreign mergers.

He concludes that it may be safe to plan for an eventual public hearing. The Task Force (or so-called Mackay) Report (1998) contains 124 recommendations that can be classified within four main topics. These topics are enhancing competition and competitiveness; empowering consumers; Canadians' expectations and corporate conduct; and improving the regulatory framework.

## **2.3 EVOLUTION OF THE CANADIAN BANKING INDUSTRY AND LEGISLATION OVER THE STUDIED PERIOD<sup>11</sup>**

### **2.3.1 Evolution of the Canadian Economy over the Studied Period**

The last decade of the nineteenth century is a difficult period for the banking industry internationally. Several banks go bankrupt including three in Canada. After the financial panic and collapse in the United States, a big depression begins in Canada in 1893. Francophone banks in Canada go through a crisis in 1899. The closure of Banque Ville Marie in 1899 creates a bank run.

The expansion period from 1898 until 1913 is very prosperous, and attracts much foreign investment from the United Kingdom. While financial panic exists outside Canada in 1907 (especially in the United States), only lending restrictions are imposed in Canada. This stability in Canada during the economic crises enhances the reputation of Canadian banks, and leads to a large inflow of foreign investment into Canada.

Canadian banks suffer little with the end of the economic boom in 1913. In 1914, the war disrupts access to foreign exchange markets. No panic occurs in Canada although there is a big loss of staff. Governments need money to finance the war effort, and issue war loans totalling more than a billion dollars. This causes a temporary reduction in total bank deposits. The inflationary boom in 1920 is

---

<sup>11</sup> This draws on Jamieson (1962) who describes the important economic phases for the Canadian banking industry over the first 30 years of the twentieth century.

followed by a depression that bottoms in 1922. Sporadic runs occur for all but the very strongest banks in 1923. In 1926, Canada returns to a gold standard. Expansion follows and banks issue new stock to increase their reserve funds and their paid-up capital. During the fall of 1929, panic selling occurs in the stock market, prices fall, loans are called, and lending margins are reduced. This marks the beginning of the great depression of the 1930s.

Neufeld (1972) states that the high growth rate of banks in constant dollars ended around 1910. After 1910, the growth of the banks was limited to the growth of the economy with a very unusually slow growth until about 1934. After the First World War, banks possessed more liquid assets. Paid-up capital to liabilities for the banking sector declines from an average of 24% in 1896-1900 to an average of 9.1% in 1926-30 due to a diminution of the risk in the banking industry. This results in higher ROEs for Canadian banks. Foreign branches in Canada peak in number in 1925, and remain relatively unchanged until the 1960s.

### **2.3.2 Evolution of Canadian Bank Legislation over the Studied Period**

Under the 1867 British North America Act, all legislative power over banking is given to the federal government, and banks are permitted to open branches. The first Bank Act applicable to most banks is adopted in 1871, and is reviewed every decade thereafter. Some of the important changes in the Bank Act over the studied period are reported in Appendix 3.

Many of these changes are made to lower the likelihood of bank insolvency, to protect depositors, and to improve the public's confidence in the banking sector.

While bank combinations are kept secret during the discussion phase, they must be submitted to the shareholders of the purchasing bank if an increase of capital stock is needed under the Bank Act of 1900. The selling bank must announce the meeting to shareholders at least four



weeks in advance by mail, and at least six weeks in advance by public notice. The merger agreement must be approved by a resolution voted by shareholders representing not less than two thirds of the subscribed capital. The notice of the bank merger must be published in the *Canada Gazette* and in the city of the head office or places of business for at least four weeks before the banks submit the request to merge to the Minister of Finance and Receiver General in order to obtain an Order in Council. The application for assent approval must be made within three months after the Agreement is signed between both combining banks. The merger is effective the same day the Governor in Council approves the transaction. Before the combination is approved, the new entity must satisfy the requirements of the Bank Act. For example, the combined banks must have a subscribed capital higher than their issued notes, and must have a sufficient reserve fund. From 1913, the combining banks must first obtain the consent of the Minister of Finance before merging.

## **2.4 THE CHRONOLOGICAL EVOLUTION OF THE MERGER DEBATE DURING THE STUDIED PERIOD**

The merger debate is quiet at the beginning of the century but increases in intensity until the last business combination in 1931. On May 21, 1912, the Minister of Finance, W.T. White sends a letter to the President of the Canadian Banking Association.<sup>12</sup> He writes: “My attention has been directed to the fact that there has been rather widespread public criticism of so-called Bank mergers or amalgamations”. He also states that no mergers should be approved before the revision of the Bank Act of 1912. He adds: “Should circumstances arise in which it would appear to be clearly in the public interest that such an agreement should be permitted I would request that the facts be communicated to me for consideration by the Government before formal negotiations are proceeded with.” This

---

<sup>12</sup> White to Clouston, May 21, 1912, NAC.

reassures the public that has started to claim that a higher concentration of banks is not in the public interest. This marks the end of the era of “relatively straight forward” bank combinations. The Minister’s consent is now required before any bank combination process can start. This does not slow down the process since 15 of the 28 mergers occur from 1913 until 1931. Of course, the size of the assets involved in these bank combinations also becomes considerably larger.

The House of Commons discusses bank mergers during the review of the Bank Act during the session of 1912-13.<sup>13</sup> A bank combination should occur only if one of the parties has a weak financial condition since bank concentration can lead to a money trust in Canada. One member of parliament mentions that every bank combination of the past ten years was beneficial. Another member of parliament states that the service offered by a small local bank used to be better than through branches of a big bank that does not understand local needs. Two members of parliament suggest the requirement of parliamentary approval for a bank merger but this recommendation is not embodied in the new Bank Act.

During the discussion on the case of La Banque Internationale du Canada in the House of Commons, the Minister of Finance, Mr. White, states:<sup>14</sup>

It is exceedingly desirable that capital from abroad, whether French or German, should be invested in Canadian bank stock. There is not enough capital invested in Canadian bank stocks and that is one of the questions we will have to meet in future. We must consider the question of where the money is to come for subscriptions for further shares in Canadian banks.

In 1919, the House of Commons discuss the case of bank combinations on the background of the Ottawa-Nova Scotia merger.<sup>15</sup> The Finance Minister notes that it is very difficult to decide the outcome of a bank combination. If consent is given, the real motives are usually kept secret and public

---

<sup>13</sup> Memo for the Honourable Mr. Maclean, Bank Mergers, March 25, 1918, NAC.

<sup>14</sup> House of Commons Debates, p. 2276-2277, January 27, 1913.

<sup>15</sup> Débats de la Chambre des communes, p. 1129-1140, 2 avril 1919.

dissatisfaction is generally based on a misconception of the facts. Consent is given only if it is in the interests of the clients, the depositors, the shareholders and the public in general. The discussion notes that there have been more than 300 mergers in the past 15 years in Great Britain leaving 34 banks and proving that it is a sound economic measure. It is felt that since Canadians are afraid to lose control of the banking industry to the hands of a few individuals, something should be done to reassure the public. It is also stated that bank stock is sold at a premium and that the banking industry is the most profitable Canadian industry and it offers the highest dividends. It is proposed to favour new small banks that would be more willing to help local farmers and less wealthy individuals but it is objected that these institutions would again be too risky. The debate is closed on a positive note with the mention that the Canadian banking system is powerful and efficient and we should be proud of it. We note that the importance of serving farmers and the less wealthy is still an issue today.

White (1923) states that farmers are upset because they find that credit is too restrictive and he relates this to the impact of bank concentration. On the contrary, bankers believe they are too generous. In the fall of 1923, after hearing some rumours, the Minister of Finance informs the CBA that he does not strictly oppose mergers but thinks that it would not be advisable to do any now because public opinion is too strongly against mergers at this time.<sup>16</sup> He also asserts that none of the three big banks (Royal, Commerce and Montreal) shall be permitted to merge. The CBA has the same opinion and it communicates this message to these banks.<sup>17</sup> A year later, the CBA states that allowing big banks to save small ones is in the best interests of everyone.<sup>18</sup> For example, the Molson Bank is in a bad position financially, and it would be in the public interest if it is taken over by a big bank. This debate sounds somewhat similar to the debate following the contemplated bank mergers between the Royal Bank and

---

<sup>16</sup> Letter from Fielding to Williams-Taylor, October 27, 1923, CBA.

<sup>17</sup> Letter from Williams-Taylor to Fielding, November 1, 1923, CBA.

<sup>18</sup> Letter from the President of The Canadian Bankers' Association to the General Manager of the Royal Bank, November 5, 1924, CBA.

the Bank of Montreal, and between the Toronto-Dominion Bank and the Canadian Imperial Bank of Commerce in Canada in 1998.

While discussing a possible merger of the Standard and of the Sterling, Mr. Fielding, the Minister of Finance, states that:<sup>19</sup>

[...] he was quite prepared to believe there may be need in the future of some mergers; that he thought as a rule they should be discouraged, but circumstances might arise which would render a merger necessary and proper. [...] in the case of two large banks where the amalgamation involved a diminution, a material diminution, in competition it might be held there is no particularly good reason for the merger except some profit making motive; there might be no public reason which would indicate its necessity; that all applications or suggestions for mergers do not come before the public in a formal way.

Mr Meighen is more drastic and suggests that: "It should understand that it is only as a rescue from inevitable insolvency that a merger can be assented to. I can think now of no other justifiable case".<sup>20</sup> Fielding finds that this position is too rigid.<sup>21</sup>

During this same time period,<sup>22</sup> Bill no. 44 is presented for assent of the parliament before a bank combination can occur. The rejection is anticipated as the bank inspector briefs the Finance Minister.<sup>23</sup> A merger is done when the financial situation of the acquired bank is problematic. Therefore, the Bill is easily rejected since it would be dangerous for the depositors as soon as the news would become public.<sup>24</sup> Bank runs trigger credit contractions, harm local businesses and can cause bankruptcy. It also is noted that the permission of the Treasury Department and of the Comptroller of Currency is sufficient in Great Britain and that a similar process is used in the United States.

---

<sup>19</sup> *House of Commons Debates*, 1923 Session, June 20, 1923, volume 5, p. 4138.

<sup>20</sup> *Ibid.*

<sup>21</sup> *Ibid.*, p. 4139.

<sup>22</sup> The report is undated but it was found in the Standard-Commerce merger file, NAC.

<sup>23</sup> Tompkins to Ross, February 21, 1928, CBA.

<sup>24</sup> *The Mail and Empire*, Bank Mergers Explained By Minister of Finance, February 15, 1929.

The last bank combination of importance occurs in 1928, and creates much turmoil and strong protests. The Finance Minister tries to reassure the population when the merger of the Standard and the Commerce is known.<sup>25</sup> He gives his consent to the merger but the banks are still required to obtain the approval of their respective shareholders and of the Governor. Some complaints are filed.<sup>26</sup> These complaints oppose bank mergers because it reduces service and the number of branches.<sup>27</sup> Some interveners are also frightened that mergers are just a result of the Montreal-Toronto competition.<sup>28</sup> Others require an in-depth study.<sup>29</sup> The *Globe* reports some frictions in the cabinet concerning the merger file,<sup>30</sup> and systematically opposes the consolidation.<sup>31</sup>

The *Herald* summarizes a few opinions published in different newspapers.<sup>32</sup> The *Financial Post* writes that it does not oppose the merger if it is necessary. The *Ottawa Journal* notes that it is a banker's issue and they should decide. The *Winnipeg Press* strongly opposes merger. The *Herald* appreciates the Canadian banking system but would like clear benefits of a merger for clients as well as for shareholders. The *Globe* is strongly opposed to the merger but a reader reacts strongly because he feels that the mergers are necessary to face international competition and to permit adequate international trade.<sup>33</sup>

The *Financial Post* provides a good overview of the positions of various newspapers in an article on August 3, 1928. The silence of the Minister concerning the real benefits of this merger fires up the debate. *Le Devoir* wants to know if it is profitable for the public. Some commentators ascertain that the system is already too concentrated, while others argue that we must now be careful for upcoming

---

<sup>25</sup> Press Statement by Mr. Robb, August 18, 1928, NAC.

<sup>26</sup> Stack, Secretary of the Board of Trade of Wakaw to the Minister of Finance, Mr. Robb, July 18, 1928, NAC.

<sup>27</sup> Stack, Secretary of the Board of Trade of Wakaw to the Minister of Finance, Mr. Robb, August 3, 1928, NAC.

<sup>28</sup> Letter of Wigle to the Finance Minister, September 4, 1928, NAC.

<sup>29</sup> Letter of Hyams to the Minister of Finance, September 18, 1918, NAC.

<sup>30</sup> September 24, 1928.

<sup>31</sup> October 3, 1928.

<sup>32</sup> *The Herald*, August 7, 1923.

<sup>33</sup> *The Globe*, December 28, 1921.

events but it is normal in this merger era. There also is a concern that proper banking services for small businesses are lacking.

In the 1930s, after strong popular opposition and less necessity due to financial exigency, no bank combinations occur for several decades. Whether or not this lack of bank combinations contributes to the banking industry becoming less creative and systematically losing market share to other financial intermediaries is an interesting issue that warrants further study.

Banking concentration and access of small business and small individuals to banking services are the primary issues in the current bank merger debate. The growth of cooperative financial institutions helps to alleviate these problems since these institutions concentrate on the less wealthy and on small businesses.<sup>34</sup>

## **2.5 AN ANALYSIS OF THE EARLIER PERIOD OF BANK CONSOLIDATION BY BANK COMBINATION**

The creation of the Canadian Bankers' Association in 1900 establishes an entity with considerable power, and provides a useful channel for effecting governmental policy for the federal Minister of Finance. Several bank combinations and a few failures take place between 1900 and 1910, which is a period over which the banks grow faster than G.N.P. (Neufeld, 1972). Neufeld also asserts that the maximum proportion of bank to total financial intermediary assets occurs in 1912. In 1912, bank stocks become less attractive due to recent failures and the principle of double liability. Prior to 1912, banks merged or failed essentially due to small size, and because of the appetite of the bigger banks to expand geographically and to obtain more trained employees. The 1912 merger of the Traders is the biggest since confederation in terms of capital and assets. The near insolvency of the Traders causes public concern. Two more mergers are authorized in 1913. The merger of La Banque

---

<sup>34</sup> For instance, the first Caisse Populaire opens in 1900 (Fédération des caisses du Québec, 2001) and the Canadian Farm Loan is created in 1929 to help farmers.

Internationale causes some public turmoil because of the irregularities associated with its difficulties. These events lead to a more restrictive merger policy, where the written consent of the Minister of Finance is necessary from 1913 before banks can conclude a merger agreement. The Minister of Finance approves one last merger before the war in June 1914. After this merger, the Minister of Finance gives consent only if banks have important financial problems or to protect the Canadian banking industry. The Minister of Finance also attempts to affect the timing of mergers to minimize public outcry. This is aptly stated by one Minister of Finance as follows:

Perhaps it is unfortunate that the purchase of the Northern Crown by the Royal occurred so closely with that of the Bank of British North America by the Bank of Montreal. Had I known at the time that the merger in which you were interested was to take place I think I could have induced the Northern Crown to let their matter stand in abeyance for a few months.<sup>35</sup>

The working relationship between the CBA, the banks and the government became closer at the beginning of the First World War. According to Schull and Gibson (1982), the Minister of Finance calls the president of the CBA to solicit the full support of the banks for the war effort, and especially to sell Victory Bonds. The banks successfully sold Victory bonds for the government.

The Minister is very reluctant to approve any bank combinations during the war, and only two that involve Royal Bank acquisitions of banks in serious financial difficulty occur. During the war, the acting president of the CBA is Mr. Pease from the Royal Bank. After the war, the financially troubled Bank of Ottawa is sold, and the Bank of British North America is sold into Canadian ownership because a sale to another British bank could be harmful to the banking industry because of the special powers in this bank's British charter.

The Canadian banking industry faces a very severe financial crisis during the depression of 1922. During this period of time, most of the remaining mergers occur quickly because of the severe financial

---

<sup>35</sup> Letter to Vincent Meredith, Bank of Montreal, from Acting Minister of Finance, March 22, 1918, NAC.

difficulties of the acquired banks. With the depression of 1922 and the changing requirements of the bank act, new mandatory government supervision and reduction of bad debt on a monthly basis seem to cause huge problems in the banking industry. The first shock occurs with the near failure of the Merchants bank. While the government was aware of the problems at the bank, it did not intervene because of the war effort. Since the failure of the Home bank may have been prevented with earlier intervention, the government is severely criticized for its delay. This delay coincides with several bank runs, especially for smaller banks. The Minister of Finance delays mergers since the public is concerned about bank centralization. During various parts of this time period, the National, the Sterling, the Standard, the Home, the Union, and the Hamilton all express important financial problems. Most of the remaining mergers could have concluded in 1923 in the absence of public resistance to such mergers. Mergers are delayed as much as possible. The last merger in 1931 involves the acquisition by the Imperial of the Weyburn in order to prevent a failure and to protect the industry.

Apart from political reasons, no rationale appears to exist for delaying the mergers. The relationship between the CBA, the banks and the government was so close that the government could delay the mergers easily. Government delays were detrimental to the survival of the Home Bank, and almost lead to the demise of the Merchants' Bank.

All the bank mergers from 1912 until 1931 appear to be necessary due to financial insolvency of the acquired banks. This supports the conjecture of Bremer (1932) who tried to obtain CBA confirmation that such was the case. Thus, bank merger partners, such as the Hamilton, the Traders, the International, the Merchants', the Union, the Nationale, the Molson and the Weyburn, were in very bad financial positions when they merged. The Standard, the Ottawa, the Metropolitan, the Northern Crown, the Eastern Townships, the Quebec, the New Brunswick and the Sterling Bank were also financially shaky. Only one merger, that of the Bank of British North America, was based on legal reasons, as was discussed earlier and is noted in Appendix 4. Interestingly, no hostile takeovers occurred over the studied period, although some acquirers were favoured because of the friendship of the respective



managers. The Bank of Montreal was the biggest bank early in the studied period because it was the official banker of the government until the mid-1920s. By 1931, it was joined by the Commerce and the Royal. These three banks all had their head offices in Montreal or in Toronto in 1931.

## 2.6 DATA, SAMPLE AND EMPIRICAL METHODOLOGY

The archival material on each bank combination during the 1900-1931 period is obtained from the National Archives of Canada (NAC), the Public Archives of Nova Scotia (PANS), Office of the Superintendent of Financial Institutions (OSFI) and the archives of the Canadian Bankers Association (CBA). A copy of the merger agreement and several related documents are identified for each of the mergers. Other secondary sources dealing with the history of each combining bank or on Canadian banking history provide additional background for the analyses conducted herein.<sup>36</sup>

The annual financial statements of all Canadian banks are obtained from the *Canada Gazette* published by the Government of Canada.<sup>37</sup> Stock prices are obtained from the annual review of stocks from the *Globe and Mail* for all but the privately held banks. Thus, market values of equity are calculated for twenty banks in 1901 and eight banks in 1931. We also use the aggregate figures for the Canadian banking industry reported in Curtis (1931) and Neufeld (1972), and the changes in the formats of the financial statements over this period identified by Curtis (1931).

Specific summary details about each of the bank combinations are reported in Table 2.2. Bank combinations with sufficient archival information are discussed in Appendix 4. The only exception is the merger of La Banque Nationale and La Banque d'Hochelaga that is discussed in the next chapter. Pricing details obtained for each bank combination are summarized in Table 2.3. Based on Table 2.3,

---

<sup>36</sup> Sarpkaya (1978), Saunders and Thomas (1997), and Sinkey (1998).

<sup>37</sup> Data is gathered from monthly statements as of June 30 of each year. If the statements are not available for that month, we take the financial statements of the closest month available.

most bank combinations involve the exchange of shares. Financial data about the acquired bank involved in each bank combination are presented in Table 2.4.

**[Please insert Tables 2.2, 2.3 and 2.4 about here.]**

We also analyze the determinants of the pricing for the bank combination. To do so, we must eliminate two mergers: the Northern Crown merger, which is an amalgamation, and the Montreal-Yarmouth merger for which we could not find the price of the merger.

We also obtain the numbers of branches per month per province for each of the banks for the period from November 1907 to December 1931, and on an annual basis for the period 1901-1904. We obtain this annual data from the *Canada Year Book* and a monthly list of all branches from the *Houston's Bank Directory of Canada*.

We calculate a measure of branch concentration for each year-end from 1901-1904 and monthly from November 1907 through 1931 called the Herfindahl-Hirshman (HHI). It is the sum of the squared market share based on the number of branches of each bank, and it varies between 0 (not concentrated) and 1 (a monopoly). Suppressing the time subscript, this concentration measure is given by:

$$(1) \quad HHI = \frac{\sum_{i=1}^N v_i^2}{V^2}$$

where  $v_i$  is the number of branches owned by bank  $i$ ; and

$V$  is the total number of branches owned by all banks.

We also calculate an HHI on an annual basis using bank deposits. This measure is the sum of the squared market share of each bank based on the bank deposits held by each bank. Suppressing the time index, this concentration measure is given by:

$$(2) \quad \frac{u_i}{U}$$

where  $u_i$  is the amount of deposits held by bank  $i$ ; and

$U$  is the total amount of deposits held by all banks.

We also calculate the concentration ratio, which is given by the sum of the  $m$  largest bank market shares. This concentration ratio is defined by the following equation:

$$(3) \quad CR_m = s_1 + s_2 + s_3 + \dots + s_m$$

where  $s_m$  is the market share of the  $m^{th}$  firm.

The four-firm concentration ratio is the sum of the market shares for the four largest firms of a country or region. Finally, we calculate the first differences of the branch HHIs, and evaluate the impact of each merger and failure during that period using an event-type study for various time series of first-differenced HHIs.<sup>38</sup>

The American Antitrust Division of the Department of Justice examines bank mergers using the HHI for commercial bank deposits. Mergers increasing the index by more than 2% or pulling it over 18% raise concern. The Board of Governors of the Federal Reserve System also considers the deposits of savings and loans associations. McFetridge (1998), page 41, notes that in Canada “a merger is unlikely to be challenged if: (1) the merged entity’s pro forma market share is less than 10 percent or; (2) the merged entity has less than 35 percent of the market and the four firm concentration ratio is less than 65%.”

---

<sup>38</sup> We perform a Portemanteau test that shows that only white noise remains after taking the first differences of the HHI values in each series.

## 2.7 THE DETERMINANTS OF THE PRICE PAID PER DOLLAR OF ASSETS FOR THE ACQUIRED BANKS OVER THE STUDIED PERIOD

In this section, we identify the determinants of, and their relationships with the prices paid per dollar of assets of the acquired banks,  $PricePaid_i$ , for a sample of bank combinations. Our full model is as follows:

$$(4) \text{ Price Paid}_i = \beta_0 + \beta_1 \text{ Age}_i + \beta_2 \text{ Reserve}_i + \beta_3 \text{ Acquired}_i + \beta_4 \text{ Acquirer}_i + \beta_5 \text{ Closed}_i + \beta_6 \text{ Free}_i \\ + \beta_7 \text{ Debt}_i + \epsilon_i$$

where  $\text{Age}_i$  is the age of the acquired bank for bank combination  $i$  at the end of the month prior to the completion of the bank combination;

$\text{Reserve}_i$  is the reserves per dollar of assets of the acquired bank for bank combination  $i$  at the end of the month prior to the completion of the bank combination;

$\text{Acquired}_i$  is the number of branches of the acquired bank for bank combination  $i$  at the end of the month prior to the completion of the bank combination;

$\text{Acquirer}_i$  is the number of branches of the acquirer bank for bank combination  $i$  at the end of the month prior to the completion of the bank combination;

$\text{Closed}_i$  is the number of branches closed of the acquirer bank for bank combination  $i$  within two years after the completion of the bank combination  $i$ ;

$\text{Free}_i$  is a dummy to capture if the acquired bank in bank combination  $i$  can freely combine (equals 1 from 1900 to 1911 when few regulatory constraints hindered bank combinations) or is forced to combine after obtaining governmental approval to combine (as was the case for bank combinations in the period 1912-1931); and

$Debt_i$  is the debt per dollar of assets of the acquired bank for bank combination  $i$  at the end of the month prior to the completion of the bank combination.

We estimate the full model and various reduced forms thereof for the sample of 27 bank combinations effected over the period, 1900-1931, in order to explain the price paid per dollar of assets of the acquired banks. We do not include the bank amalgamation of the Northern and the Crown, and merger of the Bank of Montreal with the Exchange Bank of Yarmouth as we have one missing price for this bank combination. The reduced forms of the full model include each independent variable by itself, and a reduced form combination based on the correlation matrix reported in Table 2.5 for the independent and dependent variables. Based on Table 2.5, the correlations are 0.71 and 0.75, respectively, for the debt-to-equity ratio of acquired bank and number of branches of the acquirer bank, and for branches of acquirer bank and branches of acquired bank.

**[Please insert Table 2.5 about here.]**

The *a priori* expectation for the sign of the estimated intercept is positive. The *a priori* expectation for the sign of the estimated coefficient of the age of the acquired bank is positive since older banks are likely to be more established and have a higher franchise value, all else held equal. The *a priori* expectation for the sign of the estimated coefficient of the reserve-to-asset ratio of the acquired bank is positive since a higher reserve ratio indicates a healthier bank, which should be more expensive to purchase. The *a priori* expectation for the sign of the estimated coefficient of the number of branches of the acquired bank is positive since it potentially has greater value added for the acquirer bank. The *a priori* expectation for the sign of the estimated coefficient of the number of branches of the acquirer bank is negative since bigger banks should have a greater bargaining power. The *a priori* expectation for the sign of the estimated coefficient of the number of branches closed within two years of a bank combination is negative since this indicates the possibility of greater branch overlap and potentially unprofitable service points. The *a priori* expectation for the sign of the estimated coefficient of the free

or forced combination dummy variable is positive since the combinations freely entered into should cost more as the acquired banks are not necessarily in financial difficulty. This was more generally the case during the 1900-1911 period when bank combinations were encouraged by the federal government, and not during the 1912-1931 period when the federal government generally approved combinations only to rescue failing banks. The *a priori* expectation for the sign of the estimated coefficient of the debt ratio of the acquired bank is negative since a bank with a lower debt ratio should cost more since it may have unused debt capacity.

The various regression results are summarized in Table 2.6. The estimated full model has an adjusted R-square value of 24%, and is significant at the 10% level. In regression runs (2) through (8), we run simple regressions of the price paid per dollar of assets of the acquired banks against each of the independent variables in turn. Except for the age of the acquired bank and the number of branches of the combined banks closed within two years after bank combination, the estimated coefficient of the independent variable in each of these simple regressions is significant at conventional levels. Based on these simple regression results, the price paid per dollar of assets of the acquired bank varies significantly and directly with the reserve-to-asset ratio of the acquired bank (i.e. higher price paid per dollar of assets of the acquired bank with a higher reserve-to-asset ratio for the acquired bank), and the free-or-forced dummy variable (i.e. higher price paid per dollar of assets of the acquired bank during the 1900-1911 period when business combinations were not controlled by government). Based on the simple regressions, the price paid per dollar of assets of the acquired bank varies significantly and inversely with the number of branches of the acquirer bank (i.e. acquirer banks pay more per dollar of assets when they have less branches themselves), and with the debt-to-equity ratio of the acquired bank (i.e. higher price paid per dollar of assets for an acquired bank with a lower debt-to-equity ratio at the time of bank combination). Surprisingly, the price paid per dollar of assets of the acquired bank varies inversely with the number of branches of the acquired bank (i.e. higher price paid per dollar of assets for acquired banks with less branches).

**[Please insert Table 2.6 about here.]**

In regression run (10), we remove not only the age of the acquired bank variable but also the number of branches of the acquirer bank, the number of branches of the acquired bank, the number of branches of the combined banks closed within two years after bank combination, and the free-or-forced dummy variable to alleviate the impact of multicollinearity among the independent variables. This reduced-form model has two independent variables; namely: the reserve-to-asset ratio of the acquired bank, and the debt-to-equity ratio of the acquired bank. Based on the results reported in Table 2.6, this regression has the highest adjusted R-square value of about 37%. All of the estimated coefficients, including the intercept, are significant. As expected, the estimated coefficient of the asset-to-reserve ratio of the acquired bank is positive and significant at the 10% level. This indicates that the price paid per dollar of assets of the acquired bank is higher when the acquired bank has a higher reserve per dollar of assets. The estimated coefficient of the debt-to-equity ratio of the acquired bank is negative and significant at the 1% level. This indicates that the price paid per dollar of assets of the acquired bank is higher when this measure of leverage for the acquired bank is lower.

## **2.8 THE EVOLUTION OF BANK CONCENTRATION OVER THE STUDIED PERIOD**

The number of branches on a monthly basis for the Canadian banking industry for the 1907-1931 period is depicted in Figure 2.1. The number of branches steadily increases until 1914, and is relatively stable during the First World War of 1914-18. The most important increase occurs during the inflationary boom post-war, and the number of branches peaks at 4911 branches in September 1921. This is followed by an important reduction in the number of branches during the depression of 1922. The number of branches on an annual basis is also portrayed in Figure 2.2 for five important Canadian regions over the same period of time. Ontario has the greatest number of branches during the whole period with a peak of 1509 branches in 1922. The number of branches in the Prairies comes in second

place until the beginning of the 1920s when the number of branches in the province of Quebec surpasses the number in the Prairies. The numbers of branches in the Atlantic region and in British Columbia are much lower than in the other regions of Canada. The Atlantic series has a peak of 413 branches in 1920, and this declines to 267 branches in 1931. British Columbia has close to 200 branches for most of the studied period.

**[Please insert Figures 2.1 and 2.2 about here.]**

When market shares are calculated in terms of bank branches, we find that the four-firm concentration ratio of the Canadian banking industry is close to 30% at the beginning of the twentieth century and close to 70% in 1931 (see Figure 2.3). This corroborates the findings of Holladay (1938). Except for Ontario, the regional four-firm concentration ratios depicted in Figure 2.4 are much higher for the regions than nationally. In 1931, the Atlantic, British Columbia and Quebec all have four-firm concentration ratios that are near 90%. Although not as highly concentrated based on this measure in 1931, the four-firm concentration ratio is still 72% in Ontario in 1931.

**[Please insert Figures 2.3 and 2.4 about here.]**

The time series of market shares for the four banks with the highest market shares in Canada in 1931 are depicted in Figure 2.5. During the first decade, none of these banks has a market share greater than 10%. The acquisition of the Union Bank of Canada by the Royal gives the Royal the highest market share of 23% in 1925. The Commerce has the second highest market share of nearly 20% due to its merger with the Standard. The Bank of Montreal has the third highest market share of nearly 16% after its merger with the Merchants in 1922 and with the Molson's in 1925. Finally, La Banque d'Hochelaga, after acquiring La Banque Nationale in 1924 and changing its name to La Banque Canadienne Nationale in 1925, has a market share of nearly 15% in 1931. In 1931, the cumulative market shares for these four banks is 70%, as is depicted in Figure 2.4.



**[Please insert Figure 2.5 about here.]**

The national HHI index predicated on the number of bank branches for the Canadian banking industry increases from 5% to 15% over the 1907-1931 period. Based on Figure 2.6, this index is relatively stable during the first decade and during the First World War. After the depression of 1922, the two largest annual increases of 1.6% and 3.1% occur in 1924 and in 1925, respectively. The merger of several banks that are in financial trouble leads to this increased concentration. More specifically, the absorption of the National increases the monthly index by 1.1% and the absorption of the Union increases the monthly index by 2.3%. The annual variation in this concentration index exceeds 1% during two other years; namely, 1912 and 1928. The mergers that absorb the Traders and the Eastern Township cause noticeable jumps in the index in 1912. Together, these mergers increase the index by 1.4%. The absorption of the Standard by the Commerce in 1928 increases the monthly HHI by 1.6%. Finally, the absorption of the Merchants in 1922 also increases the monthly HHI by more than 1%. The regional HHIs are much higher, as is evident from Figure 2.7. In 1931, Quebec has the highest HHI of close to 30%. British Columbia and Atlantic follow with HHIs close to 25%. Therefore, due to important bank combinations, most regions are more highly concentrated than is the case nationally over the studied period.

**[Please insert Figure 2.6 and Table 2.7 about here.]**

To better understand the time-series evolution of the various HHI indexes, the first differences of the various HHI indexes are now examined. In Figure 2.8, we plot the first differences of the Canadian HHI. The largest monthly spike of nearly 2% is due to the absorption of the Union Bank in August 1925. The second largest spike is due to the absorption of the Standard in 1928. We also observe the impact of the mergers involving the Merchants in 1922, and the National Bank in 1924. Figure 2.9 provides a plot of the first differences of the HHI series for the Atlantic region. The mergers of the Union Bank of Halifax in 1910 and of the Bank of New Brunswick in 1913 have the greatest

impact. These two bank mergers increase the Atlantic HHI by 5.6% and by more than 4.5%, respectively. Based on Figure 2.10 for British Columbia, the merger of the Bank of British Columbia with the Bank of Montreal increases the regional HHI by 5.3% in 1918. Based on Figure 2.11, the absorption of the Union Bank of Canada in 1925 increases the regional HHI of the Prairies by 5.5% in 1925. Based on Figure 2.12, the Quebec HHI increases by a considerable 11% in 1924 after La Banque Nationale is absorbed. Based on Figure 2.13, the Ontario HHI increases by 3.5% with the absorption of the Standard in 1928. Also, of note, is that the regional plot for Ontario exhibits the greatest similarity to the national plot probably due to the more diversified banking market in Ontario over this period of time.

**[Please insert Figures 2.8, 2.9, 2.10, 2.11, 2.12 and 2.13 about here.]**

As a test of robustness, we also examine the annual national concentration ratios (HHIs) calculated using deposits. Based on Figure 2.14, we observe that the national deposit HHI series is strictly higher over the studied time period than the national branch HHI series.<sup>39</sup> Based on test results reported in Table 2.8, the annual mean national deposit HHI is significantly higher by about 4% than the annual mean national branch HHI, and both series are very highly correlated (rho of 0.98).

**[Please insert Figure 2.14 and Table 2.8 about here.]**

---

<sup>39</sup> A linear projection is used to replace the missing values for 1905 and 1906 for the branch HHI series.

## 2.9 THE IMPACT OF MERGERS AND FAILURES ON THE NATIONAL AND REGIONAL BRANCH HHI SERIES OVER THE STUDIED PERIOD

### 2.9.1 Impact of Bank Mergers on National Branch HHI Series

Monthly data from the end of 1907 until the end of 1931 are used to analyze the impact of mergers on the national branch HHI series. The mergers and the numbers of national and regional branches of the acquirer and acquired banks are reported in Table 2.9. The regions are Atlantic (A) that includes New Brunswick, Prince Edward Island and Nova Scotia; Quebec (Q); Ontario (O); the Prairies (P) that includes Manitoba, Saskatchewan and Alberta; and British Columbia (BC).<sup>40</sup> The sum of the number of regional branches is sometimes less than the national total because it does not include the branches in the Canadian territories or foreign branches. The impact of all mergers having an ID number in Table 2.9 is tested. Two mergers have the same ID number of 16 since the branches of both acquired banks are removed in January of 1925 in our dataset.

[Please insert Table 2.9 about here.]

We estimate the relationship between the first differences of the national branch HHI,  $\Delta HHI_t$ , for our sample of bank combinations and two independent variables using:

$$(5) \Delta HHI_{ti} = \alpha_0 + \alpha_1 \Delta \ln ASSETS_t + \alpha_2 \Delta DUM_{ti} + \epsilon_t$$

where  $\Delta HHI_t$  is the change in the HHI for month  $t$ ;

$\alpha_0$  is the constant;

$\alpha_1$  and  $\alpha_2$  are coefficients to be estimated;

---

<sup>40</sup> Newfoundland is not a part of Canada during our period of observation since it entered Confederation in 1949.

$LNASSETS_t$  is a control variable and represents the ln of total bank assets;

$DUM_t$  is a dummy variable, which is equal to 1 if the branch removal for the acquired bank occurs during month  $t$ , and is zero otherwise;

$i$  is a geographic market indicator (national in this section); and

$\varepsilon_t$  is the error term with the usual properties.

The significance of the control variable,  $LNASSETS$ , is tested first by estimating equation (5) without the  $DUM_t$  variable. The estimated coefficient of  $LNASSETS$  is not significant at conventional levels. The full model given by equation (5) is then estimated for the sample of 19 bank combinations effected over the period, December 1907 to December 1931, in order to explain the first differences of the national HHI series. A priori, we expect that most bank mergers will significantly explain variation in the HHI series. The p-value is expected to be lower for acquired banks with more branches.

These regression results are reported in Table 2.10. The R-square is very high at 98%. The estimated coefficient is insignificant only for two mergers involving the acquired banks, La Banque Internationale (#7) and the Bank of New Brunswick (#6). Each of these acquired banks is relatively small with only 10 and 18 branches, respectively, with all their branches in Quebec and the Atlantic, respectively. Furthermore, the estimated dummy coefficients of mergers involving acquisitions of banks with more than 44 branches are all significant at the 1% level. The cross-sectional mean of the coefficient estimates of 0.006 also is significant at the 1% level.

**[Please insert Table 2.10 about here.]**

### **2.9.2 Impact of Bank Mergers on Regional HHI Series Conditioned on Dominant Market of Acquired Bank**

In this section, the relationship between the first differences of the regional branch HHI,  $\Delta HHI_{it}$ , and the dummies for the bank combinations is estimated using equation (5). Each regional estimation only uses the bank combinations,  $DUM_{it}$ , for which region  $i$  is the dominant regional market of the acquired bank. The dominant market of the acquired bank is determined in two ways; first, as the market in which the bank has the most branches, and second, as the market in which the bank has the largest market share in terms of branches.

*A priori*, we expect that most bank mergers will significantly explain variation in the regional HHI series when the dominant market of the acquired bank is in that region. Based on the results summarized in Table 2.11, all mergers with the dominant market of the acquired banks in the Atlantic region and in the Prairies significantly explain the variations of their regional HHIs. For Ontario, the estimated dummy coefficients for all but the two smaller mergers involving the acquisitions of the United Empire (#3) and the Metropolitan (#8) are significant. For Quebec, the estimated dummy coefficients for the acquisitions of the Quebec Banque (#9) and La Banque Internationale (#7) are not significant, and for the acquisitions of the Eastern Township Bank (#4) and of La Nationale (#15) are significant at the 5% and 1% levels, respectively. All of the estimated regional regressions are significant with R-square values ranging from 0.703 for the Atlantic region to 0.894 for Quebec. The cross-sectional mean dummy coefficient estimate of 0.020 is significant at the 1% level.

**[Please insert Table 2.11 about here.]**

The results summarized in Table 2.12 are based on a definition of the dominant market of the acquired bank as being the market where the acquired bank has the largest market share in terms of branches. The dominant markets are the same as those using the previous market

classifier with the exception of two mergers; namely, the absorptions of the Bank of British America (#11) and the Bank of Hamilton (#14). The results for this set of regional regressions are very similar to those discussed above using the other dominant market classifier. The cross-sectional mean of the dummy coefficient estimates of 0.024 remains significant at the 1% level.

**[Please insert Table 2.12 about here.]**

### **2.9.3 Impact of Bank Mergers on Regional HHI Series Conditioned on Dominant Market of Acquirer Bank**

As in the previous section, the relationship between the first differences of the regional branch HHI,  $\Delta HHI_{it}$ , and the dummies for the bank combinations is estimated using equation (5). Unlike in the previous section, each regional estimation only uses the bank combinations,  $DUM_{it}$ , for which region  $i$  is the dominant regional market of the acquirer and not acquired bank. As in the previous section, the dominant market of the acquirer bank is determined in two ways; first, as the market in which the bank has the most branches, and second, as the market in which the bank has the largest market share based on the number of branches.

*A priori*, we expect that many bank mergers will significantly explain the variation of the regional HHI series when the dominant market of the acquirer bank is in that region. However, we expect the results to be weaker than those obtained using the dominant markets of the acquired banks since acquirer banks often buy banks offering regional complements to cover new market areas. The possible exception is the Quebec region.

The results presented in Table 2.13 are based on the definition of the dominant market of the acquirer bank as being the regional market in which the acquirer bank has the greatest number of branches. The R-square values for each region are lower than those presented in the two preceding sections of this chapter. However, they are all still significant at the 1% level. The estimated coefficients for all mergers occurring before 1913 are insignificant. In the Prairies, the

estimated dummy coefficients are significant for two of the four mergers (specifically, the mergers involving the Bank of Hamilton (#14) in 1923 and the Standard (#18) in 1928). In Quebec, the estimated dummy coefficient is significant for the only merger (i.e. the one involving La Nationale (#15)). Also, this is the only regression where the estimated intercept and the estimated coefficient of LNASSETS are significant at conventional levels. In Ontario, the estimated dummy coefficients are significant for all mergers after 1917, with the exception of the merger involving the Weyburn Bank (#19). In the Atlantic, the estimated dummy coefficients are significant for two of the four mergers. These are the mergers involving the Bank of New Brunswick (#6) and the merger involving the Bank of Ottawa (#12). The cross-sectional mean of the estimated dummy coefficients of 0.013 for the 19 mergers is significant at the 5% level.

**[Please insert Table 2.13 about here.]**

The results presented in Table 2.14 are based on the definition of the dominant market of the acquirer bank as being the regional market where the acquirer bank has the largest market share in terms of branches. All of the estimated regional regressions remain significant at the 5% level. Since the Atlantic region and British Columbia have fewer branches, these two regions now become the dominant markets for a few more mergers using this classifier. Three mergers that now have their dominant markets as being in the Atlantic region now have insignificant dummy coefficient estimates. These mergers involve the absorption of the Quebec Bank (#9), Northern-Crown (#10) and of the Union Bank of Canada (#17). The same comment applies to the merger that absorbed the Standard (#18) and whose dominant market is British Columbia.

**[Please insert Table 2.14 about here.]**

## 2.9.4 Impact of Bank Failures on National and Regional Branch HHI Series

In this section, we use monthly data from the end of 1907 until the end of 1931 to analyze the impact of each bank failure on the national and regional branch HHI series. The names of the failed banks and the number of branches involved in each bank failure both nationally and in each of the five regions are reported in Table 2.15.

**[Please insert Table 2.15 about here.]**

The relationship between the first differences of the national (regional) branch HHI,  $\Delta HHI_{it}$ , and the dummies for the seven bank failures is estimated using a variant of equation (5) over the period, December 1907 to December 1931. For these sets of regressions, the dummy variable  $DUM_{it}$  is equal to one for a month containing a bank failure and is equal to zero otherwise. Furthermore, for the regional branch HHI regressions, the dummy variable  $DUM_{it}$  is equal to one for a month containing a bank failure in that region and is equal to zero otherwise.

The *a priori* expectation is that some bank failures will significantly explain variation in the HHI series but to a much lesser extent than the mergers did. Only the bank failures of banks with large numbers of branches, such as the Home bank and the Sovereign, are expected to have a significant impact on the HHI series.

Based on the results presented in Table 2.16, only the regression for BC is significant at conventional levels. Similarly, only the dummy coefficient estimate for the failure of the Bank of Vancouver (#6) is significant at the 1% level. In contrast, the cross-sectional mean dummy coefficient estimates of 0.001 and 0.004 for the national and regional HHI series are significant at the 5% and 10% levels, respectively. This further supports the position of Kryzanowski and Roberts (1993, 1999) that the Government and the CBA pursued a policy to avoid explicit bank failures, and to carefully manage the impact of any bank failures.



[Please insert Table 2.16 about here.]

## **2.10 CONCLUDING REMARKS**

The Canadian federal government delayed unpopular bank mergers during the first three decades of the twentieth century until the financial condition of the acquired banks was such that further delay was not possible. Most Canadian banks absorbed by healthier banks over the period from 1912 until 1931 were in financial trouble. Mergers prevented several explicit bank failures but also increased bank concentration over this period so that the branch concentration ratio as measured by the HHI peaked at nearly 15%. Mergers also increased the four firm bank concentration ratio from 30% in 1901 to 70% in 1931. Regional concentration as measured by the HHI slightly surpassed the 30% level in the 1920's. Most mergers significantly changed the HHI bank concentration in Canada during our period of observation, while bank failures had a significant but minimal impact on bank concentration. The price paid for the assets of each acquired bank can be explained using a parsimonious model consisting of the following two independent variables: the amount of reserves per dollar of assets of the acquired banks, and the debt/equity ratio of the acquired bank.

Future research might find it useful to assess proposed contemporary Canadian bank mergers using HHI concentration measures of bank activity, such as bank service points. Such an analysis could also examine current banking concentration within the province of Quebec since cultural differences have led to a relatively isolated market dominated by two major players, La Banque Nationale and Les Caisses Populaires. If the required data can be obtained, a logical extension to this research is to analyze the consequences of increased banking concentration over the studied. One such test assesses the impact of greater concentration on the rate of return

earned on bank assets by regressing the return of assets for all banks against the changes in the HHI.<sup>41</sup>

---

<sup>41</sup> We were not able to perform an analysis of the global return on assets versus changes in the HHI because the data on global bank profits for the period under study is not available.

## **CHAPTER 3**

### **LESSONS FROM LIFTING THE VEIL ON THE 1924 FINANCIAL RESCUE OF LA BANQUE NATIONALE**

#### **3.1 INTRODUCTION**

Bank failures and bank runs are often highly related, and can adversely affect the entire banking industry (especially small regional banks). Although several Canadian banks with poor financial performance merged during the period 1900-1931, nine banks failed. Archival evidence suggests that healthy banks did their best to acquire and rescue failing banks from closure. Examples include the purchases by the Bank of Montreal and the Royal Bank of the failing Merchant and Traders banks, respectively. The Canadian Banker's Association (CBA) and the federal government facilitated many (if not most) bank acquisitions during this period of time. With one notable exception, provincial governments rarely played a role in rescuing these chartered banks since this sector is under federal jurisdiction. The Province of Quebec was involved in the rescue of La Banque Nationale in 1924 through this bank's merger with La Banque d'Hochelaga.

The political environment and political connections also play dominant roles in bank rescues. The Liberal party's complete domination of the political scene in Quebec and Canada,<sup>42</sup> and their close ties to the pre-rescue and rescue management of La Banque Nationale helped the bank

---

<sup>42</sup> Between 1900 and 1936, three Liberal governments governed the Province of Quebec. Their premiers were Felix-Gabriel Marchand (1900-1905), Lomer Gouin (1905-1920) and Louis-Alexandre Taschereau (1920-1936). Liberal governments with William Lyon Mackenzie King as the Prime Minister governed Canada from 1921 until 1930, except for a three month interruption in 1926 when the Conservative party formed the government.

survive by deferring closure and facilitating the procurement of financial assistance from first the federal government, and then from the provincial and federal governments. The close ties also allowed the banks to issue financial statements that misrepresented the “true” financial conditions of the two merging banks and to allow a \$15-million “bridge financing” arrangement with the Quebec government to be used three different ways without any corresponding entries required under double-entry accounting. This supports the finding by Bennett and Loucks (1996) that failed banks with more political power are allowed to remain open longer, and are given more leeway in their attempt to survive.

The main purpose of this chapter is to analyze the financial and political dimensions of the absorption of the failing La Banque Nationale (henceforth LBN) into La Banque d’Hochelaga (henceforth LBdH) with the “bridge financing” assistance of the Quebec government following a multi-month period of federal capital forbearance, accounting and financial reporting window dressing, and previous financial assistance. This corroborates and extends the work of Kryzanowski and Roberts (1993, 1999) on the role of capital forbearance in minimizing bank failure in Canada. Using newly uncovered archival evidence, we update the historical portrait of this merger presented by Rudin (1980, 1985), and we deal with various financial aspects of the rescue and the merger previously not addressed. We evaluate the financial aid obtained from the provincial government, and the financial impact of this transaction on the Canadian banking industry, the provincial government, and the two merging banks. We show that a minimum of \$15 million was necessary to save both banks, and that it took various “creative” (if not fraudulent) reporting, accounting, repayment and taxation schemes to recapitalize the new Banque Canadienne Nationale (henceforth BCN) resulting from the merger. The \$15 million in borrowing power or bonds (“bridge financing”) advanced to LBN simultaneously is used three times. First, the “bridge financing” arrangement is added to the assets of BCN while reducing bad debt of an equivalent amount by moving them off balance sheet at the time of merger. Second,

the same “bridge financing” arrangement is used to guarantee these doubtful accounts of more than \$15,000,000 (and their associated appropriations and probable losses) that were removed from the balance sheet and reported off-balance sheet at the time of the merger. Third, the same “bridge financing” arrangement is used as collateral to obtain advances of many million dollars from the federal government. In addition, since the provincial bonds are recorded as if they were fully paid for, no offsetting entry was recorded on the liability side of the balance sheet. This appears to be a very liberal interpretation of double-entry accounting rules.

This chapter makes four important contributions to the literature. First, the chapter shows that political ties can be very helpful in deferring bank closure given financial insolvency. As is discussed more fully below, the federal government assisted the bank rescue by waiving several legal obligations and by offering and extending several loans. The Quebec government entered federal jurisdiction to resolve the financial difficulties of two of the three banks that served its francophone population. As an essential player in the economy of the province of Quebec, LBN is viewed as being a too-important-to-fail institution. Second, the CBA played a “behind-the-scenes” role in protecting the interests of the banking industry by facilitating the rescue while avoiding bank runs and bank failure. The CBA exercised the powers necessary to lead the rescue attempt efficiently, rapidly and secretly while ensuring that the actions of other banking industry participants and the governments are well co-ordinated. Third, temporary accounting, reporting, tax payment and other legal accommodations were crucial in the rescue process. These actions created the necessary flexibility to “minimize” reported losses, to facilitate the provision of the necessary loans, and to mask the real financial position of the two banks from external parties, and particularly depositors. Fourth, the flexibility of the Quebec “bridge financing” arrangement was crucial to the rescue of BCN as it was very difficult to forecast the probability of this fragile institution surviving over the arrangement’s 40-year term-to-maturity. Thus, this historical research adds important lessons for dealing with contemporary issues, such as forbearance, window dressing and too-big or too-important or too-connected-to-fail, experienced in banking crises in Japan and Argentina.

The remainder of this chapter is organized as follows. The next section reviews the literature on the costs of bank failures and the efficacy of bank bailouts. The third section presents the main reasons for the financial problems at LBN and at LBdH, and documents the role played by the CBA, and the federal and provincial governments in their merger. In the fourth section, the impact of the financial assistance and an evaluation of many of the costs and benefits to all the involved parties are presented. The fifth section covers the post-merger reactions of the public to the merger. The sixth section concludes the chapter.

### **3.2 BRIEF REVIEW OF THE LITERATURE RELATED TO BANK RESCUES**

Bank failure,<sup>43</sup> which usually follows bank insolvency,<sup>44</sup> manifests itself as negative net worth in terms of market value. Bank legal closure can be due to various reasons such as insolvency, under capitalization, bank runs (unable to meet requests for deposit withdrawals), and law violation (Resolutions Handbook, FDIC, [www.fdic.gov](http://www.fdic.gov)). If bank failure precedes bank closure, the institution is called a zombie.<sup>45</sup> According to the U.S. Federal Deposit Insurance Corporation (FDIC), the techniques used to resolve bank failures include purchase and assumption transactions, deposit payoffs, forbearance programs, bridge banks and open bank assistance transactions that must be done rapidly and smoothly. A bank bailout is a failure resolution technique that is referred to as open-bank assistance (OBA) by the FDIC.<sup>46</sup> An OBA (*Resolutions Handbook*, FDIC, [www.fdic.gov](http://www.fdic.gov)) is:

[...] resolution method in which an insured bank in danger of failing receives assistance in the form of direct loan, an assisted merger, or a purchase of assets. OBA usually entails a change in

---

<sup>43</sup> According to FDIC (2001, p. 92), a failure refers to “the closing of a financial institution by its chartering authority, which rescinds the institution’s charter and revokes its ability to conduct business because the institution is insolvent, critically undercapitalized, or unable to meet deposit outflow.”

<sup>44</sup> Insolvency occurs when real net worth becomes negative.

<sup>45</sup> Kane (1987) introduced this term to define a bank that is economically insolvent but allowed to survive due to government guarantees.

<sup>46</sup> The FDIC does not use the term failure to mean legal failure. FDIC uses the term to refer to an insolvent bank that is allowed to operate for some time while receiving financial assistance from the FDIC.

bank management and requires substantial dilution of shareholders interest in the troubled institution.

From its initial use in 1950, FDIC uses the OBA if a bank is “essential” to its environment. Until 1982, the OBA was used seven times. After 1982, the definition of an OBA was broadened and the OBA could be done if it was cheaper than liquidation to the FDIC. The number of OBAs reached a maximum of 79 in 1988. In 1989, the OBA lost several of its associated tax benefits. Starting in 1991, an OBA could be used if it was less costly than other resolution methods available to the FDIC,<sup>47</sup> and from 1993 the use of an OBA cannot benefit shareholders. Between 1980 and 1992, 8% of the 1718 bank failure resolutions by the FDIC utilized OBAs.

According to the FDIC (1997), OBA advantages are that it is the most cost effective resolution method with an average cost of 6% of bank assets, it causes minimum turmoil of the environment, new shareholders assume some risk, and assets do not belong to the FDIC. The main OBA disadvantages are that contingent liability remains with the bank, uninsured depositors and creditors are protected, shareholders suffer large losses but obtain some relief (before 1993) which supports the “too-big-to-fail” doctrine, fragile institutions are helped to compete against other institutions not receiving help, and time uncertainty exists as to settle help or merger (FDIC, December 1997).

The cost of an OBA to the FDIC, like other resolution techniques, usually is an amount equivalent to the negative net worth. FDIC may add a provision to cover some asset losses after asset valuation is completed, which may indicate that net worth was not at market value. The bank usually repays the loan at a later date.

---

<sup>47</sup> Some exceptions may be granted by the secretary of the Treasury with the advice of the President of the United States and a favourable recommendation from the FDIC and the Federal Reserve System.

Sprague (1986), who was a director of the FDIC during the 1980's, argues that bailouts should not exist because they are too expensive and they protect banks unjustifiably against natural market forces. Sprague strongly discredits bailouts because they protect banks that are too-big-to-fail, and they discourage bank managers from learning from past mistakes such as growth at any cost, insider transactions, bets on interest rates, and mismanagement of risk while focusing on profits (Sinkey, 1998).

According to Kane (2000b), several Asian bank bailouts may have triggered or worsened the Asian Crisis more recently. He argues that government guarantees offered to banks generate low cost capital misallocation, opportunity losses and ultimately insolvency. The loss of control of the government over insolvent banks can cause movement of funds to foreign institutions because of deregulation and technical evolution. When the barrier of repressive legislation falls, banks are forced to reveal their true values, and domestic asset prices are reduced.

Bailouts can be viewed as insurance contracts although, as is shown below in the case of La Banque Nationale, no formal deposit insurance contract is required. Deposit insurance can be evaluated with a passive model of casualty insurance or an option-pricing model. Kane (1995) concludes that both of these bilateral models are not very efficient because they assume that risk is exogenous and they do not account for agency costs. Kane (1995) shows that deposit insurance is better viewed as a trilateral performance bond. In the case of LBN, the three parties in theory are the obliged party (the bank), the obligee (depositors) and the guarantor (shareholders) due to the double liability principle and the absence of explicit deposit insurance. Any government or industry association bailout forces these parties to become a guarantor, and thus may convey generous benefits to shareholders. Thus, in section four of this chapter, we evaluate the gains or losses accruing to each party involved in or affected by the bailout of LBN.



In a world with explicit deposit insurance, Bovenzi and Murton (1988) find that the average resolution costs of bailouts and whole-bank P&A are 20% of total assets, and average liquidation costs are 30% of total assets. James (1991) calculates the losses incurred in bank failures as the difference between the book and market values (minus direct expenses) at time of failure. He finds that bank failures trigger an average loss of 30% of assets, which includes direct expenses of about 10% of assets. He notes that losses are bigger if the bank is liquidated and not sold. These authors assert that the failure cost gap may be due to the reduction of the value of assets under liquidation. These contemporary costs are used as a benchmark when the cost of LBN bailout is evaluated below.

### **3.3 THE MERGER OF LA BANQUE NATIONALE AND LA BANQUE D'HOCHELAGA<sup>48</sup>**

During the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century, French Canadians felt that they did not have good access to the banking system (Rudin, 1980). The biggest Canadian banks were led by anglophones and concentrated their business with English speaking customers (Rudin, 1980). To deal with this concern, seven francophone banks were founded. Only three survived until 1920 because of small size, lack of capital and/or poor management. Of the three survivors, La Banque Nationale was the oldest (formed in 1860), followed by La Banque d'Hochelaga (established in 1874) and La Banque Provinciale (commenced operations in 1900 with the residual of the struggling La Banque Jacques-Cartier).<sup>49</sup> The first Caisse Populaire Desjardins,<sup>50</sup> which was inaugurated in 1900,<sup>51</sup> was perceived as a threat by the French Canadian banks that targeted the same limited market (Rudin, 1985).

---

<sup>48</sup> The position held by each individual referred to in the text or references is given in Appendix 2.

<sup>49</sup> La Banque Jacques-Cartier was reorganized after facing severe financial problems, and continued to operate under the name, La Banque Provinciale (*Le rapport annuel aux employés de La Banque Nationale du Canada*, 1998).

<sup>50</sup> This is a savings and loan cooperative in the Province of Quebec.

<sup>51</sup> *Histoire du Mouvement Desjardins*, Website [www.desjardins.com](http://www.desjardins.com), which was consulted on August 8, 2001.

At the beginning of the 1920s, the idea of merging the three francophone banks to form one big powerful institution re-emerged with greater resolve.<sup>52</sup> The reasons for the renewed interest were: the merger of several Canadian banks to concentrate their power, the desire to have more economic autonomy for francophones, and the severe financial problems being experienced by La Banque Nationale (Rudin, 1980). La Banque Provinciale refused to merge because it would constrain French Canadian customers to a single francophone bank. In 1924, La Banque d'Hochelaga merged with La Banque Nationale, and became la Banque Canadienne Nationale leaving two French-Canadian banks. Several decades later, in 1979, La Banque Provinciale merged with the BCN to create la Banque Nationale du Canada.

### **3.3.1 Financial Problems at La Banque Nationale (1920-1924)**

La Banque Nationale experiences severe financial problems during the 1920s due to mismanagement, economic depression and difficulties in the agricultural sector. The Caisses Populaires, with total assets of \$6 million in 1920, starts to compete with LBN that has total assets of almost \$70 million in May 1920.<sup>53</sup> In December 1921, the amount due to the federal government under the Finance Act for LBN reaches a new high of nearly \$10 million (see Table 3.1). The CBA is aware that LBN is “over-loaned and extended”, as is evident from a questionnaire concerning financial health (dated October 31, 1921) sent by the CBA to LBN.<sup>54</sup> At the end of 1921, the federal government requests an inspection of the bank while simultaneously refusing to increase its advances to the bank.<sup>55</sup> The government appoints an officer of the Bank of Montreal, who has a good relationship with LBN, to do the inspection. The president of the Bank

---

<sup>52</sup> According to Rudin (1980), the idea of a very powerful francophone bank dates back to 1879 when La Banque Jacques-Cartier proposes to merge with La Banque Nationale, and to 1883 when the same bank proposes to merge with La Banque d'Hochelaga.

<sup>53</sup> Histoire du Mouvement Desjardins, Website [www.desjardins.com](http://www.desjardins.com), which was consulted on August 8, 2001.

<sup>54</sup> Letter from Bancroft to Williams-Taylor, December 22, 1921, CBA.

<sup>55</sup> Letter from Drayton to Taylor, December 14, 1921, CBA.

of Montreal is the president of the CBA. As soon as the CBA is informed of the problems at LBN, the CBA forms a secret committee composed of a few leaders of the biggest Canadian banks.<sup>56</sup> This monitoring committee meets regularly, and supervises the inspection that is being done quietly by the employee of the Bank of Montreal. An early letter informs the CBA that LBN has “conducted business along such lines that in many instances they are not bankers to their clients, but partners, having in some cases much larger amounts at stake than their clients...”.<sup>57</sup> In November 1921, the book value of the total assets of LBN is \$67 million. At the beginning of January 1922, the larger problematic accounts at LBN exceed \$7 million, and capital impairment of \$67,799 (write-down needed) is reported, although other accounts in excess of \$100,000 have not yet been examined.<sup>58</sup> In his private reports, the inspector adds that the bank should be helped since failure would be disastrous for Canadian business, especially business in Quebec.<sup>59</sup>

**[Please place Table 3.1 about here.]**

A subsequent preliminary confidential report shows impaired capital of \$567,608 out of total capital of \$2 million for LBN.<sup>60</sup> This report notes that the rest fund and secret reserve fund of nearly \$5 million would vanish with correct appropriation, and that bank premises and fixtures are over-evaluated by \$500,000. The CBA informs the federal Minister of Finance about the situation, and suggests reorganization, new capital, significant reduction of loans to improve liquidity, and reasonable assistance from government to rescue LBN.<sup>61</sup> Thus, the federal government not only is fully aware of the severe capital impairment of LBN but it also tolerates misleading monthly statements for the next 28 months until merger to prevent the closure of LBN by failure.

---

<sup>56</sup> Letter from Taylor to Richardson, December 21, 1921, CBA.

<sup>57</sup> Letter from Bancroft to Williams-Taylor, December 28, 1921, CBA.

<sup>58</sup> Letter from Bancroft to Williams-Taylor, January 4, 1922, CBA.

<sup>59</sup> Letter from Bancroft to Williams-Taylor, January 7, 1922, CBA.

<sup>60</sup> January 9, 1922, CBA.

<sup>61</sup> Letter from Williams-Taylor to Fielding, January 11, 1922, CBA.

Based on the assurance of the CBA about LBN's collateral,<sup>62</sup> LBN obtains an additional \$1 million from the federal government on January 14, 1922.<sup>63</sup> The federal Treasury Board approves the loan ten days later.<sup>64</sup> Realizing that the situation is critical, members of the CBA enumerate four possible courses of action; namely let the bank fail without assistance, liquidate the bank with a guarantee from all the other banks, promote absorption of the bank with a guarantee from all the banks, or distribute the branches to different banks.<sup>65</sup> The president of the CBA writes that: "They have three hundred branches and I don't see how they could be disposed of, certainly not to English banks except here and there".<sup>66</sup> The committee plans to inform LBN and the Minister about a suitable merger candidate if LBN does not receive enough money from the federal government.<sup>67</sup> The committee also undertakes to inform and to seek help for LBN from the Catholic Church and the provincial (Quebec) government.

On January 18, 1922, the committee meets to discuss the possibility of sharing the branches with a CBA guarantee against loss.<sup>68</sup> Some members are reluctant to take branches, while others are reluctant to offer a full guarantee because they are not fully informed about the financial situation of LBN. LBdH is the only institution that is willing to take over LBN, possibly in partnership with La Banque Provinciale, and with some financial guarantees if due diligence is satisfied.<sup>69</sup> The latter bank does not show much interest because it would leave only one francophone bank.<sup>70</sup> LBdH prefers to share some branches after examination because this may reduce its risk and shareholder losses.<sup>71</sup> The committee concludes that the best resolution would

---

<sup>62</sup> Notes about phone calls and messages, January 13, 1922, CBA.

<sup>63</sup> Letter from Lavoie to Taylor, January 14, 1922, CBA.

<sup>64</sup> Letter from Saunders to Taylor, January 24, 1922, CBA.

<sup>65</sup> Letter from Williams-Taylor to Richardson, January 13, 1922, CBA.

<sup>66</sup> Letter from Williams-Taylor to Richardson, January 16, 1922, CBA.

<sup>67</sup> Recommendations, January 17, 1922, CBA.

<sup>68</sup> Memorandum, January 18, 1922, CBA.

<sup>69</sup> Letter from Leman to Williams-Taylor, January 18, 1922, CBA.

<sup>70</sup> Letter from General Manager of La Banque Provinciale du Canada to Williams-Taylor, January 21, 1922, CBA.

<sup>71</sup> Letter from General Manager of La Banque Provinciale du Canada to Williams-Taylor, January 19, 1922, CBA.

be a merger with LBdH, and instructs LBdH to investigate the possibility of a merger with LBN as soon as possible.<sup>72</sup>

A subsequent preliminary report shows that impairment of capital is now \$1,214,513 with \$13 million of smaller loans still to be inspected.<sup>73</sup> This leaves unimpaired capital of \$785,487. The evaluation of total appropriations or necessary write-offs is \$6,189,513, which is partially covered by rest and secret reserve of \$4,975,000, thus leaving \$1,214,513 of impaired capital. Large accounts of almost \$8 million require an appropriation of more than \$3 million.<sup>74</sup> Only two bad loans individually exceed \$1 million as of January 17, 1922; namely, loans to La Machine Agricole that are evaluated at \$3,811,273,<sup>75</sup> and loans to Transportation & Shipping Co. that are evaluated at \$1,236,965.<sup>76</sup> Immediate but insufficient appropriations of \$1,555,000 and \$676,000 for the first and second accounts, respectively, are established. The owner of La Machine Agricole has a long relationship with the Bank and close ties with the government since he is a Liberal member of the provincial Legislative Assembly.<sup>77</sup> La Machine Agricole is unable to repay its debt so it gives \$5 million of its bonds to the bank, but LBN can only sell \$680,000 of this lot to the public (Rudin, 1980). Since this account is both large and well known publicly, it adversely affects the reputation of LBN. After completion of its inspection of LBN, LBdH is not inclined to acquire LBN.

When LBdH declines the invitation to acquire LBN, customer loans by LBN exceed its deposits by \$5.5 million and available cash is \$800,000. The CBA committee still believes that the bank has a chance to survive given new and stronger directors, executives and an assistant

---

<sup>72</sup> Memorandum of Telephone Conversation between Mr. Richardson and Sir Frederick, January 16, 1922, CBA.

<sup>73</sup> Report of W.A. Bog to Sir Frederick Williams-Taylor, President of the CBA, January 19, 1922, CBA.

<sup>74</sup> Letter from Bancroft to Williams-Taylor, January 17, 1922, CBA.

<sup>75</sup> This loan surpasses the paid-up capital of \$2 million of La Banque Nationale and represents a fair amount of the total assets of \$56.6 million as of January 1922.

<sup>76</sup> Letter from Bancroft to Williams-Taylor, January 17, 1922, CBA.

<sup>77</sup> *Toronto Telegram*, Bad Smash Averted by French Bank Merger, January 15, 1924.

general manager replacing the general manager, while simultaneously reducing its liabilities.<sup>78</sup> LBN sells \$3 million of its Treasury Bills to the seven banks on the confidential committee to reduce the advances it owes to the government.<sup>79</sup> To strengthen management, the CBA begs four influential businessmen, all Liberals and close confidants of the Prime Minister of Quebec (namely, Amyot, Taschereau, Garneau and Fortier), who reluctantly agree to join LBN.<sup>80</sup> A newspaper acclaims these nominations,<sup>81</sup> and Amyot writes: “we have been called to the front very much too late”.<sup>82</sup> A new General Manager, Des Rivières, from la Banque de Montreal, is appointed to replace Lavoie.<sup>83</sup> While Lavoie remains on the board for an additional month, he is forced to resign when the Hon. J. Nicol obtains a seat on the board of LBN.<sup>84</sup>

LBN subsequently requests another \$2.5 million loan to be used in case of necessity.<sup>85</sup> On February 3, 1922, the federal government provides another million-dollar loan. Total advances from the federal government now amount to \$5,408,000, with an additional \$1.5 million still awaiting approval.<sup>86</sup> The federal Finance Minister prudently requests that the CBA name an individual who will act with Mr. Taschereau (the brother of the Quebec Premier) for the care of securities in custody to cover the advances of the government.<sup>87</sup> The federal Finance Minister also suggests that the four largest banks should lend LBN \$500,000 each. The CBA’s answer is very clear; specifically: “the Banks could not be expected to start where the Government left

---

<sup>78</sup> Memorandum for Mr. Lavoie, Meeting of Confidential Committee CBA, January 21, 1922, CBA.

<sup>79</sup> Letter from President to Bogert, January 26, 1922, CBA.

<sup>80</sup> Letter from Taylor to Aird, January 24, 1922, CBA; letter from Bancroft to Williams-Taylor, January 17, 1922, CBA; and letter from Garneau to Taylor, January 28, 1922, CBA. During the period 1922-1925, the Liberals hold power in both Quebec and in Canada. Specifically, William Lyon Mackenzie King is Canada’s Prime Minister (1921-1926, 1926-1930, 1935-1948) and Louis Alexandre Taschereau is Quebec’s Prime Minister (1920-1936).

<sup>81</sup> *L’Événement*, La Banque, Nationale, 24 janvier 1922, page 4.

<sup>82</sup> Letter from Amyot to Taylor, February 18, 1922, CBA.

<sup>83</sup> Letter from Williams-Taylor to Fielding, February 15, 1922, CBA.

<sup>84</sup> Letter from Bancroft to Williams-Taylor, March 24, 1922, CBA.

<sup>85</sup> Letter from Audet to Fielding, January 27, 1922, CBA; and letter from Williams-Taylor to Aird, January 26, 1922, CBA.

<sup>86</sup> Letter from Fielding to Williams-Taylor, February 8, 1922, CBA.

<sup>87</sup> Memorandum for Mr. Saunders, W.S.F., February 10, 1922, PANS.

off”,<sup>88</sup> and “I clearly foresee the utmost difficulty should they [the banks] be approached with a view to making advances against the residue of securities”.<sup>89</sup>

On February 10, 1922, the federal Finance Minister and the Treasury Board reluctantly agree to loan an extra \$1.3 million to the Bank instead of \$1.5 million after obtaining an opinion from the secret CBA committee about the securities of LBN.<sup>90</sup> They state that larger banks are not providing sufficient assistance, and the list of securities and some collateral is effectively based on illiquid and problematic bonds or stocks although some appropriation is deducted.<sup>91</sup> The collateral of \$13 million includes bonds of the problematic account, La Machine Agricole Nationale at par value. A subsequent daily report on advances and securities held by government sent to the Finance Minister indicates that LBN improved its balance sheet from October 31, 1921 to February 13, 1922. However, while LBN reduced its loans to customers by \$7.4 million, its deposits decreased by \$9.2 million, and loans now exceed deposits by \$3.3 million instead of \$1.5 million.<sup>92</sup> A final report is sent to the Finance Minister recommending that LBN be allowed to continue with some help, and that it be allowed to use its profits after authorization from the government even to pay dividends.<sup>93</sup> In February 1922, LBN requests and receives another \$1 million after the CBA provides assurance that the given collateral is good.<sup>94</sup> Amyot then attempts to negotiate a revolving credit account for LBN but to no avail.<sup>95</sup>

A letter in February 1922 mentions that appropriate reserving would render the bank insolvent, and that the financial statements must be kept as they are except for the addition of a

---

<sup>88</sup> Letter from Williams-Taylor to Aird, January 26, 1922, CBA.

<sup>89</sup> Letter from Williams-Taylor to Fielding, February 6, 1922, CBA.

<sup>90</sup> Letter from Saunders to Williams-Taylor, February 10, 1922, CBA.

<sup>91</sup> March 7, 1922, CBA.

<sup>92</sup> Letter from President of CBA to Neill, February 13, 1922, CBA.

<sup>93</sup> Letter from President of CBA to Pratt, February 17, 1922, CBA.

<sup>94</sup> Letter from Saunders to Williams-Taylor, February 28, 1922, CBA; and letter from President of CBA to Fielding, March 2, 1922, CBA.

<sup>95</sup> Letter from Amyot to Fielding, February 24, 1922, PANS; and letter from Fielding to Gouin, April 12, 1922, PANS

footnote dealing with the biggest problematic account, La Machine Agricole. Amyot obtains permission from the federal Finance Minister to delete the footnote before publication of the financial statements because the bank may be adversely affected if this information is disclosed publicly.<sup>96</sup> Amyot sends a letter to the Finance Minister to protect himself.<sup>97</sup> The secret monitoring Committee at the CBA decides to inform all the other members of the CBA of the situation at LBN.<sup>98</sup> The CBA notes that LBN has a high note circulation and low capitalization.<sup>99</sup> In March 1922, LBN tries to sell a new issue of \$1 million of new equity to increase its paid-up capital from \$2 million to \$3 million.<sup>100</sup> However, by the end of July 1922, only \$825,830 of this new capital issue is sold publicly.<sup>101</sup> This information contrasts with the letter of Amyot certifying that present shareholders bought all the shares at the meeting of March 22, 1922 (i.e., the issue date).

In 1921, the stock price of LBN ranges from \$130 to \$180. The stock trades at \$130 in January 1922, at \$100 (par value) in March 1922, and remains at par value in the newspaper until the merger.<sup>102</sup> No stock trades occur during the months preceding the merger (Rudin, 1985).

Rudin (1985) notes that the municipalities and the school commissions are encouraged by the provincial government to maintain their deposits in LBN to improve the bank's year-end financial statements. Deposits decrease by \$1 million approximately in the month following the fiscal year ending April 1922. From March to May, advances from the government decrease from \$5,286,307 to \$4,295,549.<sup>103</sup>

---

<sup>96</sup> Letter from Fielding to Saunders, February 25, 1922, PANS.

<sup>97</sup> Note from Saunders to Fielding, undated, PANS.

<sup>98</sup> Letter from Richardson to Williams-Taylor, March 7, 1922, CBA.

<sup>99</sup> Letter from Richardson to the Secretary of the CBA, March 17, 1922, CBA.

<sup>100</sup> Letter from Bancroft to Williams-Taylor, March 24, 1922, CBA.

<sup>101</sup> Financial statements as of July 31, 1922.

<sup>102</sup> Letter from Amyot to Fielding, March 22, 1922, PANS.

<sup>103</sup> Letters from Bancroft to Williams-Taylor, March 27 and May 19, 1922, CBA.



In October 1922, federal governmental loans amount to \$1,904,120, and are covered by collateral paper of \$5,963,460 and stock and bonds of \$3,715,000, both at face value.<sup>104</sup> Although the bank's position improves except for the biggest problematic loans, the bank has a higher proportion of unproductive loans due to voluntary liquidation of good loans to help restore liquidity. As is evident from Table 3.2, total assets as of October 31, 1922, are evaluated at \$50 million versus \$67 million 11 months earlier. Overdue debt increases from \$28,646 to \$1,186,528, and the reserves and rest accounts are reduced from \$2.4 million to \$400,000 during the winter of 1922.

**[Please place Table 3.2 about here.]**

As is evident from Table 3.3, dividends paid are reduced from 12% in 1921 to 7.5% in 1922 and to 6% in 1923. This is probably a direct consequence of the new 1923 Bank Act stipulation that directors are liable for any dividends exceeding 8% if reserves do not amount to more than 30% of the paid-up capital after required appropriations. Due to severe under-appropriation, dividends are paid out of capital and not from earnings. The 1923 Bank Act also introduces measures to force banks to adjust for appropriations in their monthly statements instead of doing it annually. Some progress is evident at the end of April 1924 when overdue debt peaks at \$5,515,479 (Table 3.4). Since some required appropriations remained undone, the financial statements are still erroneous. At the end of November 1923, a letter attached to the monthly return of the previous month shows that the two biggest loans amounting to \$5,771,960 are still included at par value while considerable losses are expected.<sup>105</sup> Until the merger, the general manager of LBN continues to send a (private) letter attached to the monthly financial statements to protect the management as follows: "Certain items of our assets have again been

---

<sup>104</sup> Letter from Bancroft to Williams-Taylor, October 12, 1922, CBA.

<sup>105</sup> Letter from Des Rivieres to Fielding, November 28, 1923, NAC.

entered in our return at their face value and would probably depreciate largely under realization, and consequently we cannot accept responsibility for same”.<sup>106</sup>

**[Please place Table 3.3 about here.]**

At the beginning of 1924, LBN is a zombie (economically insolvent). In April 1924, the bad debt of more than \$5 million exceeds the reserve of \$400,000 and the paid-up capital of \$3 million and appropriations are not fully reflected (Table 3.4). LBN has assets (less non current loans of \$5,515,475, less \$5,771,960 which represents the two biggest problematic loans not included in the foregoing, and less \$500,000 which represents overvalued real estate) of \$40,212,814 million and liabilities of \$48,600,243 in its last monthly balance sheet as of April 30, 1924. If LBN is allowed to fail, the gap of \$8,387,429 can be partially covered by capital of \$3 million and reserves of \$400,000. This leaves a deficiency of \$5 million. As detailed above, the survival of LBN during the two or three years prior to the merger is aided by accounting and reporting window dressing (fraud?) and government capital forbearance. This corroborates the findings by Kryzanowski and Roberts (1993, 1998, 1999) that capital forbearance, and not portfolio diversification, aided by window dressing explains the survival of several Canadian financial institutions during the 1920s and 1930s.<sup>107</sup>

**[Please place Table 3.4 about here.]**

The archives contain no material on the bank’s progress during 1923. A member of the House of Commons questions the Finance Minister who appears satisfied with the reorganization of LBN at the beginning of 1922.<sup>108</sup> We assume that the scandal of the Merchant’s Bank, the

---

<sup>106</sup> Letter from Des Rivieres to Robb, April 22, 1924, NAC.

<sup>107</sup> Giammarino, Schwartz and Zechner (1989) find that the market values of bank assets differ significantly from their respective book values. Naciri (1996) also finds that current financial statements do not reveal enough information to predict a big change in the solvency of the Canadian banks, as was the case during the last real estate crisis from 1988 until 1994.

<sup>108</sup> Débats de la Chambre des Communes, 19 mars 1925, pp.1281-1282.

bankruptcy of The Home Bank and the Bank Act Revision keep the CBA and the federal government busy, thus leaving LBN on its own during 1923 after making good progress in 1922.<sup>109</sup> At the end of 1923, Mr. Laferriere sends a letter to the Finance Minister claiming that the financial statements of LBN are not valid because they do not report correctly the appropriations for loans to the Machine Agricole.<sup>110</sup> While Laferriere is unknown to the government, Amyot says that “this party is a fakir” and that he has sent other threatening letters to bank managers and even to the Premier of Quebec.<sup>111</sup> By the tone of his letter, Amyot seems to fear an inspection of LBN. Nevertheless, the federal Finance Minister takes the warning very seriously and orders an inspection of LBN.<sup>112</sup> Instead of sending a government official that would be noticed rapidly by the public,<sup>113</sup> the federal Finance Minister proposes to send the inspector from the Bank of Montreal who did the previous inspections.<sup>114</sup> Amyot remains concerned about the inspection, and requests that it be postponed until he meets with the Finance Minister to present a special report in 8 or 10 days.<sup>115</sup> The government accepts to postpone the inspection.<sup>116</sup>

At the end of November 1923, the files of La Machine Agricole and of The Transportation and Shipping Co., Ltd. are still unresolved and not reflected accurately in the financial statements of LBN.<sup>117</sup> The management of La Machine Agricole is still trying to sell its plant to reduce losses.<sup>118</sup> The General Manager of LBN, Amyot, appears to be defensive when he notes that he and his friend were almost forced to accept their actual duty at the beginning of 1922 to invest new capital in LBN. Nevertheless, they request some further time to resolve the difficulties at

---

<sup>109</sup> Amyot remains with the bank and acts as the vice-president of the merged banks behind the president Vaillancourt and the first vice-president Béique. Procès-verbaux de La Banque d’Hochelaga, 15 janvier 1925.

<sup>110</sup> Letter from Laferriere to Fielding, November 2, 1923, PANS.

<sup>111</sup> Letter from Amyot to Fielding, November 12, 1923, PANS.

<sup>112</sup> Letter from Fielding to Amyot, November 13, 1922, PANS.

<sup>113</sup> Letter from Fielding to Des Rivières, November 9, 1923, PANS.

<sup>114</sup> Letter from Williams-Taylor to Fielding, November 9, 1923, PANS.

<sup>115</sup> Letter from Amyot to Fielding, November 15, 1923, PANS.

<sup>116</sup> Letter from Fielding to Amyot, November 17, 1923, PANS.

<sup>117</sup> Letter from Des Rivières to Fielding, November 28, 1923, NAC.

<sup>118</sup> *Ibid.*

LBN and to obtain financial help from the federal government.<sup>119</sup> The patience of the federal Finance Minister finally ends. After providing sizable loans over the years to LBN and only partially covering the losses of the Home Bank, the federal government refuses to pay the total tab for LBN. The other banks also are very reluctant to provide financial support after the failure of the Home Bank. The provincial government feels compelled to become involved since the failure of LBN is perceived as likely to deeply affect the francophone economy. The apparent emergency of the situation is reflected in rapid merger negotiations and quick provincial financial assistance.

### **3.3.2 Financial Problems at La Banque d'Hochelaga**

La Banque d'Hochelaga has some financial problems and also could be aided through the merger deal. Although its annual report of 1923 is satisfying, the auditors send a warning letter to LBdH in February 1924.<sup>120</sup> The letter notes that additional appropriations for five loans totalling \$1,032,703 are necessary, although the reserve is sufficient to cover the possible losses, and that loans secured by real estate (mainly farmland) are inactive. LBdH also holds \$1,750,000 of bonds (\$1 million as collateral security for other loans) of the Saguenay Pulp and Power Company and another loan of \$0.7 million in its parent company (Rudin, 1985). Béique, the president of Saguenay, is an active board member of LBdH. After subsequently losing a major client, the Saguenay Company faces major financial problems and has to liquidate two subsidiary companies. Its adverse impact on LBdH is probably at least equal to the \$4 million reserve held by LBdH.<sup>121</sup>

---

<sup>119</sup> *Ibid.*

<sup>120</sup> Letter from the auditors to the General Manager of La Banque d'Hochelaga, February 5, 1924.

<sup>121</sup> This also forces the Molson Bank to use its reserve fund of \$2 million to cover loan appropriations related to the Saguenay Company (Rudin, 1985).

### 3.3.3 Financial Needs

As detailed in the two preceding sections, the minimum financing needs of LBN and LBdH are \$8,387,429 for solvency and \$4 million to cover the impact of bad loans respectively. A cash infusion also is needed to restore liquidity, as the industry target ratio of realized assets or liquid assets to total liabilities is 50%.<sup>122</sup> Based on Table 3.5, the ratios of realized assets to total liabilities of 32% and 35% for LBN and LBdH, respectively, in 1922 indicate a lack of liquidity. This is an overly optimistic evaluation since some assets are over-evaluated at that time for at least LBN, and for both banks during the following two years. Therefore, help is needed to restore liquidity by moving the ratio to at least 50%. We estimate that these two banks need \$12.4 million, or even \$13 million if the bondholders of La Machine Agricole are indemnified, plus some leeway to restore their liquidity.

[Please place Table 3.5 about here.]

### 3.3.4 Provincial Government Rescue

In December 1923, the leaders of the three francophone banks meet to discuss once again the possibility of their banks merging with the financial support of the provincial government. Although LBdH also is ailing at the time of merger negotiations, a newspaper account vehemently contradicts this rumour about its bad financial situation.<sup>123</sup> LBdH attempts to protect

---

<sup>122</sup> Realized assets = (total assets) *minus* (call and short not exceeding thirty days loans elsewhere than in Canada on stocks, debentures, bonds and other securities of a sufficient marketable value to cover) *minus* (other current loans and discounts in Canada) *minus* (other current loans and discounts elsewhere than in Canada after making full provision for bad and doubtful debts) *minus* (non current loans, estimated loss provided for) *minus* (real estate other than bank premises) *minus* (mortgages on real estate sold by the bank minus bank premises at not more than cost, less amounts (if any) written off) *minus* (liabilities of customers under letters of credit as per contra) *minus* (shares of and loans to controlled companies) *minus* (other assets not included under the foregoing headings).

<sup>123</sup> *Quebec Daily Telegraph*, An Unfair Attack, June 8, 1925.

its reputation and declares that any government assistance provided is solely for LBN.<sup>124</sup> Having no apparent financial motive to merge, La Banque Provinciale withdraws from the merger discussions. An examination of table 3.5 suggests that this bank has much greater liquidity than the two other potential merger partners. Through the financial difficulties of LBN in 1922, La Provinciale remains a fierce competitor.<sup>125</sup>

On January 3, 1924, LBN and LBdH agree to merge only three days after the federal Finance Minister gives his consent.<sup>126</sup> The provincial government accepts to provide financial assistance with a notional value of \$15 million to effect the deal. The provincial government embodies the details of the financial assistance offered to LBdH to save LBN from closure in Bill 3, which is discussed in the following section. The Bill receives royal assent on February 15, 1924.<sup>127</sup> Within a week, the shareholders of both institutions approve the merger and it is officially consummated on April 30, 1924.<sup>128</sup>

Within a year after the merger, LBdH reduces the number of branches from 305 to 263 (Rudin, 1985). The Bank also decides to change its name to Banque Canadienne Nationale or National Canadian Bank in February 1925,<sup>129</sup> although Bill 3 had proposed the name Banque Nationale du Québec. The directors are not interested in this latter name because it might compromise their expansion in the rest of Canada (Rudin, 1985). Initially, the federal government refuses the new name but later agrees due to political pressure from the government of Quebec.<sup>130</sup> This bank decision generates considerable debate and great criticism from the nationalists,

---

<sup>124</sup> Procès-verbaux de La Banque d'Hochelaga, 21 février, 1924.

<sup>125</sup> Letter from Des Rivières to Williams-Taylor, May 5, 1922, CBA; letter from Des Rivières to Bienvenu, May 15, 1922, CBA; and letter from Vaillancourt to Laporte, March 12, 1924, ANQ.

<sup>126</sup> Certified copy of a Minute of a Meeting of the Treasury Board, approved by His Excellency the Governor General in Council, on the April 30, 1924, ANQ.

<sup>127</sup> La Banque Nationale- Banque d'Hochelaga Merger, February 25, 1939, OSFI.

<sup>128</sup> *Ibid.*

<sup>129</sup> Bill O<sup>5</sup>, An act to change the name of La Banque d'Hochelaga to Banque Canadienne Nationale, The Senate of Canada, 3<sup>rd</sup> Session, 14<sup>th</sup> Parliament, 14-15 George V, 1924.

<sup>130</sup> Letters from Taschereau to Robb, March 26, 1924, June 17, 1924, July 11, 1924, ANQ.

especially since the bank has permission from the federal government to use the translation "Bank Canadian National" (Rudin, 1985).

### **3.3.5 The Financial Assistance from Quebec**

The financial transaction is not really a "loan" although it is similar to a subordinated note, as is evident from the following excerpt from the Annual Report of the BCN in 1925:

"La province de Québec a, d'une part, cédé à La Banque d'Hochelaga, en pleine propriété, \$15,000,000 de ses obligations[...]. [...] La province de Québec n'a ni avancé ni prêté d'argent à La Banque d'Hochelaga: elle n'a pas déboursé un sou dans cette opération, et, à moins de conditions désastreuses que rien ne permet de prévoir dans notre pays, elle n'aura pas à déboursier un sou, pas même le coût d'impression de ses obligations."

Thus, the bank prefers to refer to this transaction as a transfer of the borrowing power of the province of Quebec for a limited amount to rescue LBN.

Under law 14 Geo.V, Chap. 3., the provincial government issues and transfers \$15 million of its bonds to help LBdH to buy all of the assets of LBN. The "bridge financing" arrangement increases the liquid assets to liabilities ratio to a respectable 50%. These provincial bonds have a term of 40 years (March 1964 maturity), are in \$1,000 denominations, are payable to the bearer with privilege of registration, and are negotiable without restriction. The bonds are dated March 1, 1924, and bear annual interest of 5% payable on a semi-annual basis (September 1 and March 1). In return for the bonds, the main obligations of LBdH are five-fold. First, LBdH is to reimburse the amount of interest due at the dates of maturity of coupons to the province only if revenues permit such payments. Revenues are defined as the money available for dividends, for the reserve or for the credit balance of the Profit and Loss Account. Failed payments are accrued by adding them to the principal owed. In turn, new outstanding balances pay annual interest of 5%. Second, LBdH would reimburse \$124,172.40 of principal on or before March first of each

year only if its revenues permit. The future value of these payments, when placed in a sinking fund growing at 5%, equals \$15 million 40 years later. Revenues now are defined slightly differently as the money available for dividends, for the reserve or for the credit balance of the Profit and Loss Account after deducting the interest paid for coupons and after paying an annual dividend up to a maximum of 10%. LBdH may anticipate its annual payment of \$124,172.40 to repay principal while discounting at a rate of 5%. The government does not charge a penalty of 5% if an annual instalment is delayed or is not paid by LBdH until the end of the contract in 1964. If the amount accumulated at 5% does not cover the \$15 million at the end of 1964, LBdH must continue to reimburse under the same conditions. Third, LBdH will issue and deliver \$1.5 million of its capital stock to be distributed to the shareholders of LBN. The distribution is one share of LBdH for two shares of the Vendor issued and allotted before December 15, 1923. Fourth, LBdH assumes notes, liabilities, bonds, deposits and other obligations of LBN. This includes reimbursement of the publicly-issued bonds of \$680,000 of La Machine Agricole Nationale Limitée plus one year of interest.<sup>131</sup> LBN has a moral (and maybe a legal) obligation to help its bondholders.<sup>132</sup> Fifth, LBdH is to comply with the Bank Act.

Under the agreement, LBdH can terminate the contract at any time, and return the bonds and coupons not yet due to the government. In such an event, the Province would repay LBdH all of the capitalized value of the principal paid to date. Furthermore, LBN must be very co-operative, comply with the Bank Act and assist the Purchaser, LBdH, to change its name to La Banque Nationale du Quebec or any other name.

---

<sup>131</sup> A letter from Taschereau to Leman dated March 18, 1924 shows that the bonds may amount to \$588,400 instead of \$680,000 but this has no impact on the deal between the province of Quebec and LBdH, ANQ.

<sup>132</sup> Procès-verbaux de la Banque d'Hochelaga, 21 février 1924.



### 3.3.6 Unusual Use of the Loan by La Banque d’Hochelaga

The financial assistance of \$15 million is used creatively (if not fraudulently) post-merger. The combined financial statements of both banks, as of April 30, 1924 and May 31, 1924, are presented in Table 3.6. The \$15 million of “forwarded” bonds is added under the heading of provincial government securities on the asset side of the balance sheet with a simultaneous reduction of appropriation and probable losses. However, since the bonds do not earn any income, they are unproductive assets. No corresponding entry exists on the liability side of the balance sheet although the bank still owes the amount to the government, based on barrister opinions that “[...]a liability of that amount would make the Bank appear insolvent” and that “[...]the Department of Justice who ruled that it was not a liability to be mentioned in the monthly return under the Bank Act”.<sup>133</sup> The addition of \$15 million to only the asset side of the balance sheet restores the solvency of both banks, and raises the ratio of realized assets to liabilities to above 50% (specifically, 54%). In 1925, this ratio for LBN is 52%. Thus, the \$15 million is treated as if it is government-contributed capital (equity), although it is repayable in full. The reserve is extremely low and is increased by \$1.1 million. Bank premises also increase by \$1,652,534. The 2-for-1 stock exchange reduces the capital of \$3 million of LBN by 50%, and reduces paid-up capital to \$1.5 million. Besides a reduction of more than \$5 million in non-current loans, several other material changes are difficult to trace or to explain.

**[Please place Table 3.6 about here.]**

As mentioned above, appropriations and probable losses are removed from the financial statements and accounted for on an off balance sheet report signed by the chief accountant of the bank and by the auditor.<sup>134</sup> This exhaustive list is crucial historical evidence. It includes losses for each

---

<sup>133</sup> Letter from Geoffrion & Prud’homme, Advocates and Barristers, to Leman, January 28, 1929, NAC.

<sup>134</sup> Application des \$15,000,000 obligations de la Province de Québec, 5% mars 1964 cédées à La Banque d’Hochelaga en considération de la fusion de La Banque Nationale, en vertu du Statut 14, George 5, Chapitre 3, ABN.

branch, and smaller sundry losses for real estate, amortization of furniture and even expenses related to the merger that total \$15,044,215.09 as at November 30, 1927 and \$15,683,569.22 as at January 31, 1935. These removed amounts of over \$15 million then are covered by the same \$15 million in Quebec government bonds. The bank adjusts the losses annually when adding new appropriations and new non-current loans to the off-balance sheet account. Although the federal government requests that the bank add a note to the monthly and annual financial statements explaining these financial transactions, the bank's board vehemently refuses to do so.<sup>135</sup>

The merged bank then uses the same \$15 million in borrowed Quebec bonds as collateral for federal government loans. It starts with half of the par value of the bonds and other securities to obtain advances of \$10 million under the Finance Act.<sup>136</sup> This limit soon is surpassed as the BCN loans \$12 million to the Province, City of Montreal, Metropolitan Commission and Roman Catholic School Commission.<sup>137</sup> The Bank is reminded that the Finance Act should not be used to “postpone unduly permanent financing” even if it has a very low earning power and considerable loans in the lumber and agricultural industry that are stagnant<sup>138</sup> The advances reappear the following year and for the same reasons. The General Manager justifies this action to the federal government as necessary to recapitalize the bank as follows:

You will readily appreciate that it is our duty under conditions such as these, and with due regard to the rules of prudence, to obtain the employment, even if the margin of profit is very slight, of the \$15,000,000 of assets represented by the Province of Quebec 5% Bonds. You are fully aware that our problem is one of seeking to place our operations on a sufficiently profitable basis and it is only in times of business and financial activity that we can hope to improve our position in this respect.<sup>139</sup>

These advances rise to \$16.5 million during the year following May 1, 1929.

---

<sup>135</sup> Procès-verbaux de La Banque d'Hochelaga, 11 et 18 juillet 1924, ABN.

<sup>136</sup> Memorandum to Mr. Tompkins, May 13, 1925, NAC.

<sup>137</sup> Letter from Guimont to Tompkins, June 23, 1927, NAC.

<sup>138</sup> Note about a meeting in Ottawa of Leman and Saunders, Banque Canadienne Nationale Advances under the Finance Act, January 21, 1928, NAC.

<sup>139</sup> Letter from Leman to Tompkins, January 17, 1929, NAC.

As per Bill 3, the BCN pays an annual amount of \$124,172.40 towards the Quebec bonds, and deducts this amount from pre-tax income. The Dominion government objects to the tax deductibility of these payments, and rules that the BCN must repay an annual amount of \$10,000 plus interest retroactively. The BCN appeals this decision in 1928 claiming that the annual payment can be viewed as an annual loss since no interest is payable on the bonds.<sup>140</sup> The Commissioner of Income tax replies to the General Manager of the BCN that in his view it cannot be a deductible expense but the BCN maintains its appeal.<sup>141</sup> Two years later, the case is still pending. The federal Department of Justice says the deduction should not be allowed but it cannot determine if the Department of Revenue would win its case.<sup>142</sup> Although we are not able to find a document confirming the final decision, we believe that the parties came to an agreement that permits the BCN to deduct the payments for the following reasons. First, the federal Liberal government approved the merger transaction six years earlier, and is aware that it saved a bank from failure. To reopen the case publicly may create some problems especially during a pre-electoral period. Second, this is construed as a unique situation that will not create a precedent. Third, the financial situation of the BCN is still fragile and is deteriorating as the depression starts. Finally, no apparent changes appear in the profit and loss section of the financial statements to indicate such tax payments.

Thus, this creative financing arrangement can be summarized as follows: the \$15 million in borrowed Quebec bonds is added to the left-hand side of the balance sheet while reducing impaired assets but without adding an appropriate debt to the right-hand side of the balance sheet, and the same \$15 million in borrowed Quebec bonds is used off-balance sheet to cover over \$15 million of impaired assets removed from the balance sheet, and the same \$15 million in borrowed

---

<sup>140</sup> In Re: The Income War Tax Act, 1917, and Banque Canadienne Nationale of the City of Montreal, Province of Quebec, Appellant, Baudry Leman, February 28, 1928, NAC.

<sup>141</sup> Letter from Walters to Leman, April 16, 1928, NAC.

<sup>142</sup> Letter from Edwards to The Commissioner of Income Tax, February 11, 1930, NAC.

Quebec bonds is used as collateral for federal government borrowings. Furthermore, the annual bond repayments are deducted from income for corporate tax purposes.

The loan is fully reimbursed by the end of 1943. The bank pays \$125,000 per year until 1943, and pays \$1,467,686.87 on December 31, 1943. This lump sum is the present value at 5% of the remaining payments of \$125,000 that are required until 1964 to repay the principal owing. Repayment details are found in schedule A-4 of the financial statements of the Quebec government dated March 31, 1944:<sup>143</sup>

Les actionnaires apprendront sans doute avec satisfaction que, le 31 décembre 1943, la Banque a fait remise au Trésorier de la Province de Québec de la somme de \$1,467,686,87 qui, avec les versements déjà effectués par la Banque, a acquitté le solde des paiements que la Banque s'est engagée à faire, aux termes de la loi 14, Georges V, chapitre 3. La Province a encaissé le plein montant que la Banque était tenue de lui verser, aux termes de cette loi, pour permettre à la Province de constituer un fonds d'amortissement destiné à racheter, le 1<sup>er</sup> mars 1964, les \$15,000,000 d'obligations de la Province cédées et transportées à la Banque en 1924.

The 69<sup>th</sup> annual report of the Bank, dated November 30, 1943, corroborates this fact as follows:

The Banque Canadienne Nationale, taking advantage of section 3 of the statute 14 Geo. V, c.3, prepaid to the Province under date of Dec. 31, 1943, the sum of \$1,467,686.87, representing all future instalments; including this prepayment, previous instalments and earned interest, the sinking fund, as at March 31, 1944, amounted to \$5,653,342.24. The difference between this latter amount and \$15,000,000 represents compound interest at the rate of 5% which will accumulate between now and 1964. As the yield on new investments is about 3%, it results in a loss to the Province equal to the difference between this rate and that of 5% now to maturity.

It is interesting to note that bond yields, as reported in Table 3.7, are below 4% at that point in time. Although the bank has now fully paid for the provincial bonds, this asset still is

---

<sup>143</sup> Government of Québec, Public Accounts, 1944.

unproductive since the bonds do not pay interest. In 1964, the BCN redeems the unproductive provincial bonds for \$15 million in cash, and is able to use the proceeds freely.

**[Please place Table 3.7 about here.]**

### **3.4 THE IMPACT OF THE FINANCIAL RESCUE ON THE DIFFERENT INVOLVED PARTIES**

The financial rescue appears to reach an attractive ex post resolution for all involved parties, and especially for both banks as is detailed in this section. A summary of the impact of the financial rescue on the involved parties is presented in Table 3.8. The provincial government supposedly gains the public's favour and credibility from the nationalists. The federal government reduces its exposure, and has no political cost from the failure of a major francophone Canadian bank. The relative stability of the economy of Quebec and of the banking industry is not adversely affected. LBN avoids formal bankruptcy and closure, and LBdH grows considerably as it benefits from financing on favourable terms in an environment with reduced competition.

**[Please place Table 3.8 about here.]**

#### **3.4.1 Stakeholders of La Banque d'Hochelaga**

The "bridge financing" arrangement of \$15 million covers the estimated combined financing needs of the two banks of \$13 million and leaves \$2 million for enhancing liquidity. The credit facility helps LBdH absorb its biggest competitor and become the dominant bank in Quebec.

The main benefit of the "bridge financing" arrangement is to increase bank assets without simultaneously increasing liabilities, although this asset is deemed unproductive. The BCN

obtains tax relief because the annual debt repayment is on a pre-tax basis. The BCN also manages to use the same “bridge financing” arrangement as collateral for further cash advances from the federal government, and to offset primarily unbooked loss appropriations that are transferred off-balance sheet.

The “bridge financing” arrangement is offered at a below market rate since the corporate rate for a low or non-investment grade bank is much higher than the provincial rate. As reported in table 3.7, the spread between provincials and corporates is close to 1% over the 40-year loan period, and is 1.14% at agreement signing. The 5% rate also is applied to the sinking fund where annual payments of \$125,000 accumulate to the face value of the bonds in 1964. If a payment is missed, no interest is charged. If the compounded future value of all payments is not equal to \$15 million on March 1, 1964, the bank must continue to make payments until such is the case before it can redeem the bonds at their face value.

The “bridge financing” arrangement has embedded options. LBdH benefits from a free American put prepayment option since the bank can reimburse at any time. This termination option is very unusual and is very valuable to LBdH, since the bank is obligated to make interest payments only if profitable, and to pay the principal only after a competitive dividend is paid. While this option is costly to the Quebec government and ultimately to Quebec taxpayers, it ensures that the bank is profitable and can pay interest and dividends before repaying principal. Thus, the government’s claim to income is subordinate to common shareholders, although its claim to principal repayment is likely to come first in case of bankruptcy.

Based on Table 3.3, the maximum dividend yield of 10% appears to be carefully chosen to ensure that the bank remains competitive while minimizing the cash draw on the bank. La Banque Provinciale, a direct competitor of the new entity, has a 9% dividend yield. All the banks that pay a current dividend yield lower or equal to 8% either merged or failed in the following years.

### 3.4.2 Stakeholders of La Banque Nationale

In the minutes of the annual meeting held on January 15, 1924, LBN states that the loan amount of \$15 million is needed to protect depositors and creditors of LBN including the bondholders of La Machine Agricole. If LBN fails, the shortfall of \$8,387,429 between assets and liabilities can be partially covered by capital of \$3 million and reserves of \$400,000. An additional \$3 million (the par value of shares) is available if all shareholders pay their amounts due on a double liability call.<sup>144</sup> This still leaves a shortfall of \$2 million plus \$680,000 incurred by the bondholders of LBN. We estimate a minimal loss of \$3 million for depositors and creditors since not all shareholders could honour a double liability call. Losses as per liquidation represent 6% of total assets of LBN, and would be 12% without double liability. If we use the James (1991) estimate of 10% for expenses, we obtain a loss rate of 22%. This figure is much lower than the liquidation cost of 30% of total assets in a world with deposit insurance and no double liability, which is reported in Bovenzi and Murton (1988).

The “bridge financing” arrangement is of tremendous benefit to LBN shareholders. From a peak of \$180 in May 1921, the shares of LBN decline steeply until merger.<sup>145</sup> The shareholders of LBN obtain one share of LBdH for two shares of LBN, or \$72 per share for each share of \$100 par value. The stock of LBdH is selling at a calendar year low of \$143 per share in January 1924. This is corroborated by the fact that fractional shares of LBN receive \$72 per share.<sup>146</sup> The merger deal saves the shareholders of LBN from a bank failure, and a potential double liability levy of \$100 per share. Therefore, these shareholders avoid a potential loss of \$172 with the merger scenario as opposed to a failure scenario.

---

<sup>144</sup> Under this clause, shareholders are liable for twice their investment at par including unpaid capital.

<sup>145</sup> The share price remains positive although LBN was economically insolvent.

<sup>146</sup> Procès-verbaux, La Banque d'Hochelaga, Assemblée générale du 21 février 1924.

### **3.4.3 The Provincial Government and Taxpayers**

Besides opportunity costs, no liquidation costs are incurred by the provincial government if LBN is allowed to fail. The government could disburse a minimum of \$3 million to eliminate the losses of depositors fully since not all shareholders could assume double liability. The government would still face angry shareholders (most of them being close friends of the Premier), the loss of a big financial institution, and some disruption in the francophone economy. Furthermore, LBdH also would probably need \$4 million in support to survive. The ultimate loss to the provincial government could have been much higher if the rescue had not been “successful”, and the government was required to provide additional financial assistance.

The amount that the FDIC injects for a bailout usually represents, at the minimum, negative net worth, and it is usually reimbursed. In our case and assuming no further financial support if the situation deteriorated further, the maximum loss that the provincial government faces is the “bridge financing” amount of \$15 million. This represents nearly 30% of the assets of LBN, and a much lower loss if the bank reimburses the loan. The maximum potential loss exceeds the results reported in Bovenzi and Murton (1988), and our estimated cost of 22% under liquidation. The minimum cost incurred by the government is related to the subsidized cost of the “bridge financing” arrangement and from writing the options offered in the contract. These options include the American repayment put option discussed previously, and the special repayment terms that allow the bank to repay the present value of the remaining payments at any time in exchange for a promised \$15 million in cash in return for the bonds in 1964. As of March 31, 1944, the sinking fund amounts to \$5,653,342.24. Although no more payments are made into the sinking fund, the sinking fund continues to accumulate interest until the redemption date of March 1, 1964. In the provincial government’s financial statements of 1944, their forecast of a 3% return seems very realistic since long maturities are yielding 2.99% (see Table 3.7). During



the 1944-1964 period, interest rates decline to a low of 2.57% in 1947, then increase to exceed 3% in the 1950s, and then increase to attain 5.05% in 1962. By not investing the sinking fund at long market rates, the government probably lost about 2% of \$15 million over the last 20 years of the financing arrangement, and may have lost a little less if the money was invested short term because rates increased substantially. This loss represents \$1.1 million in 1924, \$2.7 million in 1944, and \$4.8 million in 1964. Over the 40-year period, the average annual return of the sinking fund is 4%, which is equivalent to an average annual opportunity loss of at least 1%.<sup>147</sup>

Unlike the two merged banks, the government reports the loan correctly in its financial statements when it adds the \$15 million to assets and liabilities, and the annual payment of \$125,000 to its revenues. The government did not pay for any fees related to the subscription of the bonds, such as the printing of the bonds.<sup>148</sup> While the provincial government's risk taking turned out well ex post, the situation could have worsened and the government could have escalated its loss exposure by escalating the notional amount of the "bridge financing" arrangement.

### **3.5 POST-MERGER PUBLIC REACTIONS**

Rudin (1980) notes that the merger causes considerable debate until the end of the 1920s, although the real reasons for the merger and the explicit use of the \$15 million are not disclosed to the public. The main criticisms are that the provincial government acts in an area under federal jurisdiction, and that the provincial government is offering generous compensation to shareholders of LBN and to bondholders of la Machine Agricole, two poorly managed institutions. According to the federal law at that time, the shareholders should be held responsible for up to twice the stock's par value. Premier Taschereau is accused of concluding the

---

<sup>147</sup> The public accounts of 1962-63 show that the average return of the sinking fund is 4.095% since 1924. Public accounts of 1963-64 show that the last annual deficit of the sinking fund is \$17,038.01.

<sup>148</sup> Procès-verbaux de La Banque d'Hochelaga, 11 avril 1924.

arrangement to help save the investments of his friends. Rudin (1985) mentions that the major share of the investments of 2,300 shareholders are by professionals and businessmen, and that widows, orphans and religious bodies own only 10% of the outstanding shares. The majority of the directors of LBdH have close ties with the Liberals.<sup>149</sup> The federal Minister of Justice, Lomer Gouin, who is the former Liberal Premier of Quebec, is involved in the negotiations.<sup>150</sup> Quebec Premier Taschereau, who maintains that the merger saved depositors from bankruptcy, receives several letters to congratulate him for saving LBN. A run on the bank would have generated losses of 25 to 40% to depositors after fully accounting for double liability payments.<sup>151</sup> The president of the Bank of Montreal is pleased with the financial arrangement, and mentions that it will protect the credit and the trade of the province.<sup>152</sup>

### 3.6 CONCLUDING REMARKS

Capital, tax, accounting and reporting forbearance (and misrepresentation), a generous “bridge financing” arrangement, and management restructuring permit one (if not two) Canadian banks to avoid closure by merger. These two merged banks are given the opportunity to reduce their loans and deposits, and to resolve problematic loans. During this period of forbearance, the federal government incurs important risks since advances reached values of more than \$10 million. Ex post, the additional \$15 million bailout from the Quebec government is a success for all parties involved at what appears to be a relatively reasonable ex post cost (but maybe not risk) to taxpayers. However, it should not be interpreted as an ex ante prescription to the treatment of impending bank failure.

---

<sup>149</sup> *Toronto Telegram*, Bad Smash Averted by French Bank Merger, January 15, 1924.

<sup>150</sup> Fonds Taschereau, ANQ; and *Toronto Telegram*, Merger of Quebec Banks is Aided by Government, January 2, 1924.

<sup>151</sup> *Toronto Telegram*, Bad Smash Averted by French Bank Merger, January 15, 1924.

<sup>152</sup> Ottawa, Bank Merger is commended by Sir V. Meredith, *Citizen*, February 1, 1924.

The rescue of La Banque Nationale vividly illustrates the importance of political connections and resolve in saving a financial zombie from closure, especially if the zombie can have a significant financial impact on the “friends” of the ruling governments (both federal and provincial). The rescue illustrates the importance of the opaque role played by the Canadian Banker’s Association in dealing with problem banks in the 1920s to satisfy the self-interest of its membership. The rescue also vividly illustrates the role played by “temporarily re-interpreting” accounting, tax and reporting rules to either hide and/or resolve major financial problems in the banking sector of the 1920s. Subsequent history suggests that these lessons have, and are likely to be used repeatedly in the future to deal with problem banks. For example, forbearance, window dressing and too-important-to-fail are instruments that are currently being used to address the banking crises in Japan and Argentina.

## **CHAPTER 4**

### **LOSSES INCURRED BY VARIOUS GROUPS OF STAKEHOLDERS FROM CANADIAN BANK FAILURES UNDER DIFFERENT SAFETY NET REGIMES**

#### **4.1 INTRODUCTION**

Bank failures occur fairly seldom in Canada. Only 29 Canadian banks failed since Confederation in 1867, and 26 of these failures occurred between 1867 and 1923 (OSFI).<sup>153</sup> Since 1923, only three regional Canadian banks have failed; namely, the Canadian Commercial Bank in 1985, the Northland Bank in 1985, and the Bank of Credit and Commerce in 1991.<sup>154</sup>

These bank failures occurred under different safety net regimes for the various groups of bank stakeholders. Note holders became preferred creditors in 1880, and were further protected from eventual losses with the creation of the Circulation Redemption Fund in 1890. After the creation of the central bank in 1935, government notes gradually replaced bank notes. However, for some denominations, the Canadian banks issued their own bank notes until 1950.

For depositors, Kryzanowski and Roberts (1993, 1998, 1999) argue that implicit deposit insurance existed from at least the mid 1920s until the formal introduction of deposit insurance in

---

<sup>153</sup> Two bank failures occurred in Newfoundland in 1894. They are not included in our sample since they occurred before Newfoundland became a Canadian Province in 1949.

<sup>154</sup> See: [www.cdic.ca](http://www.cdic.ca), consulted 19/11/01.

1967 with the creation of the Canadian Deposit Insurance Corporation (CDIC).<sup>155</sup> During the sub period of 1900-1923, the government and the CBA helped problematic banks avoid failure via whole-bank purchase-and-assumption transactions or open-bank assistance (bailouts).<sup>156</sup> In the case of failure, these two parties help the failed bank liquidate and generally offered some protection to depositors under the guise that not doing so could cause instability and harm the Canadian banking industry. Banks collectively offered financial aid to minimize losses resulting from three of the largest bank failures; namely, the Ontario Bank failure in 1906, the Sovereign Bank failure in 1908, and the Canadian Commercial Bank failure in 1985. Similarly, the federal government partially indemnified depositors after the failure of the Home Bank in 1923, and deposit insurance shortfalls after the collapse of the Northland Bank and of the Canadian Commercial Bank in 1985. For shareholders, double liability was in force from Confederation until its formal demise in 1950.<sup>157</sup> However, the intensity of its application varied considerably over time, as is shown below.

Based on a study of the banking industries in Canada, the U.S. and the U.K. over the past century, Saunders and Wilson (1999) find that the asset risk is similar in 1890 and the 1980's even if there are greater safety nets in the 1980s. While such is the case for the left-hand side of a bank's balance sheet, this does not mean that the losses incurred by the various bank stakeholders do not depend on the safety net currently in place when a bank fails. Thus, this chapter has two major objectives. The first major objective is to test if the average losses are the same over time for different bank stakeholders under different safety net regimes. These regimes include the existence of a Circulation Redemption fund to protect note holders, the existence of implicit or

---

<sup>155</sup> The CDIC insures deposits and monitors banks. It closely follows problematic banks to help them recover and facilitates loans or mergers if necessary. In the case of failure, the CDIC helps the failed bank to liquidate, and it repays depositors up to a predetermined amount from 1967 to 1983. Deposits are insurable for up to \$20,000 from 1967 to 1983, and for up to \$60,000 thereafter (see [www.cdic.ca](http://www.cdic.ca), consulted on 19/11/01). Deposit insurance was introduced in the U.S. in 1934 (FDIC, 1997).

<sup>156</sup> The CBA is established in 1891, and obtains more power in 1890 to influence the banking industry.

<sup>157</sup> Double liability was included in the first Bank Act of 1871, and formally removed in 1950. It was used to cover depositor losses for bank failures (Binhammer and Sephton, 1998).

explicit deposit insurance to protect depositors, and the existence of double liability for shareholders to protect other bank stakeholders. To this end, we quantify the losses in total and differentiated by bank stakeholder group for the 29 Canadian bank failures since Confederation for four groupings of safety net regimes. We use four different loss metrics: dollar losses in constant dollars of 1868, dollar losses per capita in constant dollars of 1868, losses per dollar of assets of the failed bank, and losses per dollar of assets of the banking industry. The second major objective is to identify the determinants of the variation in losses from bank failure over time. To this end, we test the power of various variables (bank specific such as number of branches, macro such as growth in real GNP, and environmental such as the safety net regime configuration) to explain the time-series variation in each of the four loss metrics.

This chapter has at least five major findings. The first major finding is that constant dollar losses per bank failure and constant dollar losses per capita per bank failure are significantly higher, on average, after the introduction of explicit deposit insurance. The second major finding is that the average proportion of losses assumed by banks and government is significantly higher at 54% of total losses, and the average losses incurred by shareholders is significantly lower during the fourth sub period. This sub period has no double liability for shareholders and has explicit deposit insurance for depositors. This finding corroborates the conjecture by Kane (1985) that the introduction of deposit insurance may create moral hazard among stakeholders.

The third major finding is that, compared to the second sub period (1883-1899) with note holder protection and weak enforcement of double liability, average losses per dollar of assets of the failed bank are significantly different (and higher) only for the third sub period with its strict enforcement of double liability, and average losses per dollar of total assets of the banking industry are significantly different (and lower) for both the third and fourth sub periods whose shared characteristic is deposit insurance (implicit and explicit, respectively). These findings suggest that government and financially troubled banks prolong explicit bank failure in a world

with (implicit or explicit) deposit insurance so as to minimize the relative loss to the banking industry of explicit bank failure. These findings also suggest that the relative loss at a failed bank is higher in a world with deposit insurance and double liability as financially troubled banks prolong the pre-closure period by attempting to recapitalize by continuing their operations. These results extend the work of Kryzanowski and Roberts (1993, 1998, 1999) who show that forbearance was a primary determinant of why many Canadian financial institutions survived during the 1920s and the 1930s. The work reported herein suggests that forbearance heightened the losses per dollar of total assets of the failed bank but lessened the losses per dollar of banking industry assets when bank failure was carefully monitored and controlled by the government and the CBA.

The fourth major finding is that variables other than the safety net regime are significant determinants of the variation of only bank losses per dollar of total assets of the banking industry. Specifically, bank losses per dollar of total assets of the banking industry are positively related with the age and the number of branches of the failed bank, and with the real interest rate.

The fifth major finding is that Canadian bank losses are comparable to those of American national banks and lower than those incurred by state or private American banks during the period from Confederation through the 1920s. Canadian losses from more recent bank failures are lower than those for American bank failures. After the introduction of deposit insurance, the losses are lower for all the stakeholders with the exception of the banks and the government.

The remainder of this chapter is organized as follows. The relevant literature is reviewed in the next section. The sample and data, and various descriptive statistics, are reported in section three. In section four, the proportions of current dollar losses assumed by each stakeholder for each of the four studied sub periods are examined. The values of estimated losses using four different measurement metrics are reported and analyzed in section five for three stakeholder

groupings for our sample of Canadian failed banks. The results of the tests used to explain the variation in the four metrics of total losses from bank failure are presented and discussed in section six. Section seven concludes the chapter.

## **4.2 BRIEF REVIEW OF THE LITERATURE**

Ferrier (1913) examines Canadian bank failures during the period, 1867-1910. He concludes that the primary causes of these bank failures, in decreasing order of importance, are incompetent lending decisions, fraud by managers, and depreciation of the value of securities during recessions. He finds that aid from other banks is readily available, quickly provided and effective for a bank in a precarious financial situation. This help is a sign of unity in the banking industry, and was provided over this period to the Exchange Bank, the Federal Bank, the Commercial Bank of Manitoba, La Banque du Peuple, the Ontario Bank, and the Sovereign Bank. The other banks also aided the Bank of Liverpool, the Consolidated Bank, the Bank of London, the Bank of St. Stephens, the Ontario Bank and the Sovereign Bank by buying assets from these banks in order to aid shareholders.

Eckardt (1909) concludes that the main cause of bank failures in Canada and the United States is bad loans and fraud, respectively. Ferrier (1913) reaches a similar conclusion. Eckardt (1909) surmises that the different experience in Canada is due to the Canadian branch banking system that allows larger loan sizes. In contrast, a loan from a unit U.S. bank cannot exceed 10% of its capital. According to Eckardt (1910), a good system of inspection is very important to reduce fraud and is easier to implement in a branch banking system. Beckhart (1929) notes that inspection of each branch is a key component in the reduction of bank failures in Canada since most problems are related to higher management and cannot be identified by an examination of files only at the head office. Beckhart (1929) concludes that the Canadian banking system is safer



than the American one but not as safe as the Australian and British systems for the period 1900-1930.

In a CBA circular, Willis (1926) explains the benefits of a branch banking system as follows:<sup>158</sup>

Comparison shows arithmetically the average per capita liabilities of banks – that is failed banks – in the United States from 1900-1925 at 55.9 cents. In Canada, it was 31.8 cents for approximately the same period. In the United Kingdom it was 8.3 cents. In Holland it was 13.7 cents. Those are the comparative records made by branch-banking countries as contrasted with the bank failures in the United States. It is unmistakable fact that branch banks, while they do not prevent failures, represent a system that has greater strength and is able to handle the loans more efficiently and hence is, in fact, less susceptible to danger of failure than the so-called independent or unit banks as carried on here... It is regrettably true that the Federal Reserve System has not repressed bank failures but in a number of cases has created conditions that tended to aggravate it.

A number of studies have either gathered the data for quantifying the losses attributed to bank failures or quantified those losses. Using the data collected by Eckardt (1907) for American national bank failures from 1865 until 1905, we calculate a number of loss ratios as a percentage of total assets for these bank failures (see Table 4.1). Depositor and creditor losses are 14% of assets, and shareholder losses are 32% of assets, including double liability that is collected at a success rate of 49%. Using an updated sample of closed files for 250 American national bank failures for 1891-1906, Eckardt (1908) finds creditor losses of 18% of total assets.<sup>159</sup> His report does not show any loss to note holders. While the national banks have exclusivity in issuing

---

<sup>158</sup> Secretary of United States Senate to General Manager of The Canadian Bankers' Association, Circular No. 48-Z, May 30, 1926, CBA.

<sup>159</sup> In Eckardt (1907, 1908), aggregate liabilities including capital are used as a good approximation of total assets.

notes, they must secure each dollar with Government bonds. Over the same time period, 1150 failed state and private banks resulted in losses to creditors of 59% of total assets.

**[Please place Table 4.1 about here.]**

In a world with explicit deposit insurance, James (1991) finds that an average of 30% of the assets of failed banks are lost for U.S. bank failures for the period, 1985-1988. Bovenzi and Murton (1988) also find that average liquidation costs are 30% of total assets. Based on an investigation of bank failures and panics from 1870 until 1913, Williamson (1989) obtains estimates of losses to depositors on total deposits of 7% in Canada and 11% in the United States.

Some studies challenge the efficacy and point out the detrimental effects of the deposit insurance system to the banking industry. Chu (1996) shows that bank failures do not happen more frequently in a free banking than in a regulated environment. Over his study period of 1935-1964, the American banking system is regulated with a flat rate deposit insurance scheme, the Canadian system is regulated, and the Hong Kong system is almost unregulated. Over the studied period, several bank failures occur in the United States but none occur in the other two countries. Kaufman (1996) shows that bank regulations tend to be ineffective, and often increase the probability and the cost of bank failures. He states that the cost of bank failure is smaller before the implementation of the Federal Reserve System in 1914. Kane (1985) argues that the introduction of deposit insurance reduces systematic risk but creates moral hazard among the stakeholders.

#### **4.3 SAMPLE, DATA AND SOME DESCRIPTIVE STATISTICS**

Based on information obtained from the CDIC, OSFI, the CBA and NAC, 29 Canadian chartered bank failures are identified since Confederation in 1867. A brief history of the most

important of these failures is provided in Appendix 5. For each failed bank at the date of suspension or cessation of normal operations, data collected include total assets, total liabilities, capital, deposits, reserves, notes in circulation, and the losses incurred by note holders, depositors, shareholders, banks and governments.

To evaluate shareholders losses, we use the paid up capital at time of suspension and do not account for previous capital losses or increases, or dividend payout ratios. Most banks have fairly regular dividend payments that are below 8%, as is discussed further below. The biggest leakage is related to manager misappropriation or misallocation, as is evident from the failure cases reviewed in Appendix 5. On several occasions, the managers fraudulently removed bank funds for their own benefit.

Four different metrics are used to measure losses from bank failures. The first metric estimates losses from bank failure in constant dollars of 1868. To do so, we use the Historical Canadian Macroeconomic Dataset 1871-1994 produced by McInnis (2001).<sup>160</sup> The data of 1871 is used to replace the missing macro data for the bank failure in 1868. The values for this metric allow us to compare the magnitude of the losses due to Canadian bank failures since Confederation in comparable purchasing power.

The second metric estimates losses from bank failure in constant dollars of 1868 and on a per capita basis to evaluate how losses have changed when both changes in purchasing power and population growth are accounted for. For this metric, we use the population data of McInnis (2001),<sup>161</sup> and a linear interpolation of the CANSIM data to account for missing population data for 1868.

---

<sup>160</sup> This data is available at: <http://library.queensu.ca/webdoc/ssdc/cdbksnew/HistoricalMacroeconomicData/>, and was consulted in May 2002.

<sup>161</sup> CANSIM only offers decennial data for most of our period of study.

The third metric for estimating losses is the percentage of total losses to total assets of the failed bank. This metric alleviates somewhat the problem of time value of money and allows us to compare losses incurred through time.<sup>162</sup> The total assets at the time of bank failure are taken from the financial statements presented in Tables 4.2, 4.3, 4.4 and 4.5. Assets of poor quality (such as bad loans) are already removed from the reported figures and may reflect transactions that are posterior to actual bank failure. For some failures, total assets are recalculated so that all financial data is at the date of bank closure and that the financial statements balance. The maximum of paid-up capital plus reserves plus liabilities or total assets, as reported in the above tables, is used to generate a better estimate of assets at bank failure.

**[Please place Tables 4.2, 4.3, 4.4 and 4.5 about here.]**

The fourth metric estimates total losses from bank failure per dollar of banking industry assets. Total banking assets are drawn from the *Canada Yearbook* and the *Bank of Canada Review*.

The sample of 29 bank failures is first divided into those banks that failed when deposit insurance was formally in place or not. Thus, the first sample consists of the 26 Canadian bank failures from 1867 until 1923. Based on the data reported in Table 4.2, 13 of the 26 bank failures do not generate any losses to depositors and note holders upon liquidation. All the banks paid a dividend equal to or less than 8%. As per the Bank Act of 1870 (1890), dividends cannot exceed 8% if the reserves of the bank do not exceed 20% (30%) of paid-up capital. Although some data are missing, only 4 of the 26 banks have a sufficient reserve to pay dividends exceeding 8%. These banks pay the highest dividends, 7% or 8%, in the sample studied herein. Three of the

---

<sup>162</sup> Although the length of the period of liquidation has a present value effect (albeit smaller), it is not possible to determine the timing of liquidation for each bank failure. For the three first sub periods, total losses should not be affected greatly by the present value effect since interest rates are low and the outflow to shareholders due to double liability may compensate for the inflow to depositors after failure. For the last sub period, the time value has no impact on this measure of losses to shareholders since the price of the shares should drop with an announcement of failure or insolvency if markets are efficient.

banks are fairly large in terms of deposits, and were probably forced to fail at an earlier stage before any corrective measures were undertaken.

Double liability was in force during the 1867-1923 period. Under this provision, shareholders are liable for twice their investment at par including unpaid capital.<sup>163</sup> In 1871, the principle can be in force six months after suspension even if assets are not all realized. The principle is applied and is used for all subsequent bank failures until the case of the Home Bank in 1923, and is abolished in 1950 (Binhammer and Sephton, 1998). We find that double liability is difficult to exercise at the beginning but is enforced more regularly after the beginning of the twentieth century.

This first sample of bank failure then is divided into three sub samples. The first sub sample (sub period one) consists of the eight bank failures during 1867-1881. During this sub period, note holders incur some losses since protection of note holders is not enacted until 1880. The protection offered to note holders in 1880 has no impact on the failure of the Bank of Prince Edward Island in 1881 since this bank has a Provincial Charter. Note holders lost an aggregate total of \$236,041 from the bank failures in 1873, 1879 and 1881. These banks had less than \$200,000 of paid up capital, which is rather small for that period of time.<sup>164</sup> Ferrier (1913) observes that some notes are exchanged below par because some note holders could not afford a delay before possible conversion after a failure.

Two important measures to eliminate future losses to note holders are enacted. First, note holders become preferred creditors before depositors in 1880.<sup>165</sup> Second, starting in 1890, each

---

<sup>163</sup> The clause originates from Scotland where stockholders were liable for all debts in case of failure. It was used to protect depositors and debtors against mismanagement (Ross, 1928). Ross (1927) mentions that all banks are subject to double liability in 1867.

<sup>164</sup> During the period, a new bank must have \$100,000 of paid up capital to commence operations, and an additional \$100,000 of paid up capital within two years, as per the Bank Act of 1871 (Jamieson, 1962).

<sup>165</sup> Jamieson (1962) notes that the federal government ranks second as a creditor, and provincial governments rank third as creditors from 1891.

bank is required to contribute to a Bank Circulation Redemption Fund to the extent of five per cent of its average annual note circulation.<sup>166</sup> The fund, which is held by the Minister of Finance, pays an annual interest rate of 3%, and is used whenever the liquidator takes more than sixty days to redeem the notes of a failed bank after its suspension. The note holders are to receive an interest rate of 6 per cent per annum from the date of suspension.<sup>167</sup> This rate is reduced to 5% in 1900, and is used only once (in 1916). While reimbursement of bank notes is done only during the liquidation period prior to 1890 and bank notes become worthless after the liquidation period (see Table 4.6 for a listing of unredeemed balances),<sup>168</sup> bank notes of failed banks after 1890 remain redeemable by the Minister of Finance after the liquidation period.<sup>169</sup> While double liability is law, it is only collected in two failures over this sub period.

**[Please place Table 4.6 about here.]**

The second sub period of 1883-1899 (sub period two) has nine bank failures. While note holders are well protected, the double liability provision is only applied in four of the bank failures. Like sub period one, no implicit or explicit deposit insurance is in effect during the second sub period.

The third sub period of 1905-1923 (sub period three) also has nine bank failures. The only draw on the Bank Circulation Redemption Fund occurs in 1916 to cover losses of \$225,000 for note holders of the Bank of Vancouver. Although the banks accept to compensate note holders, the liquidator reimburses the banks for the advanced sum.<sup>170</sup> Using the new powers it obtained in 1900 (such as managing clearinghouses, hiring curators and issuing notes), the CBA is active in

---

<sup>166</sup>Details about the Fund are taken from Jamieson (1962), p. 29.

<sup>167</sup> Jamieson (1962).

<sup>168</sup> Circular No. R. 342, Bank of Montreal, Redemption of Circulation Defunct Canadian Banks, October 7, 1932, ABC. As per Table 4.1, notes of the Central Bank are still redeemable. This contradicts the present circular mentioning that these notes are worthless.

<sup>169</sup>Ontario Bank Notes are redeemed by the Royal Trust Company, and therefore are an exception. Circular No. R. 342, Bank of Montreal, Redemption of Circulation Defunct Canadian Banks, October 7, 1932, ABC.

<sup>170</sup> Ross (1927).

bank merger facilitation and bank failure resolution. A double liability assessment is made in eight of the bank failures. Internal bank inspection becomes mandatory in 1923, and the inspector-general starts to audit banks and to report to the Minister of Finance in 1924.

Based on Table 4.7, double liability assessments occur during the first three sub-periods, and amounts are collected for 14 of the 26 bank failures. Some assumptions are necessary in order to calculate the dollar value of the assessments for some of the early failures. For a few of the bank failures, only the qualitative details that are specified in Appendix 5 are used. Nevertheless, an average of 59% of the paid up capital is collected, and the individual collections range from 30% to 100%.

**[Please place Table 4.7 about here.]**

No bank failures occur during the next 60 years. The CDIC is launched in 1967 to protect depositors of Canadian deposit institutions. Thus, the last sample, or the sub period four sample, includes the three bank failures in 1985 and 1991. These are the Canadian Commercial Bank failure in 1985, the Northland Bank failure in 1985, and the Bank of Credit and Commerce failure in 1991.<sup>171</sup> Table 4.4 contains some descriptive details about each of these failures.

For the 29 bank failures over the entire time period since confederation, poor loan management is a recurrent reason given for bank failure. This corroborates the findings of Ferrier (1913) and Eckardt (1909). Misleading financial statements also are reported prior to failure even as bank regulation and supervision becomes increasingly more stringent.

The losses in current dollars assumed by each stakeholder group are reported in Table 4.8. In the early sub period, note holders incur some sporadic losses. After protection is instituted to protect them, note holders incur no losses in the last three sub periods. Losses appear to be

---

<sup>171</sup>See: [www.cdic.ca](http://www.cdic.ca), which was consulted on November 19, 2000.

transferred from note holders to depositors in the second sub period because of the safety net provided for note holders. Losses by Governments and banks become more frequent towards the end of our studied time period.

**[Please place Table 4.8 about here.]**

#### **4.4 PROPORTIONAL SHARES OF CURRENT DOLLAR TOTAL LOSSES ASSUMED BY EACH STAKEHOLDER GROUP**

This section examines how the proportions of current dollar total losses assumed by each stakeholder group evolved over time by testing three hypotheses based on Table 4.9 about the role of various safety net regimes in the division of total losses from bank failure. The first null hypothesis is that the proportion of total losses borne by depositors is much higher during the second sub period, which follows the adoption of complete protection for note holders. The second null hypothesis is that the proportion of total losses borne by governments and banks is the highest at an average of 54% during the fourth sub period. The third null hypothesis is that the proportion of losses borne by shareholders decreases in the fourth sub period when double liability is no longer in force and explicit deposit insurance is in place.

**[Please place Table 4.9 about here.]**

Two dummy variables and one control variable are used in the model to assess if the type of safety net regime is a significant determinant of the division of total losses from bank failure among the various stakeholder groups. The full model is as follows:

$$(1) \quad Plosses_i = \beta_0 + \beta_1 PeriodX_i + \beta_2 Age_i + \beta_i$$

where  $Plosses_i$  is the proportion of losses borne by stakeholder group  $i$ , where group  $i$  is depositors and creditors, banks and government, and shareholders, respectively;



Period $X_i$  is a dummy variable designed to capture if bank  $i$  failed during sub period  $X$  (if  $X$  is the second sub period, the dummy equals one for banks failing from 1883 to 1899, and is zero otherwise; and if  $X$  is the fourth sub period, the dummy variable equals one for banks failing from 1985 to 1991, and is zero otherwise);

Age $_i$  is the age of bank  $i$  at the time of its failure, and is used as a control variable; and

all the other terms are as defined earlier.

Our sample contains 28 bank failures with the elimination of the Federal Bank, which has no losses. The model is estimated using a Tobit regression since losses are constrained by construction to vary between zero and one. The first Tobit regression run designed to test the first null hypothesis includes a dummy variable to determine if the institution of note holders in sub period two changes the proportion of losses attributed to depositors and creditors in sub period two. Based on the results reported in Table 4.10, the proportion of total losses assumed by depositors and creditors are not significantly different during sub period two. Thus, this change appears not to have a significantly adverse effect on other bank stakeholders.

The second Tobit regression run tests the second null hypothesis that the proportion of total losses assumed by banks and government is significantly higher in sub period four (i.e., after the formal introduction of deposit insurance) using a dummy variable for sub period four. The estimated coefficient of the dummy variable for sub period four is positive and significant at the 1% level. Therefore, proportion of losses assumed by the banks and government, on average, is significantly higher for this sub period, and may be due to the formal introduction of deposit insurance. This finding provides support for the conjecture by Kane (1985) that the implementation of a safety net causes moral hazard.

The third and final Tobit regression run tests the third null hypothesis that the proportion of total losses assumed by shareholders, on average, is significantly lower in sub period four (i.e., in a regime with formal deposit insurance and no double liability) by using a dummy variable for sub period four. Based on Table 4.10, the estimated coefficient of the dummy variable for sub period four is negative and significant at the 5% level. The proportion of total losses assumed by shareholders is significantly lower, on average, during this sub period compared to the other sub periods. The reduced share of total losses from bank failure incurred by shareholders during the most recent sub period may be due to the implementation of explicit deposit insurance, elimination of double liability for shareholders, shorter forbearance periods before closure of financially troubled banks or to an increase in the average leverage ratio of banks.<sup>172</sup> These findings support the conjecture by Kane (1985) that the implementation of a safety net for depositors may cause moral hazard.

**[Please place Table 4.10 about here.]**

#### **4.5 FOUR METRICS FOR MEASURING TOTAL LOSSES INCURRED FROM CANADIAN BANK FAILURES**

The losses for the Canadian bank failures for each of the four measurement metrics are reported and analyzed in this section of the chapter. Losses per bank failure in constant dollars of 1868 (i.e., the year of the first bank failure) are reported in Table 4.12. The 1985 failure of the Canadian Commercial Bank represents the biggest constant dollar loss of 65 million dollars, which is more than four times higher than the nearest contender. The next three largest constant dollar losses are the Northland Bank (1985), the Home Bank (1923) and the Sovereign (1908)

---

<sup>172</sup> The leverage ratio varies significantly throughout the sample. It is 49% for the first sub period, increases significantly to 71% during the second sub period, is 73% during the third sub period, and increases significantly to 93% during the last sub period.

with dollar losses of 15 million, 7.5 million and nearly 5 million. The second sub period has the lowest average total losses from bank failure in constant dollars of 1868 of \$538,083. In contrast with the inferences drawn from the current dollar analysis in section 4, the government and the other banks are now identified as incurring the bulk of the losses from bank failure, and losses are now much higher in the fourth sub period.

**[Please place Table 4.11 about here.]**

Losses per capita in constant dollars of 1868 per bank failure are reported in Table 4.13. Since this metric measures the relative burden placed on the citizens of Canada from bank failures, the four largest failures in terms of per capita burden are the Canadian Commercial Bank, the Home Bank, the Sovereign and La Banque du Peuple with nearly 2.5, 0.83, 0.76 and 0.68 constant dollar losses per capita, respectively. Even after accounting for differences in population over time, bank shareholders still assume the biggest average loss during the first three sub periods. The lowest and highest average losses per capita from bank failure are \$0.13 and \$1.06 in sub periods two and four, respectively.

**[Please place Table 4.12 about here.]**

Based on the total losses per dollar of total assets of the failed bank reported in Table 4.11, bank bankruptcies create average losses equal to 44% of assets. The average losses incurred by depositors, shareholders, and banks & government are 11%, 29% and 3%, respectively. Thus, as expected over the three first sub periods, shareholders incur greater proportional losses per dollar of assets of the failed bank than other stakeholders. After 1967, total losses per dollar of total assets of the failed bank for all bank stakeholder groups drop to 23% of assets. This is a much lower value than that reported by James (1991) and Bovenzi and Murton (1988) who estimate losses of 30% of total assets under explicit deposit insurance during a contemporary period in the United States.

**[Please place Table 4.13 about here.]**

Losses per dollar of total assets for the banking industry during the year of bank failure are reported in Table 4.14. Since Confederation, the biggest losses result from the earlier failures. To illustrate, the losses from the failures of La Banque du Peuple (1895) and the Consolidated Bank (1879) represent approximately 0.9% of total bank assets for the year of their failure. In contrast, the Canadian Commercial Bank's loss of 0.2% for this metric is the largest since 1931. The highest and lowest average losses per dollar of assets of the banking industry occur in the second and fourth sub periods, respectively.

**[Please place Table 4.14 about here.]**

The results for the first three sub periods (i.e., 1868-1923) are combined in Table 4.15 so that our results are more easily compared to those already reported in the literature for somewhat similar periods of time. For a sample of U.S. bank failures, Eckardt (1907) reports an average total loss per dollar of total assets from bank failure for all stakeholders of 45% versus our 47%, an average loss per dollar of total assets from bank failure for shareholders of 31% versus our 31%, and an average loss per dollar of total assets from bank failure by note holders, depositors and creditors (including banks and governments) of 16% (18% for national banks and 59% for state and private banks) versus our 14%. Interestingly, the average shareholder losses are similar although collections of double liability assessments are higher in Canada than in the U.S. with average collections representing 59% and 49% of paid up capital in Canada and the U.S., respectively.<sup>173</sup> For the 1900-1925 period, our estimate of the average total loss per capita in constant dollars from bank failure is 29 cents, while Willis (1926) finds an average loss of 31.8 cents. The average losses are higher in the United States at 55.9 cents, and lower in the United Kingdom and Holland at 8.3 cents and 13.7 cents, respectively.

---

<sup>173</sup> The figure is reduced to 55% if the failure of the Bank of Acadia is included. This is a failure where double liability is called but nothing is collected.

**[Please place Table 4.15 about here.]**

## **4.6 DETERMINANTS OF EACH OF THE FOUR MEASUREMENT METRICS OF TOTAL LOSSES FROM BANK FAILURES**

In this section of the chapter, ANOVA and regression analyses are used to test the impact of the different safety net regime sub periods on the four measures of total losses.

### **4.6.1 ANOVA Results**

An analysis of variance or ANOVA is used to test the null hypothesis that the means of the total losses from bank failure, as measured by each of the four measurement metrics, are equal across the four sub periods. Based on the ANOVA results reported in Table 4.16, mean total losses in constant dollars of 1868 and mean total losses per capita in constant dollars of 1868 from the bank failures are significantly different at conventional levels across the four sub periods. Thus, the null hypothesis that the means of these two total loss measurement metrics across the four sub periods are equal is not supported. We conclude that at least one sub period has a significantly different mean for each of these two total loss measurement metrics.

**[Please place Table 4.16 about here.]**

### **4.6.2 Regression Results**

Whether or not the type of safety net regime is a significant determinant of total losses from bank failure, as measured by each of the four metrics, is examined next by testing the null hypothesis that losses will vary significantly under different safety net regimes.

Three dummy variables are formulated for this purpose, and five independent variables are used as controls. Thus, regressions are run where the independent variables include a dummy

variable to capture if protection of note holders is in place (equal to 1 for the first sub period), a dummy variable to capture if implicit deposit insurance exists (equals one for the third sub period where implicit deposit insurance is in force), three variables related to individual banks (the age of the bank, the number of branches at failure, and the leverage ratio for the bank at failure), and two variables related to the economy (real interest rates, and the annual growth rate of real gross national product).

The full regression model is:

$$(2) \quad \text{Losses}X_i = \_0 + \_1 \text{Period}1_i + \_2 \text{Period}3_i + \_3 \text{Period}4_i + \_4 \text{Age}_i + \_5 \text{Leverage}_i + \_6 \text{Branches}_i + \_7 \text{RGNP}_i + \_8 \text{Realinterest}_i + \_i$$

where  $\text{Losses}X_i$  is the total loss from the failure of bank  $i$ , as measured using measurement metric  $X$ ;

$\text{Period}1_i$  is a dummy variable to capture if bank  $i$  failed during sub period one when no safety net was in place for note holders (dummy equals one from 1868 to 1881, and is zero otherwise);

$\text{Period}3_i$  is a dummy variable designed to capture if bank  $i$  failed during sub period three when double liability was enforced better and strong support from the CBA and from government existed to rescue failing banks (dummy equals one from 1905 to 1923, and is zero otherwise);

$\text{Period}4_i$  is a dummy variable designed to capture if bank  $i$  failed during sub period four when explicit deposit insurance existed and no double liability existed (dummy equals one from 1985 to 1991, and is zero otherwise);

$\text{Age}_i$  is the age of the failed bank  $i$  at the date of failure;

$\text{Leverage}_i$  is the liabilities per dollar of assets of the failed bank  $i$  at the date of failure;

Branches<sub>*i*</sub> is the number of branches of the failed bank *i* at the date of failure;

RGNP<sub>*i*</sub> is the percentage change in annual real gross national product over the year relevant for the failure of bank *i*; <sup>174</sup>

Realinterest<sub>*i*</sub> is the annual real interest rate during the year relevant for the failure of bank *i*; <sup>175</sup>  
and

all the other terms are as defined earlier.

Other independent variables considered but eliminated include inflation because of its high correlation with the Realinterest variable retained in our model. <sup>176</sup> Due to data unavailability for the early part of the studied period, dividends and reserve over assets are considered but eliminated as potential determinants. <sup>177,178</sup> Other possible determinants not included in model (2) due to data unavailability include Canadian mortgage rates and rates on U.K. consols since these are only available until 1912, and the corporate bond yield which only starts in 1919.

The model is estimated using 29 bank failures (i.e., all bank failures since Confederation). The constant in regression model (2) captures the fixed part of the variation in the total loss metric for sub period two, since this is the only period without a constant dummy. The a priori expectation for the estimated intercept is negative since the introduction of a protection to note holders has a cost and may increase total losses. The a priori expectation for the sign of the estimated coefficient of the dummy variable Period1 is negative since no protection was offered

---

<sup>174</sup> If failure happens during the first half of year *y* of the failure, the increase is given by  $[-1 + (\text{RGNP of year } y-1)/(\text{RGNP of year } y-2)]$ . If the failure occurs during the second half of the year, the increase is given by  $[-1 + (\text{RGNP of year } y)/(\text{RGNP of year } y-1)]$ .

<sup>175</sup> The same procedure is used as for the calculation of RGNP. Please see the previous footnote for greater details.

<sup>176</sup> The inflation variable is negatively correlated (-0.85) with the real interest rate variable.

<sup>177</sup> Curtis (1931, p. 9) writes that the rest or reserve fund is the surplus account accumulated while earning profits from selling stock. Undivided profits are part of the surplus account but the banks do not have to include undivided profits in their official returns. Rest or reserve fund starts to be reported in official returns in 1883.

<sup>178</sup> We examine these two variables on a sub sample but find that dividends are highly correlated with leverage (0.78), and reserve over assets is highly correlated with dividends (0.62).

during sub period one. The a priori expectation for the sign of the estimated coefficient of the dummy variable Period3 is positive since we would expect bigger losses due to stricter enforcement of double liability, restrictions on bank mergers and implicit deposit insurance, all of which must have an underlying cost, during sub period three. The a priori expectation for the sign of the estimated coefficient of the dummy variable Period4 is negative because of the introduction of implicit deposit insurance that must have an underlying cost and should increase total losses as per Kaufman (1996). The a priori expectation for the estimated coefficient of the variable Age is no effect, since bank losses should not depend upon the age of the failed bank. The a priori expectation for the sign of the estimated coefficient of the variable Leverage is positive since firms that are more indebted should incur greater losses. The a priori expectation for the sign of the estimated coefficient of the variable Branches, which also is a proxy for size, is positive since bigger banks should incur bigger dollar losses for all metrics but the metric total losses per assets of the failed bank. We expect that this variable will not be significant when we measure losses as a proportion of assets since the impact of size has already been accounted for by dividing by bank assets. The a priori expectation for the sign of the estimated coefficient of the variable RGNP is negative since a reduction in the rate of change in economic activity can affect banks by lowering profit prospects prior to failure and asset realization values after bank failure. The a priori expectation for the estimated coefficient of the variable Realinterest is no effect since real interest rates are independent of many economic policies according to Binhammer and Sephton (1998).

The correlation matrix between the dependent and retained independent variables is presented in Table 4.17. Two of our dependent variables, total losses from bank failure in constant dollars and total losses from bank failure in constant dollars per capita are highly correlated (0.94). The only correlation between the independent variables that is at least 0.50 is between leverage and the dummy Period1 (-0.57).

**[Please place Table 4.17 about here.]**



The full model and two reduced forms thereof are estimated for each of the four measurement metrics; namely, total losses in constant dollars per bank failure, total losses per capita in constant dollars per bank failure, total losses per dollar of bank assets per bank failure, and total losses per dollar of bank industry assets per bank failure. The first run for each metric uses all the independent variables in model (2). The second run for each metric eliminates the three bank-specific variables, Age, Leverage and Branches. The third run for each total loss metric further removes the dummy variable for period 1, which does not yield any significant results, and the variable Realinterest, which is correlated with the dummy Period4 (0.46).

The results for the three regression runs using total losses in constant dollars per bank failure as the dependent variable are reported in Table 4.18. The first full regression run yields an adjusted R-square value of 27%, and is significant at the 1% level. The estimated coefficients of the variable Period4 is significant (and positive) at the 1% level in all three regression runs. The adjusted R-square increases to 36% in the second regression run and to 40% in the third run, and both of these regressions are significant at the 1% level. Total losses in constant dollars from bank failure are significantly higher, on average, during the fourth period.

**[Please place Table 4.18 about here.]**

The results for the three regression runs using total losses per capita in constant dollars per bank failure as the dependent variable are reported in Table 4.19. Given the high correlation between this measurement metric and the previous metric, it is not surprising that these results are very similar to those obtained above using total losses in constant dollars per bank failure as the dependent variable. The first regression run for this total loss measurement metric has an adjusted R-square value of 27%, and the regression is significant only at the 10% level. The estimated coefficient for the Period4 dummy variable is significant (and positive) for each of the three regression runs for this total loss measurement metric. The adjusted R-square values of 23% and

27 % for the second and third regression runs, respectively, do not vary greatly, and both of these regressions are significant at the 5% level. Total losses per capita in constant dollars from bank failure are significantly higher, on average, during the fourth period.

**[Please place Table 4.19 about here.]**

The results for the Tobit regression runs using total losses per dollar of assets of the failed bank are reported in Table 4.20. The estimated intercept, which measures the constant part of the relationship for the second sub period, is significant and positive in all three Tobit regression runs. Similarly, the estimated coefficient of the Period3 dummy variable is significant (and positive) at the 5% level in the first Tobit regression run. These results for the safety net regime dummy variables support our earlier descriptive findings that average total losses per dollar of assets from bank failure are higher in sub periods two and three compared to the other two sub periods.

**[Please place Table 4.20 about here.]**

The results for the Tobit regression runs using total losses from bank failure as a proportion of total banking industry assets are reported in Table 4.21. In the first regression run, the estimated coefficients for five independent variables, Period3, Period4, Age, branches and Realinterest, are significant at conventional levels. The estimated coefficients of the dummy variables for the third and the fourth sub periods are both negative. Thus, total losses from bank failure per dollar of banking industry assets are lower in the third and fourth sub periods than in the second sub period. The estimated coefficients of the age, number of branches and real interest rate variables are all positive. This implies that the industry impact is larger for older banks, for banks with more branches and for years in which the real interest rate is higher. The remaining two regression runs show that the significance of the three safety net regime dummies deteriorates as the control variables are eliminated from the regression runs.

**[Please place Table 4.21 about here.]**

## **4.7 CONCLUSION**

Bank losses in total and differentiated by type of stakeholder are examined in this chapter for four sub periods that differ in their safety net regimes for note holders, depositors and shareholders. The sub period 1867-1881 has no protection for note holders or depositors, and poor enforcement of double liability assessments. The sub period 1883-1899 has note holder protection, no depositor protection, and better enforcement of double liability assessments. The sub period 1905-1923 has note holder protection, implicit depositor protection provided by the government and the banking industry and co-ordinated by the CBA, and fairly stringent enforcement of double liability assessments. The sub period 1985-1991 has note holder protection, explicit depositor protection, and no shareholder double liability. Losses from bank failure are measured using four metrics; namely, losses in constant dollars of 1868 from bank failure, losses per capita in constant dollars of 1868 from bank failure, losses per dollar of assets of the failed bank, and losses per dollar of bank industry assets from bank failure.

After the introduction of explicit deposit insurance in 1967, the proportion of total losses borne by the government and the banks increases significantly and attains an average peak of 54% in sub period four. For this sub period, shareholders significantly reduce the proportion of losses that they assume.

Total losses in constant dollars of 1868 from bank failure and total losses per capita in constant dollars of 1868 from bank failure are significantly higher after the introduction of explicit deposit insurance. Compared to the second sub period (1883-1899) with note holder protection and weak enforcement of double liability, average losses per dollar of assets of the failed bank are significantly different (and higher) only for the third sub period with its strict

enforcement of double liability, and average losses per dollar of total assets of the banking industry are significantly different (and lower) for both the third and fourth sub periods whose shared characteristic is deposit insurance (implicit and explicit, respectively).

Overall, we find that the constant dollar losses of each failed bank are higher after the introduction of explicit deposit insurance. However, the government and banks assume a bigger portion of these losses, while shareholders assume a smaller portion. The introduction of explicit deposit insurance also appears to have benefited the banking industry as a whole by reducing its total losses due to bank failure. While it is tempting to conclude that these changes in loss patterns are due to changes in the regulatory safety net, they may also be due to other legal or economic events, or to more stringent oversight by OSFI that has lowered losses from bank failure.

Furthermore, we find that the variation of total losses per dollar of total assets of the banking industry from bank failure are also explained by other variables such as the number of branches and age of the failed bank, and the real interest rate. Older banks and bigger banks generate higher losses per dollar of total assets of the banking industry when they fail. Total assets of the banking industry tend to vary in the same direction as real interest rates. We also find that Canadian losses due to bank failures are comparable or lower than losses incurred from American bank failures.

Future research can take many directions. First, future research could investigate the impact of bank failures on the provincial economy and on regional banks. Second, future research could examine the costs and benefits of explicit deposit insurance since its implementation by comparing the losses due to bank failure with the costs and benefits to each of the involved parties. The output of this research potentially could help improve the variable pricing scheme that is already in place at the CDIC. Third, future research could evaluate the losses sustained by other types of Canadian financial institutions under

different safety net regimes and re-regulation. Re-regulation has significantly reduced the barriers between the different types of financial institutions; namely, insurance, trusts, brokerage firms and banks. Finally, future research could conduct a global analysis of losses incurred by failures for each of these types of institutions.

## **CHAPTER 5**

### **MAJOR FINDINGS, IMPLICATIONS AND DIRECTIONS FOR FUTURE RESEARCH**

In this thesis, we examine the fusion, demise and rescue of Canadian banks since Confederation so that we can glean some lessons from the past in order to formulate better banking policies in the future. We observe that the current debate on bank consolidation through merger is very similar to that during the last bank consolidation phase from 1900 to 1931. Public preoccupations in the debates of both periods centre on the safety of the banking sector, access to banking, the need for healthy domestic competition among the various industry players, and the need to have profitable banks that can grow in an increasingly competitive and global environment. The major difference between the debates in the two periods is in the legislative and regulatory environment. In the early period, the regulatory environment towards bank combinations was very friendly and became less friendly over time as the banking industry consolidated, while the current environment has to-date stayed all such combinations.

From 1900 to 1930, merger regulation and bank inspection evolved to a more regulated model, and the CBA and the government implemented a system of implicit deposit insurance. Since no consolidation phase occurred in Canadian banking after 1930, an analysis of this earlier period allows us to gauge the impact of this period of consolidation via bank merger on the concentration of the Canadian banking industry both nationally and regionally. During this period of time, the banking industry became considerably more concentrated. After 1931, stricter laws probably helped to prevent bank failures but also prevented bank mergers, which, in turn, probably constrained the growth of the banking industry relative to the other three pillars in the Canadian financial services industry.

The 1980s saw the demise of the four pillars as the financial services industry was first deregulated and then re-regulated. This prompted another period of consolidation of financial institutions. Unlike the earlier consolidation period, the recent consolidation was cross-pillar and not within-pillar. The outcome of the recent consolidation period is that the major Canadian banks now own their own brokerage firms and strive to obtain legislative approval to sell insurance directly to their customers. To keep pace with the brisk evolution of the environment for financial institutions both nationally and internationally, the Bank Act is now reviewed every five years instead of every ten years.

These important legislative and regulatory changes may induce some risk but they are important in an era of increasing globalization, the movement towards universal banking, and the efforts by regulators to globally convergence bank regulation (Volkman, 1998). In the earlier transition period studied herein, flexibility in aiding a financially troubled institution helped save La Banque Nationale, and alterations to the safety net affected total losses from bank failure and the proportions of those losses assumed by different stakeholders. These findings have important implications for the pricing of deposit insurance so that such pricing better reflects the risk composite resulting from deposit-taking institutions becoming involved in a wider range of activities on the international stage.

This thesis builds on several important streams of inquiry in the literature. First, the thesis builds on the work of Kryzanowski and Roberts (1993, 1999) who find that forbearance and window dressing played an important role in preventing the failure of many Canadian banks, who were economically insolvent, during the 1920s and 1930s. This thesis finds evidence that supports the findings of Kryzanowski and Roberts that the Government and the CBA pursued a policy to avoid explicit bank failures, and to carefully manage the impact of any bank failures, especially on the banking industry. The thesis also builds on the work of Bennett and Loucks (1996) who find that failed banks with more political power or connections are allowed to remain open longer and have a much higher probability

of being rescued. The too big too fail issue dealt with by Wolgast (2001), amongst other, is also central to the rescue case as the Quebec economy was perceived as being extremely vulnerable to the failure of La Banque Nationale. Second, this thesis builds on the literature related to merger waves and industry concentration (e.g., Boot *et al.* (1998), Broaddus (1998), Calomiris (1999), Strahan (2000)). Cetorelli and Gambera (2002) examine the impact of bank concentration on the growth of the economy and find that it can be helpful for some segments but detrimental for others. Third, this thesis builds on the segment of the literature on the impact of consolidation under different deposit insurance regimes. Specifically, this thesis builds on the work by Saunders and Wilson (1999) who investigate the impact of consolidation and the safety net on bank capital in the Canadian, American and British banking systems over the century from 1893 until 1992. Fourth, this thesis builds on the literature that quantifies and attributes the loss from bank failure to the various stakeholder groups. Specifically, it builds on the findings of James (1991) that the average loss-to-asset ratio was 30% for U.S. bank failures for the period, 1985-1988, and the research of Kane (1985) who conjectures that the introduction of deposit insurance may introduce moral hazard among stakeholders.

This thesis addresses three important generic topics; namely, bank mergers, bank rescues and bank failures. First, the thesis provides case study details about each bank merger occurring between 1900 and 1931, and assesses the impact of these mergers on the evolution of the level of concentration of the Canadian banking industry. Second, the thesis reveals many previously non-public details about the rescue of LBN by LBdH in 1924 with the help of the provincial and federal governments. Finally, the thesis quantifies and analyzes the losses from bank failure incurred by bank stakeholders over four safety net regimes for depositors and note holders from 1868 until 1991. Specific findings and lessons learned from each of the three primary chapters of this thesis are presented in the next sub section of this chapter.



## 5.1 THE MAJOR FINDINGS

From chapter 2, we learn that the Canadian federal government postponed unpopular bank mergers during the first three decades of the twentieth century until the financial condition of the acquired banks was such that further delay was unworkable. Most Canadian banks absorbed by healthier banks over the period from 1912 until 1931 were in considerable (sometimes acute) financial trouble. Mergers prevented several explicit bank failures but also increased the level of bank concentration over this period so that the branch concentration ratio, as measured by the Hirshman-Herfindahl Index or HHI, reached a peak of nearly 15% in 1931. Mergers also augmented the Canadian national four-firm bank concentration ratio from 30% in 1901 to 70% in 1931. Regional HHI concentration slightly surpassed the 30% level in the 1920's. Most mergers significantly increased the level of HHI bank concentration in Canada during our period of study, while individual bank failures had a significant but minimal impact on the level of bank concentration. The price paid for the assets of each acquired bank is explained using a parsimonious model consisting of two independent variables: the amount of reserves per dollar of assets of the acquired bank, and the debt/equity ratio of the acquired bank.

From chapter 3, we find that capital, tax, accounting and reporting forbearance (and misrepresentation), generous financing arrangements from the provincial and federal governments, and management restructuring to more politically connected managers permit one (if not two) of the banks in the merger case study to avoid closure. These two merged banks are given the opportunity to consolidate their loans and deposits, and to resolve problematic loans. During this period of forbearance, the federal government incurs important risks since advances reach values of more than \$10 million. The bailout via a \$15 million "loan" from the Quebec government is a success ex post for all parties involved at what appears to be a relatively reasonable ex post cost (but maybe not ex ante risk) to taxpayers. Nevertheless, the success of this particular bank rescue should not be necessarily interpreted as an ex ante prescription to how regulators should deal with the troubles of an impending bank failure.

The rescue of La Banque Nationale vividly illustrates the importance of political connections and resolve in saving a financial zombie from closure, especially if the zombie can have a significant financial impact on the “friends” of the ruling governments (both federal and provincial). The rescue illustrates the importance of the opaque and aggressively proactive role played by the Canadian Banker’s Association in dealing with problem banks in the 1920s to satisfy the self-interest of its membership. The rescue illustrates the role played by “temporarily re-interpreting or ignoring” accounting, tax and reporting rules to either hide and/or resolve major financial problems in the banking sector of the 1920s. Subsequent history suggests that these lessons have, and are likely to be used repeatedly in the future to deal with problem banks. For example, forbearance, window dressing and too-important-to-fail are instruments that are currently being used to address the banking crises in many countries of the world, including Japan and Argentina.

From chapter 4, we find that the proportion of bank closure losses borne by the government and the banks increases significantly and attains a peak of 54% after the introduction of explicit deposit insurance in 1967. For this same sub period, shareholders assume a significantly lower proportion of losses. Total losses in constant dollars of 1868 and total losses per capita in constant dollars of 1868, both due to bank failure, also are significantly higher after 1967. Compared to the period 1883-1899 (i.e., a period characterized by note holder protection and weak enforcement of double liability), average losses per dollar of assets of the failed bank are significantly higher only for the sub period 1905-1923 with its strict enforcement of double liability. Average losses per dollar of total assets of the banking industry are significantly lower for both the 1905-1923 and 1967-1991 sub periods studied herein. The shared characteristic of these two sub periods is implicit and explicit deposit insurance, respectively. Thus, the introduction of explicit deposit insurance appears to have benefited the banking industry as a whole by reducing its total losses due to bank failure. While it is tempting to conclude that these changes in loss patterns are due to

changes in the regulatory safety net, they may also be due to other legal or economic events, or to more stringent oversight by OSFI that has lowered losses from bank failure.

From chapter 5, we also find that the variation of total losses per dollar of total assets of the banking industry from bank failure are explained by variables in addition to the safety net regime, such as the number of branches, the age of the failed bank, and the real interest rate. Older banks and bigger banks in terms of number of branches generate higher losses per dollar of total assets of the banking industry when they fail. Canadian losses due to bank failures are comparable or lower than losses incurred from American bank failures over the studied time period.

## **5.2 POSSIBLE AVENUES OF FUTURE RESEARCH**

Considerable further research can be conducted on bank mergers, bank rescues and bank failures from a Canadian perspective. With regard to Canadian bank mergers and banking industry concentration from consolidation, the possible impact of one or more mergers between the big six Canadian banks can be assessed using HHI concentration measures of bank activity, such as bank service points. Such an analysis could also examine current banking concentration within the province of Quebec since cultural differences have led to a relatively isolated market dominated by two major players, La Banque Nationale and Les Caisses Populaires. Other impacts from the increased banking concentration over the period studied herein could be assessed. One such test gauges the impact of greater concentration on the rate of return earned on bank assets by regressing the return on assets for all banks against the changes in the HHI. This would contribute to the stream of research reported herein by quantifying one of the negative impacts of greater industry concentration so that policy makers have more information about the costs of satisfying the alleged necessity of having big and sound Canadian banks to compete internationally. This also would add to the findings of Cetorelli and Gambera (2002) who find that bank concentration helps

industries that need external financing but also has a general depressing effect on growth in all sectors of the economy.

With regard to bank failure, the study of losses due to bank failure can be broadened to other regulatory configurations and regimes. Such research could investigate the impact of bank failures on the provincial economy and on regional banks. Such research could examine the costs and benefits of explicit deposit insurance since its implementation by comparing the losses due to bank failure with the costs and benefits to each of the involved parties from this regime. The output of this research potentially could help improve the variable pricing scheme that is already in place at the CDIC. Finally, future research could evaluate the losses sustained by other types of financial institutions that operate under different safety net regimes and have been subjected to different degrees of deregulation and re-regulation, especially in other countries.

More globally, the challenge of future Canadian studies will be to focus on the integration of the different types of financial institutions through in-pillar and cross-pillar mergers that have already changed the banking environment. For example, in May of 2002, the province of Quebec proposed the creation of a super agency within the province to supervise all sectors of financial services. The proposed super agency is modeled after the Financial Services Authority in the United Kingdom and the Financial Services Agency in Japan. The alleged benefit of such a super agency in Quebec is that it will be better able to assess the risks involved in our new financial institutions that tend to be involved in different sectors since re-regulation. These changes create plenty of opportunities for future Canadian research in the area of financial services.

## BIBLIOGRAPHY

- Aintablian, Sebouh and Gordon Roberts. 2000. *Market Response to Announcements of Mergers of Canadian Financial Institutions*. Working Paper.
- Akhigbe, Aifbe, and Jeff Madura. 2001. Why Do Contagion Effects Vary Among Bank Failures? *Journal of Banking and Finance* 25, no. 4: 657-80.
- Avery, Robert B., Raphael W. Bostic, Paul S. Calem and Glenn B. Cannes. 1999. Consolidation and Bank Branching Patterns. *Journal of Banking and Finance* 23: 497-532.
- Banque Canadienne Nationale (Montreal). 1974. *Banque Canadienne Nationale: 1874-1974*. Montréal: Presses Elite.
1921. *Procès-verbaux, Rapports annuels, et Rapport des vérificateurs*, Banque d'Hochelaga.
- Banque Nationale. Archives.
- . 1921. *Rapport annuel*.
- Beckhart, Benjamin H. 1929. *The Banking System of Canada*. New York: H. Holt and Co.
- Bennett, Randall W., and Christine Loucks. 1996. Politics and Length of Time to Bank Failure: 1986-1990. *Contemporary Economic Policy* XIV: 29-41.
- Berger, Allen N., Rebecca S. Demsetz, and Philip E. Strahan. 1999. The Consolidation of the Financial Services Industry: Causes, Consequences, and Implications for the Future. *Journal of Banking and Finance* 23, no. 2-4: 135-94.
- Bhattacharya, Sudipto, and Anjan V. Thakor. 1994. Contemporary Banking Theory. *Journal of Financial Intermediation* 3, no. 1.
- Bhattacharya, Sudipto, Arnoud W.A. Boot, and Anjan V. Thakor. 1998. The Economics Of Bank Regulation. *Journal of Money, Credit, and Banking* 30, no. 4.
- Binhammer, H. H. and Peter S. Sephton. 1998. *Money, Banking and the Canadian Financial System*. Seventh ed. Scarborough, Ontario: Nelson and International Thomson Publishing.
- Birmingham Post*, various dates.
- Bond, David E. 1969. The Merger Movement in Canadian Banking, 1890-1920: Some Preliminary Findings. Discussion Paper /Dept. of Economics, University of British Columbia: 21.

- Boot, Arnoud W. A. 1999. European Lessons on Consolidation in Banking. *Journal of Banking and Finance* 23: 609-613.
- Boot, Arnoud W. A., Todd T. Milbourn, and Anjan V. Thakor. 1998. Expansion of Banking Scale and Scope: Don't Banks Know the Value of Focus? Working Paper.
- Bovenzi, John F. and Arthur J. Murton. 1988. Resolution Costs of Bank Failures. *FDIC Banking Review*, no. Fall: 1-13.
- Breckenridge, Roeliff M. 1894. *The Canadian Banking System, 1817-1890*. Toronto.
- Broadbent Jr, J. Alfred. 1998. The Bank Merger Wave: Causes and Consequences. *Economic Quarterly* 84, no. 3: 1-11.
- Calomiris, Charles W. 1999. Gauging the Efficiency of Bank Consolidation During a Merger Wave. *Journal of Banking and Finance* 23: 615-621.
- Canadian Bankers Association, ed. 1907-1932. *Houston's Bank Directory of Canada*. Toronto: Houston's Standard Publications.
- Canadian Bankers Association. Archives.
- \_\_\_\_\_. 1923. *Journal of the Canadian Bankers Association*, Vol. 30.
- Carr, Jack, Frank Mathewson, and Neil Quigley. November 1995. Stability in the Absence of Deposit Insurance: The Canadian Banking System, 1890-1966. *Journal of Money, Credit, and Banking* 27, no. 4: 1137-1158.
- Cartinhour, Gaines T. 1931. Bank Consolidations in The United States. *Journal of the Canadian Bankers' Association* 38: 291-298.
- CDIC. Financial Statements, *Liquidator's Reports*.
- Central Bank of Canada. Various Years. *Bank of Canada Review*.
- Cetorelli, Nicola, and Michele Gambera. Forthcoming. Banking Market Structure, Financial Dependence and Growth: International Evidence from Industry Data. *Journal of Finance*.
- Chu, Kam H. Spring 1996. Is Free Banking More Prone to Bank Failures than Regulated Banking? *The Cato Journal* 16, no 1.
- Cole, Rebel A., and Jeffery W. Gunther. 1998. Predicting Bank Failures: A Comparison of On- and Off-Site Monitoring Systems. *Journal of Financial Services Research* 13, no. 2: 103-17.
- \_\_\_\_\_. 1995. Separating the Likelihood and Timing of Bank Failure. *Journal of Banking and Finance* 19, no. 6: 1073-89.
- Curtis, Clifford A. 1931. *Statistics of Banking*. Vol. 1.
- Cooper, Russell, and Thomas W. Ross. 2002. Bank Runs: Deposit Insurance and Capital Requirements. *International Economic Review* 43, no. 1: 55-72.

- Cyree, Ken B., James W. Wansley, and Thomas P. Boehm. 2000. Determinants of Bank Growth Choice. *Journal of Banking and Finance* 24: 709-734.
- De Bonis, Riccardo, Alessandro Giustiniani, and Giorgio Gornelli. 1999. Crises and Bail-Outs of Banks and Countries: Linkages, Analogies and Differences. *The World Economy* 22, no. 1: 55-86.
- Denison, Merrill. 1966. *La première banque au Canada, Histoire de la Banque Toronto*, Canada: McClelland and Stewart Limited.
- Dominion Bureau of Statistics, ed. 1899-1932. *Canada Year Book*.
- Eckardt, Homer M. P. January 1913. Distribution of Canada's Banking Facilities. *Journal of the Canadian Bankers' Association* 20, no. 2: 91-105.
- \_\_\_\_\_. January 1910. A Study of Bank Failures. *Journal of the Canadian Bankers' Association* 17, no. 2: 233-241.
- \_\_\_\_\_. October 1909. Causes of Bank Failures. *Journal of the Canadian Bankers' Association* 17, no. 1: 44-53.
- \_\_\_\_\_. October 1908. The Cost of Local Independent Banks. *Journal of the Canadian Bankers' Association* 16: 38-48.
- \_\_\_\_\_. July 1907. Liquidation of Failed National Banks. *Journal of the Canadian Bankers' Association* 14, no. 4: 343-349.
- Estey, Willard Z. 1986. *Report of the Inquiry into the Collapse of the CCB and Northland Bank*, Ottawa.
- FDIC. 2001. *Resolutions Handbook*. Web page, [accessed 14 August 2001]. Available at <http://www.fdic.gov/bank/historical/reshandbook/index.html>. *Financier*, various dates.
- \_\_\_\_\_. 1997. *Managing the crisis: The FDIC and RTC Experience*. Web page, [accessed 14 August 2001]. Available at <http://www.fdic.gov/bank/historical/managing/index.html>.
- Federal Reserve Bank of San Francisco. 1997. Financial Crises and Bank Supervision: New Directions for Japan? *FRBSF Economic Letter* 97-37.
- Fédération des Caisses Desjardins du Québec. 2001. *Mouvement Desjardins/Histoire*. Web page, [accessed 8 August 2001]. Available at [www.desjardins.com](http://www.desjardins.com).
- Ferrier, R. T. 1913. *Bank Failures in Canada*. Thesis, McMaster University.
- Financial Times*, various dates.
- Flood, Mark D., and Simon Kwan. 1995. The Boom and Bust Phenomenon and U.S. Bank Failure Experience, 1914-1934. Working Paper.
- Giammarino, Ronald, Eduardo Schwartz, and Josef Zechner. 1989. Market Valuation of Bank Assets and Deposit Insurance in Canada. *Canadian Journal of Economics* XXII, no. 1: 109-127.

- Government of Canada. 1900-1931. *Canada Gazette*. Ottawa.
- \_\_\_\_\_. various dates. *House of Commons Debates*. Ottawa: Queen's printer.
- \_\_\_\_\_. Various Years. *Canada Yearbook*. Ottawa.
- Government of Quebec. 1925. Débats de la Chambre des communes. Banque Nationale. 1281-1282.
- Gueyie, Jean-Pierre and Van Son Lai. 2002. Bank Moral Hazard and the Introduction of Official Deposit Insurance in Canada. *International Review of Economics and Finance*, no. 11.
- Haynes, Michelle and S. Thompson. 1999. The Productivity Effects of Bank Mergers: Evidence from the UK Building Societies. *Journal of Banking and Finance* 23: 825-846.
- Henebry, Kathleen L. 1996. Do Cash Variables Improve the Predictive Accuracy of a Cox Proportional Hazards Model for Bank Failures? *Quarterly Review of Economics and Finance* 36, no. 3.
- Holladay, James. 1938. *The Canadian Banking System*. Boston : New York: Bankers Publishing Co.
- Hughes, Joseph P., William W Lang, Loretta J. Mester and Choon-Geol M. 1999. The Dollars and Sense of Bank Consolidation. *Journal of Banking and Finance* 23: 291-324.
- James, Christopher. September 1991. The Losses Realized in Bank Failures. *The Journal of Finance* XLVI, no. 4: 1223-1242.
- Jamieson, Archibald B. 1962. *Chartered Banking in Canada*. Toronto, Canada: The Ryerson Press.
- Jarrow, Robert A., and Stuart M. Turnbull. 2000. The Intersection of Market and Credit Risk. *Journal of Banking and Finance* 24, no. 1-2: 271-299.
- Kane, Edward J. 2000a. Incentives for Banking Mega Mergers: What Motives Might Regulators Infer from Event-Study Evidence? Working Paper: 1-49.
- \_\_\_\_\_. 2000b. Capital Movements, Banking Insolvency, and Silent Runs in the Asian Financial Crisis. *Pacific-Basin Finance Journal* 8: 153-175.
- \_\_\_\_\_. 1995. Three Paradigms for the Role of Capitalization Requirements in Insured Financial Institutions. *Journal of Banking and Finance*, no. June: 431-459.
- \_\_\_\_\_. 1987. The Dangers of Capital Forbearance: The Case of the FSLIC and 'Zombie' S&Ls. *Contemporary Policy Issues* 5, 77-83.
- \_\_\_\_\_. 1985. *The Gathering Crises in Federal Deposit Insurance*. Cambridge: MIT Press.
- Kane, Edward J., and Berry Wilson. 2001. *Regression Evidence of Safety-Net Support in Canada and the U.S., 1893-1992*. Working Paper.



- Kaplan-Appio, Idanna. 2002. Estimating the Value of Implicit Government Guarantees to Thai Banks. *Review of International Economics* 10, no. 1: 26-35.
- Kashyap, Anil K. 1999. What Should Regulators Do about Merger Policy? *Journal of Banking and Finance* 23: 623-7.
- Kaufman, George G. Spring 1996. Bank Failures, Systemic Risk, and Bank Regulation. *The Cato Journal* 16, no. 1: 27.
- Kohn, Ernest. 1964. *Branch Banking, Bank Mergers and the Public Interest*. New York State Banking Dept Ed. New York.
- Kryzanowski, Lawrence and Gordon S. Roberts. August 1993. Canadian Banking Solvency, 1922-1940. *Journal of Money, Credit, and Banking* 25, no. 3: 361-376.
- . February 1999. Notes, Comments, Replies: Perspectives on Canadian Bank Insolvency during the 1930s. *Journal of Money, Credit, and Banking* 31, no. 1: 130-136.
- . 1998. Capital Forbearance: Depression-Era Experience of Life Insurance Companies. *Canadian Journal of Administrative Sciences* 15, no. 1: 1-16.
- Le Devoir*, various dates.
- L'Évènement*. 24 January 1922. La Banque Nationale. p. 4.
- Mackay, Harold. September 1998. *Report of the Task Force*. Task Force on the Future of the Canadian Financial Services Sector.
- McDowall, Duncan. 1993. *La Banque Royale: au coeur de l'action*. Éditions de l'Homme ed. Montréal.
- McFetridge, Donald G. September 1998. *Competition Policy Issues*. Research Papers Prepared for the Task Force on the Future of the Canadian Financial Services Sector.
- McInnis, Marvin. 2001. *Historical Canadian Macroeconomic Dataset 1871-1994*. Web page, [accessed May 2002]. Available at <http://library.queensu.ca/webdoc/ssdc/cdbksnew/HistoricalMacroeconomicData/>.
- Mishkin, Frederic S. 1999. Financial Consolidation: Dangers and Opportunities. *Journal of Banking and Finance* 23: 675-691.
- Manitoba Free Press*, various dates.
- Montreal Daily Star*, various dates.
- Montreal Gazette*, various dates.
- Morning Citizen*, various dates.
- Morning Journal*, various dates.
- Naciri, Ahmed. 1996. *The Solvency of the Canadian Banking Sector*. Working Paper.

National Archives of Canada.

Neufeld, Edward P. 1972. *The Financial System of Canada*. Toronto, Canada: Macmillan of Canada.

Office of the Superintendent of Financial Institutions. Archives.

*Ottawa Citizen*. 1 February 1924. Bank Merger is commended by Sir V. Meredith.

*Ottawa Journal*, various dates.

Park, Sangkyun 1991. Bank Failure Contagion in Historical Perspective. *Journal of Monetary Economics* 28, no. 2: 271-86.

Pettway, Richard H. March 1980. Potential Insolvency, Market Efficiency, and Bank Regulation of Large Commercial Banks. *Journal of Financial and Quantitative Analysis* 15, no. 1: 219-236.

Public Archives of Nova Scotia.

*Quebec Daily Telegraph*. 8 June 1925. An Unfair Attack.

Reboredo, Juan C. 2002. Bank Solvency Evaluation with a Markov Model. *Applied Financial Economics* 12, no. 5: 337-345.

Rhoades, Stephen A. 1998. The Efficiency Effects of Bank Mergers: An Overview of Case Studies of Nine Mergers. *Journal of Banking and Finance* 22: 273-291.

Ross, Henry T. 1928. The Double Liability Clause. *Journal of the Canadian Bankers' Association* 35: 363-366.

\_\_\_\_\_. 1927. Evolution of the Bank Act Since 1867. *Journal of the Canadian Bankers' Association* 34: 394-405.

Ross, Victor. 1920. *A history of the Canadian Bank of Commerce: with an Account of the Other Banks which Now Form Part of its Organization*, Volume 1, 2. Toronto, Ontario: Oxford University Press.

Roy, Jean. September 1998. *Mechanism for Public Participation in Economic Decision-Making*. Research Papers Prepared for the Task Force on the Future of the Canadian Financial Services Sector.

Rudin, Ronald. 1988. *Banking en français: Les Banques Canadiennes-Françaises. 1835-1925*. Boréal ed. Montréal.

\_\_\_\_\_. 1985. *Banking en français. 1835-1925*. University of Toronto Press ed. Toronto.

\_\_\_\_\_. 1980. A Bank Merger Unlike the Others: The Establishment of the Banque Canadienne Nationale. *Canadian Historical Review* LXI, no. 2: 191-212.

- Sarpkaya, S. October 1978. Counting Canada's Banks. *A Reprint From The Canadian Banker and ICB Review* : 3-21.
- Saunders, Anthony and Berry Wilson. 1999. The Impact of Consolidation and Safety-Net Support on Canadian, *US and UK Banks: 1893-1992*. *Journal of Banking and Finance* 23: 537-571.
- Saunders, Anthony and Hugh Thomas. 1997. *Financial Institutions Management*. USA: McGraw-Hill Ryerson Limited.
- Schull, Joseph and James Douglas Gibson. 1982. *The Scotia Bank Story: a History of the Bank of Nova Scotia : 1832-1982*. Macmillan of Canada ed. Toronto.
- Sinkey Jr., Joseph F. 1998. *Commercial Bank Financial Management*. Fifth ed. Upper Saddle River, New Jersey: Prentice Hall.
- \_\_\_\_\_. 1975. A Multivariate Statistical Analysis of the Characteristics of Problem Banks. *Journal of Finance* 30, no. 1: 21-36.
- South Wales Daily News*, various dates.
- South Wales Echo*, various dates.
- Sprague, Irvine H. 1986. *Bailout: An Insider's Account of Bank Failures and Rescues*. New York: Basic Books.
- Strahan, Philip E. 2000. The Bank Merger Wave: The Economic Causes and Social Consequences of Financial Consolidation. *Journal of Economic Literature* 38, no. 4.
- Task Force on the Future of the Canadian Financial Services Sector. September 1998. *Background Paper #1: Competition, Competitiveness and the Public Interest*.
- Temzelides, Ted. 1997. Are Bank Runs Contagious? *Business Review - Federal Reserve Bank of Philadelphia*.
- The Globe*. 2 January 1901-2 January 1931. Canadian Bank Stocks (annual review). *The Globe*, sec. Annual Financial Survey.
- The Senate of Canada. 1924. Bill O5, An Act to Change the Name of La Banque d'Hochelaga to Banque Canadienne Nationale. *Statutes of Quebec, Orders in Council* 14-15 Georges V.
- The Mail and Empire*, various dates.
- The Financial Post*, various dates.
- The Globe*, various dates.
- The Herald*, various dates.
- The Sunday Times*, various dates.
- The Yorkshire Herald*, various dates.

*Toronto Daily Star*, various dates.

*Toronto Telegram*. Various Dates.

Trigge, Arthur St.L. 1934. *A history of the Canadian Bank of Commerce: with an Account of the Other Banks which Now Form Part of its Organization*, Volume 3. Toronto, Ontario: Oxford University Press.

Vennet, Rudi Vander. 1996. The Effects of Mergers and Acquisitions on the Efficiency and Profitability of EC Credit Institutions. *Journal of Banking and Finance* 20, no. 9: 1531-1558.

Volkman, Brian P. 1998. The Global Convergence of Bank Regulation and Standards for Compliance. *The Banking Law Journal* 115, no.6: 550-596.

White, R. S. 1923. The Revised Bank Act. *Journal of the Canadian Bankers' Association* 30: 427-432.

Williamson, Stephen D. Summer 1989. Bank Failures, Financial Restrictions, and Aggregate Fluctuations: Canada and the United States, 1870-1913. *Quarterly Review of the Federal Reserve Bank of Minneapolis* 13, no. 3.

Wolgast, Micheal. 2001. 'Too Big to Fail': Effects on Competition and Implications for Banking Supervision. *Journal of Financial Regulation and Compliance* 9, no. 4.

## **APPENDICES**

## **APPENDIX 1**

### **LIST OF ACRONYMS**

## LIST OF ACRONYMS

|      |  |
|------|--|
| ANQ  | Archives Nationales du Québec                          |
| BCN  | Banque Canadienne Nationale                            |
| CBA  | Canadian Banker's Association                          |
| CDIC | Canadian Deposit Insurance Corporation                 |
| FDIC | Federal Deposit Insurance Corporation                  |
| GNP  | Gross National Product                                 |
| HHI  | Hirshman-Herfindhal Index                              |
| LBdH | La Banque d'Hochelaga                                  |
| LBN  | La Banque Nationale                                    |
| LBNA | La Banque Nationale Archives                           |
| NAC  | National Archives of Canada                            |
| OBA  | Open Bank Assistance                                   |
| OSFI | Office of the Superintendent of Financial Institutions |
| PANS | Public Archives of Nova Scotia                         |
| ROE  | Return on Equity                                       |

## **APPENDIX 2**

### **LIST OF THE POSITION HELD BY EACH PERSON REFERRED TO IN THE TEXT OR REFERENCES**



### **List of the position held by each person referred to in the text or references**

**Amyot**, Hon. Geo. E. is the President of the Board of LBN as of 1922 and becomes the second Vice President of the Board of Directors of the BCN.

**Aird**, Sir John is the General Manager of the Canadian Bank of Commerce, President of the CBA from 1923 to 1925, and a member of the Confidential Committee of the CBA investigating the affairs of LBN.

**Audet**, Eug. G. is the Assistant General Manager of LBN.

**Bancroft** is a Manager from the Bank of Montreal who collects information on the financial condition of LBN as of the end of 1921.

**Béique**, Hon. F. L. is the Vice President of the Board of LBdH and the First Vice President of the Board of the BCN and the President of the Saguenay Pulp and Power Company.

**Bienvenu**, T. is the General Manager and Vice President of the Board of La Banque Provinciale.

**Bog**, W.A. is the Assistant General Manager of the Bank of Montreal who writes a report on the financial condition of LBN with information supplied by Bancroft.

**Bogert** is the General Manager of The Dominion Bank, and a member of the Confidential Committee of the CBA investigating the affairs of LBN.

**Des Rivières**, Henri is the new General Manager of LBN in 1922 and nephew of Premier Taschereau (Rudin, 1985).

**Drayton**, Hon. Sir Henry is the federal Minister of Finance from August 2, 1919 to December 29, 1921 and from June 29, 1926 to July 12, 1926. (Conservative Party)

**Edwards**, Stuart is Deputy Minister of Justice.

**Fielding**, Hon. William is the Finance Minister of Canada from July 20, 1896 to October 6, 1911 and from December 29, 1921 until September 4, 1925 (Liberal).

**Fortier**, J.-H. is Vice President of the Board of LBN as of 1922.

**Garneau**, Sir Geo. is a Director of the Board of LBN as of 1922 and then Director of the Board of the BCN.

**Gouin**, Lomer is the Premier of the Province of Quebec (1905-1920) and then the federal Minister of Justice (Liberal).

**Guimont**, E. is the Assistant General Manager of the BCN.

**Lafferrière** is an unknown individual who writes letters to allegedly discredit the National Bank and other banks.

**Lavoie**, Napoleon is General Manager of LBN. He is forced to resign in 1922 but he remains on the Board of LBN for an additional month until Hon. J. Nicol obtains a seat on the board of LBN.

**Leman**, Beaudry is General Manager of LBdH, and then of the BCN, and President of the CBA from 1929 to 1931.

**Mackenzie King**, Hon. William Lyon is Canada's Prime Minister from 1921 to 1926, 1926 to 1930 and 1935 to 1948 (Liberal).

**Marchand**, Felix-Gabriel is Premier of the Province of Quebec (1900-1905, Liberal).

**Meredith**, Sir V. is the President of Bank of Montreal.

**Neill**, C.E. is the General Manager of the Royal Bank of Canada, the President of the CBA from 1925 to 1927, and a member of the Confidential Committee of the CBA investigating the affairs of LBN.

**Nicol**, Hon. Jacob is the Provincial Treasurer who obtains a seat on the Board of LBN in 1922 while replacing Lavoie.

**Pratt** is the General Manager of the Molson's Bank, and a member of the Confidential Committee of the CBA investigating the affairs of LBN.

**Richardson** is the General Manager of The Bank of Nova Scotia, the Vice President of the CBA, and a member on the Confidential Committee investigating the affairs of LBN.

**Robb**, Hon. James is the Finance Minister of Canada from September 5, 1925 to June 28, 1926 and from September 25, 1926 until November 11, 1929 (Liberal).

**Saunders**, J.C. is the Deputy Minister of Finance of Canada.

**Taschereau**, Louis-Alexandre is the Premier of the Province of Quebec (Liberal, 1920-1936).

**Taschereau**, C.-E. is elected to the Board of LBN in 1922, and is the brother of the Quebec Premier Taschereau (Rudin, 1985).

**Taylor** or **Williams-Taylor**, Sir F. is the General Manager of Bank of Montreal, President of the CBA from 1921 to 1923, and a member of the Confidential Committee of the CBA investigating the affairs of LBN.

**Tompkins**, Charles S. is from The Royal Bank and is the first Inspector General of Banks upon his appointment in 1924.

**Vaillancourt**, J.-A. is President of the Board of Directors of LBdH, and then of the BCN.

**Walters**, C.S. is the federal Commissioner of Taxation.

### **APPENDIX 3**

#### **EVOLUTION OF CANADIAN BANKING LEGISLATION OVER THE PERIOD, 1871-1931**

## **EVOLUTION OF CANADIAN BANKING LEGISLATION OVER THE PERIOD 1871-1931<sup>179</sup>**

### **A3.1 The Bank Act of 1871**

According to the Bank Act of 1871, a new bank must have a subscribed capital of \$500,000, paid-up capital of \$100,000, and another \$100,000 of paid-up capital within two years after the commencement of business. Directors are responsible for any loss of paid-up capital, and shareholders can increase the capital stock. Each share held for at least thirty days before a vote gives its holder one vote. The double liability of shareholders comes into force six months after the date of suspension, even if all the assets of the bank are not realized. The double liability clause means that “in the event of the property and assets of the bank being insufficient to pay its debts and liabilities, each shareholder of the bank shall be liable for the deficiency, to an amount equal to the par value of the shares held by him, in addition to any amount not paid up on such shares” (Ross, 1920, 363-366). Dividends are limited to eight per cent per year until a reserve fund equal to 20 per cent of the paid-up capital is accumulated.

As nearly as is possible, one-half and never less than one-third of the cash reserves of the bank are to be held in Dominion notes. The bank can issue notes up to a maximum of its capital stock. Any bank suspending payment of its liabilities in species or Dominion notes for ninety days forfeits its charter. Monthly financial statements must be made to the government. In 1879, banks are forbidden to make advances on the security of the shares of any other bank.

### **A3.2 The Bank Act Revision of 1880**

Under the Bank Act Revision of 1880, note holders become preferred creditors. Bank notes must be in multiples of \$5 while Dominion notes are less than \$4. The proportion of cash reserves to be held in Dominion notes before a bank can pay an 8% dividend is increased to 40 per cent. Banks now can accept guarantees such as securities, with the exception of bank stock. Dominion notes of \$4 become legal in 1883, and the first clearinghouse opens in Canada to ease the exchange of bank notes in 1888.

---

<sup>179</sup> This section is based on Jamieson (1962), Ross (1920) and various articles in *The Journal of Canadian Bankers' Association*, Volume 30.

### **A3.3 The Bank Act Revision of 1890**

Under the Bank Act Revision of 1890, new banks must have \$250,000 in paid-up capital before commencing business, and they must be operating within one year after the bank charter is issued. Although shareholders can decide to change the capital stock, Treasury Board approval is now required. In the case of insolvency, notes are still a first charge on the assets but any federal government debt is now a second charge and any debt to the provincial government is a third charge. Each bank is required to contribute to the extent of five per cent of its average circulation to a Bank Circulation Redemption Fund, which is held by the Minister of Finance. These funds are to bear interest at three per cent per annum, and are to be used to redeem the notes of any failed bank when the liquidator is not in a position to do so within sixty days of the bank's suspension.

Each bank is required to make such arrangements as necessary to ensure circulation of its notes at par in all parts of Canada, and to establish agencies for redemption and payment of its notes at Toronto, Montreal, Halifax, Saint John, Winnipeg, Victoria and Charlottetown. The notes of a failed bank are to bear an interest of 6% from suspension to redemption by the liquidator. Very severe penalties in the form of fines are provided for any over-issue of notes. The amount at which the reserve fund must stand before dividends exceeding eight per cent per annum can be paid rises from 20 to 30 per cent of paid-up capital. The Canadian Banker's Association is formed in 1891 to monitor banking legislation, and to offer courses to bank officers.

### **A3.4 The Bank Act Revision of 1900**

The Governor of Canada can now approve a bank merger instead of the longer process requiring a special act of parliament. The notes of a failed bank now bear an interest of 5% from suspension to redemption by the liquidator.

The Canadian Banker's Association is established as a corporation, which is involved in hiring the curator for problem banks, and for the establishment, regulation and operation of clearinghouses and their regulation. The CBA also supervises the creation and destruction of bank notes. The CBA is determined to ensure the soundness and efficiency of the Canadian banking industry.

A major financial crisis occurs in the United States in 1907. Although no bank is suspended nor is any large loan called, Canadian regulators cautiously tighten credit. The federal government lends money to the banks in the form of Dominion notes. Since these notes are issued without gold coverage to the banks involved in credit lending to persons involved in the grain trade, their issue violates the

Dominion Note Act. The loans are made through the Bank of Montreal against good securities in exchange for an interest rate of 4% for 60 days, 5% for the following 60 days, and 6% thereafter. More than 5 million dollars are lent but the name of the borrowing banks are kept secret.

The federal government corrects the situation and amends the Bank Act in 1908 to permit a bank to issue more notes without gold coverage during the crop-moving period. This is for a maximum of its paid-up capital plus 15 percent of the sum of its paid-up capital and reserve or rest fund.

### **A3.5 The Bank Act Revision of 1913**

Under the Bank Act Revision of 1913, a new bank must reimburse the shareholders after deducting reasonable expenses if it does not obtain the sufficient paid-up capital of \$250,000 within a year. A bank is now forbidden to enter into an agreement with another bank to sell its assets unless the Minister of Finance first consents in writing. Shareholder audits are now required. Banks can now issue notes in excess of the limits previously authorized provided that gold or Dominion notes equal to the amount of the excess are deposited in the central gold reserves.

In the Finance Act of 1914, the banks can obtain Dominion notes from the government in exchange for the pledge of securities approved by the Treasury Board. This rapid action by the federal government protects the Canadian banks from a financial shock related to the war.<sup>180</sup> The Finance Department now is a lender of last resort, which is a function commonly exercised by a Central Bank. In 1915, the government begins to charge a 1% tax on cheques issued, on bills of exchange and on bank notes in circulation.

### **A3.6 The Bank Act Revision of 1923**

Under the Bank Act Revision of 1923, banks must now reduce current loans from any loans in default for each monthly statement instead of calculating an annual appropriation. Both banks in a merger must approve the merger by a majority representing not less than two-thirds of the subscribed capital. Bankers and banks must not be involved in the insurance industry, and pension funds are now subject to trustee rules.

---

<sup>180</sup> This ends the convertibility of notes into gold. Binhammer and Stephoton (1998) note that gold convertibility returned from 1926 to 1929, and officially was abandoned in 1931.

Loans exceeding 10% of the paid-up capital to a director or to a company related to the upper management must be approved by two-thirds of the directors. A provisional director needs to possess a minimum of \$3000 worth of the bank's stock.

Bank statements must now show advances from the government, and from the corporations that it controls on a separate statement. Provisions are introduced to facilitate the prosecution of people involved in the preparation or who are aware of financial statements that are false.

Payments of newly issued stock must be made in cash. Statement Directors are now liable for any dividends exceeding 8% if the reserve does not amount to more than 30% of the paid-up capital after required appropriations.

The war measures of the Finance Act of 1914 become permanent in 1923 so that Dominion notes can be obtained against a given list of very low risk securities. An amendment to the bank charter in 1924 ensures an annual government inspection of the banks by the Inspector General of banks to ensure the proper application of the Bank Act. The inspection is funded by the banks, and is more in the form of supervision than a detailed audit in order to avoid duplicating the auditors' task and to minimize costs and staff.<sup>181</sup> The Central Bank of Canada begins its operations in 1934.

---

<sup>181</sup> Letter from J.W. Tyson, Editor of *The Financial Post*, to Fielding, September 21, 1923, PANS. The first Inspector, who was appointed in 1924, is Charles S. Tompkins from the Royal Bank.

## **APPENDIX 4**

### **SPECIFIC BANK COMBINATIONS OVER THE STUDIED PERIOD, 1900-1931**



## **SPECIFIC BANK COMBINATIONS OVER THE STUDIED PERIOD**

### **A4.1 The Absorption by Merger of The Halifax Banking Company by The Canadian Bank of Commerce in 1903**

On March 5, 1903, the president of the Halifax Banking Company writes a letter to the shareholders announcing a merger with The Canadian Bank of Commerce.<sup>182</sup> The shareholders are to receive 7/15 of a share, with a par value of \$50, of the acquiring bank for each share they own (par value of \$20), and 7% plus a bonus of 1% on their stock (\$600,000 at par) until the merger is effected. Fractional shares are to be exchanged for cash at a conversion price of \$80 per share of the Canadian Bank of Commerce. With a market value of \$80 per share, the acquirer pays \$1,126,000 for the acquiree. According to Ross (1920), the surplus of assets over liabilities at purchaser's valuation and pension fund was \$1,000,000 for the Halifax Banking Company.

The acquirer increases its authorized capital from 8 to 10 million dollars in April 1903, and uses part of the increase to issue 14,000 shares, at a par value of \$50, for total proceeds of \$700,000 needed for the amalgamation. The acquirer also pays \$6,000 in cash as stated in the agreement dated May 23, 1903.<sup>183</sup> Lack of capital and the need to expand to compete with the biggest banks motivated the board of the acquired bank to amalgamate with a larger entity. The directors on the board are appointed as local directors to help the Commerce make its entry into the Maritimes (Ross, 1920).

### **A4.2 The Absorption by Merger of The People's Bank of Halifax by The Bank of Montreal in 1905**

A letter sent from the CBA to the People's Bank of Halifax in 1903 suggests that the bank's ratio of liquid assets is too low and should be increased.<sup>184</sup> After the merger by absorption of the

---

<sup>182</sup> Letter to the shareholders, March 5, 1905, R. Uniacke, NAC.

<sup>183</sup> NAC.

<sup>184</sup> Letter from the People's Bank of Halifax to Clouston, President of the Canadian Bankers' Association, February 9, 1903, CBA.

People's Bank is made public at the end of March 1905, many customers do not want to do business with the acquired bank. These customers think that the managers of the acquired bank will lose their influence after the merger.<sup>185</sup> Other customers are concerned that the Bank of Montreal will reject some of the customers after the merger just as the Commerce did when it merged with the Halifax Banking Company.<sup>186</sup> Several clients leave the People's Bank before the merger and this causes a cash crunch. Mc Dowall (1993) notes that the board of The Royal Bank is furious after losing this merger opportunity.

An agreement dated May 9, 1905 testifies that the Bank of Montreal purchased The People's Bank of Halifax for \$1,150,000.<sup>187</sup> This payment includes 4,000 shares of the Bank of Montreal at a par value of \$100 and a per-share market value of \$253, and \$138,000 in cash. To make these payments, the Bank of Montreal increases its capital stock from \$14,000,000 to \$14,400,000. The acquirer also pays interest equivalent to the dividend yield of the acquired bank from June 1, 1905 until the deal is concluded. The governor approves the transaction on June 27, 1905. Denison (1966) writes that the acquisition consisted of 26 branches (15 in the Maritimes and 9 in Quebec), and a duplication of branches in two locations.

#### **A4.3 The Amalgamation of the Northern Bank and Crown Bank in 1908**

The only bank amalgamation during the studied period is between the Northern Bank and the Crown Bank of Canada to form the Northern Crown Bank on July 2, 1908, as formalized by Bill 156 of the House of Commons.<sup>188</sup> In this amalgamation, one share of Crown is exchanged for one share of Northern. In terms of assets, deposits and paid-up capital, Northern is approximately 25% larger than Crown. Since Northern is located in western Canada and Crown is mainly located in Ontario, the new head office is located in Winnipeg. The new board includes members from both amalgamating banks. The CEO of Northern remains in that role, and is assisted by the former CEO of Crown.

---

<sup>185</sup> Letter from the People's Bank of Halifax to Knight of the Canadian Bankers' Association, March 29, 1905, ABC.

<sup>186</sup> Letter from the People's Bank of Halifax to Knight of the Canadian Bankers' Association, March 28, 1905, ABC.

<sup>187</sup> NAC.

<sup>188</sup> The Senate of Canada, NAC.

#### **A4.4 The Absorption by Merger of the Western Bank of Canada by the Standard Bank of Canada in 1909**

The Standard Bank of Canada reaches an agreement on January 20, 1909 to acquire the Western Bank of Canada.<sup>189</sup> The Standard Bank, which is headquartered in Toronto, has 50 branches and \$1,559,700 of paid-up capital.<sup>190</sup> The Western Bank of Canada, which is headquartered in Oshawa and started to operate in 1882, has 26 branches and \$555,000 of paid-up capital.<sup>191</sup> The Western Bank is still profitable in 1908 although its deposits are reduced significantly by year-end. The shareholders of the Western Bank previously accepted the merger on January 6, 1909, and the government approves the transaction on February 13, 1909.<sup>192</sup> The merger payment consists of \$888,000 in cash or \$160 per share plus 5% per year from October 1, 1908 until complete payment. The 5% interest on \$160 is equivalent to an 8% dividend on a par value of \$100.<sup>193</sup> The stock of the acquired bank was private to the merger.

According to Trigger (1934), the two banks had a close relationship and only Ontarian branches in different locations. The banks merged because Western felt that it was unable to expand and had to replace old or sick managers, and it was unable to expand otherwise due to the tightening of money market policies internationally in 1908. Thus, Western agrees to retain the employees of the acquired bank without any changes in benefits. The acquired bank does not accept a late offer of \$165 per share by an anonymous syndicate.<sup>194</sup>

#### **A4.5 The Absorption by Merger of the Union Bank of Halifax by the Royal Bank in 1910**

On November 1, 1910, the Union Bank of Halifax is amalgamated with the Royal Bank. According to McDowall (1993), the Union Bank of Halifax, which has 45 branches mostly in Halifax, lacks capital. Although 10 branches duplicate those of the Royal, the Royal wants to merge in order to become the largest player in Nova Scotia and to obtain employees. The Royal's offer consists of five shares of the target for one share of the Royal. This represents a total of 12,000 shares with a par value of \$100 each for a total payment of \$1,200,000. At the time of

---

<sup>189</sup> NAC.

<sup>190</sup> Financial Statements of The Standard Bank of Canada for the financial year ending January 31, 1908.

<sup>191</sup> Financial statements of The Western Bank of Canada for the year ending February 29, 1908.

<sup>192</sup> Minutes of the Special General Meeting held in Oshawa on January 6, 1909, NAC.

<sup>193</sup> NAC.

<sup>194</sup> Trigger (1934).

merger, the market value of the stock of the Royal is \$250, and only \$50 per share for the stock of the acquired bank. The Royal also offers the former president a place on its board, to keep all the acquired employees for a minimum of one year at the same salaries, and to increase the dividend to 12%. The General Manager of the Royal, Mr. Pease, sends a clear signal that he plans to expand the bank by requesting an increase of the bank's capital stock from \$4,000,000 to \$10,000,000, although he only needs \$1,200,000 for this specific transaction.<sup>195</sup>

#### **A4.6 The Absorption by Merger of the Eastern Township Bank by the Canadian Bank of Commerce in 1912**

The anglophone Eastern Township Bank was doing business in Quebec since 1855. During difficult periods, they obtained assistance from non-local shareholders but profits remained less than industry average for eight of the nine last years (Rudin, 1988). The Bank becomes active on a national basis since it opened new branches in the western part of Canada and elsewhere in Quebec causing the need for more capital. In 1905, the Bank of Montreal tries to buy the Bank but the offer is refused. Profits still decrease and the Canadian Bank of Commerce acquires the bank in 1912 even if locals disapprove. The approval of the selling shareholders is obtained on February 14, 1912, and the agreement is signed on February 22, 1912.<sup>196</sup> It gives \$3,000,000 of stock, or 60,000 fully paid shares at a par value of \$50, on a one for one share basis. This brings the paid up capital of the Commerce to a level of \$15,000,000. Three directors are appointed to the Board of the Commerce and the remaining directors to seats at the local board. All directors keep their actual pre-merger benefits until they die. Officers and employees of the Eastern Township Bank are employed and keep similar benefits. The Governor approves the merger on February 29, 1912.

#### **A4.7 The Absorption by Merger of the Traders Bank of Canada by the Royal Bank of Canada in 1912**

The Traders Bank of Canada merges with the Royal Bank of Canada on September 3, 1912 after a tentative amalgamation between the Traders and the Bank of Toronto is aborted. According to McDowall (1993), the Traders Bank of Canada has most of its branches in rural Ontario and is

---

<sup>195</sup> Notice of a Special General meeting of the Royal Bank of Canada, July 21, 1910.

<sup>196</sup> Agreement, NAC.

over exposed to agriculture. Traders also has two important clients in financial difficulty. Traders is very attractive to the Royal because of its strong presence in Ontario, its skilled workforce and the overlap of only 15 branches.<sup>197</sup> The offer is generous: 33,600 shares of the Royal at a market value of \$240, three places on the board of the Royal, a dividend increase from 8% to 12%, and retention of all employees.<sup>198</sup> The shareholders are unaware of the problems faced by the Traders and are reluctant to see a bank based in Montreal buying a bank based in Toronto. Several employees of the Traders refuse to join the Royal.<sup>199</sup> To honour the offer, the Royal increases its capital from \$10 to \$25 million as per the by-law dated July 3, 1912.<sup>200</sup> However, the Royal only uses part of the increase in authorized capital for the acquisition. In 1913, the Royal only has \$11,500,000 of subscribed capital. According to McDowall (1993), although it was not officially illegal, the shareholders were never told that the two people who orchestrated the deal received a total commission of \$600,000, and one of them earned a place on the board of the Royal. These two individuals convinced the president, the board and the general manager to accept the offer from the Royal. These two individuals offered \$150,000 to the general manager of the Traders to encourage him to convince his shareholders of the merits of the offer. Although the Finance Minister, Mr White, is concerned by the payment of this commission and by the public opinion in Toronto, he does not stop the merger. On May 8, 1912, the *Toronto World* reports “Definite Announcement that the Traders’ Bank Directors have accepted the offer of purchase made by the Royal Bank seems to have caused some uneasiness in business circles over the concentrating tendency.”

#### **A4.8 The Absorption by Merger of the Bank of New Brunswick by the Bank of Nova Scotia in 1913**

In 1910 discussions begin for a possible amalgamation of the Bank of Nova Scotia and the Bank of New Brunswick (the Old Bank), located in Saint John.<sup>201</sup> The two banks have a good relationship. The expansion of the Old Bank of New Brunswick founded in 1820, is limited because it has 20 branches that are confined to the Maritimes. In 1911, an offering price of \$350 per share is mentioned but the acquiring bank prefers to wait and hopes to have a bargain, and the

---

<sup>197</sup> NAC.

<sup>198</sup> Agreement, July 3, 1912, NAC.

<sup>199</sup> Mc Dowall (1993), p. 187.

<sup>200</sup> Letter from the Secretary of the Treasury Board, August 3, 1912, NAC.

<sup>201</sup> Schull and Gibson (1982).

Board of the Old Bank refuses to accept the offer. The affairs of the Bank of New Brunswick deteriorate. The merger is concluded at the end of 1912, and the shareholders receive one share of the Bank of Nova Scotia (worth between \$250 and \$275) plus \$10 for each share of the Old Bank. Dividends increase by 1% because the distribution rate of the Bank of Nova Scotia is equal to 14%. The merger costs a total of 10,000 shares at a par value of \$100 of newly issued stock plus \$100,000 in cash. As required, not less than two thirds of the shareholders of the selling bank approve the transaction on December 9, 1912. This agreement is signed on December 11, 1912.<sup>202</sup> On the same day (December 11, 1912), the shareholders of the Bank of Nova Scotia approve the increase of the capital stock from \$5,000,000 to \$6,000,000. All employees are retained and obtain the benefits already offered to the employees of the Scotia. Another offer is made by the Quebec Bank but is refused by the Bank of Nova Scotia.<sup>203</sup>

#### **A4.9 The Absorption by Merger of La Banque Internationale du Canada by the Home Bank of Canada in 1913**

La Banque Internationale du Canada starts its operations in 1911 in the province of Quebec plus a branch in Paris. It has a very short and controversial life.<sup>204</sup> The Bank waits several months before it can obtain a charter. Eighty percent of its shareholders are French and some funds are invested in trust. The Minister of Finance, Fielding, and the Treasury Board are very concerned about the impact of these two issues on the clause of double liability and other details. They refuse to take a decision before the upcoming elections. The Minister of Finance, White, and the new Treasury Board accept to deliver the charter after the election. A note of \$200,000 is then paid as a commission for the subscription of capital while it is forbidden in the prospectus. The General Manager falsifies the monthly return but is not found guilty by a judge because of an upcoming merger that is beneficial for shareholders. The French investors send a lawyer with a proxy to try to evict the Canadian directors. The Canadians find a technicality that voids the proxy. Finally, the Canadians pool their shares to protect their interests and to exclude the people from France. In the minutes of the Special General Meeting held on March 19, 1913, the Canadian President talks about the very good financial results although the operations just started and the shareholders only

---

<sup>202</sup> NAC.

<sup>203</sup> Schull and Gibson (1982).

<sup>204</sup> House of Commons, January 27, 1913, pp. 2259-2326.

paid a portion of the par value.<sup>205</sup> He states that the Paris representative harassed them, and tries to ruin the Bank. For the President, it is understandable that the Canadian Directors represent the majority of the Board since they paid for a greater portion of their shares. This means that they invested more money even if they have less shares of the Bank. He continues:

“The fixed determination [of the people from France] to hurt and even ruin the Bank was evident.... Therefore your Directors could no longer entertain hope of succeeding.... safeguard the funds already entrusted to them, either by disposing of the assets of the Bank, or even by, if judged necessary, bringing about an amicable liquidation.”<sup>206</sup>

An offer is received from the Home Bank. It consists of 6,000 fully paid up shares worth \$128 each, and an offer to retain all current employees with similar benefits. It is approved and it saves the Bank from financial disaster. The Agreement is signed on the following day, March 20, 1913. The Council ratifies the merger on April 15, 1913 after less than 18 months of existence of the troubled Bank. The French investors are paid \$12.50 per share and obtain \$5.00 per share from the Home Bank. The total loss is \$300,000 for the French investors and nothing for the Canadian investors. We believe that the Canadians, although far from being fair, were protected over the brief history of this bank because several honourable businessmen and politicians were among the investors and directors of the Bank.

#### **A4.10 The Absorption by Merger of the Metropolitan Bank by the Bank of Nova Scotia in 1914**

The Metropolitan Bank of Toronto, founded in 1902, is amalgamated with the Bank of Nova Scotia on November 14, 1914.<sup>207</sup> The Metropolitan has 10 branches in Toronto and 29 branches mainly in southern Ontario. The general managers of the two banks that ultimately join are friends, and try not to compete in the same city, beside Hamilton and Toronto. Therefore, the banks are a good fit geographically. The two managers also co-operate to oppose the bigger banks. In 1911, capital is rare and it is not easy to open new branches. Bank stock is unpopular because of recent bank failures and the double liability principle. The Bank of Nova Scotia feels it has to

---

<sup>205</sup> NAC.

<sup>206</sup> Minutes of the Special General Meeting of La Banque Internationale du Canada, March 19, 1913, NAC.

<sup>207</sup> Schull and Gibson (1982).

acquire a new bank to continue to grow. Moreover, in 1914, the Metropolitan reduces its profits while the five biggest banks report outstanding financial performance. On July 23, 1914, the general manager and the president of the Metropolitan write a letter to propose the amalgamation. The special meeting is held on September 14, 1914.<sup>208</sup> The shareholders receive \$200 in cash and one share of the Bank of Nova Scotia for two shares of the Metropolitan Bank. This agreement signed on September 14, 1914 costs 5000 shares at a par value of \$100 plus \$1,000,000 in cash.<sup>209</sup> A share of the Metropolitan is valued at \$205 on July 23, 1914 and increases to \$232.50 the next day.<sup>210</sup> The share price of the Nova Scotia Bank varies from \$257 to \$265 in 1914.<sup>211</sup> The Bank of Nova Scotia increases its assets by 12.5 million dollars and its subscribed capital by \$500,000 up to \$6,500,000, and now becomes the fourth largest bank. The Bank of Nova Scotia employs all former employees of the Metropolitan Bank subject to the rules of the new employer.

#### **A4.11 The Absorption by Merger of the Quebec Bank by the Royal Bank of Canada in 1917**

The Quebec Bank has early merger discussions with the Union Bank of Canada and then with the Royal Bank of Canada but both sets of discussions are aborted.<sup>212</sup> On January 2, 1917, The Quebec Bank merges with the Royal Bank of Canada after receiving the approval of the selling shareholders on November 28, 1916 and the consent of the Minister of Finance on September 16, 1916.<sup>213</sup> The Royal exchanges one of its shares plus \$75 against three shares of the Quebec bank for a total of 9,117 shares and \$683,775 in cash.<sup>214</sup> A share of the Royal is worth \$225. According to McDowall (1993), the Quebec bank possesses 58 branches: 36 in Quebec and the remaining in Ontario and in the prairies. The recession of 1913-14 and bad loans forces the managers of the Quebec bank to reduce reserves of approximately \$1,300,000 by \$337,000, to find an acquirer, and to sell its assets at discount through a merger with The Royal. The Royal obtains skilled employees that it hires for a minimum of a year at the same salary. The Royal is now almost as big as the Bank of Montreal. The opposition against the merger is not strong because the

---

<sup>208</sup>S.J. Moore and W.D. Ross, Letter to the shareholders, July 23, 1914, NAC.

<sup>209</sup>Agreement, September 14, 1914, NAC.

<sup>210</sup>Schull and Gibson (1982).

<sup>211</sup>*The Globe, Annual Financial Survey*, January 13, 1916.

<sup>212</sup>McDowall (1993).

<sup>213</sup>Certified Extract of the Minutes of the Treasury Board, held on the 28 December, 1916, and approved by His Excellency the Governor General in Council on the 2 January, 1917, NAC.

<sup>214</sup>Agreement of the merger, November 28, 1916, NAC.



merger is a local event. However, some people complain that this merger is not necessary and that “...the more mergers we have permitted, the stronger will be the pressure on the small banks.”<sup>215</sup>

#### **A4.12 The Absorption by Merger of the Bank of British North America by the Bank of Montreal in 1918**

The Bank of British North America starts to do business in 1840 under an English charter and merges on October 12, 1918 with the Bank of Montreal after an Agreement is signed on September 10, 1918.<sup>216</sup> It is almost a year after the Minister of Finance has been advised of the situation.<sup>217</sup> Although he agrees with the merger, the Minister has requested to wait until March for his written consent and for the announcement.<sup>218</sup> The Minister is annoyed by the bad timing of the merger of the Northern Crown with The Royal that occurs at the same time. Officially, it is announced that the British managers have problems of travel and communications with the Bank during the war. We find that the real reason is that it is the only Dominion Bank that is not exclusively governed by a Canadian Bank because of its British charter.<sup>219</sup> This is stated as follows:

“There was good reasons to believe the control of the Bank of British North America might pass into the hands of another Bank also with a British charter but having even wider powers than those of the Bank of British North America for conducting operations in Canada. ....not in the best interests of the country or of the Banks operating in the Bank Act.”<sup>220</sup>

In March 1918, a merger of two British Banks takes place.<sup>221</sup> The Minister of Finance gives official consent to this merger on March 19, 1918, and the shareholders of the British Bank approve the merger on September 10, 1918.<sup>222</sup> Besides the Commission Regina Board of Trade

---

<sup>215</sup>File of the Finance Minister, 1916, NAC.

<sup>216</sup>Certified Extract from the Minutes of the Treasury Board, held on the 9 October 1918, and approved by His Excellency the Governor General in Council, on the 12 October 1918, NAC.

<sup>217</sup>Memorandum for Hon. Mr. Maclean, London, 14 October 1917, NAC.

<sup>218</sup>White to Vincent, January 16, 1918, NAC.

<sup>219</sup>Memorandum, 22 March 1918 that joins a letter of the Bank of Montreal to the Minister of Finance, NAC.

<sup>220</sup>*Ibid.*

<sup>221</sup>*Stock Exchange Gazette*, March 14, 1918, NAC.

<sup>222</sup>Certified Extract from the Minutes of the Treasury Board, held on the 9 October 1918, and approved by His Excellency the Governor General in Council, on the 12 October 1918, NAC.

objects to the merger,<sup>223</sup> the newspapers do not report great objection to the merger although the real motivation for the merger is not revealed.<sup>224</sup> This may be due to the fact that British citizens hold two-thirds of the stock of the bank.<sup>225</sup> The Bank of Montreal is very interested in obtaining the 92 branches in all Canadian regions, mainly in the West, plus the highly qualified employees of the British Bank. The British Bank has paid-up capital of \$4,866,667, a reserve fund of \$3,017,333, and total assets of \$78 million.<sup>226</sup> The offer is one share at par value of £50 exchangeable for two shares at \$100 par value for each share of the Bank of Montreal or for 75 pounds. There are 20,000 shares at a par value of 50 pounds each. To effect the merger, the Bank of Montreal increases its capital from \$16 to \$20 million.

#### **A4.13 The Absorption by Merger of Northern Crown Bank by the Royal Bank of Canada in 1918**

The Northern Crown needs to reduce its capital by 50% and increase its reserve to \$715,600 after difficult financial times. On March 1, 1918, the Northern Crown is solvent and can pay a dividend of 5% that is very low but it still has doubtful accounts and expensive bank premises.<sup>227</sup> The directors leave because they do not have enough employees and the best clients prefer a larger bank. The President of the Northern Crown requires the consent of the Minister of Finance to merge with the Royal. The Royal would obtain 100 branches and a maximum of 13 would be closed. The Royal Bank acquires the Northern Crown on July 2, 1918 as per an agreement dated May 8, 1918 for 10,883 shares of par value of \$100 and market value of \$210 plus \$576,970 in cash.<sup>228</sup> The exchange is for ten shares of the Northern Crown for seven shares of the Royal plus approximately \$40.<sup>229</sup> The stock of the acquiree is worth between \$62 and \$80.<sup>230</sup> The Royal agrees to keep the staff of the acquiree for a minimum of a year with their then respective salaries.<sup>231</sup> The Nova Scotia Bank is interested in acquiring a bank from the west part of Canada and is interested in the Northern Crown. When the deal is made with the Royal, the general

---

<sup>223</sup> Telegraph from McDonald to White, March 26, 1918, NAC.

<sup>224</sup> Letter of Maclean to Meredith, March 22, 1918, NAC.

<sup>225</sup> Memorandum for Hon. Mr. Maclean, London, 14 October 1917, NAC.

<sup>226</sup> Jamieson (1962).

<sup>227</sup> Letter from Robinson, President of the Northern Crown, to Maclean, the Minister of Finance, NAC.

<sup>228</sup> NAC.

<sup>229</sup> McDowall (1993).

<sup>230</sup> Letter from Robinson, President of the Northern Crown, to Maclean, the Minister of Finance.

<sup>231</sup> Agreement dated May 7, 1918, NAC.

manager of the Bank of Nova Scotia states: “Apparently in their desire to outgrow both the Commerce and the B. of M., the Royal are not deterred by the question of price.”<sup>232</sup>

#### **A4.14 The Absorption by Merger of the Bank of Ottawa by the Bank of Nova Scotia in 1919**

On April 30, 1919, the Bank of Ottawa is amalgamated with the Bank of Nova Scotia.<sup>233</sup> The Bank of Ottawa started in 1874 and has 54 branches in Ontario and 14 in Quebec, and more than 15 branches in the western part of Canada at the time of its merger. It is valued at almost \$75 million in terms of assets. The Bank of Ottawa faces problems such as lack of capital, over-exposure to the lumber industry, diminished commercial loans, lower earnings and old managers. The Bank also has increasing deposits and a lower volume of loans.<sup>234</sup> Geographically, the Bank of Ottawa is very attractive for the acquirer: despite an overlap of 11 branches, it enlarges the acquirer’s market significantly. It is important to note that the managers of each bank that organized the merger are close friends. On March 4, 1919, an agreement is signed and approved by the shareholders of the Bank of Ottawa.<sup>235</sup> The terms are four shares of the Nova Scotia Bank in exchange for five shares of the Bank of Ottawa plus a dividend adjustment. This costs 32,000 fully paid up shares of the Bank of Nova Scotia at a par value of \$100. This raises the paid-up capital of the Bank of Nova Scotia to \$9,700,000. All fractions of shares are paid in cash at a pro rata of \$275 per share of the Bank of Nova Scotia stock. The acquiring bank takes over the business, keeps the employees and respects the pension plan and other contractual agreements of the Bank of Ottawa. The former board, which had ten directors, is integrated into the board of the Bank of Nova Scotia until the directors retire by courtesy. The Minister of Finance is not keen to approve the deal because he is afraid of the media and of the reaction of the citizens of the Ottawa region. He seeks the support of the cabinet before approving the merger.<sup>236</sup>

---

<sup>232</sup> Schull and Gibson (1982), p. 121.

<sup>233</sup> Schull and Gibson (1982).

<sup>234</sup> Débats de la Chambre des communes, pp. 1129-1140, 2 avril 1919.

<sup>235</sup> Agreement, NAC.

<sup>236</sup> Schull and Gibson (1982).

#### **A4.15 The Absorption by Merger of the Merchants Bank of Canada by the Bank of Montreal in 1922**

The Merchants Bank starts in 1864 and merges with the Bank of Montreal on March 20, 1922. The Merchants Bank has suffered financially due to the depression and bad management. The Bank of Montreal acquires 623 branches out of which 1/6 overlap their own,<sup>237</sup> and it increases its capital from \$22 to \$28 million to pay for the acquisition.<sup>238</sup> As at June 1921, the Merchant Bank shows profits of \$1,402,820, paid-up capital of \$10,500,000, and total assets of \$190,000,000. Both banks offer 12% dividends. Problems start at the Merchants Bank in 1915 when an inspector of the bank reports that there are two big bad accounts and several small ones, which should be closed at the Montreal branch. The administration of the Merchants Bank advises the internal department of inspection to forget about that branch so it will not be inspected again.<sup>239</sup> In 1920, the same two big clients have their loans increased from approximately \$800,000 to close to \$6,000,000 without approbation by the administrators.<sup>240</sup> Other heavy losses also are incurred at other branches. This necessitates an appropriation of \$8,400,000 for the branch in Montreal.<sup>241</sup> The reserve fund is reduced from \$9,450,000 to \$1,500,000. The directors state that they were not aware of these troubles when they signed the financial statements as at April 30, 1921, and therefore reported that the reserve was unimpaired. Higher management hires an external inspector in August 1921. In November 1921, his report will reveal a financial mess, and he suggests selling the bank. This prompts the Minister of Finance to accept the merger on December 16, 1921.<sup>242</sup> In January, the *Financial Post* reports that the shareholders have to accept the deal and should require an in-depth investigation.<sup>243</sup> On February 8, 1922, the shareholders have a long and tumultuous meeting and approve the merger almost at unanimity.<sup>244</sup>

The following morning, *The Montreal Daily Star* criticizes management, and states that the problems started five years earlier.<sup>245</sup> This newspaper account also mentions that the Bank Act was not respected since wrong and misleading financial results were published. The president and general

---

<sup>237</sup> Denison (1966).

<sup>238</sup> Certified Extract from the Minutes of the Treasury Board, held on March 18, 1922, and approved by His Excellency the Governor General in Council on the 20 March 1922, NAC.

<sup>239</sup> Memorandum for Honourable Mr. Fielding, April 3, 1922, signed by Saunders, NAC.

<sup>240</sup> Denison (1966).

<sup>241</sup> *Morning Journal*, February 9, 1922.

<sup>242</sup> Letter from Drayton to Allan, December 16, 1921, NAC.

<sup>243</sup> January 20, 1922.

<sup>244</sup> *Morning Citizen*, February 9, 1922.

<sup>245</sup> February 9, 1922.

manager are accused of presenting false results but are acquitted. The Canadian Banker's Association wants to bring the auditors to trial.<sup>246</sup> The Minister of Finance agrees but does not seem able to do so.<sup>247</sup> The headline "Not Satisfying To Public", and the unpopularity of bank shares for the past six months exemplify the general public's profound dissatisfaction with the banking environment at that point in time.<sup>248</sup> A Royal Commission is requested unsuccessfully.<sup>249</sup> The Quebec government tries to intervene but to little avail.<sup>250</sup> It appears that the federal government is protecting the industry by being as silent as it can. Also, the President of the Merchants is related to the President of The Montreal through marriage, and several politicians are shareholders of one or the other bank.<sup>251</sup>

The shareholders of the Merchants Bank receive one share of the Bank of Montreal and \$20 in cash for every two shares of the Merchants Bank. In 1921, the maximum value of Merchant's shares is \$205 but it is \$170 just before the announcement. On the day of the arrangement, the shares of the Bank of Montreal are quoted at \$212 and those of the Merchants Bank go down to \$157 just before share trading is withdrawn from the exchange.<sup>252</sup> The share price of the Bank of Montreal went up to \$217 after the announcement.<sup>253</sup> The following excerpt offers a good flavour of the reactions of the other banks and of the rivalry of Montreal and Toronto to this merger:

I may add that, though some of the Bank of Montreal's Toronto friends may be sceptical on the subject, the step this Bank has taken to absorb the Merchants Bank was in the public interest and with the object of preventing a serious financial condition arising. In other words, the Bank of Montreal's action was not actuated by a desire for aggrandizement, and I know you will accept my assurance to that effect.<sup>254</sup>

#### **A4.16 The Absorption by Merger of the Bank of Hamilton by the Canadian Bank of Commerce in 1923**

In 1915, the Royal Bank attempts to acquire the Bank of Hamilton that is local and is not in sound financial condition. The Finance Minister, Mr. White, refuses to ratify the project officially

---

<sup>246</sup> Letter from Ross to Fielding, March 25, 1922, PANS.

<sup>247</sup> Letter from Fielding to Ross, March 29, 1922, PANS.

<sup>248</sup> *Financial Post*, May 26, 1922.

<sup>249</sup> Letter from Reid to Fielding, July 12, 1922, NAC.

<sup>250</sup> *Financial Post*, June 2, 1922.

<sup>251</sup> Letter from Reid to Fielding, July 12, 1922, NAC.

<sup>252</sup> Jamieson (1962).

<sup>253</sup> Montreal-Merchants merger, Dickinson & Walbank, brokers, March 1922, NAC.

<sup>254</sup> Letter from the President of the Canadian Banker's Association and from the Bank of Montreal to the Vice-president of the Canadian Banker's Association and to The Bank of Nova Scotia, December 20, 1921, CBA.

because both banks are “reasonably strong” but unofficially because the citizens of Ontario would be angry to lose another bank to the Montrealers.<sup>255</sup> On December 31, 1923, the Bank of Hamilton is amalgamated with the Canadian Bank of Commerce. An exchange of stock, one for one is made. This represents 50,000 shares each at a \$100 par value.<sup>256</sup> The Commerce keeps all the employees and the pension benefits of the former bank.

The amalgamation is triggered by the following reasons.<sup>257</sup> In July 1923, the president of the Bank of Hamilton died and the market value of the stock drops.<sup>258</sup> The recession has not ended. The annual profits and the assets of the Bank have diminished by more than 10% over the past two years, losses have increased, and six offices are closed. The Bank of Hamilton is limited geographically, and its only office east of Toronto (in Montreal) shows a deficit. It seems necessary for the Bank of Hamilton to join a bigger bank with more resources. A secret meeting between the Minister of Finance and Chairman of the Board, Sir Hendrie, of the Bank of Hamilton takes place in March without the awareness of the General Manager.<sup>259</sup> The Finance Minister, Hon. W.S. Fielding, first rejects the request of merger in August 1923.<sup>260</sup> The failure of the Home Bank has caused bank runs in smaller banks. The General Manager of the Commerce argues in favour of the present merger.<sup>261</sup> The President of the Bank of Hamilton also insists on merger approval by sending a second request stating that his bank is facing sustained losses and frozen credits which will cut Reserves drastically and will badly affect business.<sup>262</sup> On August 29, 1923, several newspapers announce the amalgamation.<sup>263</sup> The Finance Minister states that the amalgamation was in the public’s interest although new bank mergers are unpopular. He talks about the losses and the small size of the bank. He says nothing about the fact that the reserves of the Bank of Hamilton might be reduced. The reduction of the reserve is not materialised in the Bank’s financial statements.<sup>264</sup> Before the merger, the reserves total \$19,850,000, and the Commerce has a reserve of \$20,000,000 post-merger.

---

<sup>255</sup> McDowall (1993).

<sup>256</sup> Letter to Mr. Taylor from the Secretary in Ottawa, November 9, 1926, NAC.

<sup>257</sup> Triggs (1934).

<sup>258</sup> Letter from Birge to Fielding, August 2, 1923, NAC.

<sup>259</sup> Fielding to Hendrie, March 5, 1923, PANS.

<sup>260</sup> Letter from Fielding to Aird, August 6, 1923, NAC.

<sup>261</sup> Letter from Aird to Fielding, August 23, 1923, NAC.

<sup>262</sup> Letter from Birge to Fielding, August 23, 1923, NAC.

<sup>263</sup> *Birmingham Post*, *The Yorkshire Herald*, *South Wales Daily News*, *South Wales Echo*, *Financial Times*, *Financial News*, and *Financier*.

<sup>264</sup> *The Canada Gazette*.

#### **A4.17 The Absorption by Merger of the Sterling Bank of Canada by the Standard Bank of Canada in 1924**

The Standard and Sterling Banks announce a merger agreement with the support of the Minister of Finance in 1924.<sup>265</sup> The Sterling Bank, which is founded in 1905, is very conservative in terms of liquid assets to liabilities and in terms of dividend payments. The Sterling Bank also is the first bank that has a bond department. In 1924, the assets of the Sterling fall by 20%, or by five million dollars. With the resulting reduction in its profits and deposits, the Sterling Bank is not able to maintain its dividend. Standard Bank reduces its reserve in 1923 by \$2,250,000 out of \$5,000,000 to cover losses and to make a contingent fund of \$1 million.<sup>266</sup> The Standard Bank also reduces its dividends from 15% to 12% per year. On July 26, 1923, the stock of the Standard drops from \$189 to \$171.<sup>267</sup> The big banks offer to lend several million dollars to Standard, if such funding is necessary.<sup>268</sup> The Minister's file shows that the Sterling is affected by withdrawals of \$3,000,000 due to the failure of the Home Bank. The file states that the effect is even more dramatic on the financials for the Standard, although it provides no specific information about the solvency of both banks.<sup>269</sup> The Minister feels that it is in the best interest of both banks and of their shareholders to merge.

A merger is official on December 31, 1924. The Standard gives two shares in exchange for three shares of the Sterling Bank. This represents 8,234 shares at a par value of \$100 each. Fractions of a share are exchanged for cash on the basis of a value of \$162 per share of the Standard Bank. At that market price, the merger is worth \$1,333,908. In comparison, in the balance sheet as at December 31, 1924, total assets of \$20,845,201 minus non-current loans of \$182,751 and liabilities of \$19,005,576 equals \$1,656,874. Although this value is higher than the marked-to-market value, it may include over-valued assets or bad loans. The board of the merged entities has 15 members instead of 7. The two General Managers become co-general managers, and the merged banks keep all employees subject to the actual rules at the Standard. The Standard acquires 77 branches for a total of 240 branches. Of these, 179 branches are in Ontario, and most of the remaining branches are in the west. There is an overlap of only five branches. This merger of two smaller and weaker banks is only a short-term measure as the help of a larger bank is soon required.

---

<sup>265</sup> *The Mail and Empire*, October 10, 1924.

<sup>266</sup> Circular sent to the shareholders of the Standard Bank of Canada, July 31, 1923, NAC.

<sup>267</sup> Flemming to Fielding, July 26, 1923. NAC.

<sup>268</sup> Letter from Williams-Taylor to McLeod, September 12, 1923, ABC.

<sup>269</sup> Standard and Sterling Bank Merger, January 1, 1925, NAC.

#### **A4.18 The Absorption by Merger of the Union Bank of Canada by the Royal Bank of Canada in 1925**

The Union Bank has problems with a railway company for many years. During the War, the Province of Alberta loans and invests about five million dollars to keep this railway company viable, and we believe to protect the Bank.<sup>270</sup> The situation worsens up to June 1923, when the Union Bank of Canada reduces its reserves by \$4,250,000 down to \$1,750,000, closes several branches and reduces its dividend from 10% to 8% after a period of great expansion. Unauthorised transactions in foreign exchange and the depression cause this decline.<sup>271</sup> The Bank is local and overly concentrated in the Prairies.

In 1925, the Inspector of the banks notes some irregularities.<sup>272</sup> Loans of the Bank employees illegally exceed the individual limit of \$10,000. There is a minimum of \$6,250,000 of non-productive loans. Appropriations should be made regularly and not on an annual basis. In April 1925, the Inspector General of Banks states that these cuts done in 1923 are not sufficient.<sup>273</sup> He reports that the required appropriations for two important bad loans and several smaller ones would eliminate the reserve, require further cuts in the dividend and require payments from two guarantors for a big bad railway loan. He also shows that the overhead expenses are too high and that there are significant unproductive loans. Finally, he suggests selling the bank because the required changes would affect the standing of the bank.

Rapidly and on May 12, 1925, an agreement is signed to merge and the consent of the Minister of Finance is obtained. On July 21, 1925, the shareholders of the Union approve the merger.<sup>274</sup> On August 31, 1925, the Royal Bank of Canada officially acquires the Union Bank of Canada by exchanging 40,000 of its shares for 80,000 shares of the Union Bank.<sup>275</sup> The market value of a Royal share is \$230, and that of the Union is worth approximately \$110. According to McDowall (1993), the operation necessitates an increase in capital of \$2,100,000, and provides the Royal Bank with 327 new branches predominantly in Western Canada. The Royal keeps the staff and five managers from the Union on its board. The *Montreal Gazette* reports that only 50 branches might be closed.<sup>276</sup> The newspaper believes that the Union is highly solvent, and is favourable to the merger. Although this newspaper is Montreal

---

<sup>270</sup> Memorandum for Honourable Mr. Robb for the confidential information of cabinet, May 26, 1925, NAC.

<sup>271</sup> *The Sunday Times*, July 1, 1923.

<sup>272</sup> Memorandum regarding examination of the Union Bank of Canada, NAC.

<sup>273</sup> Ottawa, April 27, 1925, NAC.

<sup>274</sup> Certified copy of a Minute of a Meeting of the Treasury Board approved by The Deputy of His Excellency the Governor in Council, on the 31 August 1925, NAC.

<sup>275</sup> Agreement of merger, May 12, 1925, NAC.

<sup>276</sup> May 25, 1925.



based just like the Royal Bank, it argues, “the tendency of the age is toward the concentration of capital. In England, with a population four times as large as that of Canada, five big banks serve the people, and through many thousand branches serve them well.” The positive response of the public to this merger announcement is probably attributable to the quality of the document<sup>277</sup> prepared by the inspector for the Minister of Finance that allows the Minister to announce the merger while strictly avoiding any disclosure of the very bad financial situation of the Union Bank. The Inspector suggests saying as little as possible about the merger and provides answers to a few possible questions. The Inspector explains that profits decreased because operating expenses are too high and some loans are unproductive although they are realizable. This prompts a reduction of the dividend of the Union. A subsequent reduction of the reserve is not mentioned publicly, and the Union Bank deliberately publishes false financial statements with the consent of the government.<sup>278</sup> Although the Inspector noted that some risky railway bonds are worth less than the \$2,230,000 included in the statements, the Bank wishes to keep their value at book in the monthly statements of April and the subsequent ones without any footnote until the merger is done. A legal document is written to protect the managers of the Union Bank against further lawsuits.<sup>279</sup>

The shareholders of the Union Bank are distributed as follows: 32% are Western Canadians, 42% are Eastern Canadians, and 26% are foreigners.<sup>280</sup> While the shareholders from the Prairies are probably sad to lose their bank, they are probably aware that they do not represent the majority. The generous offer and the dividend increase probably pacified them.

#### **A4.19 The Absorption by Merger of the Molson Bank by the Bank of Montreal in 1925**

On January 20, 1925, the Bank of Montreal absorbs the Molson Bank, which is a relatively small and local bank. The two banks have a good relationship. In 1921, the Molson Bank is in a difficult financial situation because of the depression, and it requests help from the Bank of Montreal. After investigation, the value of some assets is reduced considerably and the reserve of the Molson Bank falls from \$5 million to \$2 million.<sup>281</sup> At a meeting of the shareholders of the Molson Bank on December 23, 1924, it is stated that the war inflation has caused a reduction in

---

<sup>277</sup> Memorandum for Honourable Mr. Robb Re Union Bank of Canada, NAC.

<sup>278</sup> Hamilton to Tompkins, May 15, 1925, NAC.

<sup>279</sup> The form is sent by the Bank Inspector and is to be signed by the Minister of Finance and by the President and the General Manager of the Union Bank, May 15, 1925, NAC.

<sup>280</sup> Memorandum regarding the Union Bank, Tompkins, April 27, 1925, NAC.

<sup>281</sup> Minutes of the 69th annual general meeting of the Molson's Bank held on November 3, 1924, NAC.

profits, and this necessitates a dividend reduction that will possibly affect the stock value.<sup>282</sup> Therefore, it is preferable to seek a merger. The merger proposition is unanimously adopted at that same meeting. The Bank of Montreal makes an offer and acquires 125 branches out of which 117 are in Ontario and in Quebec. The Minister of Finance gives his consent on October 29, 1924.<sup>283</sup> The Molson Bank has \$68 million in assets, deposits of \$54 million and capital of \$4 million according to the financial statements as of September 31, 1924. The shareholders receive two shares of the acquiring bank plus \$30 in cash in exchange for three shares of the Molson Bank.<sup>284</sup> A share of the acquirer has a market value of \$249. The market share value of the Molson Bank is \$148 at the end of September 1924 and increases to \$161 on October 28, to \$167 on October 29, and to \$172 on the day of the announcement of the merger.<sup>285</sup> The offer is equivalent to \$176 per share. Mr. Molson joins the Board of the Bank of Montreal.

#### **A4.20 The Absorption by Merger of the Standard Bank of Canada by the Canadian Bank of Commerce in 1928**

On November 3, 1928, the Canadian Bank of Commerce absorbs the Standard Bank of Canada. The Minister consents to the merger on July 3, and the Agreement and a resolution from respective shareholders are signed on September 18, 1928.<sup>286</sup> The file of the Minister of Finance on this merger captures the debate about this merger in the newspapers as follows:

“The finance minister also made it clear that there were many facts behind the proposed merger of the Bank of Commerce and the Standard Bank, that would, if known, put a different complexion on the affairs for a few isolated critics. “«Hang it all,» he said, «there must be some things that a minister can’t tell...stated that he (the finance minister) new no objections in the cabinet ...and no objections from depositors and shareholders of both banks.”<sup>287</sup>

This shows that the government was concerned about facing an angry public opinion, which is strongly opposed to bank mergers. The official reasons stated for sanctioning the merger

---

<sup>282</sup> File of the merger of Molson-Montreal, ABC.

<sup>283</sup> Minutes of a Meeting of the Treasury Board, January 20th, 1925, NAC.

<sup>284</sup> Denison (1966).

<sup>285</sup> *The Globe*, October 30, 1924.

<sup>286</sup> Certified to be a true copy of a Minute of a Meeting of the Treasury Board approved by The Deputy of His Excellency the Governor General in Council, on November 3, 1928, NAC.

<sup>287</sup> *Toronto Daily Star*, October 12, 1928.

are that the health of the president is precarious, that it is very expensive to open more branches, and that it is difficult for a small bank to survive.

Like the Starling, the Standard was a highly vulnerable institution. The Inspector-General, who followed the Standard very closely since 1923, notes, "...that the general condition and current earnings of the bank had improved."<sup>288</sup> He is the advisor of the minister favouring the merger of the Standard with the Commerce.<sup>289</sup> Compared to other banks, the ratio of reserves to current loans and average deposits per branch are significantly lower for the Standard whose operations are concentrated in Ontario. As a result, the Standard Bank has very high operating costs and is not able to increase its reserves, and it may be forced to reduce dividends if the situation becomes tighter.

Two big banks enter the contest to buy the Standard. This causes some delay before the Standard Bank can merge.<sup>290</sup> The shareholders of both banks agree to the merger transaction on September 18, 1928 with the appropriate majority of two thirds on both sides. The terms of the merger agreement stipulate a one for one share transfer for a total of 48,234 shares of the Commerce Bank, each with a \$100 par value.<sup>291</sup> The assets of the new institution consist of \$100,000,000 of assets of the Standard and \$600,000,000 of assets of the Commerce. The employees are retained by the Commerce and registered into its pension plan. The Standard has 88 branches after closing several branches during the past three years. Some observers argue that there may be insider purchases of the shares of the Standard but the Canadian Banker's Association denies these allegations after investigating transactions during the period from June 27 to July 13.<sup>292</sup> The stock price of the Standard did jump from \$252 to \$289 during the week of the 17 of July when the Finance Minister consented to the merger and the merger became public. The stock of the Commerce only rises significantly after the merger is completely. It rises from \$290 in October to \$330 in December 1928.

---

<sup>288</sup> Letter to Robb from Inspector-General, December 21, 1928, NAC.

<sup>289</sup> *Mail and Empire*, July 14, 1928.

<sup>290</sup> *Mail and Empire*, July 14, 1928.

<sup>291</sup> NAC.

<sup>292</sup> Standard and Commerce merger, p. 14, NAC.

#### **A4.21 The Absorption by Merger of the Weyburn Security Bank by the Imperial Bank of Canada in 1931**

The Minister of Finance is aware that the Weyburn Security Bank is under intense financial pressure, and that it awaits to be sold as soon as possible. Examination of the Weyburn Security Bank on November 12, 1930 reveals a big drop in deposits by the public,<sup>293</sup> a decline in earnings, the need for a possible reduction of dividends, and staff problems.<sup>294</sup> The government accepts to help the bank by increasing its deposits with the bank. There also is a facility of \$1,500,000 offered by the Canadian Bank of Commerce to the Weyburn Bank secured by bonds, farmer's notes and possibly municipal paper.<sup>295</sup> This facility is not shown on the financial statements under an agreement with the Inspector and the government.<sup>296</sup> Thus, the difficult financial situation of the Bank is not made public. With the full support of the government, the Weyburn Bank comes to an agreement to combine with the Imperial Bank of Canada. The Imperial buys some assets from the Weyburn Bank for \$100,000 with respect to some of the provisions for the loan due to the Commercial Bank.<sup>297</sup> The Imperial retains the staff and obtains 30 branches in Saskatchewan with no overlap.<sup>298</sup> The heading of an article in the *Montreal Gazette* is "Imperial to Purchase Weyburn Security Institution-Both in strong position".<sup>299</sup> Most newspapers similarly are lenient but one is closer to reality. "Claim Bank Failure averted by merger" makes the front page of the *Manitoba Free Press*, and a member of the government confirms this after the merger is announced.<sup>300</sup> The letter, which is sent by the General Manager of the Imperial to the President of the Canadian Bankers' Association, states this clearly as:<sup>301</sup>

It is needless to tell you that as a bargain or purchase in the ordinary sense of the word the Imperial Bank did not desire the Weyburn Security Bank, its earning power is so small that we cannot make any profit for some time to come, its position is not such that it comes to us as a bargain and to tell the truth our real reason for acquiring the Institution was because we did not want another Bank failure in Canada an event which is always given unfair publicity and which works to the detriment of the smaller remaining Banks and as nobody else wanted the Weyburn Bank we took it over largely with a feeling of responsibility to the public and to our colleagues.

The full ascent for this merger is obtained on May 1, 1931. This merger marks the disappearance of the smallest Canadian bank, and also the end of the Canadian Bank merger era.

---

<sup>293</sup> NAC.

<sup>294</sup> Tompkins to Powell, December 29, 1930, NAC.

<sup>295</sup> Letter from the Commerce to the Inspector General of Banks, June 23, 1930, NAC.

<sup>296</sup> Memorandum RE examination of the Weyburn Security Bank, p. 4, NAC.

<sup>297</sup> Agreement, January 20, 1931, NAC.

<sup>298</sup> *Montreal Gazette*, January 22, 1931.

<sup>299</sup> *Montreal Gazette*, January 22, 1931.

<sup>300</sup> Powell to Tompkins, January 24, 1931, NAC.

<sup>301</sup> Letter of Phipps to Leman, January 19, 1931, ABC.

## **APPENDIX 5**

### **SPECIFIC BANK FAILURES OVER THE STUDIED PERIOD, 1867-2001**

## **Specific Bank Failures Over the Studied Period, 1867-2001<sup>302</sup>**

### **A5.1 Failure of Commercial Bank of New Brunswick in 1868**

All creditors note holders and depositors are paid in full during liquidation. Shareholders obtain a small dividend that needs to be estimated to evaluate stakeholders' respective losses. We will assume a dividend of 10% since we have no additional information.

### **A5.2 Failure of Bank of Acadia in 1873**

The paid up capital of \$100,000 of the Bank of Acadia is completely eliminated due to fraud and poor business ability. This is the only case of a Canadian bank failure where the bank notes become worthless. The Dominion government receives 25 cents per dollar of the notes it held. We assume that the government lost \$25,000. An unsuccessful attempt is made to collect double liability from the shareholders of this failed bank.

### **A5.3 Failure of Metropolitan Bank of Montreal in 1876**

This bank grows too quickly while undertaking very risky loans. The bank incurs large losses in 1875 and in 1876, and assets become less than liabilities and capital by \$314,000. In 1877, the shareholders decide to wind up the bank and pay all debts to avoid further losses. We assume that shareholders lost 50% of the paid up capital of \$800,170 in this failed bank.

### **A5.4 Failure of the Mechanics Bank of Montreal in 1879**

In 1876, paid up capital of this bank is impaired and reduced by 40% due to objectionable loans. The double liability provision is exercised. This is the last time under the Dominion Act that note holders are not paid in full.

### **A5.5 Failure of Bank of Liverpool in 1879**

The capital of this bank is impaired substantially in 1876. The Bank of Nova Scotia buys all of its assets, and pays note holders and most depositors.

---

<sup>302</sup> Details on failures before 1900 rely extensively on Ferrier (1913) and Brenckeridge (1894). Several figures are obtained from Tables 4.3 and 4.5.

#### **A5.6 Failure of Consolidated Bank of Canada in 1879**

A new manager finds unreported losses. As a result, the bank reduces capital by 40% in 1879, and is later liquidated. A broker pays \$260,000 for the assets of the bank, assumes all liabilities and makes a 25% dividend payment to shareholders.

#### **A5.7 Failure of Stadacona Bank in 1879**

Shareholders make a voluntary liquidation and recover 90% of their investment.

#### **A5.8 Failure of Bank of Prince Edward Island in 1881<sup>303</sup>**

This bank is chartered by the province and not by the Dominion. The double liability collected amounts to \$120,000. The federal government and banks lose \$106,000.

#### **A5.9 Failure of Exchange Bank of Canada in 1883**

Capital is reduced by \$500,000 in 1881. Poor managers obtain government assistance in the form of a \$300,000 deposit. A fraudulent director leads the bank to failure. Double liability is enacted with only limited success. The federal government has difficulty recovering its money and loses \$77,337.<sup>304</sup> The Bank Act of 1891 allows the government to become a second rank creditor after note holders.

#### **A5.10 Failure of The Maritime Bank in 1887**

A poor manager undertakes risky loans, which trigger losses and a 64% reduction of paid up capital in 1884. A new manager and big government deposits do not prevent ultimate failure due to loans made to firms that go bankrupt. Double liability is exercised but less than 50% of the assessment is collected. The government of New Brunswick, the federal government and note holders are repaid in full.

#### **A5.11 Failure of Pictou Bank in 1887**

Two defaulters cause the cessation of dividends by the bank, and a reduction of 20% of the paid up capital of the bank to \$200,000 in 1886. All liabilities and 35% of the remaining capital are repaid under a voluntary liquidation.

---

<sup>303</sup> NAC.

<sup>304</sup> NAC.

#### **A5.12 Failure of Bank of London in 1887**

A corrupt president eliminates the reserve and sells the bank to the Bank of Toronto. All liabilities and \$90,000 of the \$241,000 in capital are repaid.

#### **A5.13 Failure of The Central Bank in 1887**

A fraudulent manager causes the loss of \$500,000 of capital, and the ultimate failure of the bank. A successful assessment under shareholder double liability of almost \$392,030 helps to minimize losses.<sup>305</sup>

#### **A5.14 Failure of Federal Bank in 1888**

The general-manager tries to accumulate some capital while circumventing the Bank Act. When this arrangement is discovered in 1884, the other banks advance \$2,000,000 so that the bank can face the bank run. The paid up capital of the bank is reduced by 50% to \$1,250,000 in 1885. In 1888, the banks with head offices in Toronto advance \$2,700,000 to reimburse all debts, and offer the shareholders of this failed bank satisfactory compensation to avoid obligatory liquidation and a contagious bank run.

#### **A5.15 Failure of Commercial Bank of Manitoba in 1893**

Mismanagement and fraud lead the bank to failure. Other banks redeem the notes at par. Debt and 25% of the paid up capital of the bank are repaid.

#### **A5.16 Failure of La Banque du Peuple in 1895**

The bank has a royal charter with single liability but the directors have unlimited liability. The other banks investigate after a reckless general manager leaves La Banque du Peuple. This creates a bank run. Critical bad loans and impairment of capital by more than \$800,000 out of \$1,200,000 is identified. The bank is liquidated, and a settlement of \$300,000 is collected from the bank directors.

#### **A5.17 Failure of la Banque Ville-Marie in 1899**

The excessive issue of bank notes and fraudulent management is the source of the financial problems of this bank. Double liability is successfully exercised on 50% of the paid up capital since the remaining capital belongs to the bank.

---

<sup>305</sup> NAC.



#### **A5.18 Failure of Bank of Yarmouth in 1905**

This small bank makes a disproportionately large loan to a manufacturer that later goes bankrupt. Managers pay dividends when the bank is not profitable and the capital of the bank is impaired. Criminal mismanagement allegedly causes the failure of the bank. Shareholders sue the directors who pay \$32,000 as a settlement. The double liability assessment collected amounts to \$264,267 (OSFI) but a surplus of \$33,630 is reimbursed to the shareholders.<sup>306</sup>

#### **A5.19 Failure of The Ontario Bank in 1906**

According to Denison (1966), the Bank of Montreal makes a fruitless tentative offer to merger with the Ontario Bank in 1905. Mc Dowell (1993) states that a similar attempt by the Royal Bank is made but the merger offer is rescinded when the Royal realizes the magnitude of the indebtedness of the Ontario bank. The general manager of the Ontario bank has created false accounts to mask his speculative transactions on Wall Street, and the resulting losses wipe out the rest fund and impair the capital of this bank. The general manager is imprisoned because there was illegal speculation in securities of the bank's own stock and false statements reported to the government. The president of the bank is declared not guilty. The other bankers are afraid that this will cause a bank run. To remedy this concern, the Bank of Montreal pays \$150,000 for the goodwill of the bank, and agrees to assume the losses of the bank after realization of assets and double liability. As is illustrated in Table A5.1, other banks also act as guarantors. The open-door liquidation takes nearly 10 years (from 1908 to 1918) before the bank is wound-up. The double liability collected exceeds all claims so the cost to the guarantors is nil. The amount of \$1,202,510.22 is recovered from the shareholders under a double liability call,<sup>307</sup> and \$601,534 is reimbursed to the shareholders. The Bank of Montreal receives all its dues.<sup>308</sup> The shareholders try to fight the double liability assessment in court but the case is dismissed in 1910.

**[Please place Table A5.1 about here.]**

#### **A5.20 Failure of the Sovereign Bank in 1908**

The Sovereign Bank opens in 1901 with the financial support of J.P Morgan and the Dresdner Bank of Germany. The bank has a paid-up capital of \$4 million, a reserve fund of \$1,250,000, and assets of more than \$25 million and ninety branches at the beginning of 1907 (Jamieson, 1962). In

---

<sup>306</sup> 3363 shares meet their calls of \$75 per share. An amount of \$10 per share is later returned to shareholders (*Chronicle*, December 14, 1906, NAC).

<sup>307</sup> Letter from Smith, Manager of the Royal Trust Company, to Ross, Secretary of the Canadian Bankers Association, February 3, 1927, CBA.

<sup>308</sup> Letter from the Manager to Saunders, April 17, 1923, NAC.

1907, a financial crisis affects Wall Street and triggers a credit contraction according to Mc Dowell (1993). Regional banks are highly vulnerable and are affected to a greater extent. The bank uses its reserve plus \$1 million of capital to cover bad debts due to its rapid growth and bad loans. To prevent suspension, fifteen banks agree to take over the assets of the bank, to assume the liabilities of the bank, and to make an advance of \$3,750,000. The Trustee notices false returns, and the bank is suspended in 1908 (Denison, 1966).<sup>309</sup> In 1911, the banks involved in the attempted recovery did not recover the totality of their disbursement, and they want to be reimbursed. In 1911, International Assets, Limited (IA Limited) is created to postpone liquidation and to avoid a double liability assessment. Shareholders capitalize it up to the amount of their double liability (i.e., \$3 million), and use the funds to buy the remaining claims from the banks. The most important shareholders are J.P Morgan and the Dresdner Bank. All the shareholders invest a total of \$2,146,272, are freed of their double liability obligations, and receive preferred shares.<sup>310</sup> Bonds in IA Limited are given to the banks to cover a portion of their debts. In 1914, more funds are needed to repay the banks, and the Sovereign is officially put in liquidation. A double liability call is made to repay a portion of the claims of the other banks.<sup>311</sup> In 1924, a broker takes over the assets that are not realized. At this point, the balance due to the banks is evaluated at \$301,437.02.<sup>312</sup> The resolution of the bank claims is summarized in Table A5.2. Very little is recovered since the balance due to the banks is marginally lower at \$292,393.98 in 1928.<sup>313</sup>

**[Please place Table A5.2 about here.]**

#### **A5.21 Failure of La Banque de St. Jean in 1908**

La Banque de St. Jean is founded in 1873 (Rudin, 1985). The second president, who is also general manager and the biggest shareholder of the bank, gathers friends to constitute the board. He uses the money for his own benefit. He tries to cover this up by paying good dividends of 6% to shareholders from 1900 to 1906. The director is accused of falsification of financial statements and dies in prison. The bank goes into voluntary liquidation but is in an extremely poor financial condition, and depositors only get 30.3% of their dues of \$287,489.<sup>314</sup> Provincial Government

---

<sup>309</sup> Letter from the Trustee to Clouston, June 17, 1908, CBA.

<sup>310</sup> Extract from the Minutes of a meeting of the Board of Directors of the Sovereign Bank of Canada held at the Head Office of the Bank at Toronto on Monday, February 3, 1913, at 3.15 p.m.

<sup>311</sup> The Sovereign is put into liquidation on January 27, 1914, and the list of shareholders is ordered by the Supreme Court on May 14, 1914, as per a letter from Ross to Pugh, dated June 11, 1931, CBA.

<sup>312</sup> Letter from Clarkson, the Trustee, to the assisting banks, Toronto, July 29, 1924.

<sup>313</sup> Letter from Clarkson to Ross, June 28, 1928, CBA.

<sup>314</sup> La Banque de St-Jean, en liquidation, Rapport final du liquidateur à la clôture de liquidation, 26 décembre 1916, NAC.

Deposits and notes totalling \$263,957 are paid, and represent most of the liquid assets of the bank.<sup>315</sup> The Capital Bank of Montreal takes over the business by opening a branch in St-Césaire (Denison, 1966). The liquidation of the bank is completed by December 26, 1916 (CBA).

#### **A5.22 Failure of La Banque de St. Hyacinthe in 1908**

La Banque de St. Hyacinthe opens in 1874. The failure of the bank in 1908 is due to bad loans and to the impact of the previous failure of La Banque de St-Jean.<sup>316</sup> Profits drop, capital is lost,<sup>317</sup> and no dividends are paid after 1903, and the rest account remains unchanged. The unpaid capital and the double liability call collected from shareholders of \$66,795.52 and \$156,401.44, respectively, are used to repay depositors.<sup>318</sup> The president of the Canadian Bankers Association, who also is the president of the Bank of Montreal, is involved in the closure. The Bank of Montreal buys the building of the bank for \$20,000, and opens a new branch two days after the closure of the defunct bank (Denison, 1966). A branch of La Banque Provinciale replaces the bank branch a week later (Rudin, 1988). Rudin (1988) asserts that the bank was probably still viable but forced to liquidate by the Bank of Montreal.

#### **A5.23 Failure of St. Stephens Bank in 1910<sup>319</sup>**

This small local bank with a single branch closes in 1910 due to poor and fraudulent management. Bank funds are used for private matters, and there is an ultimate total loss of the bank's capital. Some shareholders take unsuccessful legal action against the cashier and the President of this failed bank for false returns. After negotiations with the Curator, the President pays \$100,000 to avoid prosecution. He also agrees to lend \$160,000 with no interest to avoid a double liability call. The president later obtains a reimbursement of \$50,000 from the liquidation proceeds.

#### **A5.24 Failure of the Farmers Bank of Canada in 1910**

The Farmers Bank is inaugurated in 1906, and fails in 1910 because of rapid growth due to speculation, bad loans and false returns. It is a problematic bank right from its beginnings. The general manager is imprisoned for violation of the Bank Act (Jamieson, 1962). Advances totalling more than twice the paid up capital of the bank are made to a mining company partly held by the

---

<sup>315</sup> La Banque de St-Jean, en liquidation, Rapport final du liquidateur à la clôture de liquidation, 26 décembre 1916, NAC.

<sup>316</sup> Letter from secretary of the CBA to White, May 3, 1913, CBA.

<sup>317</sup> *Ibid.*

<sup>318</sup> *Ibid.*

<sup>319</sup> Letter from the Curator to the Secretary, Department of Finance, April 21, 1925, NAC.

general manager of the bank without approval of the board. There is a run on the bank, and a Royal Commission is subsequently held. Shareholders try to fight a double liability call arguing that the Bank Act was not respected but are not successful.

#### **A5.25 Failure of the Bank of Vancouver in 1914**

The start of the First World War accelerates the failure of this bank, which has poor management.<sup>320</sup> Although there are no criminal actions, creditors lose \$279,000 and the Province of British Columbia loses \$38,000. The Circulation Redemption Fund advances \$225,000 to pay note holders (CBA). The banks replenish the fund immediately. The liquidators later reimburse the amount plus interest to the government, which in turn redirects the funds to the banks.

#### **A5.26 Failure of Home Bank in 1923<sup>321</sup>**

This bank shows profits two months before suspension. Bad loans, false financial statements and large losses from loans to directors are the alleged causes of the failure of this bank. Several people involved with the bank are prosecuted and convicted but the convictions are overturned for some of these individuals and then dropped. Some civil action leads to compromise settlements, others are dropped. To help some depositors, other banks make an advance against securities to the liquidator, and the liquidator makes an advance to creditors of 25 per cent. In 1925, the Canadian government offers partial compensation to depositors of the Home Bank on the basis of the conclusions of a Royal Commission. The compensation is not to exceed \$3 million, and is to exclude governmental and municipal creditors. For deposits of less than \$500, 35% of the original claim is added to the initial payment of 25%. Deposits of greater dollar value are covered up to a maximum of 35% of the original claim, based on the commissioner's determination for each creditor claim. The government finally pays \$3,460,000 including \$33,000 to pay Commissioner and legal expenses.<sup>322</sup> In 1928, Depositors and Ordinary Creditors obtain 32 cents on the dollar for a loss of \$10,000,000.<sup>323</sup> In 1933, the loss to

---

<sup>320</sup> Notes of Ross, Secretary of the CBA, February 16, 1933, CBA.

<sup>321</sup> Jamieson, 1962.

<sup>322</sup> Department of Finance, Ottawa, Canada. Memorandum of Payments made under Home Bank Creditors' Relief Act, 1925. July 18, 1929, NAC.

<sup>323</sup> Supreme Court of Ontario, Canadian Bankruptcy Reports in re Home Bank of Canada, Vol. 10, December 3, 1928, OSFI.

depositors is estimated at \$7,569,000.<sup>324</sup> This latter amount includes a balance of \$200,000 owed to the Province of Ontario.

#### **A5.27 Failure of Northland Bank in 1985**

Estey (1986) states that this regional bank has extended poor loans via inexperienced managers. He argues that these problems are exacerbated by the recession and the collapse of the CCB. The managers inflate assets and do not show proper loan provisions. The Bank of Canada offers liquidity loans up to \$500 million at some time until the institution fails on September 1, 1985. The Liquidator is appointed in January 1986, and is discharged in June 2001 (CDIC).

#### **A5.28 Failure of Canadian Commercial Bank in 1985**

Estey (1986) shows that the rapid expansion of this bank was concentrated in small geographic regions and in few industrial sectors. These loans became doubtful during the recession. The purchase of a minority interest in the American Westland Bank by the CCB also becomes a very poor investment. The opening of a lending office in California results in a write-off of \$85 million. The managers inflate assets and do not show proper loan provisions. The Bank of Canada offers a bailout program in March 1985 but the bank fails on September 1, 1985. As of December 2001, the liquidation process is nearly completed (CDIC). The losses are substantial and can be attributed to the loan of \$1,411,843,000 held by the only secured creditor, the Bank of Canada.<sup>325</sup> Depositors are fully reimbursed.

#### **A5.29 Failure of Bank of Credit and Commerce in 1991**

This small regional bank failed in 1991. As of December 2001, most creditors have been reimbursed, although liquidation is not completed.

---

<sup>324</sup> Letter from Secretary of the CBA to the Assistant General Manager of the Bank of Montreal, October 17, 1933, CBA.

<sup>325</sup> Liquidation Report as at February 28, 1993, CDIC.

## **FIGURES**

Figure 2.1

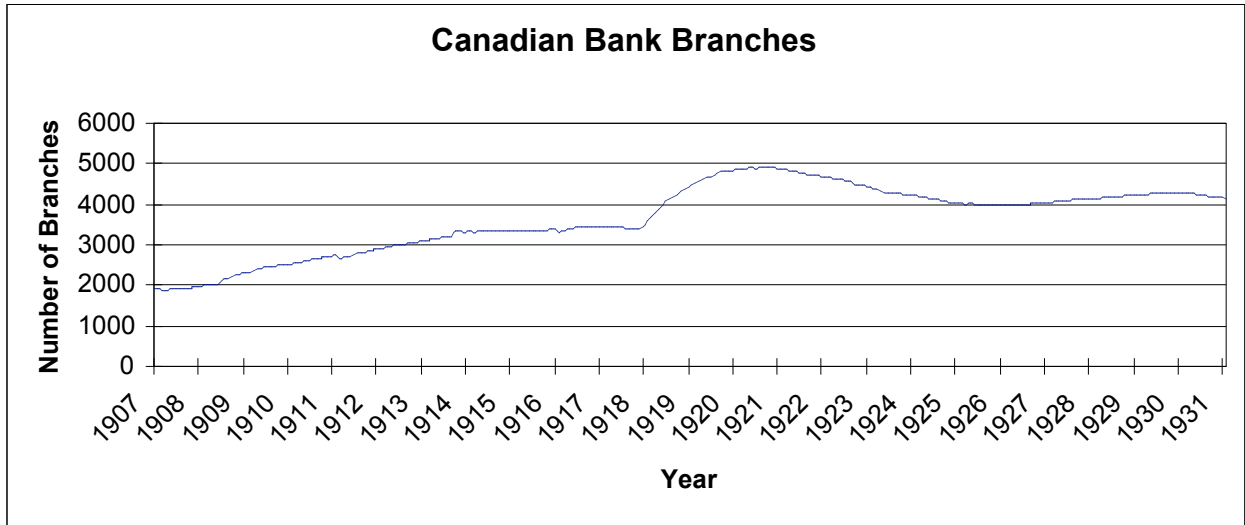


Figure 2.2

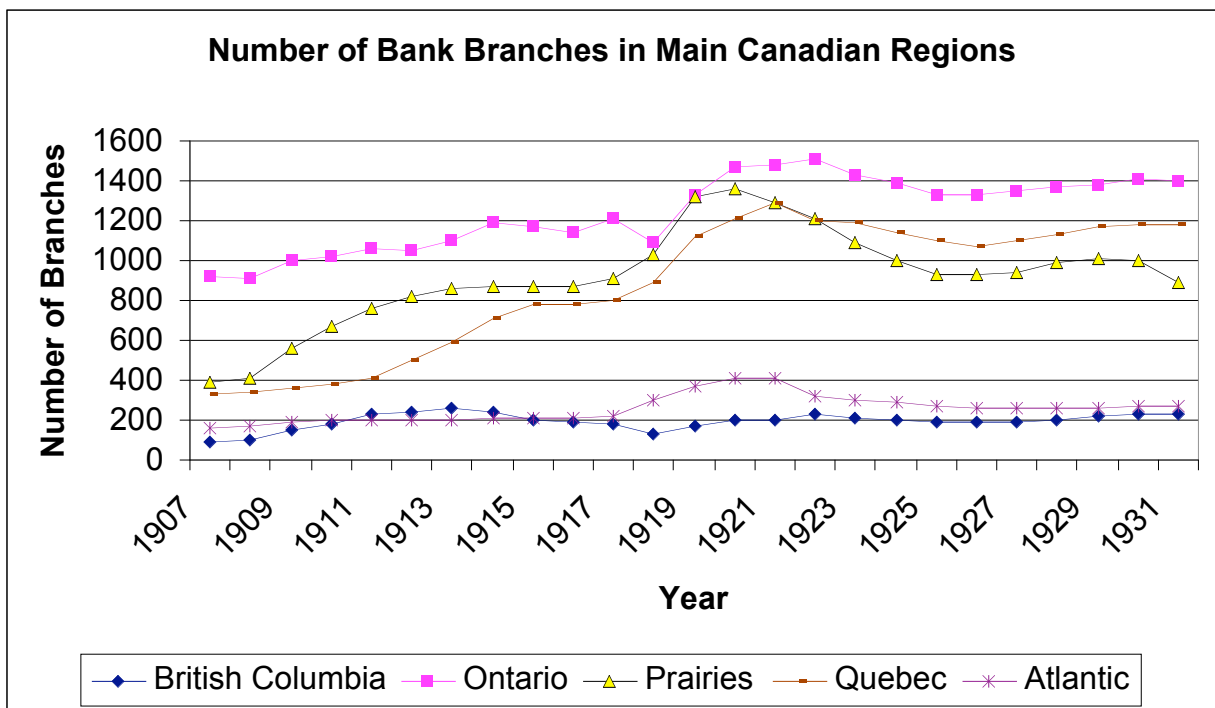


Figure 2.3

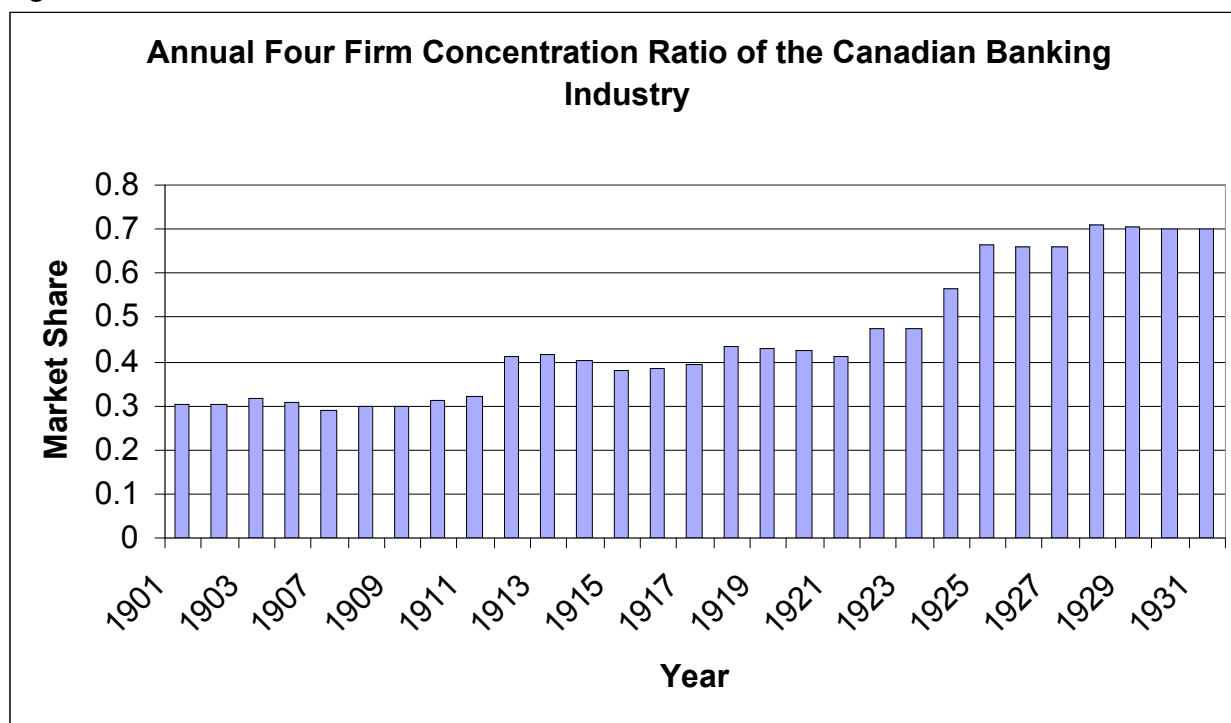


Figure 2.4

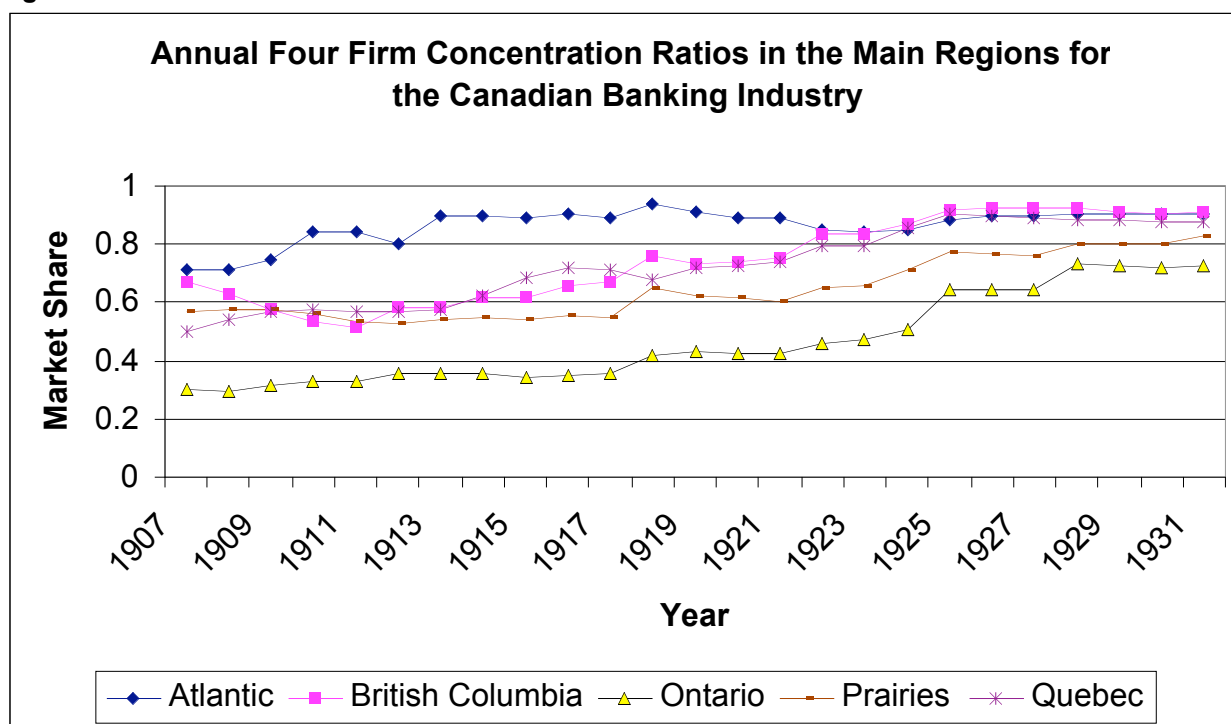
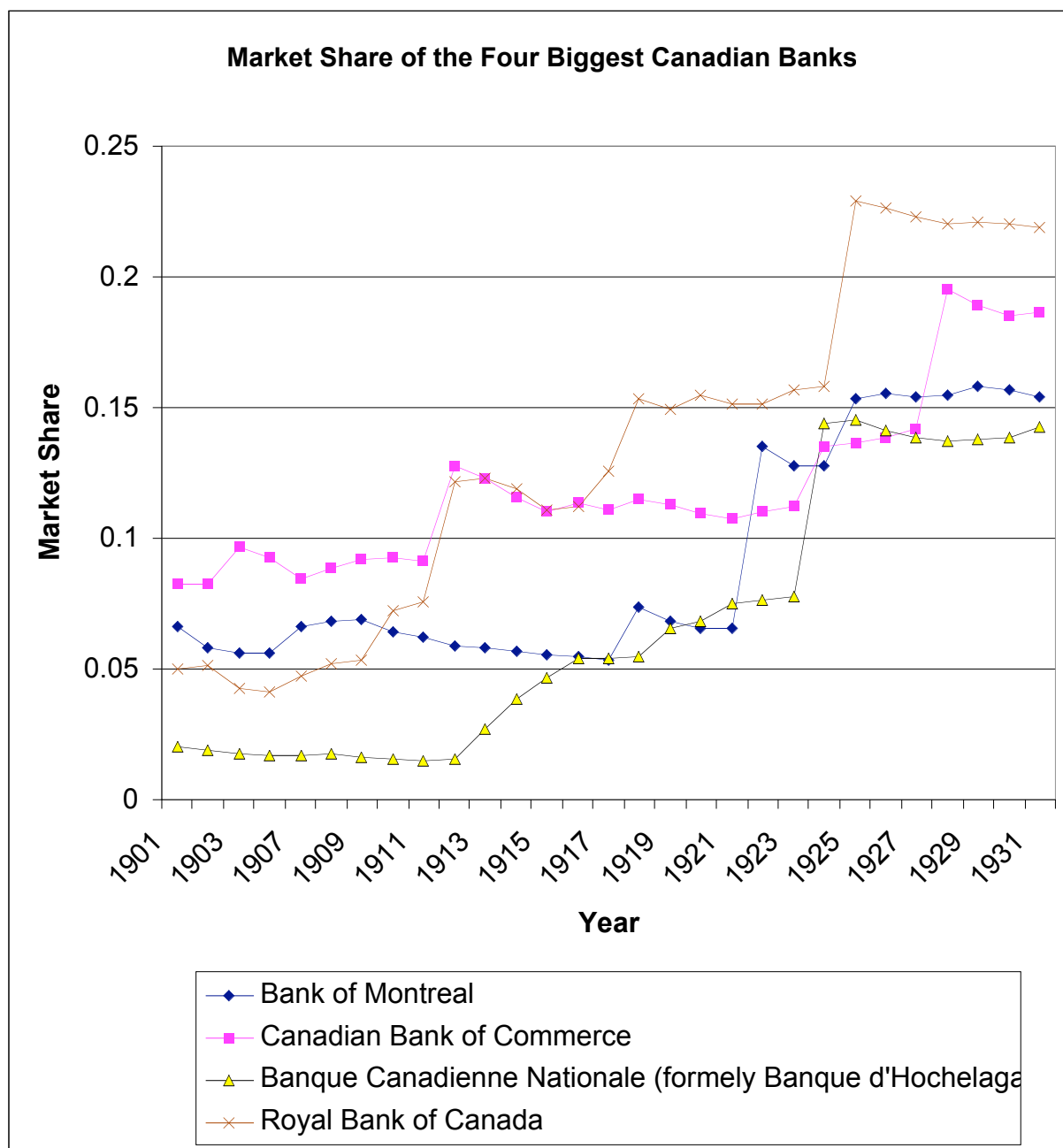


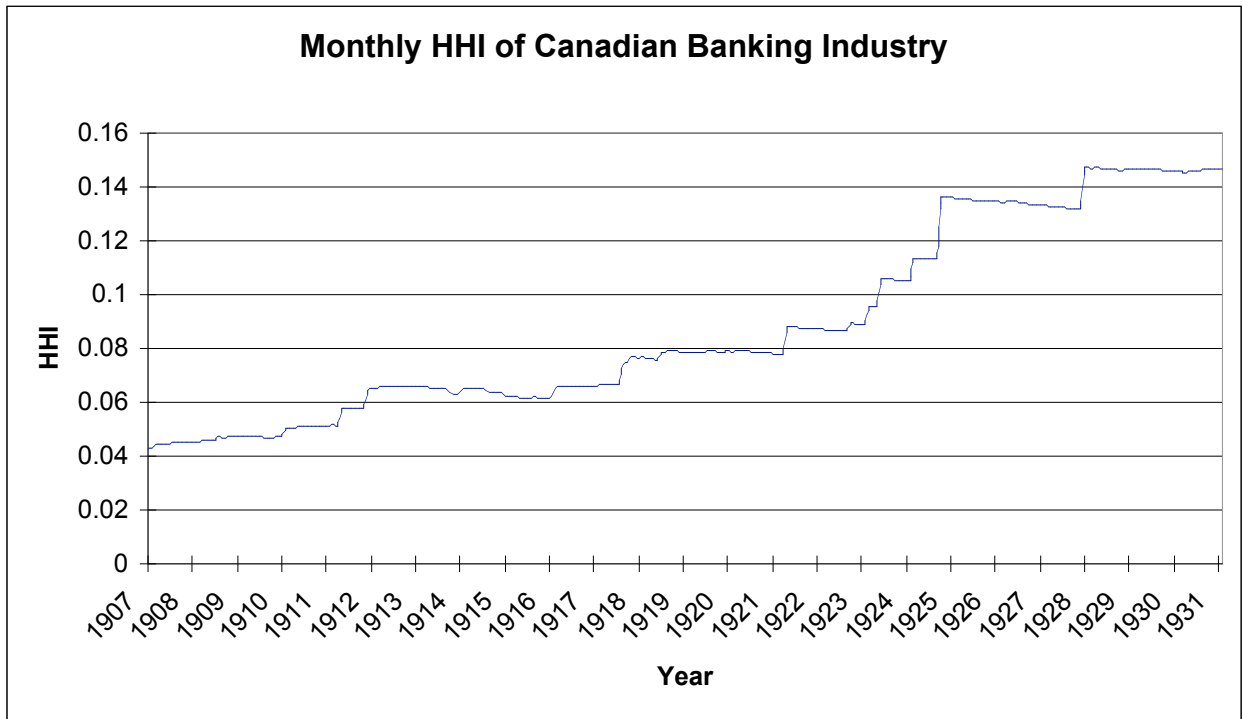


Figure 2.5



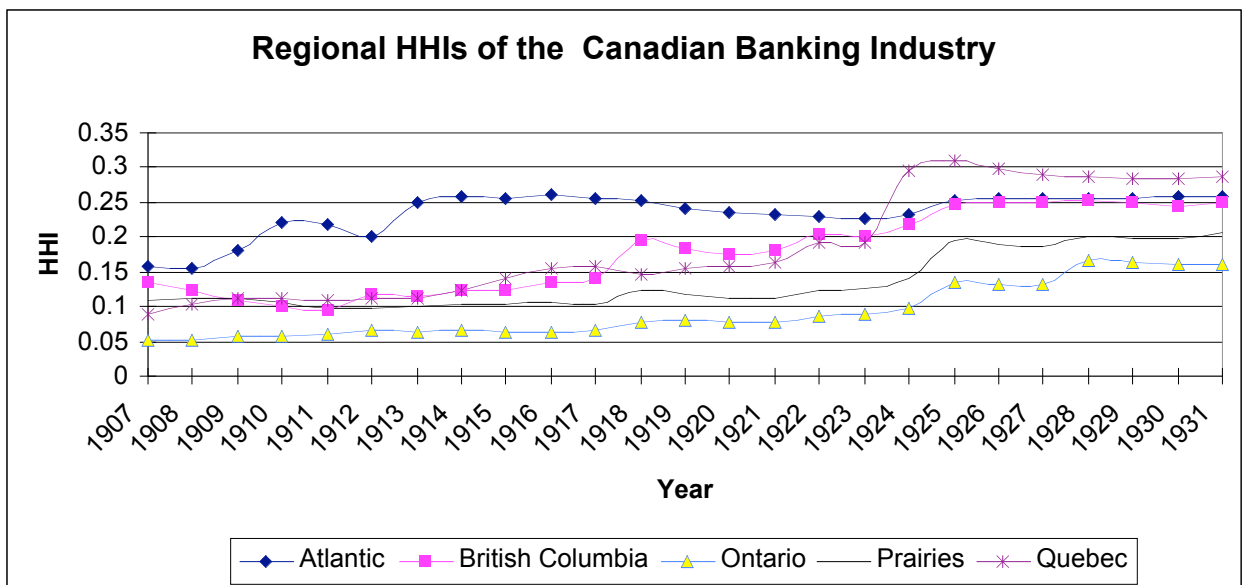
The four biggest banks are chosen based on the number of branches in 1931.

Figure 2.6



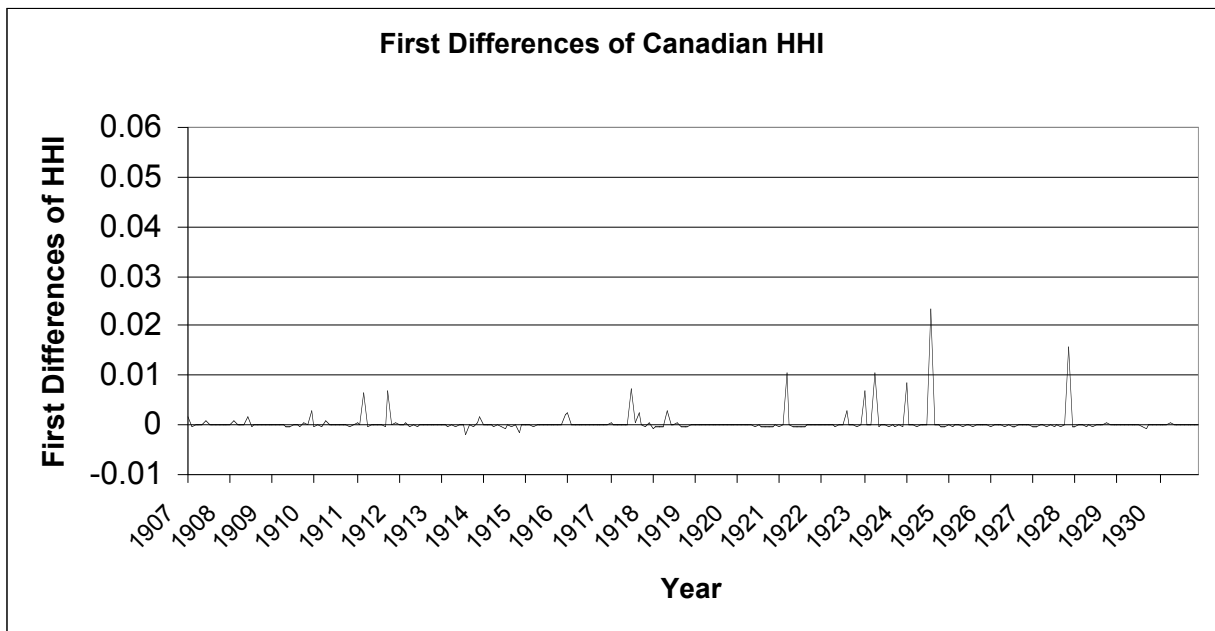
HHI is the Herfindahl-Hirshman Index.

Figure 2.7



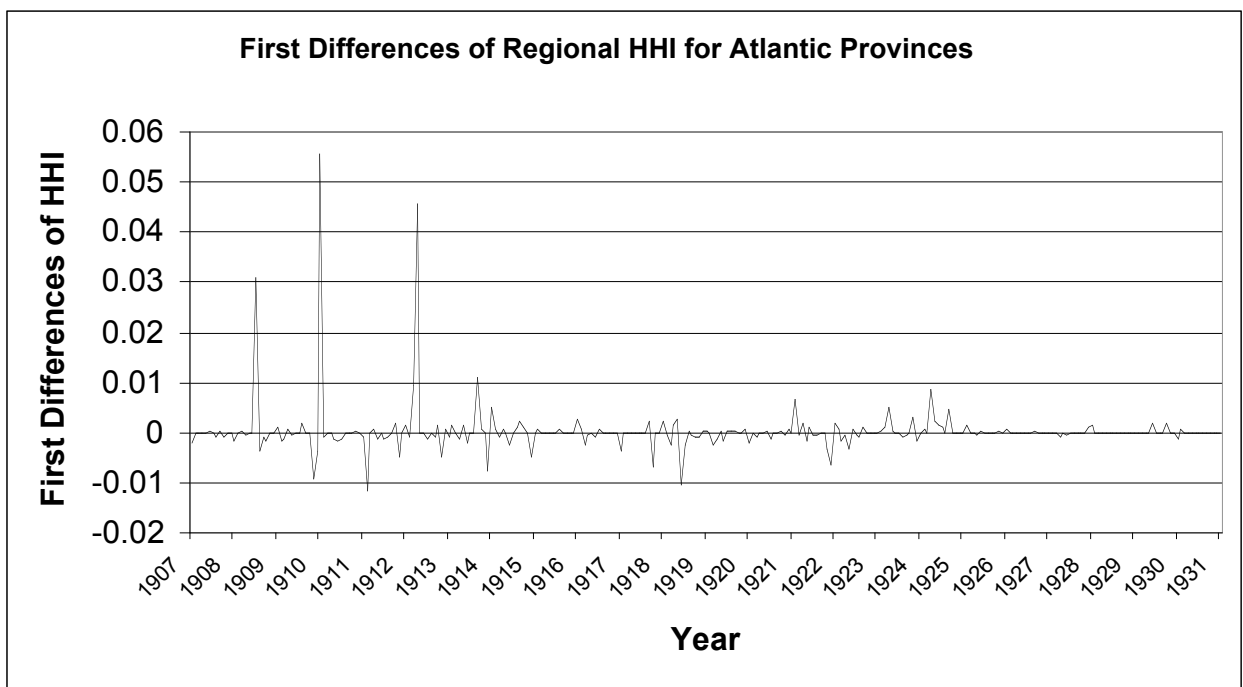
HHI is the Herfindahl-Hirshman Index.

Figure 2.8



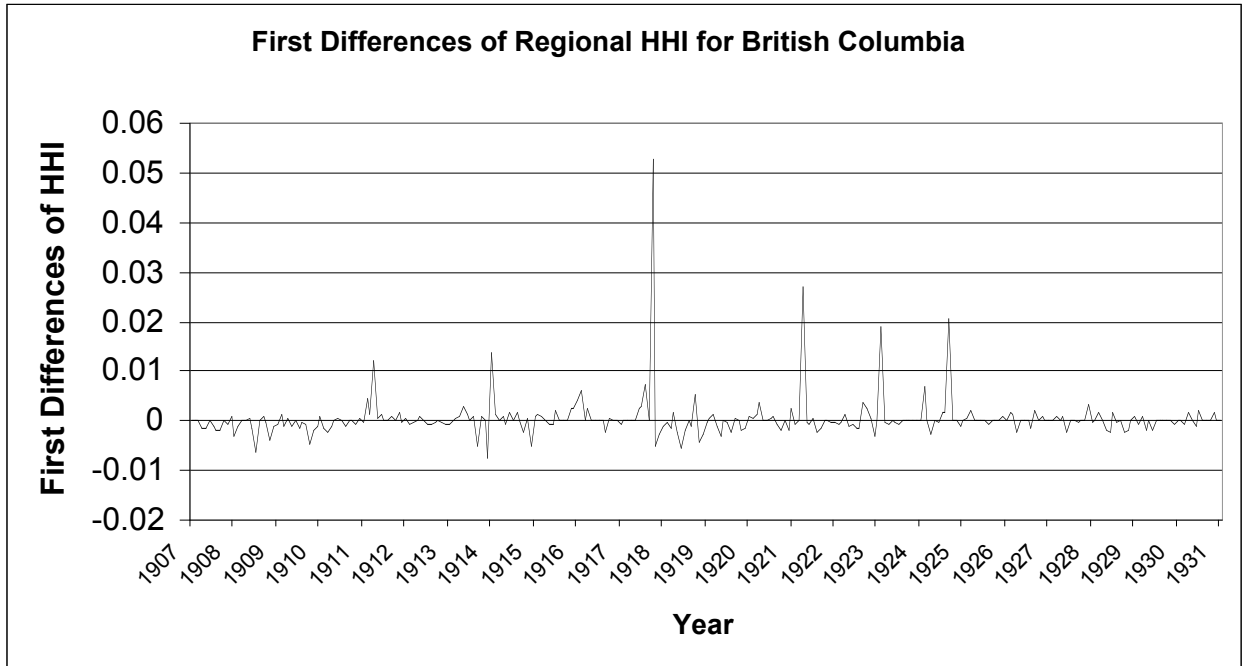
HHI is the Herfindahl-Hirshman Index.

Figure 2.9



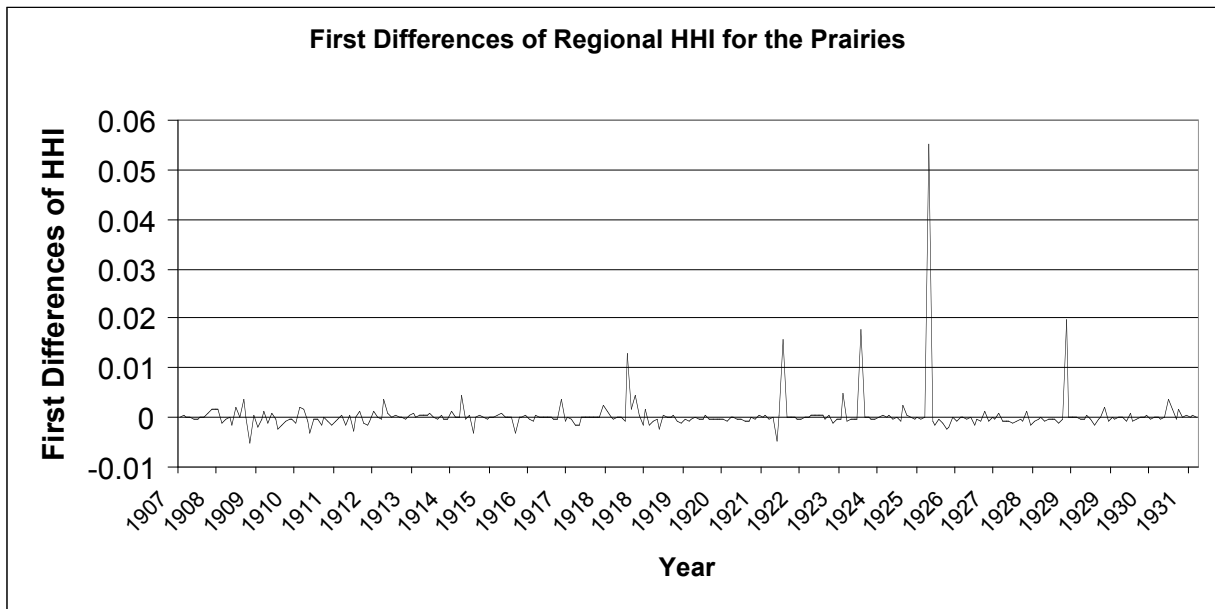
HHI is the Herfindahl-Hirshman Index.

Figure 2.10



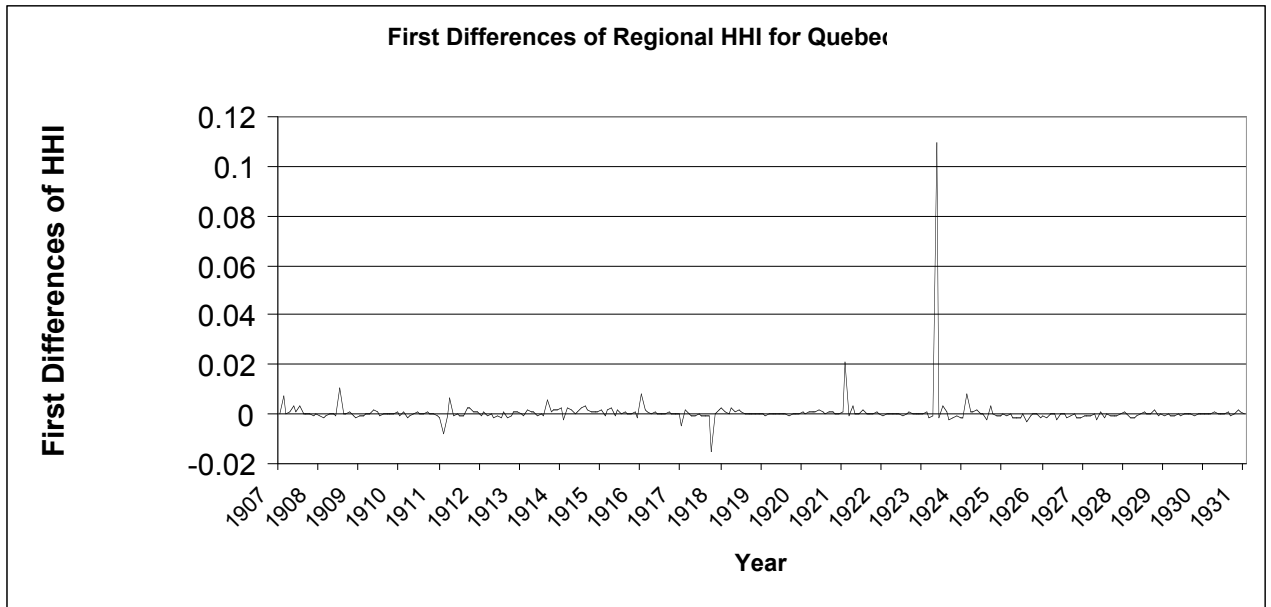
HHI is the Herfindahl-Hirshman Index.

Figure 2.11



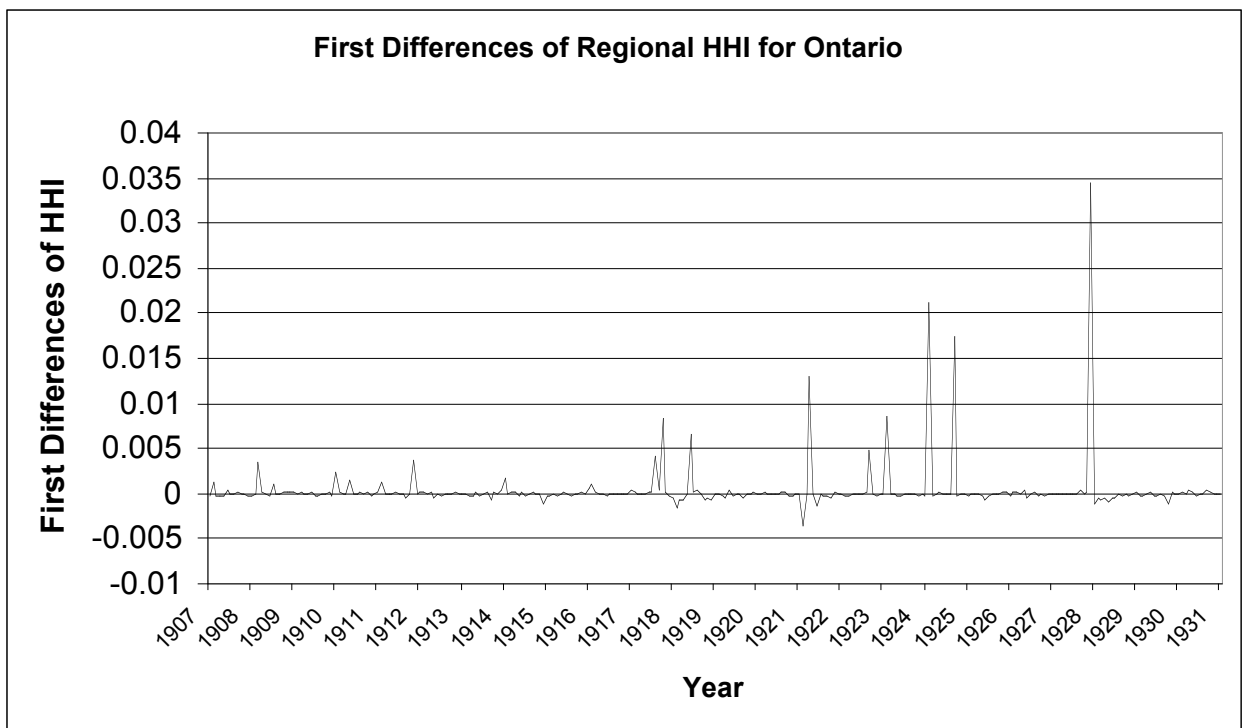
HHI is the Herfindahl-Hirshman Index.

Figure 2.12



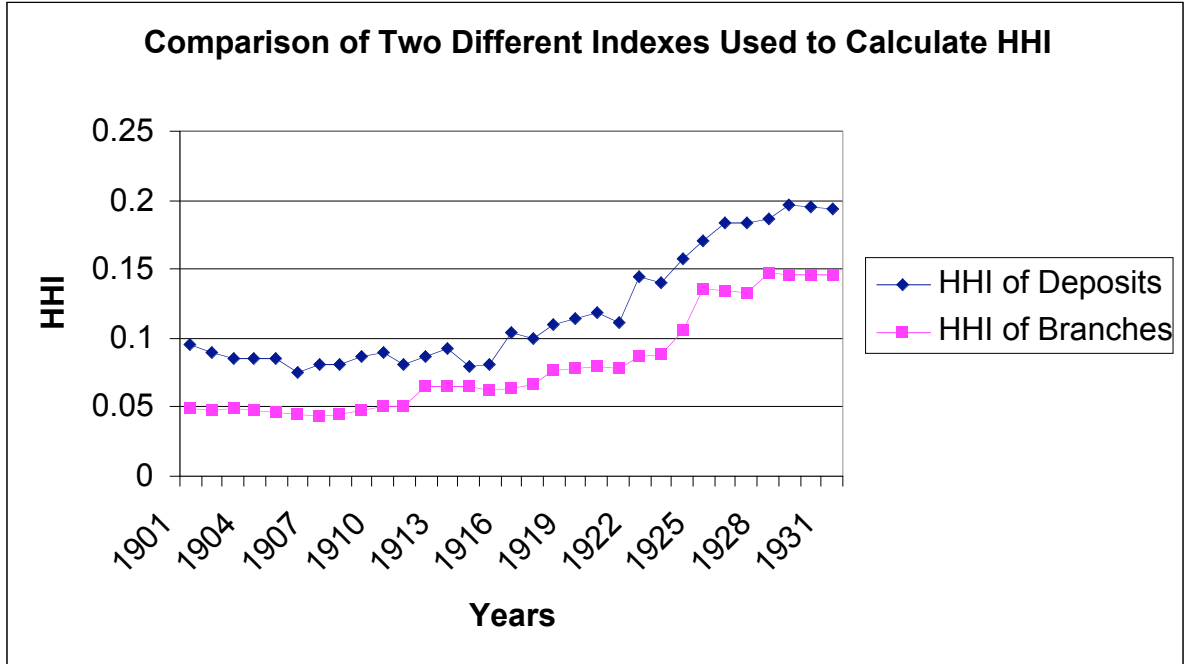
HHI is the Herfindahl-Hirshman Index.

Figure 2.13



HHI is the Herfindahl-Hirshman Index.

Figure 2.14



HHI is the Herfindahl-Hirshman Index.

## **TABLES**

**Table 2.1. Number of Chartered Bank Branches  
in Canada as of Various Selected Years**

| <b>Year</b> | <b>Total</b> | <b>Number of individuals per<br/>branch ('000)</b> |
|-------------|--------------|--|
| <b>1900</b> | 708          | 7.6  |
| <b>1910</b> | 2367         | 3.0  |
| <b>1920</b> | 4676         | 1.9  |
| <b>1930</b> | 4083         | 2.5  |

Source: Neufeld (1972, p.102).



**Table 2.2. Dates and Sources of the Bank Combinations During the Period, 1900-1931**

| Acquirer                           | Acquired  | Minister's Consent <sup>a</sup> | Date of ratification by shareholders |                   | Date of Agreement | Date, Order in Council <sup>b</sup> | Source                        |
|------------------------------------|---|---------------------------------|--------------------------------------|-------------------|-------------------|-------------------------------------|-------------------------------|
|                                    |   |                                 | Target                               | Acquirer          |                   |                                     |                               |
| The Canadian Bank of Commerce      | Bank of British Columbia, Victoria                    |                                 | December 6, 1900                     | December 11, 1900 | December 15, 1900 | December 31, 1900                   | NAC                           |
| Bank of New Brunswick              | Summerside Bank, Summerside, P.E.I.                   |                                 |                                      |                   | May 4, 1901       | September 12, 1901                  | NAC                           |
| Union Bank of Halifax              | Commercial Bank of Windsor, Windsor, N.S.             |                                 | September 8, 1902                    | September 9, 1902 | July 21, 1902     | October 31, 1902                    | NAC                           |
| The Canadian Bank of Commerce      | Halifax Banking Company, Halifax                      |                                 | April 20, 1903                       |                   | May 23, 1903      | May 30, 1903                        | NAC Ross (1920)               |
| Bank of Montreal                   | Exchange Bank of Yarmouth, Yarmouth, N.S.             |                                 |                                      |                   | May 15, 1903      | August 13, 1903                     | NAC                           |
| Bank of Montreal                   | Peoples Bank of Halifax, Halifax                      |                                 |                                      |                   | May 9, 1905       | June 27, 1905                       | CBA, NAC, Denison (1966)      |
| The Canadian Bank of Commerce      | Merchants Bank of Prince Edward Island, Charlottetown |                                 | April 10, 1906                       |                   | May 15, 1906      | May 31, 1906                        | NAC Ross (1920)               |
| Bank of Montreal                   | Peoples Bank of New Brunswick, Fredericton            |                                 |                                      |                   | January 9, 1907   | April 13, 1907                      | NAC, Denison (1966)           |
| Northern Crown Bank (Amalgamation) | Northern Bank and the Crown Bank                      |                                 |                                      |                   | February 12, 1908 | July 2, 1908                        | NAC                           |
| Standard Bank of Canada            | Western Bank, Oshawa, Ont.                            |                                 | January 6, 1909                      |                   |                   | February 13, 1909                   | NAC, Trigger (1934)           |
| The Royal Bank of Canada           | Union Bank of Halifax, Halifax                        |                                 | September 7, 1910                    | September 8, 1910 |                   | November 1, 1910                    | NAC McDowall (1993)           |
| Union Bank of Canada               | United Empire Bank, Toronto                           |                                 | February 15, 1911                    |                   | February 15, 1911 | March 31, 1911                      | NAC                           |
| The Canadian Bank of Commerce      | Eastern Townships Bank, Sherbrooke, Que.              |                                 | February 14, 1912                    |                   | February 22, 1912 | February 29, 1912                   | NAC, Rudin (1988)             |
| The Royal Bank of Canada           | Traders Bank of Canada, Toronto                       |                                 | July 2, 1912                         |                   | July 3, 1912      | September 3, 1912                   | NAC McDowall (1993)           |
| The Bank of Nova Scotia            | Bank of New Brunswick, Saint John                     |                                 | December 9, 1912                     | December 11, 1912 | December 11, 1912 | February 15, 1913                   | NAC, Schull and Gibson (1982) |

<sup>a</sup> Starting in 1912, the Minister's consent is required.

<sup>b</sup> It also is the actual date of the bank combination.

**Table 2.2. Continued**

|                               |  |                    |                    |                    |                    |                   |                               |
|-------------------------------|--|--------------------|--------------------|--------------------|--------------------|-------------------|-------------------------------|
| Home Bank of Canada           | La Banque Internationale du Canada, Montreal |                    | March 19, 1913     |                    | March 20, 1913     | April 15, 1913    | NAC                           |
| The Bank of Nova Scotia       | Metropolitan Bank, Toronto                   | June 24, 1914      | September 14, 1914 |                    | September 14, 1914 | November 14, 1914 | NAC, Schull and Gibson (1982) |
| The Royal Bank of Canada      | Quebec Bank, Quebec                          | September 16, 1916 | November 28, 1916  |                    | November 28, 1916  | January 2, 1917   | NAC McDowall (1993)           |
| Bank of Montreal              | Bank of British North America, Montreal      | March 19, 1918     | September 10, 1918 |                    | September 10, 1918 | October 12, 1918  | NAC Jamieson (1962)           |
| The Royal Bank of Canada      | Northern Crown Bank, Winnipeg                | March 8, 1918      | May 7, 1918        |                    | May 8, 1918        | July 2, 1918      | NAC McDowall (1993)           |
| The Bank of Nova Scotia       | Bank of Ottawa, Ottawa                       | January 18, 1919   | March 4, 1919      |                    | March 4, 1919      | April 30, 1919    | NAC, Schull and Gibson (1982) |
| Bank of Montreal              | The Merchants Bank of Canada, Montreal       | December 16, 1921  | February 8, 1922   | February 15, 1922  | March 10, 1922     | March 20, 1922    | ABC, NAC Denison (1966)       |
| The Canadian Bank of Commerce | Bank of Hamilton, Hamilton                   | August 27, 1923    | November 19, 1923  | November 21, 1923  |                    | December 31, 1923 | NAC Trigger (1934)            |
| La Banque d'Hochelaga         | La Banque Nationale, Montréal                | December 31, 1923  | February 19, 1924  | February 21, 1924  | January 3, 1924    | April 30, 1924    | OSFI NAC Rudin(1985)          |
| Standard Bank of Canada       | Sterling Bank of Canada, Toronto             | September 29, 1924 | November 17, 1924  | November 17, 1924  | November 17, 1924  | December 31, 1924 | NAC Trigger (1934)            |
| The Royal Bank of Canada      | Union Bank of Canada, Winnipeg               | May 22, 1925       | July 21, 1925      | July 21, 1925      | July 21, 1925      | August 31, 1925   | NAC                           |
| Bank of Montreal              | The Molson's Bank, Montreal                  | October 29, 1924   | December 22, 1924  | December 23, 1924  | January 2, 1925    | January 20, 1925  | ABC, NAC                      |
| The Canadian Bank of Commerce | Standard Bank of Canada, Toronto             | July 13, 1928      | September 18, 1928 | September 18, 1928 | September 18, 1928 | November 3, 1928  | ABC, NAC                      |
| Imperial Bank of Canada       | Weyburn Security Bank, Weyburn, Sask.        |                    |                    |                    | January 20, 1931   | May 1, 1931       | ABC, NAC                      |

**Table 2.3. Prices Paid for the Acquired Banks During the Period, 1900-1931**

| Acquirer                      | Acquired                               | Price Paid  | Total (\$)   | Change in capital of Acquirer   |
|-------------------------------|--|---|--------------|---|
| The Canadian Bank of Commerce | Bank of British Columbia               | \$2,000,000 (40,000 shares at a par value of \$50 and a market value of \$150) plus \$312,000   | \$6,312,000  | Paid up capital increases from \$6,000,000 to \$8,000,000   |
| Bank of New Brunswick         | Summerside Bank                        | \$73,000  | \$73,000     |   |
| Union Bank of Halifax         | Commercial Bank of Windsor             | \$205,900 (4,118 shares at \$50 par value and a market value of \$115)  | \$473,570    | Paid up capital increases from \$1,000,000 to \$1,205,900   |
| The Canadian Bank of Commerce | Halifax Banking Company                | 7/15 of a share with a par value of \$50 plus \$0.20 per share for each share of \$20 (\$6000 plus 14,000 shares of a market value of \$80) | \$1,126,000  | Authorized capital increases from \$8,000,000 to \$10,000,000 but paid up increases by \$700,000 for amalgamation |
| Bank of Montreal              | Exchange Bank of Yarmouth              |   |              |   |
| Bank of Montreal              | Peoples Bank of Halifax                | 4,000 shares of the Bank of Montreal at a par value of \$100 and a market value of \$253 plus \$138,000                                     | \$1,150,000  | Paid up capital increases from \$14,000,000 to \$14,400,000   |
| The Canadian Bank of Commerce | Merchants Bank of Prince Edward Island | \$678,024   | \$678,024    | Capital remains at \$10,000,000   |
| Bank of Montreal              | Peoples Bank of New Brunswick          | 1612 shares of the Bank of Montreal, or cash  | \$386,880    | Capital remains at \$14,400,000   |
| Northern Bank (Amalgamation)  | Crown Bank                             | One for one share   |              | Total paid up capital will amount to \$2,207,500  |
| Standard Bank of Canada       | Western Bank                           | \$888,000   | \$888,000    |   |
| The Royal Bank of Canada      | Union Bank of Halifax                  | An offer of 5 shares for one share of the Royal worth 12,000 shares at a par value of \$100 and a market value of \$250                     | \$3,000,000  | Increases authorized capital from \$4,000,000 to \$10,000,000 but uses \$1,200,000                                |
| Union Bank of Canada          | United Empire Bank                     | 4,000 shares at a par value of \$100 and a market value of \$150  | \$600,000    | Authorized capital remains at \$8,000,000   |
| The Canadian Bank of Commerce | Eastern Townships Bank                 | \$3,000,000 of stock, or 60,000 fully paid shares at a par value of \$50 and a market value of \$215, on a one for one basis                | \$12,900,000 | Increases paid up capital to \$15,000,000   |
| The Royal Bank of Canada      | Traders Bank of Canada                 | 33,600 shares of the Royal, at a market value of \$240  | \$8,064,000  | Increases authorized capital from \$10,000,000 to \$25,000,000  |
| The Bank of Nova Scotia       | Bank of New Brunswick                  | One for one basis (10,000 shares at \$100 par value or \$260) plus \$10 for each shares (\$100, 000)  | \$2,700,000  | Increases authorized capital from \$5,000,000 to \$6,000,000  |
| Home Bank of Canada           | La Banque Internationale du Canada     | 6,000 shares worth \$128  | \$768,000    | Paid up capital increases from \$1,300,000 to \$1,900,000   |
| The Bank of Nova Scotia       | Metropolitan Bank                      | One share of Bank of Nova Scotia (5,000 shares at a par of \$100 and a market value of \$260) plus \$200 in cash for 2 shares               | \$2,300,000  | Paid up capital increases from \$6,000,000 to \$6,500,000   |

**Table 2.3. Continued**

|                               |                               |   |              |  |
|-------------------------------|-------------------------------|---|--------------|--|
| The Royal Bank of Canada      | Quebec Bank                   | One share of the Royal plus \$75 against three shares of the former bank for a total of 9117 shares at a market value of \$225  | \$2,735,100  | Paid up capital increases by \$911,700 to \$12,911,700         |
| Bank of Montreal              | Bank of British North America | 1 share at par value of £50 exchangeable for two shares of the Bank of Montreal or for 75 pounds. (20,000 shares at a par value of 50 pounds each exchanged for 40,000 at a par value of \$100) | £1,500,000   | Paid up capital increases from \$16,000,000 to \$20,000,000    |
| The Royal Bank of Canada      | Northern Crown Bank           | 10,883 shares of par value of \$100 and market value of \$210 (an exchange of 10 shares of The Northern Crown for 7 shares of The Royal plus approximately \$40) plus \$576,970                 | \$2,862,400  |  |
| The Bank of Nova Scotia       | Bank of Ottawa                | 4 shares of the Bank of Nova Scotia in exchange for 5 shares of the Bank of Ottawa (32,000 shares of the Bank of Nova Scotia at a par value of \$100 and a market value of \$275 per share)     | \$8,800,000  | Paid up capital rises to \$9,700,000                           |
| Bank of Montreal              | The Merchants Bank of Canada  | The shareholders of the Merchants Bank receive one share of the Bank of Montreal plus \$20 in cash for every two shares of the Merchants Bank (52,500 shares at a market value of \$217)        | \$12,442,500 | Increases authorized capital from \$22,000,000 to \$28,000,000 |
| The Canadian Bank of Commerce | Bank of Hamilton              | Exchange of stock, one for one is made representing 50,000 shares each at a \$100 par value and a market value of \$184   | \$9,200,000  | Paid up capital increases from \$15,000,000 to \$20,000,000    |
| La Banque d'Hochelaga         | La Banque Nationale           | Exchange of two shares of the Nationale for one share of the Hochelaga (15,000 shares at a par value of \$100 and a market value of \$143)  | \$2,145,000  | Paid up capital increases from \$4,000,000 to \$5,500,000      |
| Standard Bank of Canada       | Sterling Bank of Canada       | The Standard gives two shares in exchange for three shares of the Sterling Bank (8234 shares at a par value of \$100 each and a market value of \$162)  | \$1,333,908  | Paid up capital increases from \$4,000,000 to \$4,823,400      |
| The Royal Bank of Canada      | Union Bank of Canada          | 40,000 shares of the Royal (market value of \$230) exchanged against 80,000 shares of the Union   | \$9,200,000  | Paid up capital increases from \$20,400,000 to \$24,400,000    |
| Bank of Montreal              | The Molson's Bank             | 2 shares of the acquiring bank (market value of the share is \$249) plus \$30 in cash in exchange for 3 shares  | \$7,040,000  | Paid up capital increases from \$27,250,000 to \$29,916,700    |
| The Canadian Bank of Commerce | Standard Bank of Canada       | One for one share basis totaling 48,234 shares at a \$100 par value and a market value of \$290   | \$13,987,860 |  |
| Imperial Bank of Canada       | Weyburn Security Bank         | \$100,000   | \$100,000    |  |

Source: Individual sources consulted for each merger are the same as the ones reported in Table 2.

**Table 2.4. Financial Information for the Bank Combinations During the Period, 1900-1931**

| Acquirer                      | Acquired                               | Financial Data of the Banks Absorbed |                 |            |              | Number of Branches Closed within 2 Years of Merger | Date of Charter Acquired |
|-------------------------------|--|--------------------------------------|-----------------|------------|--------------|--|--------------------------|
|                               |  | Liabilities                          | Paid up capital | Assets     | Reserve fund |  |                          |
| The Canadian Bank of Commerce | Bank of British Columbia               | 9,395,372                            | 2,919,996       | 12,484,709 | 487,666      | 1  | 1862                     |
| Bank of New Brunswick         | Summerside Bank                        | 231,000                              | 49,000          | 304,000    | 24,000       |  | 1864                     |
| Union Bank of Halifax         | Commercial Bank of Windsor             | 1,304,170                            | 350,000         | 1,688,140  | 25,000       | nil  | 1865                     |
| The Canadian Bank of Commerce | Halifax Banking Company                | 4,653,215                            | 600,000         | 5,873,157  | 525,000      | 1  | 1872                     |
| Bank of Montreal              | Exchange Bank of Yarmouth              | 424,983                              | 267,659         | 753,838    | 50,000       |  | 1867                     |
| Bank of Montreal              | Peoples Bank of Halifax                | 4,564,863                            | 1,000,000       | 6,082,283  | 440,000      | 6  | 1864                     |
| The Canadian Bank of Commerce | Merchants Bank of Prince Edward Island | 1,361,882                            | 350,400         | 2,072,076  | 331,000      | 1  | 1864                     |
| Bank of Montreal              | Peoples Bank of New Brunswick          | 601,135                              | 180,000         | 992,190    | 180,000      | 1  | 1864                     |
| Standard Bank of Canada       | Western Bank                           | 5,025,652                            | 555,000         | 5,949,307  | 350,000      | none   | 1882                     |
| The Royal Bank of Canada      | Union Bank of Halifax                  | 12,268,155                           | 1,500,000       | 15,099,578 | 1,250,000    | 14   | 1856                     |
| Union Bank of Canada          | United Empire Bank                     | 3,269,414                            | 582,231         | 3,851,646  | nil          | 1  | 1903                     |
| The Canadian Bank of Commerce | Eastern Townships Bank                 | 22,094,793                           | 3,000,000       | 27,634,803 | 2,400,000    | 16 (includes 11 sub-branches)                      | 1855                     |
| The Royal Bank of Canada      | Traders Bank of Canada                 | 43,887,399                           | 4,480,000       | 51,245,987 | 2,552,750    | 17   | 1884                     |
| The Bank of Nova Scotia       | Bank of New Brunswick                  | 9,092,929                            | 1,000,000       | 11,974,628 | 1,790,000    | 13   | 1820                     |

**Table 2.4. Continued**

|                               |                                    |             |                        |             |           |    |      |
|-------------------------------|------------------------------------|-------------|------------------------|-------------|-----------|----|------|
| Home Bank of Canada           | La Banque Internationale du Canada | 1,564,039   | 1,359,833              | 2,915,968   | nil       | 3  | 1911 |
| The Bank of Nova Scotia       | Metropolitan Bank                  | 9,892,920   | 1,000,000              | 12,365,210  | 1,250,000 | 4  | 1902 |
| The Royal Bank of Canada      | Quebec Bank                        | 17,321,925  | 2,735,000              | 21,162,177  | 1,000,000 | 21 | 1822 |
| Bank of Montreal              | Bank of British North America      | 64,130,794  | 4,866,667 (£1,000,000) | 78,251,952  | 3,017,333 | 21 | 1840 |
| The Royal Bank of Canada      | Northern Crown Bank                | 25,243,024  | 1,431,200              | 27,819,291  | 715,600   | 17 | 1908 |
| The Bank of Nova Scotia       | Bank of Ottawa                     | 57,094,357  | 4,000,000              | 66,451,844  | 5,000,000 | 9  | 1874 |
| Bank of Montreal              | The Merchants Bank of Canada       | 127,429,282 | 10,500,000             | 139,531,678 | 1,500,000 | 83 | 1861 |
| The Canadian Bank of Commerce | Bank of Hamilton                   | 67,904,128  | 5,000,000              | 67,904,128  | 4,850,000 |    | 1872 |
| La Banque d'Hochelaga         | La Banque Nationale                | 52,000,249  | 3,000,000              | 52,000,249  | 400,000   |    | 1860 |
| Standard Bank of Canada       | Sterling Bank of Canada            | 20,740,575  | 1,235,000              | 20,845,201  | 500,000   |    | 1905 |
| The Royal Bank of Canada      | Union Bank of Canada               | 99,197,375  | 8,000,000              | 99,197,375  | 1,750,000 | 49 | 1865 |
| Bank of Montreal              | The Molsons' Bank                  | 68,388,186  | 4,000,000              | 68,602,710  | 3,000,000 |    | 1855 |
| The Canadian Bank of Commerce | Standard Bank of Canada            | 104,080,101 | 4,823,400              | 104,581,534 | 2,900,000 |    | 1873 |
| Imperial Bank of Canada       | Weyburn Security Bank              | 3,894,318   | 524,560                | 3,937,990   | 225,000   |    | 1910 |

Source: CBA.

**Table 2.5. Correlation Matrix for the Independent and Dependent Variables**

|                                       | Price Paid per Dollar of Assets | Age of Acquired Bank | Reserves-to-Assets of Acquired Bank | Branches of Acquired Bank | Branches of Acquirer Bank | Branches Closed within Two Years | Free or Forced Combination | Debt-to-Equity Ratio of Acquired Bank |
|---------------------------------------|---------------------------------|----------------------|-------------------------------------|---------------------------|---------------------------|----------------------------------|----------------------------|---------------------------------------|
| Price Paid per Dollar of Assets       | 1                               |                      |                                     |                           |                           |                                  |                            |                                       |
| Age of Acquired Bank                  | -0.058                          | 1                    |                                     |                           |                           |                                  |                            |                                       |
| Reserves-to-Assets of Acquired Bank   | 0.446                           | 0.186                | 1                                   |                           |                           |                                  |                            |                                       |
| Branches of Acquired Bank             | -0.482                          | 0.347                | -0.448                              | 1                         |                           |                                  |                            |                                       |
| Branches of Acquirer Bank             | -0.457                          | 0.359                | -0.305                              | 0.753                     | 1                         |                                  |                            |                                       |
| Branches Closed within Two Years      | -0.219                          | 0.336                | -0.234                              | 0.612                     | 0.368                     | 1                                |                            |                                       |
| Free or Forced Combination            | 0.486                           | -0.252               | 0.297                               | -0.561                    | -0.598                    | -0.334                           | 1                          |                                       |
| Debt-to-Equity Ratio of Acquired Bank | -0.571                          | 0.111                | -0.280                              | 0.653                     | 0.710                     | 0.101                            | -0.551                     | 1                                     |

**Table 2.6. Regression Results for the Determinants of the Price Paid per Dollar of Assets for the Sample of Bank Combinations<sup>a,b</sup>**

| Variable                              | Regression Run      |                      |                      |                      |                       |                      |                      |                       |                      |                       |
|---------------------------------------|---------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|-----------------------|----------------------|-----------------------|
|                                       | 1                   | 2                    | 3                    | 4                    | 5                     | 6                    | 7                    | 8                     | 9                    | 10                    |
| Intercept                             | 0.220<br>(0.011) ** | 0.200<br>(0.000) *** | 0.120<br>(0.002) *** | 0.238<br>(0.000) *** | 0.258<br>(0.000) ***  | 0.203<br>(0.000) *** | 0.144<br>(0.000) *** | 0.304<br>(0.000) ***  | 0.215<br>(0.006) *** | 0.240<br>(0.000) ***  |
| Age of Acquired Bank                  | -0.0002<br>(0.864)  | -0.0003<br>(0.773)   |                      |                      |                       |                      |                      |                       |                      |                       |
| Reserves-to-Assets of Acquired Bank   | 0.772<br>(0.168)    |                      | 1.133<br>(0.020) **  |                      |                       |                      |                      |                       | 0.733<br>(0.140)     | 0.788<br>(0.069) *    |
| Branches of Acquired Bank             | 0.0001<br>(0.773)   |                      |                      | -0.001<br>(0.011) ** |                       |                      |                      |                       | 0.0001<br>(0.793)    |                       |
| Branches of Acquirer Bank             | 0.00004<br>(0.843)  |                      |                      |                      | -0.0003<br>(0.017) ** |                      |                      |                       | 0.00003<br>(0.868)   |                       |
| Branches Closed Within Two Years      | -0.001<br>(0.648)   |                      |                      |                      |                       | -0.001<br>(0.273)    |                      |                       | -0.001<br>(0.633)    |                       |
| Free or Forced Combination            | 0.043<br>(0.446)    |                      |                      |                      |                       |                      | 0.119<br>(0.010) *** |                       | 0.044<br>(0.420)     |                       |
| Debt-to-Equity Ratio of Acquired Bank | -0.011<br>(0.122)   |                      |                      |                      |                       |                      |                      | -0.013<br>(0.002) *** | -0.010<br>(0.111)    | -0.011<br>(0.007) *** |
| <b>Statistic</b>                      |                     |                      |                      |                      |                       |                      |                      |                       |                      |                       |
| R-square                              | 0.447               | 0.003                | 0.199                | 0.232                | 0.209                 | 0.048                | 0.236                | 0.327                 | 0.446                | 0.415                 |
| Adj. R-square                         | 0.243               | -0.036               | 0.167                | 0.201                | 0.177                 | 0.010                | 0.205                | 0.300                 | 0.280                | 0.366                 |
| P-value of F test                     | 0.082 *             | 0.773                | 0.020 **             | 0.011 **             | 0.017 **              | 0.273                | 0.010 **             | 0.002 ***             | 0.045 **             | 0.002 ***             |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis below each coefficient.

<sup>b</sup> The sample size consists of 27 bank combinations.



**Table 2.7. National HHI of the Canadian Banking Industry Based on the Number of Branches<sup>a</sup>**

| Year | HHI    | HHI Annual Change |
|------|--------|-------------------|
| 1901 | 0.0485 |                   |
| 1902 | 0.0475 | -0.0010           |
| 1903 | 0.0488 | 0.0013            |
| 1904 | 0.0473 | -0.0015           |
| 1907 | 0.0429 | -0.0044           |
| 1908 | 0.0454 | 0.0025            |
| 1909 | 0.0474 | 0.0020            |
| 1910 | 0.0505 | 0.0031            |
| 1911 | 0.0512 | 0.0008            |
| 1912 | 0.0653 | 0.0141            |
| 1913 | 0.0657 | 0.0004            |
| 1914 | 0.0652 | -0.0005           |
| 1915 | 0.0621 | -0.0031           |
| 1916 | 0.0637 | 0.0016            |
| 1917 | 0.0660 | 0.0023            |
| 1918 | 0.0772 | 0.0112            |
| 1919 | 0.0784 | 0.0012            |
| 1920 | 0.0788 | 0.0004            |
| 1921 | 0.0779 | -0.0009           |
| 1922 | 0.0871 | 0.0091            |
| 1923 | 0.0888 | 0.0017            |
| 1924 | 0.1049 | 0.0161            |
| 1925 | 0.1357 | 0.0308            |
| 1926 | 0.1346 | -0.0011           |
| 1927 | 0.1332 | -0.0014           |
| 1928 | 0.1472 | 0.0140            |
| 1929 | 0.1466 | -0.0006           |
| 1930 | 0.1456 | -0.0010           |
| 1931 | 0.1463 | 0.0008            |

<sup>a</sup> HHI is the Herfindahl-Hirshman Index.

**Table 2.8. Paired Two Sample Test of the Means for Branch HHIs and Deposit HHIs <sup>a</sup>**

|                         | <b>Number of<br/>observations</b> | <b>Mean</b> | <b>Standard<br/>Deviation</b> |
|-------------------------|-----------------------------------|-------------|-------------------------------|
| <b>HHI of Deposits</b>  | 31                                | 0.119       | 0.042                         |
| <b>HHI of Branches</b>  | 31                                | 0.080       | 0.037                         |
| <b>Difference</b>       | 31                                | 0.038       | 0.010                         |
| <b>t statistic</b>      | 21.31                             |             |                               |
| <b>2-tailed p-value</b> | <0.0001                           |             |                               |
| <b>Correlation</b>      | 98%                               |             |                               |

<sup>a</sup> HHI is the Herfindahl-Hirshman Index.

**Table 2.9. Number of Branches of the Canadian Bank Combinations from 1900 until 1931**

|                               |  |    |                | Number of Branches <sup>a,b</sup> |          |          |    |    |    |    |          |    |     |     |    |
|-------------------------------|--|----|----------------|-----------------------------------|----------|----------|----|----|----|----|----------|----|-----|-----|----|
|                               |  |    | Date of merger | National                          |          | Regional |    |    |    |    |          |    |     |     |    |
| Acquirer                      | Acquired                                     | ID |                | Acquired                          | Acquirer | Acquired |    |    |    |    | Acquirer |    |     |     |    |
|                               |  |    |                |                                   |          | A        | Q  | O  | P  | BC | A        | Q  | O   | P   | BC |
| The Canadian Bank of Commerce | Bank of British Columbia                     |    | 31-Dec-00      | 11                                | 57       |          |    |    |    |    |          |    |     |     |    |
| Bank of New Brunswick         | Summerside Bank, P.E.I.                      |    | 12-Sep-01      | 1                                 | 4        |          |    |    |    |    |          |    |     |     |    |
| Union Bank of Halifax         | Commercial Bank of Windsor, N.S.             |    | 31-Oct-02      | 6                                 | 23       |          |    |    |    |    |          |    |     |     |    |
| The Canadian Bank of Commerce | Halifax Banking Company                      |    | 30-May-03      | 17                                | 74       |          |    |    |    |    |          |    |     |     |    |
| Bank of Montreal              | Peoples Bank of Halifax                      |    | 27-Jun-05      | 26                                | 71       |          |    |    |    |    |          |    |     |     |    |
| The Canadian Bank of Commerce | Merchants Bank of Prince Edward Island       |    | 31-May-06      | 6                                 | 168      |          |    |    |    |    |          |    |     |     |    |
| Bank of Montreal              | Peoples Bank of New Brunswick                |    | 13-Apr-07      | 1                                 | 128      |          |    |    |    |    |          |    |     |     |    |
| Standard Bank of Canada       | Western Bank, Ont.                           | 1  | 13-Feb-09      | 27                                | 50       |          |    | 27 |    |    |          |    | 50  |     |    |
| The Royal Bank of Canada      | Union Bank of Halifax                        | 2  | 1-Nov-10       | 45                                | 134      | 45       |    |    |    |    | 24       | 10 | 34  | 16  | 31 |
| Union Bank of Canada          | United Empire Bank, Toronto                  | 3  | 31-Mar-11      | 17                                | 207      |          |    | 17 |    |    | 2        | 1  | 53  | 139 | 11 |
| The Canadian Bank of Commerce | Eastern Townships Bank, Que.                 | 4  | 29-Feb-12      | 99                                | 248      |          | 84 | 5  | 9  |    | 19       | 8  | 68  | 113 | 32 |
| The Royal Bank of Canada      | Traders Bank of Canada, Toronto              | 5  | 3-Sep-12       | 121                               | 220      |          |    | 99 | 20 | 2  | 64       | 22 | 20  | 39  | 45 |
| The Bank of Nova Scotia       | Bank of New Brunswick                        | 6  | 15-Feb-13      | 18                                | 113      | 18       |    |    |    |    | 46       | 9  | 24  | 12  | 2  |
| Home Bank of Canada           | La Banque Internationale du Canada, Montreal | 7  | 15-Apr-13      | 10                                | 39       |          | 9  |    |    |    |          | 1  | 27  | 10  | 1  |
| The Bank of Nova Scotia       | Metropolitan Bank, Toronto                   | 8  | 14-Nov-14      | 44                                | 146      |          |    | 44 |    |    | 71       | 13 | 26  | 11  | 3  |
| The Royal Bank of Canada      | Quebec Bank, Quebec                          | 9  | 2-Jan-17       | 54                                | 371      | 1        | 25 | 9  | 16 | 2  | 74       | 31 | 119 | 56  | 39 |

**Table 2.9. Continued**

|   |   |    |                   |     |     |    |     |     |     |    |   |    |     |     |     |    |    |
|---|---|----|-------------------|-----|-----|----|-----|-----|-----|----|---|----|-----|-----|-----|----|----|
| The Royal Bank of Canada  | Northern Crown Bank, Winnipeg           | 10 | 2-Jul-18          | 102 | 423 |    |     |     | 24  | 75 | 3 |    | 78  | 52  | 129 | 70 | 38 |
| Bank of Montreal  | Bank of British North America, Montreal | 11 | 12-Oct-18         | 97  | 184 | 6  | 9   | 21  | 35  | 15 |   | 24 | 40  | 62  | 26  | 26 |    |
| The Bank of Nova Scotia   | Bank of Ottawa, Ottawa                  | 12 | 30-Apr-19         | 110 | 213 |    | 17  | 73  | 19  | 1  |   | 85 | 10  | 70  | 11  | 3  |    |
| Bank of Montreal  | The Merchants Bank of Canada, Montreal  | 13 | 20-Mar-22         | 336 | 364 | 4  | 51  | 132 | 133 | 16 |   | 30 | 51  | 122 | 92  | 53 |    |
| The Canadian Bank of Commerce   | Bank of Hamilton, Hamilton              | 14 | 31-Dec-23         | 147 | 497 |    | 1   | 71  | 66  | 9  |   | 39 | 82  | 135 | 167 | 56 |    |
| La Banque d'Hochelaga (name later changed to Banque Canadienne Nationale) | La Banque Nationale, Montréal           | 15 | 30-Apr-24         | 330 | 344 | 10 | 314 | 5   |     |    |   |    | 279 | 29  | 36  |    |    |
| Standard Bank of Canada   | Sterling Bank of Canada, Toronto        | 16 | December 31, 1924 | 76  | 165 |    | 1   | 63  | 12  |    |   | 1  | 1   | 117 | 45  | 1  |    |
| Bank of Montreal  | The Molson's Bank, Montreal             | 16 | 20-Jan-25         | 125 | 538 |    | 48  | 69  | 5   | 3  |   | 30 | 84  | 200 | 161 | 46 |    |
| The Royal Bank of Canada  | Union Bank of Canada, Winnipeg          | 17 | 31-Aug-25         | 319 | 659 | 2  | 10  | 91  | 207 | 8  |   | 94 | 60  | 193 | 139 | 52 |    |
| The Canadian Bank of Commerce   | Standard Bank of Canada, Toronto        | 18 | 3-Nov-28          | 226 | 592 | 1  | 1   | 174 | 49  | 1  |   | 35 | 89  | 187 | 199 | 66 |    |
| Imperial Bank of Canada   | Weyburn Security Bank, Sask.            | 19 | 1-May-31          | 30  | 209 |    |     |     | 30  |    |   |    | 4   | 124 | 66  | 15 |    |

Source: Please see Table 2. Number of branches are obtained from the *CBA'S Houston's Bank Directory of Canada* and from the *Canada Yearbook*.

<sup>a</sup> A is for Atlantic, Q for Quebec, O for Ontario, P for Prairies, and BC for British Columbia.

<sup>b</sup> The sum of regional branches may be lower than total national branches since regional branches do not include Territories and foreign branches.

**Table 2.10. Regression Results for the Impact of Bank Mergers on National HHI<sup>a,b</sup>**

| Variable/Statistic                       | Coefficient (p-value) |  |
|--|-----------------------|--|
| <b>Intercept</b>                         | 0.002 (0.041)         |  |
| <b>LN Total Assets</b>                   | -0.0001 (0.038) **    |  |
| <b>1</b>                                 | 0.001 (0.052) *       |  |
| <b>2</b>                                 | 0.003 (0.000) ***     |  |
| <b>3</b>                                 | 0.001 (0.019) **      |  |
| <b>4</b>                                 | 0.007 (0.000) ***     |  |
| <b>5</b>                                 | 0.007 (0.000) ***     |  |
| <b>6</b>                                 | 0.0005 (0.185)        |  |
| <b>7</b>                                 | 0.0002 (0.608)        |  |
| <b>8</b>                                 | 0.002 (0.000) ***     |  |
| <b>9</b>                                 | 0.003 (0.000) ***     |  |
| <b>10</b>                                | 0.007 (0.000) ***     |  |
| <b>11</b>                                | 0.003 (0.000) ***     |  |
| <b>12</b>                                | 0.003 (0.000) ***     |  |
| <b>13</b>                                | 0.011 (0.000) ***     |  |
| <b>14</b>                                | 0.007 (0.000) ***     |  |
| <b>15</b>                                | 0.011 (0.000) ***     |  |
| <b>16</b>                                | 0.009 (0.000) ***     |  |
| <b>17</b>                                | 0.023 (0.000) ***     |  |
| <b>18</b>                                | 0.016 (0.000) ***     |  |
| <b>19</b>                                | 0.001 (0.059) *       |  |
| <b>R Square</b>                          | 0.975                 |  |
| <b>Adj. R Square</b>                     | 0.973                 |  |
| <b>P-value of F test</b>                 | 0.000 ***             |  |
| <b>Mean of Coefficients Estimates</b>    | <b>0.006</b>          |  |
| <b>T-Value of Coefficients Estimates</b> | <b>4.256 ***</b>      |  |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis beside each coefficient.

<sup>b</sup> HHI is the Herfindahl-Hirshman Index.

**Table 2.11. Regression Results for the Impact of Bank Mergers on Regional Branch HHI based on the Dominant Market of the Acquired Bank Using Number of Branches<sup>a,b</sup>**

| Variable/Statistic                      | Atlantic         | Ontario          | Prairies         | Quebec           |
|---|------------------|------------------|------------------|------------------|
| <b>Intercept</b>                        | -0.0003 (0.975)  | 0.000007 (0.999) | -0.004 (0.550)   | 0.011 (0.109)    |
| <b>LN Total Assets</b>                  | 0.00001 (0.976)  | 0.000004 (.985)  | 0.0002 (.548)    | -0.001 (0.117)   |
| <b>1</b>                                |                  | 0.003 (0.025)**  |                  |                  |
| <b>2</b>                                | 0.056 (0.000)*** |                  |                  |                  |
| <b>3</b>                                |                  | 0.001 (0.329)    |                  |                  |
| <b>4</b>                                |                  |                  |                  | 0.006 (0.011)**  |
| <b>5</b>                                |                  | 0.004 (0.020)**  |                  |                  |
| <b>6</b>                                | 0.046 (0.000)*** |                  |                  |                  |
| <b>7</b>                                |                  |                  |                  | -0.001 (0.634)   |
| <b>8</b>                                |                  | 0.002 (0.299)    |                  |                  |
| <b>9</b>                                |                  |                  |                  | 0.001 (0.562)    |
| <b>10</b>                               |                  |                  | 0.013 (0.000)*** |                  |
| <b>11</b>                               |                  |                  | 0.004 (0.023)**  |                  |
| <b>12</b>                               |                  | 0.007 (0.000)*** |                  |                  |
| <b>13</b>                               |                  |                  | 0.015 (0.000)*** |                  |
| <b>14</b>                               |                  | 0.008 (0.000)*** |                  |                  |
| <b>15</b>                               |                  |                  |                  | 0.110 (0.000)*** |
| <b>16</b>                               |                  | 0.021 (0.000)*** |                  |                  |
| <b>17</b>                               |                  |                  | 0.055 (0.000)*** |                  |
| <b>18</b>                               |                  | 0.034 (0.000)*** |                  |                  |
| <b>19</b>                               |                  |                  | 0.004 (0.064)*   |                  |
| <b>R Square</b>                         | 0.703            | 0.736            | 0.769            | 0.896            |
| <b>Adj. R Square</b>                    | 0.700            | 0.727            | 0.764            | 0.894            |
| <b>P-value of F test</b>                | 0.000 ***        | 0.000 ***        | 0.000 ***        | 0.000 ***        |
| <b>Mean of Coefficient Estimates</b>    | 0.020            |                  |                  |                  |
| <b>T-Value of Coefficient Estimates</b> | 3.042***         |                  |                  |                  |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis beside each coefficient.

<sup>b</sup> HHI is the Herfindahl-Hirshman Index.

**Table 2.12. Regression Results for the Impact of Bank Mergers on Regional Branch HHI Conditioned on the Dominant Market of the Acquired Bank Using Market Shares<sup>a,b</sup>**

| Variable/Statistic                      | Atlantic         | Ontario          | Prairies         | Quebec           | British Columbia |
|---|------------------|------------------|------------------|------------------|------------------|
| <b>Intercept</b>                        | -0.0003 (0.975)  | -0.0008 (0.878)  | -0.002 (0.658)   | 0.011 (0.109)    | -0.010 (0.319)   |
| <b>LN Total Assets</b>                  | 0.00001 (0.976)  | 0.00004 (0.858)  | 0.0001 (0.662)   | -0.001 (0.117)   | 0.0005 (0.309)   |
| <b>1</b>                                |                  | 0.003 (0.033)**  |                  |                  |                  |
| <b>2</b>                                | 0.056 (0.000)*** |                  |                  |                  |                  |
| <b>3</b>                                |                  | 0.001 (0.357)    |                  |                  |                  |
| <b>4</b>                                |                  |                  |                  | 0.006 (0.011)**  |                  |
| <b>5</b>                                |                  | 0.004 (0.027)**  |                  |                  |                  |
| <b>6</b>                                | 0.046 (0.000)*** |                  |                  |                  |                  |
| <b>7</b>                                |                  |                  |                  | -0.001 (0.634)   |                  |
| <b>8</b>                                |                  | 0.002 (0.329)    |                  |                  |                  |
| <b>9</b>                                |                  |                  |                  | 0.001 (0.562)    |                  |
| <b>10</b>                               |                  |                  | 0.013 (0.000)*** |                  |                  |
| <b>11</b>                               |                  |                  |                  |                  | 0.053 (0.000)*** |
| <b>12</b>                               |                  | 0.006 (0.000)*** |                  |                  |                  |
| <b>13</b>                               |                  |                  | 0.016 (0.000)*** |                  |                  |
| <b>14</b>                               |                  |                  | 0.018 (0.000)*** |                  |                  |
| <b>15</b>                               |                  |                  |                  | 0.110 (0.000)*** |                  |
| <b>16</b>                               |                  | 0.021 (0.000)*** |                  |                  |                  |
| <b>17</b>                               |                  |                  | 0.055 (0.000)*** |                  |                  |
| <b>18</b>                               |                  | 0.034 (0.000)*** |                  |                  |                  |
| <b>19</b>                               |                  |                  | 0.004 (0.025)**  |                  |                  |
| <b>R Square</b>                         | 0.703            | 0.706            | 0.836            | 0.896            | 0.508            |
| <b>Adj. R Square</b>                    | 0.700            | 0.697            | 0.832            | 0.894            | 0.504            |
| <b>P-value of F test</b>                | 0.000 ***        | 0.000 ***        | 0.000 ***        | 0.000 ***        | 0.000 ***        |
| <b>Mean of Coefficient Estimates</b>    | 0.024            |                  |                  |                  |                  |
| <b>T-Value of Coefficient Estimates</b> | 3.551***         |                  |                  |                  |                  |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis beside each coefficient.

<sup>b</sup> HHI is the Herfindahl-Hirshman Index.

**Table 2.13. Regression Results for the Impact of Bank Mergers on Regional Branch HHI Conditioned on the Dominant Market of the Acquirer Bank Using Number of Branches<sup>a,b</sup>**

| Variable/Statistic                      | Atlantic          | Ontario           | Prairies          | Quebec            |
|---|-------------------|-------------------|-------------------|-------------------|
| <b>Intercept</b>                        | 0.014 (0.300)     | -0.005 (0.519)    | -0.007 (0.584)    | 0.013 (0.081) *   |
| <b>LN Total Assets</b>                  | -0.001 (0.308)    | 0.0002 (0.507)    | 0.0003 (0.572)    | -0.001 (0.089) *  |
| <b>1</b>                                |                   | 0.004 (0.118)     |                   |                   |
| <b>2</b>                                |                   | 0.002 (0.276)     |                   |                   |
| <b>3</b>                                |                   |                   | -0.002 (0.684)    |                   |
| <b>4</b>                                |                   |                   | 0.001 (0.788)     |                   |
| <b>5</b>                                | -0.005 (0.212)    |                   |                   |                   |
| <b>6</b>                                | 0.045 (0.000) *** |                   |                   |                   |
| <b>7</b>                                |                   | -0.0002 (0.945)   |                   |                   |
| <b>8</b>                                | 0.005 (0.267)     |                   |                   |                   |
| <b>9</b>                                |                   | 0.001 (0.659)     |                   |                   |
| <b>10</b>                               |                   | 0.004 (0.078) *   |                   |                   |
| <b>11</b>                               |                   | 0.008 (0.000) *** |                   |                   |
| <b>12</b>                               | -0.011 (0.013) ** |                   |                   |                   |
| <b>13</b>                               |                   | 0.013 (0.000) *** |                   |                   |
| <b>14</b>                               |                   |                   | 0.018 (0.000) *** |                   |
| <b>15</b>                               |                   |                   |                   | 0.110 (0.000) *** |
| <b>16</b>                               |                   | 0.021 (0.000) *** |                   |                   |
| <b>17</b>                               |                   | 0.017 (0.000) *** |                   |                   |
| <b>18</b>                               |                   |                   | 0.019 (0.000) *** |                   |
| <b>19</b>                               |                   | 0.0001 (0.979)    |                   |                   |
| <b>R Square</b>                         | 0.306             | 0.417             | 0.155             | 0.893             |
| <b>Adj. R Square</b>                    | 0.294             | 0.394             | 0.140             | 0.893             |
| <b>P-value of F test</b>                | 0.000 ***         | 0.000 ***         | 0.000 ***         | 0.000 ***         |
| <b>Mean of Coefficient Estimates</b>    | 0.013             |                   |                   |                   |
| <b>T-Value of Coefficient Estimates</b> | 2.168**           |                   |                   |                   |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis beside each coefficient.

<sup>b</sup> HHI is the Herfindahl-Hirshman Index.



**Table 2.14. Regression Results for the Impact of Bank Mergers on Regional Branch HHI Conditioned on the Dominant Market of the Acquirer Bank Using Market Shares<sup>a,b</sup>**

| Variable/Statistic                              | Atlantic         | Ontario          | Prairies         | Quebec           | British Columbia |
|---|------------------|------------------|------------------|------------------|------------------|
| <b>Intercept</b>                                | 0.015 (0.286)    | -0.008 (0.357)   | -0.011 (0.382)   | 0.013 (0.081)    | -0.006 (0.457)   |
| <b>LN Total Assets</b>                          | -0.001 (0.293)   | 0.0004 (0.339)   | 0.001 (0.370)    | -0.001 (0.089)   | 0.0003 (0.451)   |
| <b>1</b>  |                  | 0.003 (0.185)    |                  |                  |                  |
| <b>2</b>  |                  |                  |                  |                  | 0.001 (0.666)    |
| <b>3</b>  |                  |                  | -0.001 (0.706)   |                  |                  |
| <b>4</b>  |                  |                  | 0.001 (0.793)    |                  |                  |
| <b>5</b>  | -0.005 (0.214)   |                  |                  |                  |                  |
| <b>6</b>  | 0.045 (0.000)*** |                  |                  |                  |                  |
| <b>7</b>  |                  | -0.0003 (0.920)  |                  |                  |                  |
| <b>8</b>  | 0.005 (0.267)    |                  |                  |                  |                  |
| <b>9</b>  | 0.001 (0.892)    |                  |                  |                  |                  |
| <b>10</b>                                       | -0.0001 (0.974)  |                  |                  |                  |                  |
| <b>11</b>                                       |                  |                  |                  |                  | 0.053 (0.000)*** |
| <b>12</b>                                       | -0.011 (0.014)** |                  |                  |                  |                  |
| <b>13</b>                                       |                  |                  |                  |                  | 0.027 (0.000)*** |
| <b>14</b>                                       |                  |                  | 0.018 (0.000)*** |                  |                  |
| <b>15</b>                                       |                  |                  |                  | 0.110 (0.000)*** |                  |
| <b>16<sup>c</sup></b>                           |                  | 0.021 (0.000)*** |                  |                  | 0.007 (0.000)*** |
| <b>17</b>                                       | 0.005 (0.279)    |                  |                  |                  |                  |
| <b>18</b>                                       |                  |                  |                  |                  | 0.003 (0.227)    |
| <b>19</b>                                       |                  | -0.0002 (0.953)  |                  |                  |                  |
| <b>R Square</b>                                 | 0.309            | 0.189            | 0.072            | 0.893            | 0.648            |
| <b>Adj. R Square</b>                            | 0.289            | 0.174            | 0.059            | 0.893            | 0.641            |
| <b>P-value of F test</b>                        | 0.000 ***        | 0.000 ***        | 0.000 ***        | 0.000 ***        | 0.000 ***        |
| <b>Mean of Coefficient Estimates 0.014</b>      |                  |                  |                  |                  |                  |
| <b>T-Value of Coefficient Estimates 2.259**</b> |                  |                  |                  |                  |                  |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis beside each coefficient.

<sup>b</sup> HHI is the Herfindahl-Hirshman Index

<sup>c</sup> Merger number 16 appears twice because two mergers occurred during the same month. The Standard, acquirer of the Sterling, has a dominant market share in Ontario. The Bank of Montreal, acquirer of the Molson Bank, has a dominant market share in British Columbia.

**Table 2.15. Number of Branches of the Canadian Bank Failures from 1900 until 1931<sup>a</sup>**

| Failed Bank                           | Date of Failure   | ID | Number of Branches |          |    |    |    |    |
|---------------------------------------|-------------------|----|--------------------|----------|----|----|----|----|
|                                       |                   |    | National           | Regional |    |    |    |    |
|                                       |                   |    |                    | A        | Q  | O  | P  | BC |
| The Sovereign Bank of Canada, Toronto | January 18, 1908  | 1  | 85                 |          | 10 | 75 |    |    |
| La Banque de St-Jean, P.Q.            | April 28, 1908    | 2  | 5                  |          | 5  |    |    |    |
| La Banque de St-Hyacinthe, P.Q.       | June 24, 1908     | 3  | 6                  |          | 6  |    |    |    |
| The St-Stephens Bank, N.B.            | March 10, 1910    | 4  | 1                  | 1        |    |    |    |    |
| The Farmers Bank of Canada, Toronto   | December 19, 1910 | 5  | 27                 |          |    | 27 |    |    |
| The Bank of Vancouver                 | December 14, 1914 | 6  | 10                 |          |    |    |    | 10 |
| The Home Bank of Canada, Toronto      | August 17, 1923   | 7  | 86                 |          | 3  | 51 | 30 | 2  |

Source: For each merger, please see Table 2. Number of branches are obtained from the *CBA'S Houston's Bank Directory of Canada* and from the *Canada Yearbook*.

<sup>a</sup> A is for Atlantic, Q for Quebec, O for Ontario, P for Prairies, and BC for British Columbia.

**Table 2.16. Regression Results for the Impact of Bank Failures on National Branch HHI<sup>a,b</sup>**

|                                  | National |         | Atlantic |         | Ontario |         | Quebec |         | British Columbia |            |
|----------------------------------|----------|---------|----------|---------|---------|---------|--------|---------|------------------|------------|
| Variable/<br>Statistic           | Coef.    | p-value | Coef.    | p-value | Coef.   | p-value | Coef.  | p-value | Coef.            | p-value    |
|                                  |          |         |          |         |         |         |        |         |                  |            |
| Intercept                        | -0.006   | (0.430) | 0.023    | (0.162) | -0.009  | (0.315) | -0.002 | (0.940) | -0.016           | (0.257)    |
| LN Total Assets                  | 0.0003   | (0.404) | -0.001   | (0.169) | 0.0005  | (0.297) | 0.0001 | (0.916) | 0.001            | (0.246)    |
| 1                                | 0.002    | (0.447) |          |         | 0.001   | (0.672) |        |         |                  |            |
| 2                                | -0.00004 | (0.986) |          |         |         |         | 0.002  | (0.730) |                  |            |
| 3                                | 0.001    | (0.693) |          |         |         |         | 0.003  | (0.680) |                  |            |
| 4                                | -0.0002  | (0.938) | -0.0003  | (0.960) |         |         |        |         |                  |            |
| 5                                | 0.003    | (0.222) |          |         | 0.002   | (0.413) |        |         |                  |            |
| 6                                | 0.002    | (0.470) |          |         |         |         |        |         | 0.014            | (0.002)*** |
| 7                                | 0.002    | (0.250) |          |         | 0.004   | (0.125) |        |         |                  |            |
|                                  |          |         |          |         |         |         |        |         |                  |            |
| R Square                         | 0.015    |         | 0.007    |         | 0.014   |         | 0.001  |         | 0.037            |            |
| Adj. R Square                    | -0.013   |         | 0.000    |         | 0.001   |         | -0.010 |         | 0.030            |            |
| P-value of F test                | 0.818    |         | 0.386    |         | 0.387   |         | 0.963  |         | 0.004***         |            |
| Mean of Coefficient Estimates    | 0.001    |         | 0.004    |         |         |         |        |         |                  |            |
| T-Value of Coefficient Estimates | 3.031**  |         | 2.206*   |         |         |         |        |         |                  |            |

<sup>a</sup> The level of significance, which is indicated by \*\*\*, \*\* and \*, corresponds to 1, 5 and 10%, respectively. The p-value is reported in parenthesis beside each coefficient.

<sup>b</sup> HHI is the Herfindahl-Hirshman Index.

**Table 3.1. Total Loans Outstanding for La Banque Nationale<sup>a</sup>**

| As of                            | Amounts (\$) due to federal government <sup>b</sup> |
|----------------------------------|---|
| April 30 <sup>th</sup> , 1921    | 6,649,775   |
| May 31st, 1921                   | 7,185,775   |
| June 30th, 1921                  | 7,611,875   |
| July 31st, 1921                  | 7,295,180   |
| August 31st, 1921                | 7,483,740   |
| September 30th 1921              | 7,273,770   |
| October 31st, 1921               | 8,057,125   |
| November 30 <sup>th</sup> , 1921 | 8,891,031   |
| December 31 <sup>st</sup> , 1921 | 9,829,734   |
| January 31st, 1922               | 10,023,291  |
| January 17th, 1922               | 9,447,503   |
| January 31st, 1922               | 7,177,000   |
| February 15th, 1922              | 7,999,171   |
| February 28th, 1922              | 7,828,502   |
| March 9th, 1922                  | 7,625,160   |
| March 27th, 1922                 | 5,286,307   |
| May 19th, 1922                   | 4,295,549   |
| June 30th, 1922                  | 3,594,792   |
| July 31st, 1922                  | 1,731,792   |
| September 30th 1922              | 2,104,000   |
| October 11th, 1922               | 1,954,120   |
| October 31st, 1922               | 2,348,000   |

<sup>a</sup> NAC.

<sup>b</sup> In the Finance Act of 1914, the banks can get Dominion notes from the government in exchange for the pledge of securities approved by the Treasury Board. In 1923, the war measure of the Finance Act of 1914 is now permanent. Dominion notes can be obtained against a given list of very low risk securities and against gold. The Treasury Board sets the interest rate. The advances help the banks to meet their seasonal (supposedly not permanent) financing needs, and fluctuate greatly.

**Table 3.2. Monthly Financial Returns in Dollars for La Banque Nationale<sup>a</sup>**

| ASSETS   | Nov. 30,<br>1921 | Oct. 31,<br>1922 |
|--|------------------|------------------|
| Current Gold and Subsidiary Coin, Total  | 366,799          | 433,651          |
| Dominion Notes, Total (all Canada)   | 1,449,900        | 1,197,070        |
| Notes of other banks   | 443,330          | 629,984          |
| Cheques on other banks   | 1,695,669        | 1,881,872        |
| Deposits made with and balances due from other banks in Canada   | 395              | 1,618            |
| Due from banks and banking correspondents in the United Kingdom  |                  | 4,128            |
| Due from banks & banking correspondents elsewhere than in Canada, and in UK  | 641,513          | 748,996          |
| Dominion government and provincial government securities   | 5,035,867        | 16,194           |
| Canadian municipal securities, & British, ... public securities other than Canadian  | 6,963,527        | 6,332,520        |
| Railway and other bonds, debentures and stocks   | 861,523          | 779,878          |
| Call and short (not exceeding thirty days) loans in Canada on stocks, debentures, bonds and other securities of a sufficient marketable value to cover | 7,677,389        | 962,603          |
| Call and short (<30 days) loans elsewhere than in Canada on stocks, debentures, bonds and other securities of sufficient marketable value to cover     |                  |                  |
| Other current loans and discounts in Canada  | 35,495,375       | 29,536,455       |
| Other current loans & discounts elsewhere than in Canada after making full provision for bad & doubtful debts  |                  |                  |
| Loans to cities, towns, municipalities and school districts  | 704,497          | 375,730          |
| Non current loans, estimated loss provided for   | 28,646           | 1,186,528        |
| Real estate other than bank premises   | 368,343          | 664,559          |
| Mortgages on real estate sold by the bank  | 375,015          | 385,405          |
| Bank premises at not more than cost, less amounts (if any) written off   | 2,074,456        | 2,440,022        |
| Deposit with the Minister of Finance for the security of note circulation  | 100,000          | 108,500          |
| Deposit in the central gold reserves   | 2,700,000        | 1,800,000        |
| Other assets not included under the foregoing heads  | 113,710          | 103,961          |
| Total Assets (sum of the above)  | 67,095,954       | 49,589,674       |
| Total Assets (as reported)   | 67,095,962       | 50,089,683       |
| LIABILITIES  |                  |                  |
| Notes in circulation   | 5,097,685        | 5,202,315        |
| Balance due to Dominion Gov't, after deducting advances for credits, pay-lists, etc  |                  |                  |
| Advances under the Finance Act   | 8,890,991        | 2,348,975        |
| Balances due to provincial Governments   | 347,678          | 462,979          |
| Deposits by the public, payable on demand in Canada  | 5,756,012        | 5,927,862        |
| Deposits by the public, payable after notice or on a fixed day in Canada   | 35,071,794       | 25,845,679       |
| Deposits elsewhere than in Canada  | 7,216,401        | 6,320,750        |
| Due to banks and banking correspondents in the United Kingdom  | 140              | 5,340            |
| Due to banks & banking correspondents elsewhere than in Canada & the UK  | 133,570          | 283,315          |
| Bills payable  | 350,000          | 250,000          |
| Liabilities not included under foregoing heads   |                  | 125,350          |
| Rest or reverse Fund   | 2,400,000        | 400,000          |
| Capital paid up  | 2,000,000        | 2,000,000        |
| Total Liabilities (sum of the above)   | 62,864,271       | 46,772,565       |
| Total Liabilities (as reported)  | 62,924,481       | 46,772,569       |
| Capital authorized   | 5,000,000        | 5,000,000        |
| Capital subscribed   | 2,000,000        | 2,000,000        |
| Aggregate amount of loans to directors, and related firms ( partners or guarantors)  | 395,991          | 272,639          |
| Average amount of current gold and subsidiary coin held during the month   | 406,200          | 434,325          |
| Average amount of Dominion notes held during the month   | 1,185,200        | 950,075          |
| Greatest amount of notes of the bank in circulation at any time during the month   | 5,894,200        | 5,202,315        |

<sup>a</sup> Original contains handwritten notes from the Minister's file, NAC.

**Table 3.3. Regular Dividends and Extraordinary Dividends of the Banking Sector<sup>a</sup>**

|  | 1919  | 1920 | 1921 | 1922   | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
|--|-------|------|------|--------|------|------|------|------|------|------|------|------|
| Bank of Hamilton                         | 12    | 12.5 | 12+1 | 12     | 12   |      |      |      |      |      |      |      |
| Bank of Montreal                         | 12    | 12+2 | 12+2 | 12+2   | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 |
| Bank of Nova Scotia                      | 16    | 16   | 16   | 16     | 16   | 16   | 16   | 16   | 16   | 16   | 16   | 16   |
| Bank of Toronto                          | 12    | 12   | 12   | 12     | 12   | 12   | 12   | 12   | 12+1 | 12+1 | 12+1 | 12+1 |
| Banque Canadienne Nationale              |       |      |      |        |      | 10   | 10   | 10   | 10   | 10   | 10   | 10   |
| Banque d'Hochelaga                       | 9     | 10   | 10   | 10     | 10   |      |      |      |      |      |      |      |
| Banque Nationale<br>Absorbed May 1, 1924 | 9.5   | 11   | 12   | 7.5    | 6    |      |      |      |      |      |      |      |
| Canadian Bank of Commerce                | 12    | 12+1 | 12+1 | 12+1   | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 |
| Dominion Bank                            | 12+1  | 12+1 | 12+1 | 12+1   | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 |
| Imperial Bank of Canada                  | 12    | 12+1 | 12+1 | 12+1,5 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 | 12+1 |
| Merchants Bank of Canada                 | 11.75 | 12+1 | 12+1 |        |      |      |      |      |      |      |      |      |
| Molson Bank                              | 12    | 12   | 12   | 12     | 12   |      |      |      |      |      |      |      |
| Ottawa                                   |       |      |      |        |      |      |      |      |      |      |      |      |
| Royal Bank of Canada                     | 12+2  | 12+2 | 12+2 | 12+2   | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 | 12+2 |
| Standard Bank of Canada                  | 13    | 14   | 14   | 14     | 13.5 | 12   | 12   | 12   | 12   |      |      |      |
| Union Bank of Canada                     | 10    | 10+2 | 10   | 10     | 9    |      |      |      |      |      |      |      |

<sup>a</sup> Source: The annual stock price review published in January for listed stocks in the Globe. Missing figures indicate that banks merged or failed.

**Table 3.4. Monthly Financial Returns in Dollars for La Banque Nationale for Various Dates in 1924<sup>a</sup>**

| ASSETS   | Feb. 29    | Mar. 31    | Apr. 30    |
|--|------------|------------|------------|
| Current Gold and Subsidiary Coin, Total  | 394,943    | 394,066    | 348,218    |
| Dominion Notes, Total  | 406,233    | 766,485    | 1,212,772  |
| Notes of other banks   | 369,985    | 480,055    | 565,635    |
| United States and other foreign currencies                                       | 110,591    | 98,982     | 101,708    |
| Cheques on other banks   | 1,602,116  | 1,597,663  | 1,385,312  |
| Deposits made with & balances due from other Cdn banks                           | 0          | 228        | 0          |
| Due from banks & banking correspondents in UK                                    | 0          | 0          | 2,193      |
| Due from banks & banking correspondents elsewhere                                | 559,084    | 1,217,726  | 836,994    |
| Dominion government and provincial government securities                         | 3,694      | 3,694      | 3,694      |
| Canadian municipal securities, and non-Cdn. public securities                    | 6,949,726  | 6,850,586  | 7,550,586  |
| Railway and other bonds, debentures and stocks                                   | 4,882,276  | 4,882,076  | 4,882,277  |
| Call and short (<30 days) loans in Canada on ...                                 | 409,455    | 234,293    | 324,117    |
| Other current loans and discounts in Canada                                      | 22,052,399 | 20,934,423 | 20,404,578 |
| Loans to cities, towns, municipalities and school districts                      | 450,159    | 450,328    | 546,181    |
| Non current loans, estimated loss provided for                                   | 4,138,866  | 4,822,121  | 5,515,475  |
| Real estate other than bank premises   | 563,015    | 562,800    | 582,755    |
| Mortgages on real estate sold by the bank  | 220,054    | 191,579    | 169,122    |
| Bank premises, up to cost, less amounts written off                              | 188,823    | 191,471    | 186,446    |
| Liabilities of customers under letters of credit as per contra                   | 6,197      | 6,287      | 6,381      |
| Deposit with Minister of Finance for note circulation security                   | 152,563    | 152,563    | 152,563    |
| Deposit in the central gold reserves   | 2,400,000  | 2,850,000  | 3,200,000  |
| Shares of and loans to controlled companies                                      | 3,719,503  | 3,722,952  | 3,716,101  |
| Other assets not included under the foregoing heads                              | 291,259    | 320,012    | 307,132    |
| Total Assets (sum of the above)  | 49,870,941 | 50,730,390 | 52,000,240 |
| Total Assets (as reported)   | 49,870,951 | 50,730,397 | 52,000,249 |
| LIABILITIES  |            |            |            |
| Notes in circulation   | 5,360,935  | 5,815,815  | 5,750,290  |
| Balance due to Dominion Government, after deducting advances for credits, ...    | 89,901     | 117,366    | 169,134    |
| Advances under the Finance Act   | 1,971,974  | 1,328,027  | 0          |
| Balances due to provincial Governments   | 818,331    | 751,378    | 891,164    |
| Deposits by the public, payable on demand in Canada                              | 5,478,866  | 5,900,515  | 6,077,213  |
| Deposits by the public, payable after notice or on a fixed day in Canada         | 24,408,782 | 24,834,209 | 25,987,044 |
| Deposits elsewhere than in Canada  | 6,820,379  | 7,148,766  | 7,151,090  |
| Loans from other banks in Canada, secured, including bills rediscounted          | 715,516    | 668,816    | 577,216    |
| Deposit made by and balances due to other banks in Canada                        | 20         | 600        | 1,300,158  |
| Due to banks and banking correspondents in the United Kingdom                    | 2,266      | 896        | 0          |
| Due to banks and banking correspondents elsewhere than in Canada and UK          | 129,235    | 73,069     | 70,097     |
| Bills payable  | 0          | 0          | 0          |
| Letters of Credit outstanding  | 6,197      | 6,287      | 6,381      |
| Liabilities not included under foregoing heads                                   | 597,921    | 638,837    | 574,721    |
| Dividends declared and unpaid  | 1,735      | 803        | 45,735     |
| Rest or reverse Fund   | 400,000    | 400,000    | 400,000    |
| Capital paid up  | 2,999,700  | 3,000,000  | 3,000,000  |
| Total Liabilities (sum of the above)   | 49,801,758 | 50,685,384 | 52,000,243 |
| Total Liabilities (as reported)  | 49,801,763 | 50,685,389 | 52,000,249 |
| Capital authorized   | 5,000,000  | 5,000,000  | 5,000,000  |
| Capital subscribed   | 3,000,000  | 3,000,000  | 3,000,000  |
| Rate per cent of last dividend declared  | 6          | 6          | 6          |
| Aggregate amount of loans to directors, & related firms (partners & guarantors)  | 684,695    | 583,264    | 520,213    |
| Average amount of current gold and subsidiary coin held during the month         | 381,505    | 388,049    | 333,054    |
| Average amount of Dominion notes held during the month                           | 583,005    | 905,343    | 756,511    |
| Greatest amount of notes of the bank in circulation at any time during the month | 5,398,600  | 5,833,390  | 6,120,400  |

<sup>a</sup> Canada Gazette.

**Table 3.5. Ratio of Realized Assets to Liabilities<sup>a</sup>**

| Bank                         | 1919 | 1920 | 1921 | 1922 | 1923 | 1924 | 1925 | 1926 | 1927 | 1928 | 1929 | 1930 |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Bank of Hamilton             | 0.50 | 0.40 | 0.38 | 0.36 | 0.39 |      |      |      |      |      |      |      |
| Bank of Montreal             | 0.53 | 0.37 | 0.40 | 0.45 | 0.40 | 0.51 | 0.50 | 0.45 | 0.45 | 0.48 | 0.45 | 0.49 |
| Bank of Nova Scotia          | 0.60 | 0.51 | 0.46 | 0.48 | 0.54 | 0.57 | 0.58 | 0.59 | 0.56 | 0.59 | 0.55 | 0.55 |
| Bank of Toronto              | 0.51 | 0.43 | 0.47 | 0.47 | 0.53 | 0.57 | 0.63 | 0.59 | 0.52 | 0.51 | 0.45 | 0.47 |
| Banque d'Hochelaga           | 0.55 | 0.38 | 0.38 | 0.35 | 0.42 | 0.54 | 0.52 | 0.54 | 0.58 | 0.56 | 0.57 | 0.54 |
| Banque Nationale             | 0.52 | 0.43 | 0.47 | 0.32 | 0.47 |      |      |      |      |      |      |      |
| Banque Provinciale du Canada | 0.77 | 0.72 | 0.69 | 0.63 | 0.58 | 0.62 | 0.62 | 0.67 | 0.67 | 0.66 | 0.63 | 0.61 |
| Barclays Bank (Canada)       |      |      |      |      |      |      |      |      |      |      |      | 1.15 |
| Canadian Bank of Commerce    | 0.43 | 0.36 | 0.37 | 0.39 | 0.41 | 0.46 | 0.50 | 0.49 | 0.46 | 0.43 | 0.41 | 0.45 |
| Dominion Bank                | 0.58 | 0.46 | 0.44 | 0.48 | 0.49 | 0.53 | 0.53 | 0.51 | 0.49 | 0.47 | 0.44 | 0.44 |
| Home Bank of Canada          | 0.57 | 0.52 | 0.47 | 0.37 | 0.43 |      |      |      |      |      |      |      |
| Imperial Bank of Canada      | 0.61 | 0.47 | 0.45 | 0.44 | 0.46 | 0.48 | 0.55 | 0.56 | 0.57 | 0.50 | 0.51 | 0.50 |
| Merchants Bank of Canada     | 0.43 | 0.35 | 0.38 |      |      |      |      |      |      |      |      |      |
| Molson Bank                  | 0.56 | 0.44 | 0.42 | 0.40 | 0.44 | 0.42 |      |      |      |      |      |      |
| Royal Bank of Canada         | 0.46 | 0.39 | 0.41 | 0.39 | 0.40 | 0.44 | 0.44 | 0.42 | 0.41 | 0.42 | 0.39 | 0.37 |
| Standard Bank of Canada      | 0.50 | 0.39 | 0.42 | 0.41 | 0.41 | 0.46 | 0.54 | 0.53 | 0.52 | 0.49 |      |      |
| Sterling Bank of Canada      | 0.72 | 0.67 | 0.71 | 0.70 | 0.70 | 0.68 |      |      |      |      |      |      |
| Union Bank of Canada         | 0.47 | 0.39 | 0.46 | 0.43 | 0.46 | 0.45 | 0.52 |      |      |      |      |      |
| Weyburn Security Bank        | 0.47 | 0.37 | 0.36 | 0.19 | 0.22 | 0.26 | 0.44 | 0.45 | 0.48 | 0.41 | 0.40 | 0.49 |

<sup>a</sup>Ratio as of June end with the exception of September 1919, May 1920 and May 1921 since results for the months of June were not published in the *Canada Gazette* for these years.



**Table 3.6. Financial Statements Before and After the Merger<sup>a</sup>**

|   | BLdH       | LBN        | Sum of both | BCN             | Change <sup>b</sup> | Gap         |
|---|------------|------------|-------------|-----------------|---------------------|-------------|
|   | 30/04/1924 | 30/04/1924 | 30/04/1924  | 31/05/1924      |                     |             |
| ASSETS  | A          | B          | A+B = C     | D, Post- merger |                     | D-C         |
| Current Gold and Subsidiary Coin, Total   | 617,637    | 348,218    | 965,855     | 961,887         |                     | -3,968      |
| Dominion Notes, Total   | 1,961,948  | 1,212,772  | 3,174,720   | 3,281,795       |                     | 107,075     |
| Notes of other banks  | 991,225    | 565,635    | 1,556,860   | 1,390,880       |                     | -165,980    |
| United States and other foreign currencies  | 77,876     | 101,708    | 179,584     | 144,411         |                     | -35,173     |
| Cheques on other banks  | 2,780,636  | 1,385,312  | 4,165,948   | 3,898,389       |                     | -267,559    |
| Loans other banks in Canada, secured, ...   | 577,216    |            | 577,216     |                 |                     | -577,216    |
| Deposits made & balances due other banks in Canada                                      | 1,643,553  |            | 1,643,553   | 371,024         |                     | -1,272,529  |
| Due from banks & banking correspondents in UK   | 73,661     | 2,193      | 75,854      | 34,261          |                     | -41,593     |
| Due from banks & ... elsewhere Canada & UK  | 570,718    | 836,994    | 1,407,712   | 705,151         |                     | -702,561    |
| Dominion & provincial gov't securities  | 5,430,895  | 3,694      | 5,434,589   | 19,285,584      |                     | 13,850,995  |
| Canadian municipal & foreign public securities  | 6,454,820  | 7,550,586  | 14,005,406  | 9,144,860       |                     | -4,860,546  |
| Railway & other bonds, debentures & stocks  | 638,210    | 4,882,277  | 5,520,487   | 1,365,091       |                     | -4,155,396  |
| Call and short ... in Canada  | 5,409,591  | 324,117    | 5,733,708   | 7,022,936       |                     | 1,289,228   |
| Call and short ... elsewhere than Canada  | 200,000    |            | 2,000,000   |                 |                     | -2,000,000  |
| Other current loans and discounts in Canada   | 37,020,646 | 20,404,578 | 57,425,224  | 53,985,836      |                     | -3,439,388  |
| Other current loans ... elsewhere than Canada after full provision bad & doubtful debts |            |            |             | 1,075.73        |                     | 1,076       |
| Loans to cities, towns, municipalities and school districts                             | 1,587,149  | 546,181    | 2,133,330   | 1,751,583.84    |                     | -381,746    |
| Non current loans, estimated loss provided for  | 165,472    | 5,515,475  | 5,680,947   | 153,535         |                     | -5,527,412  |
| Real estate other than bank premises  | 544,383    | 582,755    | 1,127,138   | 1,046,536       |                     | -80,602     |
| Mortgages on real estate sold by the bank   | 628,533    | 169,122    | 797,655     | 417,297         |                     | -380,358    |
| Bank premises up to cost, less written off  | 3,672,840  | 186,446    | 3,859,286   | 5,511,820       |                     | 1,652,534   |
| Liabilities of customers under letters of credit, per contra                            | 593,421    | 6,381      | 599,802     | 524,166         |                     | -75,636     |
| Deposit with Min. of Finance, security of note circulation                              | 209,145    | 152,563    | 361,708     | 361,708         |                     | 0           |
| Deposit in the central gold reserves  | 6,000,000  | 3,200,000  | 9,200,000   | 7,500,000       |                     | -1,700,000  |
| Shares of and loans to controlled companies   |            | 3,716,101  | 3,716,101   |                 |                     | -3,716,101  |
| Other assets not included under the foregoing heads                                     | 120,644    | 307,132    | 427,776     | 144,267         |                     | -283,509    |
| Total Assets (sum of the above)   | 77,970,219 | 52,000,240 | 131,770,459 | 119,004,095     |                     | -12,766,364 |
| Total Assets (as reported)  | 77,970,231 | 52,000,249 | 129,970,480 | 119,004,097     |                     | -10,966,384 |
| LIABILITIES   |            |            |             |                 |                     |             |
| Notes in circulation  | 6,690,159  | 5,750,290  | 12,440,449  | 11,954,229      |                     | -486,220    |
| Balance due Dom. Gov't, after deducting advances for ...                                | 378,994    | 169,134    | 548,128     | 472,427.84      |                     | -75,700     |
| Advances under the Finance Act  | 4,000,000  |            | 4,000,000   | 4,000,000       |                     | 0           |
| Balances due to provincial Governments  | 322,690    | 891,164    | 1,213,854   | 1,054,811       |                     | -159,043    |
| Deposits by the public, payable on demand in Canada                                     | 9,875,796  | 6,077,213  | 15,953,009  | 14,392,023      |                     | -1,560,986  |
| Deposits ..., payable after notice or fixed day in Canada                               | 46,839,115 | 25,987,044 | 72,826,159  | 72,667,677      |                     | -158,482    |
| Deposits elsewhere than in Canada   |            | 7,151,090  | 7,151,090   | 2,148,772       | -5,000,000          | -5,002,318  |
| Loans from other banks in Canada, secured, incl. Bills rediscounted                     |            | 577,216    | 577,216     |                 |                     | -577,216    |
| Deposit made & balances due other banks in Canada                                       | 924        | 1,300,158  | 1,301,082   | 1,809           |                     | -1,299,273  |
| Due to banks & banking correspondents in the UK   | 119,888    |            | 119,888     | 134,848         |                     | 14,960      |
| Due to banks & ... elsewhere Canada & UK  | 238,568    | 70,097     | 308,665     | 229,740         |                     | -78,925     |
| Letters of Credit outstanding   | 593,421    | 6,381      | 599,802     | 524,166         |                     | -75,636     |
| Liabilities not included under foregoing heads  |            | 574,721    | 574,721     |                 |                     | -574,721    |
| Dividends declared and unpaid   | 1,807      | 45,735     | 47,542      | 103,020         |                     | 55,478      |
| Rest or reverse Fund  | 4,000,000  | 400,000    | 4,400,000   | 5,500,000       | 1,100,000           | 1,100,000   |
| Capital paid up   | 4,000,000  | 3,000,000  | 7,000,000   | 5,500,000       |                     | -1,500,000  |
| Total Liabilities (sum of the above)  | 77,061,362 | 52,000,243 | 129,061,605 | 118,683,523     | -3,900,000          | -10,378,082 |
| Total Liabilities (as reported)   | 77,061,365 | 52,000,249 | 129,061,614 | 118,683,522     |                     | -10,378,092 |
| Capital authorized  | 10,000,000 | 5,000,000  | 15,000,000  | 10,000,000      |                     | -5,000,000  |
| Capital subscribed  | 4,000,000  | 3,000,000  | 7,000,000   | 5,500,000       |                     | -1,500,000  |
| Rate per cent of last dividend declared (%)   | 10         | 6          |             | 10              |                     | 10          |
| Ag. loans to directors (or guarantors), & firms as partners                             | 249,958    | 520,213    | 770,171     | 204,637         |                     | -565,534    |
| Average current gold & sub. coin held during month                                      | 548,791    | 333,054    | 881,845     | 903,038         |                     | 21,193      |
| Average amount Dominion notes held during month   | 2,316,546  | 756,511    | 3,073,057   | 2,907,662       |                     | -165,395    |
| Greatest notes of bank in circulation during month                                      | 6,992,609  | 6,120,400  | 13,113,009  | 13,071,544      |                     | -41,465     |

<sup>a</sup> Canada Gazette.

<sup>b</sup> This column includes handwritten notes in the Minister's file. National Archives of Canada.

**Table 3.7. Various Canadian Bond Yields and Spreads, 1920-1964**

| Year    | Corporate <sup>a</sup> | Quebec <sup>b</sup> | Spread | Canadian <sup>c</sup> | Year | Corporate <sup>a</sup> | Quebec <sup>b</sup> | Spread | Canadian <sup>c</sup> |
|---------|------------------------|---------------------|--------|-----------------------|------|------------------------|---------------------|--------|-----------------------|
| 1920    | 6.67                   | 4.81                | 1.86   | 6.05                  | 1942 | 4.68                   | 3.31                | 1.37   | 3.05                  |
| 1921    | 6.52                   | 4.81                | 1.71   | 6.07                  | 1943 | 4.38                   | 3.31                | 1.07   | 3.00                  |
| 1922    | 6.17                   | 4.81                | 1.36   | 5.43                  | 1944 | *4.05                  | 3.31                | 0.74   | 2.99                  |
| 1923    | 6.13                   | 4.81                | 1.32   | 5.05                  | 1945 | 3.96                   | 3.31                | 0.65   | 2.95                  |
| 1924    | 5.95                   | 4.81                | 1.14   | 5.08                  | 1946 | 3.31                   | 3.31                | 0      | 2.60                  |
| 1925    | 5.74                   | 4.81                | 0.93   | 4.78                  | 1947 | 3.28                   | 3.31                | -0.03  | 2.57                  |
| 1926    | 5.67                   | 4.81                | 0.86   | 4.87                  | 1948 | 3.5                    | 2.98                | 0.52   | 2.96                  |
| 1927    | 5.41                   | 4.81                | 0.6    | 4.65                  | 1949 | 3.3                    | 2.74                | 0.56   | 2.92                  |
| 1928    | 5.5                    | 4.81                | 0.69   | 4.53                  | 1950 | 3.4                    | 2.96                | 0.44   | 2.83                  |
| 1929    | 5.85                   | 4.81                | 1.04   | 5.05                  | 1951 | 4.09                   | 3.52                | 0.57   | 3.24                  |
| 1930    | 5.85                   | 4.81                | 1.04   | 4.77                  | 1952 | 4.2                    | 3.92                | 0.28   | 3.54                  |
| 1931    | 7.73                   | 3.88                | 3.85   | 4.29                  | 1953 | 4.17                   | 3.84                | 0.33   | 3.76                  |
| 1932    | 9.6                    | 3.88                | 5.72   | 5.42                  | 1954 | 3.82                   | 3.39                | 0.43   | 3.12                  |
| 1933    | 7.96                   | 3.88                | 4.08   | 4.53                  | 1955 | 4.07                   | 3.36                | 0.71   | 3.05                  |
| 1934    | 5.5                    | 3.88                | 1.62   | 3.99                  | 1956 | 5.1                    | 4.1                 | 1      | 3.40                  |
| 1935    | 5.29                   | 3.88                | 1.41   | 3.56                  | 1957 | 5.04                   | 4.84                | 0.2    | 4.22                  |
| 1936    | 4.61                   | 3.88                | 0.73   | 3.25                  | 1958 | 5.18                   | 4.56                | 0.62   | 4.01                  |
| 1937    | 4.53                   | 3.88                | 0.65   | 3.21                  | 1959 | 6.09                   | 5.52                | 0.57   | 5.03                  |
| 1938    | 4.23                   | 3.88                | 0.35   | 3.06                  | 1960 | 5.53                   | 5.59                | -0.06  | 5.02                  |
| 1939    | 4.59                   | 3.88                | 0.71   | 2.95                  | 1961 | 5.31                   | 5.42                | -0.11  | 4.95                  |
| 1940    | 4.39                   | 3.88                | 0.51   | 3.34                  | 1962 | 5.35                   | 5.5                 | -0.15  | 5.30                  |
| 1941    | 4.54                   | 3.31                | 1.23   | 3.13                  | 1963 | 5.45                   | 5.46                | -0.01  | 4.96                  |
|         |                        |                     |        |                       | 1964 | 5.48                   | 5.61                | -0.13  | 5.21                  |
| Average |                        |                     |        |                       |      | 5.25                   | 4.28                | 0.98   |                       |

<sup>a</sup> Source: Neufeld (1972). The corporate yields are year-end figures. 1920-1954 data are from series published by Wood, Gundy & Co. 1955-1963 data are McLeod, Young, Weir and Co. Ltd. figures for industrial and utility yields.

<sup>b</sup> Source: The provincial yields for the three first decades are computed from year-end bond prices shown in Government of Canada, Department of Insurance, List of Securities. These data are approximations. Data for 1948-60 are averages of near month-end figures from unpublished material of McLeod, Young, Weir and Co.

<sup>c</sup> This is the average monthly yield for bonds with maturities over ten years for the month of June for each year. Source: Bank of Canada, *Department of Monetary and Financial Analysis*. Rates shown for 1937 to 1948 are theoretical 15-year bond yields based on middle of the market quotations. The yields refer to direct debt payable in Canadian dollars, excluding extendible issues and Canada Savings Bonds. Prior to 1975 some extendible issues are included but their inclusion does not materially affect the average yields. The rates shown from 1949 to 1958 are arithmetic averages of yields at month-end. From 1959 the yields shown are calculated from Wednesday mid-market closing prices and are for the last Wednesday of the month.

**Table 3.8. Impact of the Financial Rescue Involving a “Bridge Financing” Arrangement of \$15 Million from the Quebec Government on Each of the Involved Parties**

| <b>Party</b>  | <b>With the “Bridge Financing” Arrangement</b>  | <b>With No “Bridge Financing” Arrangement</b>   |
|---|---|---|
| Quebec Government   | Assumed a large risk because of the flexibility of the terms of the loan and due to the possible escalation of the notional amount of the loan. Loss of \$1.1 million (in dollars of 1924) due to early reimbursement of loan.  | Possible loss of one or two of the three francophone banks in the province of Quebec was expected to lead to severe economic problems for francophone firms and individuals |
|   |   |   |
| Banque Nationale  | Acquired by LBdH  | Failure   |
| - Shareholders  | Obtain \$72 per share on a \$100 par value plus a 10% annual dividend   | Loss of \$3 million at par plus call of double liability of same amount   |
| - Depositors  | No loss   | Loss of a minimum of \$3 million out of \$39 million  |
| - Borrowers   | No major change   | Many failures if refinancing not available or not available on reasonable terms   |
|   |   |   |
| LBdH (becomes the Banque Canadienne Nationale after merger) | Acquires its biggest competitor and obtains sufficient funds to improve liquidity and to cover required appropriations for bad loans. The bank becomes a viable financial institution, although it still needs some flexibility from both governments to remain profitable. | The bank needs \$4 million to cover bad loans and to improve its liquidity. LBdH could suffer badly from a bank run due to failure of LBN.                                  |
|   |   |   |
| Federal Government  | Continues to lend money to the LBdH but it now has better collateral and a more financially   | Could lose on its loans to Banque Nationale. May have to intervene in the case of a severe economic   |

|                                    |  |  |
|------------------------------------|--|--|
|                                    | sound client   | crisis in Quebec due to the failure of one or two of the three biggest francophone banks in Quebec |
|                                    |  |  |
| Banque Provinciale                 | Competition reduced to one bigger competitor (the BCN) | Could face a bank run if one or both competitors fail  |
|                                    |  |  |
| Bondholders of La Machine Agricole | Full indemnification                                   | Very high probability that they would lose their investment totalling \$680,000                    |

**Table 4.1. Aggregate Statistics for U.S. National Bank Failures for the Period, 1865-1905**

| Statistic  | Dollars <sup>a</sup> | As a<br>Proportion<br>of Assets <sup>b</sup> |
|--|----------------------|--|
| Number of failed national banks                              | 376                  |  |
| Capital stock at failure                                     | 59,047,420           | 0.250  |
| Aggregate liabilities less capital stock at failure          | 170,236,026          | 0.720  |
| Total assets   | 236,459,547          | 1.000  |
| Assessment on shareholders at failure                        | 35,753,390           | 0.151  |
| Amount collected from assessments on shareholders at failure | 17,362,345           | 0.073  |
| Amount paid to shareholders                                  | 2,094,705            | 0.009  |
| Loss suffered by creditors or depositors                     | 32,546,872           | 0.138  |

<sup>a</sup>This column includes dollar values except for the number of failed banks.

<sup>b</sup>The proportions are calculated using the dollar figures in the previous column.

Source: Eckardt (1907).

**Table 4.2. Financial Data of Canadian Chartered Banks that Have Gone into Liquidation, 1867-1923**

| Name of Bank and Location of Chief Office  | Number of Branches when Operations Ceased | Date of Charter           | Date of Suspension or Cessation of Normal Operations | Capital Stock at Date of Suspension |            |           | Reserve Fund | Rate of Dividend Last Declared |
|--|---|---------------------------|--|-------------------------------------|------------|-----------|--------------|--------------------------------|
|  |   |                           |  | Authorized                          | Subscribed | Paid-up   |              |                                |
| Commercial Bank of N.B., St. John, N.B.  | 19  | Incorporated 1834 in N.B. | 1868   |                                     | 600,000    | 600,000   |              |                                |
| Bank of Acadia. Liverpool, N.S.  | 1   | June 14, 1872             | April 1873   |                                     | 500,000    | 100,000   |              |                                |
| Métropolitain Bank of Montréal   | 1   | April 14, 1871            | Oct. 1876  | 1,000,000                           | 1,000,000  | 800,170   |              |                                |
| Méchanics Bank, Montréal   | 2   | 1865                      | May 1879   | 1,000,000                           | 243,374    | 194,794   |              |                                |
| Bank of Liverpool, Liverpool, N.S.   | 1   | April 14, 1871            | Oct. 1879  | 500,000                             | 500,000    | 370,548   |              |                                |
| The Consolidated Bank of Canada (City Bank and Royal Canadian amalgamated in 1875) | 16  | Sept, 18, 1875            | Aug. 1879  | 2,400,000                           | 2,091,900  | 2,080,020 |              |                                |
| Stadacona Bank, Québec   | 1   | June 14, 1872             | July 1879 (voluntary)                                | 1,000,000                           | 1,000,000  | 991,890   |              |                                |
| Bank of Prince Edward Island, Charlotte-town, P.E.I.                               | 1   | 1856                      | Nov. 28, 1881  |                                     |            | 120,000   | 45,000       |                                |
| Exchange Bank of Canada, Montreal  | 5   | April 14, 1871            | Sept. 1883   | 500,000                             | 500,000    | 500,000   | 300,000      | 8                              |
| The Maritime Bank of Dom. of Canada, St-John, N.B.                                 | 2   | June 14, 1872             | Mar. 1887  | 2,000,000                           | 321,900    | 321,900   | 60,000       | 6                              |
| Pictou Bank, Pictou, N.S.  | 4   | May 23, 1873              | Sept. 1887 (Voluntary)                               | 500,000                             | 500,000    | 200,000   |              |                                |
| Bank of London in Canada, London, Ont.   | 3   | May 25, 1883              | Aug. 1887 (Voluntary)                                | 1,000,000                           | 1,000,000  | 241,101   | 50,000       | 7                              |
| The Central Bank of Canada, Toronto, Ont.  | 4   | May 25, 1883              | Nov, 1887  | 1,000,000                           | 500,000    | 500,000   | 45,000       | 6                              |
| Federal Bank of Canada, Toronto, Ont. (Changed from "Superior Bank of Canada")     | 11  | May 26, 1874              | Jan. 1888 (Voluntary)                                | 1,250,000                           | 1,250,000  | 1,250,000 | 150,000      | 6                              |

**Table 4.2. Continued**

|   |     |                |                              |           |           |           |         |   |
|---|-----|----------------|------------------------------|-----------|-----------|-----------|---------|---|
| Commercial Bank of Manitoba, Winnipeg         | 10  | April 19, 1884 | June 30, 1893                | 2,000,000 | 740,700   | 552,650   | 50,000  | 6 |
| La Banque de Peuple, Montreal                 | 7   | June 27, 1844  | July 15, 1895                | 1,200,000 | 1,200,000 | 1,200,000 | 600,000 | 7 |
| La Banque Ville Marie, Montreal               | 19  | June 14, 1872  | July 25, 1899                | 500,000   | 500,000   | 479,620   | 10,000  | 6 |
| Bank of Yarmouth, Yarmouth, N.S.              | 1   | April 15, 1859 | Mar. 6, 1905                 | 300,000   | 300,000   | 300,000   | 35,000  | 5 |
| Ontario Bank, Toronto                         | 30  | May 27, 1857   | Oct. 13, 1906                | 1,500,000 | 1,500,000 | 1,500,000 | 700,000 | 7 |
| The Sovereign Bank of Canada, Toronto         | 85  | May 23, 1901   | Jan. 18, 1908                | 3,000,000 | 3,000,000 | 3,000,000 |         | 6 |
| La Banque de St-Jean, St-Jean, P.Q.           | 5   | May 3, 1873    | April 28, 1908               | 1,000,000 | 500,000   | 316,386   | 10,000  | 4 |
| La Banque de St-Hyacinthe, St-Hyacinthe, P.Q. | 6   | May 23, 1873   | June 24, 1908<br>(Voluntary) | 1,000,000 | 504,600   | 331,235   | 75,000  | 6 |
| The St-Stephens Bank, St-Stephen, N.B.        | 1   | About 1836     | Mar. 10, 1910                | 200,000   | 200,000   | 200,000   | 55,000  | 6 |
| The Farmers Bank of Canada, Toronto           | 27  | July 18, 1904  | Dec. 19, 1910                | 1,000,000 | 584,500   | 567,579   |         | 4 |
| The Bank of Vancouver, Vancouver              | 10  | April 3, 1908  | Dec. 14, 1914                | 2,000,000 | 587,400   | 445,188   |         |   |
| The Home Bank of Canada, Toronto              | 68  | July 10, 1903  | Aug. 17, 1923                | 5,000,000 | 2,000,000 | 1,960,591 | 550,000 | 7 |
| Total   | 340 |                |                              |           |           |           |         |   |

Source: CBA and OSFI, February 15, 1944; and Sarpkaya (1978).

**Table 4.3. Financial Data and Losses Resulting from Failures of Canadian Chartered Banks that Have Gone into Liquidation, 1867-1923**

| Name of Bank and Head Office   | Note Circulation | Deposits  | Liabilities at Date of Suspension or Nearest Date of Record | Assets as Per Returns at Date of Suspension or Nearest Date of Record | Loss in %   |            | Approximate Actual or Estimated Loss to Depositors and Note Holders |
|--|------------------|-----------|---|---|-------------|------------|---|
|  |                  |           |   |   | Noteholders | Depositors |   |
|  | \$               | \$        | \$  | \$  |             |            | \$  |
| Commercial Bank of N.B., St. John, N.B.  |                  | 304,368   | 671,420   | 1,222,454   | 100         | 100        |   |
| Bank of Acadia. Liverpool, N.S.  |                  | 17,959    | 106,914   | 213,346   |             |            | 100,000   |
| Métropolitain Bank of Montréal   | 40,447           | 129,731   | 293,379   | 779,225   | 100         | 100        |   |
| Méchanics Bank, Montréal   | 168,132          | 253,546   | 547,238   | 721,155   | 57 1/2      | 57 1/2     | 180,000   |
| Bank of Liverpool, Liverpool, N.S.   | 3,668            | 86,263    | 136,480   | 207,877   | 100         | 96 6/17    | 3,000   |
| The Consolidated Bank of Canada (City Bank and Royal Canadian amalgamated in 1875) | 423,819          | 1,013,934 | 1,794,249   | 3,077,202   | 100         | 100        |   |
| Stadacona Bank, Québec   | 152,481          | 188,372   | 341,500   | 1,355,675   | 100         | 100        |   |
| Bank of Prince Edward Island, Charlotte-town, P.E.I.                               | 264,000          | 463,000   | 1,108,000   | 953,244   | 59 1/2      | 59 1/2     | 295,000   |
| Exchange Bank of Canada, Montreal  | 467,385          | 2,206,377 | 2,868,884   | 3,779,493   | 100         | 66 3/5     | 742,000   |
| The Maritime Bank of Dom. of Canada, St-John, N.B.                                 | 314,288          | 1,091,570 | 1,409,482   | 1,825,993   | 100         | 10 2/3     | 975,000   |
| Pictou Bank, Pictou, N.S.  | 49,571           | 17,474    | 74,364  | 277,017   | 100         | 100        |   |
| Bank of London in Canada, London, Ont.   | 209,045          | 680,954   | 1,031,280   | 1,310,675   | 100         | 100        |   |
| The Central Bank of Canada, Toronto, Ont.  | 492,855          | 2,125,040 | 2,631,378   | 3,231,518   | 100         | 99 2/3     | 7,000   |
| Federal Bank of Canada, Toronto, Ont. (Changed from "Superior Bank of Canada")     | 670,492          | 1,005,446 | 3,449,499   | 4,869,113   | 100         | 100        |   |



**Table 4.3. Continued**

|   |            |            |            |            |     |        |                        |
|---|------------|------------|------------|------------|-----|--------|------------------------|
| Commercial Bank of Manitoba, Winnipeg         | 396,890    | 771,456    | 1,341,251  | 1,951,151  | 100 | 100    |                        |
| La Banque de Peuple, Montreal                 | 818,648    | 6,874,217  | 7,761,209  | 9,533,537  | 100 | 75 1/4 | 1,702,000              |
| La Banque Ville Marie, Montreal               | 261,870    | 1,504,665  | 1,766,841  | 2,267,516  | 100 | 17 1/2 | 1,242,000              |
| Bank of Yarmouth, Yarmouth, N.S.              | 50,409     | 276,505    | 388,660    | 723,660    | 100 | 100    |                        |
| Ontario Bank, Toronto                         | 1,351,402  | 12,656,084 | 15,272,271 | 15,920,307 | 100 | 100    |                        |
| The Sovereign Bank of Canada, Toronto         | 1,988,585  | 11,215,506 | 16,174,408 | 19,218,746 | 100 | 100    | 0                      |
| La Banque de St-Jean, St-Jean, P.Q.           | 219,334    | 340,004    | 560,781    | 326,118    | 100 | 30     | 237,000 <sup>a</sup>   |
| La Banque de St-Hyacinthe, St-Hyacinthe, P.Q. | 253,860    | 918,770    | 1,172,630  | 1,576,443  | 100 | 100    |                        |
| The St-Stephens Bank, St-Stephen, N.B.        | 149,935    | 386,160    | 549,830    | 818,271    | 100 | 100    |                        |
| The Farmers Bank of Canada, Toronto           | 429,470    | 1,314,016  | 1,997,041  | 2,616,683  | 100 | Nil    | 1,314,000              |
| The Bank of Vancouver, Vancouver              | 254,762    | 555,352    | 912,137    | 1,532,786  | 100 | 7 1/2  | 317,000                |
| The Home Bank of Canada, Toronto              | 1,724,165  | 15,462,569 | 18,356,373 | 15,848,400 | 100 | 32     | 7,569,000 <sup>b</sup> |
| Total   | 11,155,513 | 61,859,338 | 82,717,499 | 96,157,605 |     |        | 14,683,000             |

<sup>a</sup>IT DOES NOT ACCOUNT FOR \$92,394 DUE TO THE BANKS.

<sup>b</sup>This amount includes a preferred claim of \$200,000 owed to the Government of Ontario and does not include the outlay of the federal government of \$3,460,000, which is used to reimburse shareholders.

**Table 4.4. Financial Data (in \$000) of Canadian Chartered Banks that Have Gone into Liquidation, 1923-2001<sup>a</sup>**

|   | Year of Failure | Total Assets | Total Deposits | Capital and Reserves | Other Liabilities | Subordinated Debt | Total Liabilities |
|---|-----------------|--------------|----------------|----------------------|-------------------|-------------------|-------------------|
|   |                 | \$           | \$             | \$                   | \$                | \$                | \$                |
| Canadian Commercial Bank<br>Unaudited<br>31-Jan-85    | 1985            | 3,055,890    | 2,833,373      | 121,378              | 52,139            | 49,000            | 3,055,890         |
|   |                 |              |                |                      |                   |                   |                   |
| Northland Bank<br>31-Oct-84                           | 1985            | 1,080,696    | 982,038        | 68,696               | 14,962            | 15,000            | 1,080,696         |
|   |                 |              |                |                      |                   |                   |                   |
| Bank of Credit and Commerce<br>Unaudited<br>31-Oct-90 | 1991            | 276,652      | 231,395        | 30,027               | 15,230            |                   | 276,652           |

<sup>a</sup>As of last date available before failure, CDIC.

Source: Financial statements as transmitted from the CDIC.

**Table 4.5. Losses (\$) and Losses per Dollar of Assets (%) of Chartered Banks that Have Gone into Liquidation, 1923-2001**

|  | CDIC Total Claim  | CDIC Loss   | Banks Loss | Federal Gov. Loss | Provincial Gov. Loss | Others Depositors and Creditors Loss | Shareholders Loss | Total Loss    |
|--|-------------------|-------------|------------|-------------------|----------------------|--------------------------------------|-------------------|---------------|
| Canadian Commercial Bank <sup>a</sup>    | 352,008,840       | 307,379,500 | 48,735,829 | 468,505,821       | 48,331,382           | 9,858,322                            | 121,378,000       | 1,004,188,854 |
|  | 0.12 <sup>d</sup> | 0.10        | 0.02       | 0.15              | 0.02                 | 0.00                                 | 0.04              | 0.33          |
| Northland Bank <sup>b</sup>              | 317,526,379       | 90,368,238  |            | 70,978,095        |                      | 182,320                              | 68,696,000        | 230,224,653   |
|  | 0.29              | 0.08        |            | 0.07              |                      | 0.00                                 | 0.06              | 0.21          |
| Bank of Credit and Commerce <sup>c</sup> | 22,000,000        | 2,107,000   | 437,000    |                   |                      | 11,079,000                           | 30,027,000        | 43,650,000    |
|  | 0.08              | 0.01        | 0.00       |                   |                      | 0.04                                 | 0.11              | 0.16          |

<sup>a</sup>Liquidation Report as at June 30, 2000, CDIC.

<sup>b</sup>Liquidation Report as at March 31, 2001, CDIC.

<sup>c</sup>Liquidation Report as at February 28, 1993, and as at November 20, 1997, CDIC.

<sup>d</sup>The proportions are calculated from the amounts, which are given in the liquidation reports obtained from the CDIC.

**Table 4.6. The Balances Required to Meet the Claims of Notes and Unclaimed Deposits for Defunct Canadian Banks, as of April 11, 1938.**

| BANK                         | AMOUNT<br>(IN<br>THOUSAND<br>S OF<br>DOLLARS) |
|------------------------------|---|
| Bank of Yarmouth             | 819.82  |
| Banque du Peuple             | 14,305.85                                     |
| Banque Ville Marie           | 10,493.41                                     |
| Central Bank                 | 2,225.94                                      |
| Commercial Bank of Manitoba  | 6,335.56                                      |
| La Banque de St-Jean         | 1,924.84                                      |
| La Banque de Ste-Hyacinthe   | 6,839.64                                      |
| Ontario Bank                 | 21,708.23                                     |
| The Farmers Bank of Canada   | 1,914.70                                      |
| The Bank of Vancouver        | 12,258.41                                     |
| The Home Bank of Canada      | 40,011.81                                     |
| The Sovereign Bank of Canada | 8,810.11                                      |
| The St-Stevens Bank          | 11,209.67                                     |
| Total                        | 138,857.99                                    |

Source: Table obtained from OSFI.

**Table 4.7. Amount Collected from Double Liability Assessments from Shareholders of Failed Banks from 1867 until 1923<sup>a</sup>**

| Bank                         | Amount Collected | Details of Amount Collected <sup>b</sup>                         | Paid up Capital | Capital Collected |
|------------------------------|------------------|--|-----------------|-------------------|
|                              | \$               |  | \$              | %                 |
| Mechanics Bank               | 97,397           | Partial Collection <b>Estimated at 50%</b>                       | 194,794         | 50                |
| BANK OF PRINCE EDWARD ISLAND | 120,000          | NAC  | 120,000         | 100 <sup>c</sup>  |
| EXCHANGE BANK OF CANADA      | 250,000          | Partial Collection <b>Estimated at 50%</b>                       | 500,000         | 50                |
| THE MARITIME BANK            | 150,000          | <b>Partial Collection; Less than 50%; Estimated at \$150,000</b> | 321,900         | 47                |
| The Central Bank of Canada   | 392,030          | NAC  | 500,000         | 78                |
| La Banque Ville-Marie        | 142,000          | Calculated using the figures of Ferrier (1911)                   | 479,620         | 30                |
| Bank of Yarmouth             | 231,037          | Takes into account that \$33,630 is returned to shareholders     | 300,000         | 77                |
| Ontario Bank                 | 600,976          | Takes into account that \$601,534 is returned to shareholders    | 1,500,000       | 40                |
| The Sovereign Bank of Canada | 2,326,597        | Includes \$2,000,000 collected for International Assets Ltd.     | 3,000,000       | 78                |
| La Banque de St-Jean         | 161,975          | Includes \$7,000 collected on unpaid capital                     | 316,386         | 51                |
| LA BANQUE DE STE-HYACINTHE   | 222,847          | Includes \$66,796 collected on unpaid capital                    | 331,235         | 67                |
| The Farmers Bank of Canada   | 314,880          |  | 567,579         | 55                |
| The Bank of Vancouver        | 178,111          |  | 445,188         | 40                |
| The Home Bank of Canada      | 1,195,553        | Include Interest   | 1,960,591       | 61                |
| Average                      | 455,957          |  | 752,664         | 59                |

<sup>a</sup>The last eight cases are derived from the Office of the Inspector-General of Banks, Department of Finance, Ottawa, February 15, 1944, OSFI and CBA.

<sup>b</sup>Our assumed collection is in bold while the remaining information is taken from the case studies presented in Appendix 5.

<sup>c</sup>This bank was chartered by the province and not by the Dominion. The percentage collected seems rather high but it is based on details found at NAC. The amount collected may include amounts that were not paid up on shares in addition to the par value of the shares owned.

**Table 4.8. Current Dollar Losses Assumed by Stakeholders during Bank Failures, 1867-1991**

| Name of Bank                                | Approximate Actual or Estimated Loss To: |                                      |                                |                    |   |  | Total Losses<br>\$ | Total Assets<br>\$   |
|---|--|--------------------------------------|--------------------------------|--------------------|---|--|--------------------|----------------------|
|   | Note<br>Holders<br>\$                    | Depositors<br>and<br>Creditors<br>\$ | Governments<br>and Banks<br>\$ | Shareholders<br>\$ | Shareholders<br>Under Double<br>Liability<br>\$ | Shareholders<br>Plus Double<br>Liability<br>\$ |                    |                      |
| Commercial bank of N.B.,<br>Bank of Acadia. | 57,041                                   | 17,959                               | 25,000                         | 540,000<br>100,000 |   | 540,000<br>100,000                             | 540,000<br>200,000 | 1,271,420<br>213,346 |
| Métropolitain Bank of<br>Montréal           |  |                                      |                                | 400,085            |   | 400,085  | 1,093,549          | 1,093,549            |
| Méchanics Bank                              | 72,000                                   | 108,000                              |                                | 194,794            | 97,397  | 292,191  | 472,191            | 742,032              |
| Bank of Liverpool                           |  | 3,000                                |                                | 370,548            |   | 370,548  | 373,548            | 507,028              |
| The Consolidated Bank of<br>Canada          |  |                                      |                                | 1,560,015          |   | 1,560,015                                      | 1,560,015          | 3,874,269            |
| Stadacona Bank                              |  |                                      |                                | 99,189             |   | 99,189   | 99,189             | 1,355,675            |
| Bank of P.E.I.                              | 68,633                                   | 120,367                              | 106,000                        | 120,000            | 120,000   | 240,000  | 535,000            | 1,273,000            |
| Exchange Bank of Canada                     |  | 664,663                              | 77,337                         | 500,000            | 250,000   | 750,000  | 1,492,000          | 3,779,493            |
| The Maritime Bank of Dom.<br>Of Canada      |  | 975,000                              |                                | 321,900            | 150,000   | 471,900  | 1,446,900          | 1,825,993            |
| Pictou Bank                                 |  |                                      |                                | 130,000            |   | 130,000  | 130,000            | 277,017              |
| Bank of London in Canada                    |  |                                      |                                | 151,000            |   | 151,000  | 151,000            | 1,322,381            |
| The Central Bank of Canada                  |  | 7,000                                |                                | 500,000            | 392,030   | 892,030  | 899,030            | 3,231,518            |
| Federal Bank of Canada                      |  |                                      |                                | 0                  |   | 0  | 0                  | 4,869,113            |
| Commercial Bank of<br>Manitoba              |  |                                      |                                | 414,488            |   | 414,488  | 414,488            | 1,951,151            |
| La Banque de Peuple                         |  | 1,702,000                            |                                | 1,200,000          |   | 1,200,000                                      | 2,902,000          | 9,561,209            |
| La Banque Ville Marie                       |  | 1,242,000                            |                                | 479,620            | 142,000   | 621,620  | 1,863,620          | 2,267,516            |
| Bank of Yarmouth                            |  |                                      |                                | 300,000            | 231,037   | 531,037  | 531,037            | 723,660              |
| Ontario Bank                                |  |                                      |                                | 1,500,000          | 600,976   | 2,100,976                                      | 2,100,976          | 17,472,271           |

**Table 4.8. Continued**

|                              |            |             |             |           |             |             |               |
|------------------------------|------------|-------------|-------------|-----------|-------------|-------------|---------------|
| The Sovereign Bank of Canada |            | 292,394     | 3,000,000   | 2,326,597 | 5,326,597   | 5,618,991   | 19,218,746    |
| La Banque de St-Jean         | 237,000    |             | 316,386     | 161,975   | 478,361     | 715,361     | 887,167       |
| La Banque de St-Hyacinthe    |            |             | 331,235     | 222,847   | 554,082     | 554,082     | 1,578,865     |
| The St-Stephens Bank         |            |             | 200,000     |           | 200,000     | 200,000     | 818,271       |
| The Farmers Bank of Canada   | 1,314,000  |             | 567,579     | 314,880   | 882,459     | 2,196,459   | 2,616,683     |
| The Bank of Vancouver        | 379,000    | 38,000      | 445,188     | 178,111   | 623,299     | 1,040,299   | 1,532,786     |
| The Home Bank of Canada      | 7,569,000  | 3,660,000   | 1,960,591   | 1,195,553 | 3,156,144   | 14,385,144  | 20,866,964    |
| Can. Commercial Bank         | 9,858,322  | 872,952,532 | 121,378,000 |           | 121,378,000 | 121,378,000 | 1,004,188,854 |
| Northland Bank               | 182,320    | 161,346,333 | 68,696,000  |           | 68,696,000  | 68,696,000  | 230,224,653   |
| Bank of Credit and Commerce  | 11,079,000 | 2,544,000   | 30,027,000  |           | 30,027,000  | 30,027,000  | 43,650,000    |

Source: This table is calculated using the OSFI data presented in Tables 4.3, 4.5 and 4.7 and the case studies presented in Appendix 5.

**Table 4.9. Proportion of Current Dollar Losses Assumed by Each Stakeholder Group from Bank Failures, 1867-1991**

| Name of Bank                        | Losses                   |                                    |              | Total |
|-------------------------------------|--------------------------|------------------------------------|--------------|-------|
|                                     | Depositors and Creditors | Governments and Banks <sup>a</sup> | Shareholders |       |
| Commercial Bank of N.B.             | 0.00                     | 0.00                               | 1.00         | 1.00  |
| Bank of Acadia                      | 0.09                     | 0.13                               | 0.50         | 1.00  |
| Metropolitan Bank of Mtl            | 0.00                     | 0.00                               | 1.00         | 1.00  |
| Mechanics Bank                      | 0.23                     | 0.00                               | 0.62         | 1.00  |
| Bank of Liverpool                   | 0.01                     | 0.00                               | 0.99         | 1.00  |
| The Consolidated Bank of Canada     | 0.00                     | 0.00                               | 1.00         | 1.00  |
| Stadacona Bank                      | 0.00                     | 0.00                               | 1.00         | 1.00  |
| Bank of P.E.I.                      | 0.22                     | 0.20                               | 0.45         | 1.00  |
| Exchange Bank of Canada             | 0.45                     | 0.05                               | 0.50         | 1.00  |
| The Maritime Bank of ... Canada     | 0.67                     | 0.00                               | 0.33         | 1.00  |
| Pictou Bank                         | 0.00                     | 0.00                               | 1.00         | 1.00  |
| Bank of London in Canada            | 0.00                     | 0.00                               | 1.00         | 1.00  |
| The Central Bank of Canada          | 0.01                     | 0.00                               | 0.99         | 1.00  |
| Federal Bank of Canada <sup>b</sup> |                          |                                    |              |       |
| Commercial Bank of Manitoba         | 0.00                     | 0.00                               | 1.00         | 1.00  |
| La Banque de Peuple                 | 0.59                     | 0.00                               | 0.41         | 1.00  |
| La Banque Ville Marie               | 0.67                     | 0.00                               | 0.33         | 1.00  |
| Bank of Yarmouth                    | 0.00                     | 0.00                               | 1.00         | 1.00  |
| Ontario Bank                        | 0.00                     | 0.00                               | 1.00         | 1.00  |
| The Sovereign Bank of Can.          | 0.00                     | 0.05                               | 0.95         | 1.00  |
| La Banque de St-Jean                | 0.33                     | 0.00                               | 0.67         | 1.00  |
| La Banque de St-Hyacinthe           | 0.00                     | 0.00                               | 1.00         | 1.00  |
| The St-Stephens Bank                | 0.00                     | 0.00                               | 1.00         | 1.00  |
| The Farmers Bank of Can.            | 0.60                     | 0.00                               | 0.40         | 1.00  |
| The Bank of Vancouver               | 0.36                     | 0.04                               | 0.60         | 1.00  |
| The Home Bank of Canada             | 0.53                     | 0.25                               | 0.22         | 1.00  |
| Canadian Commercial Bank            | 0.01                     | 0.87                               | 0.12         | 1.00  |
| Northland Bank                      | 0.00                     | 0.70                               | 0.30         | 1.00  |
| Bank of Credit and Comm.            | 0.25                     | 0.06                               | 0.69         | 1.00  |
| Average                             | 0.18                     | 0.08                               | 0.72         | 1.00  |
| Median                              | 0.01                     | -                                  | 0.82         | 1.00  |
| Average, 1867-1881                  | 0.07                     | 0.04                               | 0.82         | 1.00  |
| Median, 1867-1881                   | 0.00                     | -                                  | 1.00         | 1.00  |
| Average, 1883-1899                  | 0.30                     | 0.01                               | 0.70         | 1.00  |
| Median, 1883-1899                   | 0.23                     | -                                  | 0.75         | 1.00  |
| Average, 1905-1923                  | 0.20                     | 0.04                               | 0.76         | 1.00  |
| Median, 1905-1923                   | -                        | -                                  | 0.95         | 1.00  |
| Average, 1967-                      | 0.09                     | 0.54                               | 0.37         | 1.00  |
| Median, 1967-                       | 0.01                     | 0.70                               | 0.30         | 1.00  |

<sup>a</sup> Includes losses by the CDIC, by the provincial and federal governments, and by the banks.

<sup>b</sup> The calculations exclude the failure of the Federal Bank that had no losses.

Source: Proportions are derived from Table 4.8.



**Table 4.10. Tobit Regression on Proportion of Current Dollar Losses Assumed by Each Stakeholder Group using a Dummy Variable for the Second and Fourth Time Sub Periods**

| <b>Losses</b>                 | Depositors and Creditors |                | Governments and Banks |                | Shareholders       |                |
|-------------------------------|--------------------------|----------------|-----------------------|----------------|--------------------|----------------|
| <i>Independent Variable</i>   | <i>Coefficient</i>       | <i>P-value</i> | <i>Coefficient</i>    | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> |
| <i>Intercept</i>              | 0.02                     | 0.88           | -0.06                 | 0.59           | 0.81               | 0.00           |
| <b>Period2</b>                | 0.21                     | 0.18           |                       |                |                    |                |
| <i>Period4</i>                |                          |                | 0.72                  | 0.00***        | -0.50              | 0.05**         |
| <i>Age (control variable)</i> | -0.001                   | 0.89           | -0.008                | 0.16           | 0.004              | 0.43           |

<sup>a</sup>Level of significance indicated by \*, \*\* and \*\*\* correspond to 10, 5 and 1%, respectively.  
Source: proportions are taken from Table 4.9.

**Table 4.11. Losses in Constant Dollars of 1868 Assumed by Stakeholders from Bank Failures, 1867-1991**

| Name of Bank                    | Losses                   |                                  |              | Total      |
|---------------------------------|--------------------------|----------------------------------|--------------|------------|
|                                 | Depositors and Creditors | Governments & Banks <sup>a</sup> | Shareholders |            |
| Commercial Bank of N.B.         | 0                        | 0                                | 540000       | 540000     |
| Bank of Acadia                  | 16,566                   | 23,060                           | 92,241       | 184,483    |
| Metropolitan Bank of Mtl        | -                        | -                                | 396,381      | 396,381    |
| Mechanics Bank                  | 114,416                  | -                                | 309,549      | 500,242    |
| Bank of Liverpool               | 3,178                    | -                                | 392,561      | 395,739    |
| The Consolidated Bank of Canada | -                        | -                                | 1,652,689    | 1,652,689  |
| Stadacona Bank                  | -                        | -                                | 105,081      | 105,081    |
| Bank of P.E.I.                  | 119,253                  | 105,019                          | 237,778      | 530,046    |
| Exchange Bank of Canada         | 634,991                  | 73,884                           | 716,518      | 1,425,393  |
| The Maritime Bank of ...        | 984,198                  | -                                | 476,352      | 1,460,550  |
| Pictou Bank                     | -                        | -                                | 131,226      | 131,226    |
| Bank of London in Canada        | -                        | -                                | 152,425      | 152,425    |
| The Central Bank of Canada      | 7,066                    | -                                | 900,445      | 907,511    |
| Federal Bank of Canada          | -                        | -                                | -            | -          |
| Commercial Bank of Manitoba     | -                        | -                                | 434,806      | 434,806    |
| La Banque de Peuple             | 2,001,253                | -                                | 1,410,989    | 3,412,242  |
| La Banque Ville Marie           | 1,384,313                | -                                | 692,847      | 2,077,160  |
| Bank of Yarmouth                | -                        | -                                | 521,293      | 521,293    |
| Ontario Bank                    | -                        | -                                | 2,025,265    | 2,025,265  |
| The Sovereign Bank of Can.      | -                        | 260,718                          | 4,749,549    | 5,010,267  |
| La Banque de St-Jean            | 211,325                  | -                                | 426,539      | 637,864    |
| La Banque de St-Hyacinthe       | -                        | -                                | 494,056      | 494,056    |
| The St-Stephens Bank            | -                        | -                                | 175,410      | 175,410    |
| The Farmers Bank of Can.        | 1,152,443                | -                                | 773,960      | 1,926,403  |
| The Bank of Vancouver           | 300,743                  | 30,154                           | 494,598      | 825,495    |
| The Home Bank of Canada         | 3,954,653                | 1,912,278                        | 1,649,023    | 7,515,953  |
| Canadian Commercial Bank        | 642,131                  | 56,860,598                       | 7,906,072    | 65,408,802 |
| Northland Bank                  | 11,876                   | 10,509,448                       | 4,474,580    | 14,995,903 |
| Bank of Credit and Comm.        | 578,379                  | 132,809                          | 1,567,558    | 2,278,746  |
| Average                         | 417,820                  | 2,410,620                        | 1,168,958    | 4,004,187  |
| Median                          | 7,066                    | -                                | 494,598      | 637,864    |
| Average, 1867-1881              | 31,677                   | 16,010                           | 465,785      | 538,083    |
| Median, 1867-1881               | 1,589                    | -                                | 351,055      | 448,311    |
| Average, 1883-1899              | 556,869                  | 8,209                            | 546,179      | 1,111,257  |
| Median, 1883-1899               | 7,066                    | -                                | 476,352      | 907,511    |
| Average, 1905-1923              | 624,351                  | 244,794                          | 1,256,633    | 2,125,778  |
| Median, 1905-1923               | -                        | -                                | 521,293      | 825,495    |
| Average, 1967-                  | 410,795                  | 22,500,952                       | 4,649,403    | 27,561,150 |
| Median, 1967-                   | 578,379                  | 10,509,448                       | 4,474,580    | 14,995,903 |

<sup>a</sup> Includes CDIC loss, provincial and federal loss, and the losses by the banks.

Source: Proportions are derived from Table 8 and using the price deflator from McInnis (2001).

**Table 4.12. Losses in Constant Dollars of 1868 per Capita that Are Assumed by Stakeholders from Bank Failures, 1867-1991**

| Name of Bank                        | Losses                   |                                  |              |       |
|-------------------------------------|--------------------------|----------------------------------|--------------|-------|
|                                     | Depositors and Creditors | Governments & Banks <sup>a</sup> | Shareholders | Total |
| Commercial Bank of N.B.             | 0.00                     | 0.00                             | 0.15         | 0.15  |
| Bank of Acadia                      | 0.00                     | 0.01                             | 0.02         | 0.05  |
| Metropolitan Bank of Mtl            | 0.00                     | 0.00                             | 0.10         | 0.10  |
| Mechanics Bank                      | 0.03                     | 0.00                             | 0.07         | 0.12  |
| Bank of Liverpool                   | 0.00                     | 0.00                             | 0.09         | 0.09  |
| The Consolidated Bank of Canada     | 0.00                     | 0.00                             | 0.39         | 0.39  |
| Stadacona Bank                      | 0.00                     | 0.00                             | 0.03         | 0.03  |
| Bank of P.E.I.                      | 0.03                     | 0.02                             | 0.05         | 0.12  |
| Exchange Bank of Canada             | 0.14                     | 0.02                             | 0.16         | 0.32  |
| The Maritime Bank of Dom. Of Canada | 0.21                     | 0.00                             | 0.10         | 0.32  |
| Pictou Bank                         | 0.00                     | 0.00                             | 0.03         | 0.03  |
| Bank of London in Canada            | 0.00                     | 0.00                             | 0.03         | 0.03  |
| The Central Bank of Canada          | 0.00                     | 0.00                             | 0.19         | 0.20  |
| Federal Bank of Canada              | 0.00                     | 0.00                             | 0.00         | 0.00  |
| Commercial Bank of Manitoba         | 0.00                     | 0.00                             | 0.09         | 0.09  |
| La Banque de Peuple                 | 0.40                     | 0.00                             | 0.28         | 0.68  |
| La Banque Ville Marie               | 0.26                     | 0.00                             | 0.13         | 0.40  |
| Bank of Yarmouth                    | 0.00                     | 0.00                             | 0.09         | 0.09  |
| Ontario Bank                        | 0.00                     | 0.00                             | 0.33         | 0.33  |
| The Sovereign Bank of Can.          | 0.00                     | 0.04                             | 0.72         | 0.76  |
| La Banque de St-Jean                | 0.03                     | 0.00                             | 0.06         | 0.10  |
| La Banque de St-Hyacinthe           | 0.00                     | 0.00                             | 0.07         | 0.07  |
| The St-Stephens Bank                | 0.00                     | 0.00                             | 0.03         | 0.03  |
| The Farmers Bank of Can.            | 0.16                     | 0.00                             | 0.11         | 0.28  |
| The Bank of Vancouver               | 0.04                     | 0.00                             | 0.06         | 0.10  |
| The Home Bank of Canada             | 0.44                     | 0.21                             | 0.18         | 0.83  |
| Canadian Commercial Bank            | 0.02                     | 2.19                             | 0.30         | 2.52  |
| Northland Bank                      | 0.00                     | 0.41                             | 0.17         | 0.58  |
| Bank of Credit and Comm.            | 0.02                     | 0.00                             | 0.06         | 0.08  |
| Average                             | 0.06                     | 0.10                             | 0.14         | 0.31  |
| Median                              | 0.00                     | -                                | 0.09         | 0.12  |
| Average, 1867-1881                  | 0.01                     | 0.00                             | 0.11         | 0.13  |
| Median, 1867-1881                   | 0.00                     | -                                | 0.08         | 0.11  |
| Average, 1883-1899                  | 0.11                     | 0.00                             | 0.11         | 0.23  |
| Median, 1883-1899                   | 0.00                     | -                                | 0.10         | 0.20  |
| Average, 1905-1923                  | 0.07                     | 0.03                             | 0.18         | 0.29  |
| Median, 1905-1923                   | -                        | -                                | 0.09         | 0.10  |
| Average, 1967-                      | 0.02                     | 0.87                             | 0.18         | 1.06  |
| Median, 1967-                       | 0.02                     | 0.41                             | 0.17         | 0.58  |

<sup>a</sup> Includes CDIC loss, provincial and federal loss, and the losses of the banks.

Source: Proportions are derived from Table 4.8. The price deflator and population data are obtained from McInnis (2001) and CANSIM.

**Table 4.13. Proportional Losses on Total Assets of Each Failed Bank Assumed by Stakeholders from Bank Failures, 1867-1991.**

| Name of Bank                        | Losses                      |                                     |              |       |
|-------------------------------------|-----------------------------|-------------------------------------|--------------|-------|
|                                     | Depositors<br>and Creditors | Governments<br>& Banks <sup>a</sup> | Shareholders | Total |
| Commercial Bank of N.B.             | 0.00                        | 0.00                                | 0.42         | 0.42  |
| Bank of Acadia                      | 0.08                        | 0.12                                | 0.47         | 0.94  |
| Metropolitan Bank of Mtl            | 0.00                        | 0.00                                | 0.37         | 0.37  |
| Mechanics Bank                      | 0.15                        | 0.00                                | 0.39         | 0.64  |
| Bank of Liverpool                   | 0.01                        | 0.00                                | 0.73         | 0.74  |
| The Consolidated Bank of Canada     | 0.00                        | 0.00                                | 0.40         | 0.40  |
| Stadacona Bank                      | 0.00                        | 0.00                                | 0.07         | 0.07  |
| Bank of P.E.I.                      | 0.09                        | 0.08                                | 0.19         | 0.42  |
| Exchange Bank of Canada             | 0.18                        | 0.02                                | 0.20         | 0.39  |
| The Maritime Bank of Dom. Of Canada | 0.53                        | 0.00                                | 0.26         | 0.79  |
| Pictou Bank                         | 0.00                        | 0.00                                | 0.47         | 0.47  |
| Bank of London in Canada            | 0.00                        | 0.00                                | 0.11         | 0.11  |
| The Central Bank of Canada          | 0.00                        | 0.00                                | 0.28         | 0.28  |
| Federal Bank of Canada              | 0.00                        | 0.00                                | 0.00         | 0.00  |
| Commercial Bank of Manitoba         | 0.00                        | 0.00                                | 0.21         | 0.21  |
| La Banque de Peuple                 | 0.18                        | 0.00                                | 0.13         | 0.30  |
| La Banque Ville Marie               | 0.55                        | 0.00                                | 0.27         | 0.82  |
| Bank of Yarmouth                    | 0.00                        | 0.00                                | 0.73         | 0.73  |
| Ontario Bank                        | 0.00                        | 0.00                                | 0.12         | 0.12  |
| The Sovereign Bank of Can.          | 0.00                        | 0.02                                | 0.28         | 0.29  |
| La Banque de St-Jean                | 0.27                        | 0.00                                | 0.54         | 0.81  |
| La Banque de St-Hyacinthe           | 0.00                        | 0.00                                | 0.35         | 0.35  |
| The St-Stephens Bank                | 0.00                        | 0.00                                | 0.24         | 0.24  |
| The Farmers Bank of Can.            | 0.50                        | 0.00                                | 0.34         | 0.84  |
| The Bank of Vancouver               | 0.25                        | 0.02                                | 0.41         | 0.68  |
| The Home Bank of Canada             | 0.36                        | 0.18                                | 0.15         | 0.69  |
| Canadian Commercial Bank            | 0.00                        | 0.29                                | 0.04         | 0.33  |
| Northland Bank                      | 0.00                        | 0.15                                | 0.06         | 0.21  |
| Bank of Credit and Comm.            | 0.04                        | 0.01                                | 0.11         | 0.16  |
| Average                             | 0.11                        | 0.03                                | 0.29         | 0.44  |
| Median                              | 0.00                        | 0.00                                | 0.27         | 0.39  |
| Average, 1867-1881                  | 0.04                        | 0.03                                | 0.38         | 0.50  |
| Median, 1867-1881                   | 0.00                        | 0.00                                | 0.40         | 0.42  |
| Average, 1883-1899                  | 0.16                        | 0.00                                | 0.21         | 0.38  |
| Median, 1883-1899                   | 0.00                        | 0.00                                | 0.21         | 0.30  |
| Average, 1905-1923                  | 0.15                        | 0.02                                | 0.35         | 0.53  |
| Median, 1905-1923                   | 0.00                        | 0.00                                | 0.34         | 0.68  |
| Average, 1967-                      | 0.01                        | 0.15                                | 0.07         | 0.23  |
| Median, 1967-                       | 0.00                        | 0.15                                | 0.06         | 0.21  |

<sup>a</sup> Includes CDIC loss, provincial and federal loss, and the banks' loss.

Source: Losses are obtained from Table 4.8 and total assets are derived from Tables 4.2, 4.3 and 4.4.

**Table 4.14. Proportional Losses on Total Bank Assets of the Industry Assumed by Stakeholders from Bank Failures, 1867-1991**

| Name of Bank                        | Losses                   |                                  |              |         |
|-------------------------------------|--------------------------|----------------------------------|--------------|---------|
|                                     | Depositors and Creditors | Governments & Banks <sup>a</sup> | Shareholders | Total   |
| Commercial Bank of N.B.             | 0.00000                  | 0.00000                          | 0.00676      | 0.00676 |
| Bank of Acadia                      | 0.00011                  | 0.00015                          | 0.00060      | 0.00120 |
| Metropolitan Bank of Mtl            | 0.00000                  | 0.00000                          | 0.00218      | 0.00218 |
| Mechanics Bank                      | 0.00062                  | 0.00000                          | 0.00168      | 0.00272 |
| Bank of Liverpool                   | 0.00002                  | 0.00000                          | 0.00214      | 0.00215 |
| The Consolidated Bank of Canada     | 0.00000                  | 0.00000                          | 0.00899      | 0.00899 |
| Stadacona Bank                      | 0.00000                  | 0.00000                          | 0.00057      | 0.00057 |
| Bank of P.E.I.                      | 0.00060                  | 0.00053                          | 0.00120      | 0.00267 |
| Exchange Bank of Canada             | 0.00291                  | 0.00034                          | 0.00329      | 0.00654 |
| The Maritime Bank of Dom. Of Canada | 0.00423                  | 0.00000                          | 0.00205      | 0.00628 |
| Pictou Bank                         | 0.00000                  | 0.00000                          | 0.00056      | 0.00056 |
| Bank of London in Canada            | 0.00000                  | 0.00000                          | 0.00066      | 0.00066 |
| The Central Bank of Canada          | 0.00003                  | 0.00000                          | 0.00387      | 0.00390 |
| Federal Bank of Canada              | 0.00000                  | 0.00000                          | 0.00000      | 0.00000 |
| Commercial Bank of Manitoba         | 0.00000                  | 0.00000                          | 0.00137      | 0.00137 |
| La Banque de Peuple                 | 0.00538                  | 0.00000                          | 0.00379      | 0.00917 |
| La Banque Ville Marie               | 0.00301                  | 0.00000                          | 0.00151      | 0.00452 |
| Bank of Yarmouth                    | 0.00000                  | 0.00000                          | 0.00069      | 0.00069 |
| Ontario Bank                        | 0.00000                  | 0.00000                          | 0.00239      | 0.00239 |
| The Sovereign Bank of Can.          | 0.00000                  | 0.00031                          | 0.00566      | 0.00597 |
| La Banque de St-Jean                | 0.00025                  | 0.00000                          | 0.00051      | 0.00076 |
| La Banque de St-Hyacinthe           | 0.00000                  | 0.00000                          | 0.00059      | 0.00059 |
| The St-Stephens Bank                | 0.00000                  | 0.00000                          | 0.00017      | 0.00017 |
| The Farmers Bank of Can.            | 0.00108                  | 0.00000                          | 0.00073      | 0.00181 |
| The Bank of Vancouver               | 0.00024                  | 0.00002                          | 0.00040      | 0.00067 |
| The Home Bank of Canada             | 0.00286                  | 0.00138                          | 0.00119      | 0.00544 |
| Canadian Commercial Bank            | 0.00002                  | 0.00197                          | 0.00027      | 0.00226 |
| Northland Bank                      | 0.00000                  | 0.00036                          | 0.00015      | 0.00052 |
| Bank of Credit and Comm.            | 0.00002                  | 0.00000                          | 0.00005      | 0.00007 |
| Average                             | 0.00074                  | 0.00017                          | 0.00186      | 0.00281 |
| Median                              | 0.00002                  | 0.00000                          | 0.00119      | 0.00215 |
| Average, 1867-1881                  | 0.00017                  | 0.00008                          | 0.00301      | 0.00341 |
| Median, 1867-1881                   | 0.00001                  | 0.00000                          | 0.00191      | 0.00242 |
| Average, 1883-1899                  | 0.00173                  | 0.00004                          | 0.00190      | 0.00367 |
| Median, 1883-1899                   | 0.00003                  | 0.00000                          | 0.00151      | 0.00390 |
| Average, 1905-1923                  | 0.00049                  | 0.00019                          | 0.00137      | 0.00205 |
| Median, 1905-1923                   | 0.00000                  | 0.00000                          | 0.00069      | 0.00076 |
| Average, 1967-                      | 0.00001                  | 0.00078                          | 0.00016      | 0.00095 |
| Median, 1967-                       | 0.00002                  | 0.00036                          | 0.00015      | 0.00052 |

<sup>a</sup> Includes CDIC loss, provincial and federal loss, and the losses of the banks.

Source: Proportions are derived from Table 8. Bank Assets are obtained from the Canada Yearbook and from the Bank of Canada Review.

**Table 4.15. Average Losses on a Dollar of Total Assets Assumed by Stakeholders from Canadian Bank Failures, 1867-1923**

| Average            | Losses       |                          |                                    |              |                                     |                                    | Total |
|--------------------|--------------|--------------------------|------------------------------------|--------------|-------------------------------------|------------------------------------|-------|
|                    | Note Holders | Depositors and Creditors | Governments and Banks <sup>a</sup> | Shareholders | Shareholders Under Double Liability | Shareholders Plus Double Liability |       |
| Average, 1867-1881 | 0.05         | 0.04                     | 0.03                               | 0.35         | 0.03                                | 0.38                               | 0.50  |
| Median, 1867-1881  | 0.00         | 0.00                     | 0.00                               | 0.38         | 0.00                                | 0.40                               | 0.42  |
| Average, 1883-1899 | 0.00         | 0.16                     | 0.00                               | 0.18         | 0.04                                | 0.21                               | 0.38  |
| Median, 1883-1899  | 0.00         | 0.00                     | 0.00                               | 0.15         | 0.00                                | 0.21                               | 0.30  |
| Average, 1905-1923 | 0.00         | 0.15                     | 0.02                               | 0.23         | 0.12                                | 0.35                               | 0.53  |
| Median, 1905-1923  | 0.00         | 0.00                     | 0.00                               | 0.22         | 0.12                                | 0.34                               | 0.68  |
| Average, 1867-1923 | 0.02         | 0.12                     | 0.02                               | 0.25         | 0.06                                | 0.31                               | 0.47  |
| Median, 1867-1923  | 0.00         | 0.00                     | 0.00                               | 0.21         | 0.05                                | 0.28                               | 0.41  |

<sup>a</sup> Includes losses by the CDIC, the provincial and federal governments, and the banks.

*Source: Losses are obtained from Table 4.8 and total assets are derived from Tables 4.2, 4.3 and 4.4.*

**Table 4.16. ANOVA of the Variation of the Four Measures of Losses Across the Four Studied Sub Periods<sup>a</sup>**

|   |         |
|---|---------|
| ANOVA of Total Losses <sup>b</sup>                                |         |
| <b>Losses in constant dollars of 1868</b>                         |         |
| F Ratio   | 6.79    |
| P-value   | 0.00*** |
| <b>Losses per capita in constant dollars of 1868</b>              |         |
| F Ratio   | 3.67    |
| P-value   | 0.03**  |
| <b>Losses per dollar of assets</b>                                |         |
| F Ratio   | 1.27    |
| P-value   | 0.31    |
| <b><i>Losses per dollar of assets of the banking industry</i></b> |         |
| F Ratio   | 1.13    |
| P-value   | 0.36    |

<sup>a</sup>Levels of significance indicated by \*, \*\* and \*\*\* correspond to 10, 5 and 1%, respectively.

<sup>b</sup>The null hypothesis,  $H_0$ , is that the means are equal for the four sub periods.

**Table 4.17. Correlation Matrix for the Independent Variables and Each of the Four Dependent Loss Variables**

|  | <i>Four dependent variables</i> |   |   |  | <i>Independent variables</i> |                |                |            |                 |                 |                            |                      |
|--|---------------------------------|---|---|--|------------------------------|----------------|----------------|------------|-----------------|-----------------|----------------------------|----------------------|
|  | <i>Losses, constant dollars</i> | <i>Losses, per capita, constant dollars</i> | <i>Losses, per \$ assets of failed bank</i> | <i>Losses, per \$ of banking industry assets</i> | <b>Period</b>                | <i>Period3</i> | <i>Period4</i> | <i>Age</i> | <i>Leverage</i> | <i>Branches</i> | <i>Annual change, RGNP</i> | <i>Real Interest</i> |
| <i>Losses, constant dollars</i>                  | 1                               |   |   |  | <b>1</b>                     |                |                |            |                 |                 |                            |                      |
| <i>Losses, per capita, constant dollars</i>      | 0.94                            | 1   |   |  |                              |                |                |            |                 |                 |                            |                      |
| <i>Losses, per \$ assets of failed bank</i>      | -0.10                           | -0.04                                       | 1   |  |                              |                |                |            |                 |                 |                            |                      |
| <i>Losses, per \$ of banking industry assets</i> | 0.00                            | 0.28  | 0.12  | 1  |                              |                |                |            |                 |                 |                            |                      |
| <i>Period1</i>                                   | -0.18                           | -0.23                                       | 0.13  | 0.14   | 1                            |                |                |            |                 |                 |                            |                      |
| <i>Period3</i>                                   | -0.11                           | -0.03                                       | 0.22  | -0.19  | -0.41                        | 1              |                |            |                 |                 |                            |                      |
| <i>Period4</i>                                   | 0.67                            | 0.54  | -0.27                                       | -0.24  | -0.21                        | -0.23          | 1              |            |                 |                 |                            |                      |
| <i>Age</i>                                       | -0.12                           | -0.07                                       | -0.05                                       | 0.03   | -0.24                        | 0.45           | -0.19          | 1          |                 |                 |                            |                      |
| <i>Leverage</i>                                  | 0.36                            | 0.45  | -0.17                                       | 0.14   | -0.57                        | 0.16           | 0.42           | 0.15       | 1               |                 |                            |                      |
| <i>Branches</i>                                  | 0.01                            | 0.27  | 0.02  | 0.36   | -0.22                        | 0.48           | -0.13          | -0.04      | 0.31            | 1               |                            |                      |
| <i>Annual change, RGNP</i>                       | 0.11                            | 0.16  | -0.06                                       | 0.02   | 0.01                         | 0.20           | -0.04          | 0.26       | 0.14            | 0.21            | 1                          |                      |
| <i>Real Interest</i>                             | 0.38                            | 0.39  | 0.00  | 0.13   | 0.04                         | -0.22          | 0.46           | -0.10      | 0.11            | -0.14           | -0.02                      | 1                    |



**Table 4.18. Regression on total losses from bank failure in constant dollars<sup>a</sup>**

| <i>Independent Variable</i> | <b>Regression Run</b> |                |                    |                |                    |                |
|-----------------------------|-----------------------|----------------|--------------------|----------------|--------------------|----------------|
|                             | <b>1</b>              |                | <b>2</b>           |                | <b>3</b>           |                |
|                             | <i>Coefficient</i>    | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> |
| <i>Intercept</i>            | -2626545              | 0.79           | -10525             | 0.99           | -22247             | 0.99           |
| <i>Period1</i>              | -458643               | 0.94           | -1318329           | 0.79           |                    |                |
| <i>Period3</i>              | 143789                | 0.98           | 318786             | 0.95           | 617318             | 0.88           |
| <i>Period4</i>              | 23180773              | 0.01***        | 24291751           | 0.00***        | 26682084           | 0.00***        |
| <i>Age</i>                  | -26942                | 0.85           |                    |                |                    |                |
| <i>Leverage</i>             | 4049432               | 0.77           |                    |                |                    |                |
| <i>Branches</i>             | 30458                 | 0.82           |                    |                |                    |                |
| <i>RGNP</i>                 | 274905                | 0.49           | 297355             | 0.40           | 291224             | 0.39           |
| <i>Real Interest</i>        | 335797                | 0.56           | 317989             | 0.55           |                    |                |
| <i>R Square</i>             | 0.48                  |                | 0.47               |                | 0.47               |                |
| <i>Adjusted R Square</i>    | 0.27                  |                | 0.36               |                | 0.40               |                |
| <i>P-value</i>              | 0.06**                |                | 0.01***            |                | 0.00***            |                |

<sup>a</sup>Levels of significance indicated by \*, \*\* and \*\*\* correspond to 10, 5 and 1%, respectively.

**Table 4.19. Regression on total losses per capita in constant dollars from bank failure<sup>a</sup>**

| <i>Independent Variable</i> | <b>Regression Run</b> |                |                    |                |                    |                |
|-----------------------------|-----------------------|----------------|--------------------|----------------|--------------------|----------------|
|                             | <b>1</b>              |                | <b>2</b>           |                | <b>3</b>           |                |
|                             | <i>Coefficient</i>    | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> |
| <i>Intercept</i>            | -0.13                 | 0.73           | 0.16               | 0.30           | 0.14               | 0.22           |
| <i>Period1</i>              | -0.04                 | 0.85           | -0.14              | 0.49           |                    |                |
| <i>Period3</i>              | -0.13                 | 0.61           | 0.03               | 0.89           | 0.07               | 0.69           |
| <i>Period4</i>              | 0.62                  | 0.09*          | 0.66               | 0.05**         | 0.88               | 0.00***        |
| <i>Age</i>                  | 0.001                 | 0.85           |                    |                |                    |                |
| <i>Leverage</i>             | 0.32                  | 0.56           |                    |                |                    |                |
| <i>Branches</i>             | 0.01                  | 0.14           |                    |                |                    |                |
| <i>RGNP</i>                 | 0.01                  | 0.58           | 0.02               | 0.32           | 0.01               | 0.34           |
| <i>Real Interest</i>        | 0.03                  | 0.24           | 0.03               | 0.27           |                    |                |
| <i>R Square</i>             | 0.48                  |                | 0.37               |                | 0.37               |                |
| <i>Adjusted R Square</i>    | 0.27                  |                | 0.23               |                | 0.27               |                |
| <i>P-value</i>              | 0.06*                 |                | 0.05**             |                | 0.02**             |                |

<sup>a</sup>Levels of significance indicated by \*, \*\* and \*\*\* correspond to 10, 5 and 1%, respectively.

**Table 4.20. Tobit regression on total losses per dollar of assets of the failed bank<sup>a</sup>**

| <i>Independent Variable</i> | <b>Regression Run</b> |                |                    |                |                    |                |
|-----------------------------|-----------------------|----------------|--------------------|----------------|--------------------|----------------|
|                             | <b>1</b>              |                | <b>2</b>           |                | <b>3</b>           |                |
|                             | <i>Coefficient</i>    | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> |
| <i>Intercept</i>            | 0.36                  | 0.10*          | 0.36               | 0.00***        | 0.44               | 0.00***        |
| <i>Period1</i>              | 0.13                  | 0.35           | 0.13               | 0.27           |                    |                |
| <i>Period3</i>              | 0.29                  | 0.04**         | 0.19               | 0.11           | 0.11               | 0.30           |
| <i>Period4</i>              | -0.27                 | 0.17           | -0.20              | 0.27           | -0.19              | 0.22           |
| <i>Age</i>                  | -0.004                | 0.22           |                    |                |                    |                |
| <i>Leverage</i>             | 0.11                  | 0.73           |                    |                |                    |                |
| <i>Branches</i>             | -0.003                | 0.37           |                    |                |                    |                |
| <i>RGNP</i>                 | -0.003                | 0.72           | -0.006             | 0.47           | -0.01              | 0.57           |
| <i>Real Interest</i>        | 0.01                  | 0.30           | 0.01               | 0.34           |                    |                |

<sup>a</sup>Levels of significance indicated by \*, \*\* and \*\*\* correspond to 10, 5 and 1%, respectively.

**Table 4.21. Tobit regression on total losses per dollar of total assets of the banking industry from bank failure<sup>a</sup>**

| <i>Independent Variable</i> | <b>Regression Run</b> |                |                    |                |                    |                |
|-----------------------------|-----------------------|----------------|--------------------|----------------|--------------------|----------------|
|                             | <b>1</b>              |                | <b>2</b>           |                | <b>3</b>           |                |
|                             | <i>Coefficient</i>    | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> | <i>Coefficient</i> | <i>P-value</i> |
| <i>Intercept</i>            | -0.0003               | 0.87           | 0.003              | 0.00***        | 0.003              | 0.00***        |
| <i>Period1</i>              | 0.001                 | 0.43           | -0.0004            | 0.77           |                    |                |
| <i>Period3</i>              | -0.004                | 0.00***        | -0.001             | 0.24           | -0.001             | 0.17           |
| <i>Period4</i>              | -0.004                | 0.01***        | -0.004             | 0.04*          | -0.003             | 0.12           |
| <i>Age</i>                  | 0.0001                | 0.05**         |                    |                |                    |                |
| <i>Leverage</i>             | 0.003                 | 0.18           |                    |                |                    |                |
| <i>Branches</i>             | 0.0001                | 0.00***        |                    |                |                    |                |
| <i>RGNP</i>                 | -0.0001               | 0.37           | 0.00003            | 0.74           | 0.00003            | 0.75           |
| <i>Real Interest</i>        | 0.0002                | 0.04***        | 0.0002             | 0.13           |                    |                |

<sup>a</sup>Levels of significance indicated by \*, \*\* and \*\*\* correspond to 10, 5 and 1%, respectively.

**Table A5.1. Guarantors of the Liabilities of the Ontario Bank**

| Guarantor banks               | Maximum loss assumed by the banks (\$)       | Paid-up capital of the guarantors (\$) |
|-------------------------------|--|--|
| Bank of Montreal              | Unlimited                                    | 14,400,000                             |
| Canadian Bank of Commerce     | 400,000                                      | 10,000,000                             |
| Bank of Toronto               | 200,000                                      | 4,000,000                              |
| Imperial Bank of Canada       | 200,000                                      | 4,400,000                              |
| Dominion Bank of Canada       | 200,000                                      | 3,000,000                              |
| Standard Bank of Canada       | 200,000                                      | 1,300,000                              |
| Royal Bank of Canada          | 200,000                                      | 3,750,000                              |
| Traders Bank of Canada        | 200,000                                      | 4,125,000                              |
| Merchants Bank of Canada      | 300,000                                      | 6,000,000                              |
| Molson's Bank                 | 200,000                                      | 3,000,000                              |
| BANK OF BRITISH NORTH AMERICA | 200,000                                      | 4,900,000                              |
| Bank of Hamilton              | 200,000                                      | 2,500,000                              |
| Bank of Ottawa                | 200,000                                      | 3,000,000                              |
| Bank of Nova Scotia           | 200,000                                      | 3,000,000                              |
| Total                         | 2,900,000 plus guarantee of Bank of Montreal | 67,375,000                             |

Source: Letter from M. Cronyn, the Secretary of the Bank of Montreal to Henry T. Ross, Secretary of The Canadian Bankers' Association, February 25, 1931, CBA.

**Table A5.2. Balance Due to the Assisting Bank by International Assets,  
Limited (Sovereign Bank Failure)**

| Banks                         | Balance due to the banks as of<br>July 19, 1924 (\$) |
|-------------------------------|--|
| Bank of Montreal              | 39,417.98  |
| Bank of Toronto               | 26,198.76  |
| Imperial Bank of Canada       | 26,198.76  |
| Dominion Bank of Canada       | 26,198.76  |
| Standard Bank of Canada       | 17,478.64  |
| Royal Bank of Canada          | 26,198.76  |
| Merchants Bank of Canada      | 26,198.76  |
| Eastern Townships Bank        | 17,478.64  |
| Bank of British North America | 26,184.75  |
| Bank of Hamilton              | 12,986.58  |
| Canadian Bank of Commerce     | 39,417.98  |
| Bank of Nova Scotia           | 17,478.64  |
| Total                         | 301,437.02   |

Source: Letter from Clarkson, the Trustee, to the assisting banks, Toronto, July 29, 1924, CBA.