

BANK LEARNING FROM SECTOR-SPECIFIC CREDIT LOSSES

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BANK LEARNING FROM SECTOR-SPECIFIC CREDIT LOSSES ABSTRACT

This research addresses the question: how did the banks learn from their major sector-specific loan loss events? It also seeks to understand what made learning effective, in the sense that lessons learned during one episode could prevent the occurrence of a similar episode in the future.

A case-based research methodology is used. The research is conducted in three large Canadian Schedule A banks, which experienced, to varying extents, the same three loan loss episodes since 1980: in loans to developing countries; energy; and commercial real estate.

The '4-I' theory of organizational learning (Crossan, Lane and White 1999) is used to organize the data, providing a framework for understanding how learning occurred, and how it was disseminated and remembered in the banks.

This research finds that the people who were involved in cleaning up and explaining the problems did learn from the sector-specific loan losses. Although some of that learning is subsequently incorporated in lending rules and tools, these changes tend to be local in nature, impacting only the business that had experienced the loan losses.

The leadership of bank management is an essential condition for any significant dissemination to occur beyond the affected unit, because there is little direct communication of lessons across business units at the front line level.

The lessons that are disseminated do not travel well: they are subject to systematic erosion over time, and are frequently ignored, particularly during 'boom' conditions. Lessons are particularly vulnerable when their content is transferred without their context, and when they are in conflict with other institutionalized artifacts influencing behaviour.

Overall, the research shows rules and processes to be less durable, and have less impact on behaviour than organizational theorists and managers have tended to believe. To be durable and influence behaviour in a meaningful way, they must be continually affirmed, explained and defended, as well as aligned with other key elements of the organizational design.

A model is developed that highlights the profound impact of economic boom conditions on organizational learning, and suggests the need to approach learning differently during these times.

Keywords: Organizational learning; organizational memory; banking; corporate credit

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CHAPTER 1

INTRODUCTION

1.1 MANAGEMENT PROBLEM AND RESEARCH QUESTION

This study attempts to answer the question: “How have banks learned from their heavy sector-specific credit losses?” When banks lend money to their customers, they expect to incur some level of loan losses, because there will always be customers who cannot repay the money they have borrowed. Loan losses are considered to be a legitimate cost associated with participation in the lending business. However, since 1980, many banks have repeatedly experienced high levels of loan losses – levels that systematically undermine profitability and erode shareholder value.

Canada’s five major banks have realized inadequate returns in their large corporate lending businesses over the past several business cycles (Paul-Chowdhury 1995). This lack of profitability over the business cycle is largely due to the banks’ history of lending heavily in a few credit-hungry sectors, at deteriorating margins, and with increasingly lenient loan structures, then showing unexpectedly high levels of problem loans when these sectors experience difficulty. In the past 17 years, Canadian banks have suffered three episodes of heavy, sector-specific loan losses: in developing country (LDC) debt in the early 1980s; in the energy sector in the early- to mid-1980s; and in commercial real estate in 1990-93. Exhibits I and II show the impact of the sector-specific credit losses on banks’ performance over the relevant time period.

This recurring failure to manage credit risk is not a uniquely Canadian phenomenon. British and Japanese banks experienced serious sector-specific losses during the same time frame (Freeman 1993), and US banks in particular have shown a repeating loan loss pattern similar to Canadian banks (Stevenson and Fadil 1994). Factors identified as contributing to these events include: lack of pricing discipline as competition intensified, particularly in an economic boom situation in the sector;

emphasis on short-term earning objectives resulting in aggressive loan growth and high concentrations; and the deterioration in borrower credit quality resulting from disintermediation (Stevenson and Fadil 1994; The Economist Survey of World Banking 1992; The Economist Survey of International Banking 1993). In Canada, however, the forces of globalization, deregulation and disintermediation are exacerbated by the relatively small size of the country's economy and the large size of the major banks, which make it difficult for them to avoid lending in specific sectors with an appetite for loans.

Since the factors contributing to the lending crises show no signs of abating, we can expect more in the future, especially if the banks do not change the way they operate. Academic studies have shown that, without proactive management on the part of banks, we can expect to experience increasingly frequent sector-specific loan loss events in the future, because "lending crises are a natural mathematical outcome of the shift in credit quality of commercial borrowers from investment grade to noninvestment grade." (Stevenson and Fadil 1994: p.49)

But what kind of proactive management is necessary? What have Canadian banks learned from their LDC, energy and commercial real estate loan losses? How have they learned? What changes have they made in their corporate lending businesses, and to their risk management procedures? To what extent were the changes made after one loan loss episode effective in protecting the banks against the next one? What characterizes effective learning processes? And, most importantly, what can we learn from past patterns of behaviour and change that could help the banks to enhance their learning, and reduce the damage caused by such sector-specific loan loss events in the future? It is to these questions that the lens of organizational learning theory is applied in this research.

1.2 RESEARCH DESIGN AND METHODOLOGY

This is an exploratory study. Because the goal of the research is to discern patterns in a relatively unstudied, complex, organizational process, and because understanding the phenomenon requires intimate familiarity with the process, a case-based research strategy is used. The first objective of this research is to understand how organizations learn from historical crisis-type events. Specifically, it seeks to understand how three major Canadian banks have learned from recurring episodes of heavy, sector-specific loan losses. A related objective is to develop some understanding of what makes learning effective, in the sense that lessons learned during one episode can prevent the occurrence of a similar episode in the future.

The research was conducted in three major banks selected from the population of Canada's five largest Schedule A banks, because each of the firms experienced, to varying extents, the same three loan loss episodes over the past 15 years. The banks were chosen to provide examples of both apparent learning from loan loss events – based on publicly available performance measures – and apparent failure to apply their learning.

Within each bank, semi-structured interviews and archival data were used to construct the *what changed* and *how learning occurred* 'stories' of each of the three sector-specific loan loss events. For each of the three loan loss episodes, interviews were conducted with people representing each of the four key groups involved in large corporate or international credits: line or account management; credit; risk management; and workout. The majority of interviews were with bank executives, holding the position of Vice President or higher.

The '4-I' theory of organizational learning (Crossan, Lane and White 1999) was selected for use as a tool to organize the data and provide a framework for understanding how learning had occurred, and how it had been disseminated and remembered in the banks. Data were coded according to 'bins' emerging from this theory, and were then

analyzed to reach conclusions about how the banks learned from their sector-specific loan losses.

1.3 FINDINGS

This research shows that the banks did learn from their sector-specific loan losses. In particular, the people who were involved in cleaning up and explaining the problems learned a great deal about how to recover the banks' money, and to a more limited extent, about what had led to the loan losses. Two characteristics of the workout process facilitated a high degree of learning: the opportunity it provided to experiment with solutions; and the amount of communication it entailed.

A certain amount of that learning was subsequently incorporated in lending rules and tools used in the affected sector. These changes tended to be local in nature, impacting only the organizational unit that had experienced the loan losses. Although not all of the lessons got institutionalized, these changes, and their underlying lessons, exercised a meaningful influence on behaviour and were relatively slow to erode.

The leadership of bank management was required for any meaningful degree of dissemination to occur beyond the affected unit, because there was very little direct communication of lessons across business units at the front line level. Many lessons were never disseminated beyond the affected sectors. However, executives could and did transfer lessons more broadly across units through their use of social and institutionalized boundary-spanning mechanisms. Institutionalized mechanisms included new policies, processes or structures. Social mechanisms included discussion, decision-making, story-telling, and training.

The lessons that were disseminated did not travel well: in the face of performance pressures, particularly economic or asset price "boom" situations, they were subject to systematic erosion over time, and were frequently ignored. Firstly, lessons were

vulnerable to erosion and inattention because, although a rule or process change may have been transferred beyond the affected unit, its *context* often was not. When a lesson, institutionalized in a rule or process, was *also* remembered and explained and defended by decision-makers, it was eroded more slowly than when it stood alone without context. Secondly, lessons did not travel well when they were in conflict with other institutionalized artifacts that influenced behaviour, including measurement and reward systems, strategy, reporting structures, or organizational culture. When the behavioural message sent by a particular rule conflicted with those sent by these other artifacts, it was in people's best interest to ignore the rule or find ways to get around it. These patterns were exacerbated when a sector experienced a boom, because there were more potential transactions, greater pressure to make them, and virtually no negative feedback for a period of time after the transactions were made. Because the costs and tolerance of error, and the availability of feedback associated with the banks' corporate lending businesses changed dramatically in a boom situation, the learning processes that worked reasonably well during 'normal' economic conditions were much less effective in boom conditions.

Overall, the research showed rules and processes to be less durable, and have less impact on behaviour than organizational theorists and managers have tended to believe. When they are divorced from their meaning, rules and processes tend to erode, be ignored, and be replaced in the face of market pressure, particularly in boom conditions. Institutionalization alone does not ensure that lessons embedded in processes and rules will maintain their power and integrity over time. To be durable and influence behaviour in a meaningful way, they must be continually affirmed, explained and defended, as well as aligned with other key elements of the organizational design.

Three factors were found that increase the likelihood that institutionalized lessons will erode more slowly, and have a meaningful influence on behavior, over time. These are: the presence of a comprehensive, mutually reinforcing system of policies and processes that embody the lessons from the loan loss episode; individual memory and leadership of key decision-making individuals; and an organizational culture that transmits, supports, and rewards behaviour in accordance with the lessons learned.

However, it should be noted that making institutionalized lessons more durable still does not adequately address the fact that an economic boom situation fundamentally reduces the effectiveness of organizational control and learning mechanisms that function reasonably well in normal economic growth conditions. To deal with boom conditions requires that the banks treat each exception to policy as an experiment, and structure the experimental design with characteristics of economic booms in mind.

1.4 CONTRIBUTIONS OF THE RESEARCH

Research into bank learning from sector-specific credit losses will be of interest to bank executives for a number of reasons. Stung by their heavy losses in commercial real estate, a number of banks declared that improving credit quality and credit risk management was a strategic priority. Even in an environment where disintermediation and the falling of regulatory barriers make credit a declining area of banks' corporate business, the potential damage to earnings and share price which credit losses can cause make the effective management of credit risk strategically important for most major banks.

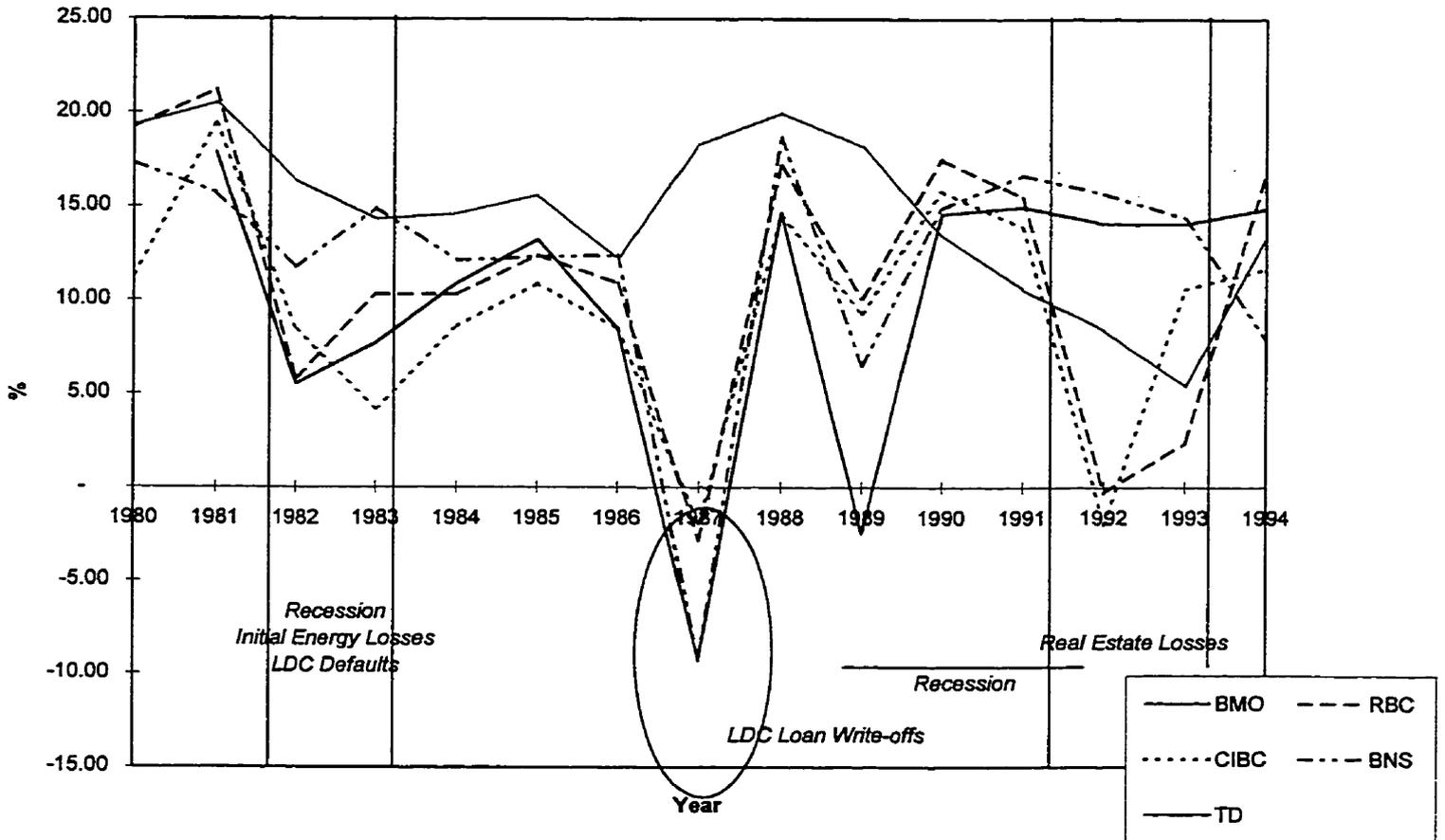
This research makes a number of substantive contributions to both our understanding of a persistent management problem, and the organizational learning field:

- It is, to the best of my knowledge, the only piece of field research that systematically explores both the phenomenon of recurring, sector-specific bank loan losses, and the learning that occurs after these events.
- It is the first study to offer a coherent explanation of how lessons are learned, disseminated and remembered after a loan loss episode or similar crisis-type event.
- It knits together many disparate lines of discussion and research in the organizational learning field, showing how they may work together to explain this complex organizational phenomenon.
- It draws upon recent work in the area of organizational crises or disasters, then extends it -- both temporally and conceptually -- by linking it with research in the

area of organizational learning. In making this link, the research also makes a contribution to our understanding of organizational memory, and its systematic deterioration over time.

1.5 Exhibit I Impact of Sector Specific Loan Losses on Bank Performance

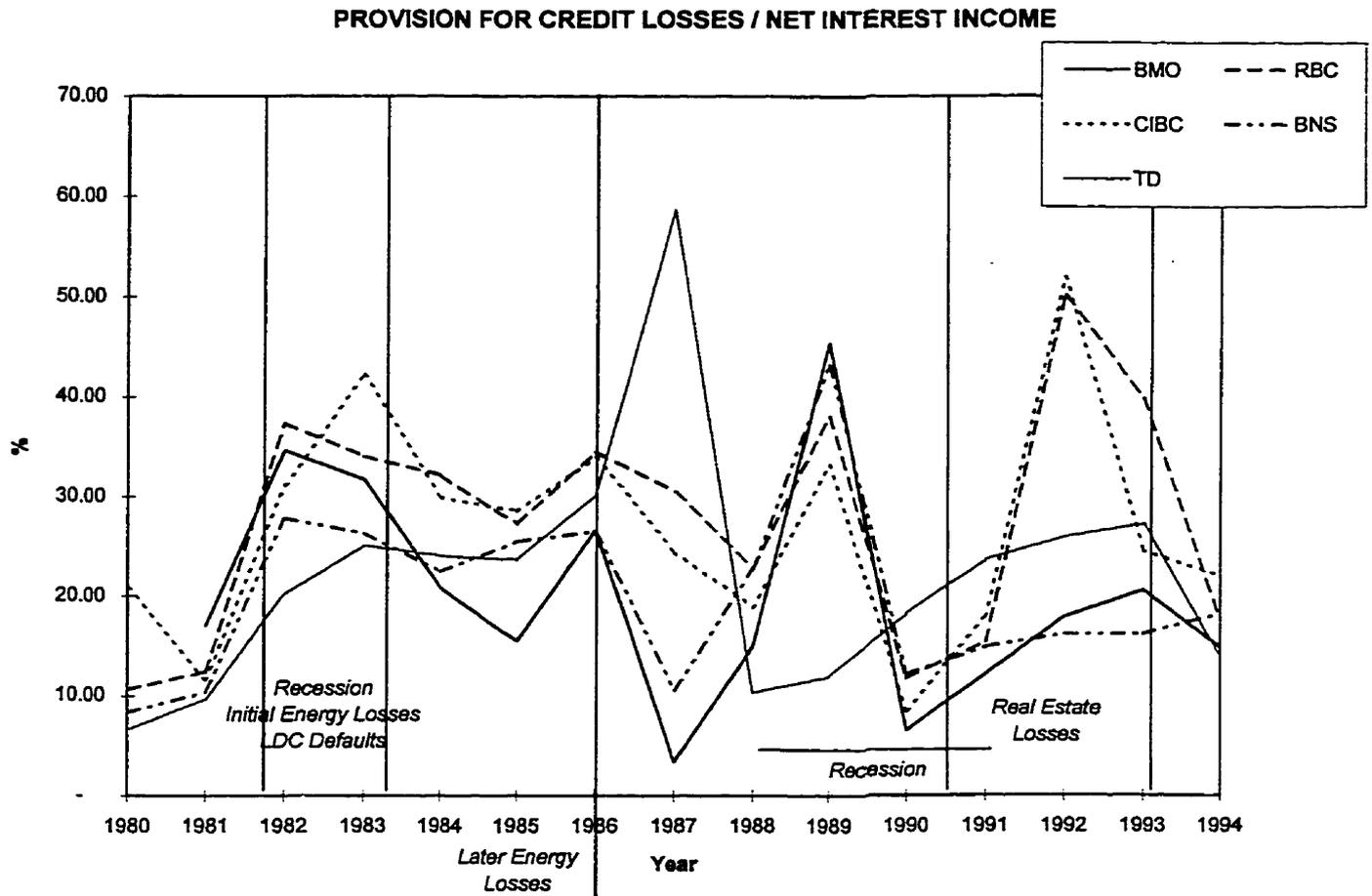
RETURN ON AVERAGE COMMON SHAREHOLDERS' EQUITY



Note: In this Exhibit and the following one, the banks shown are: Bank of Montreal (BMO), Canadian Imperial Bank of Commerce (CIBC), Toronto Dominion Bank (TD), Royal Bank of Canada (RBC), and Bank of Nova Scotia (BNS)

Source of data: Annual Reports

1.6 Exhibit II Impact of Sector Specific Loan Losses on Bank Performance (continued)



Note: The LDC loan write-downs do not appear on this chart, except for in the case of the TD Bank (see the spike in that bank's Provision for Credit Losses in 1987). The TD's LDC exposure was relatively low, and it accounted for the exposure differently from the other banks.

Source of data: Annual Reports

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The purpose of this chapter is to lay the foundation for exploratory field research into the phenomenon of recurring, sector-specific bank loan losses, and how the banks have learned from them. It reviews relevant streams of academic literature to identify the theoretical perspectives that may emerge as important in helping to understand the phenomenon. These perspectives are then reflected in the interview questions, which were designed to allow the emergence of a broad range of potentially relevant data.

An exploratory study requires that the researcher approach it with an open mind, and a willingness to be surprised. However, it is inevitable that the researcher will have some way of thinking about the phenomenon that will influence what data are collected, how they are analyzed, and how they are interpreted. Accordingly, this literature review also represents a map of the researcher's thinking about the phenomenon.

The literature review closely follows the researcher's conceptualization of the recurring loan loss phenomenon, and the central question of whether and how the banks have demonstrated learning. It briefly reviews research into financial and non-financial crises, and banking research in general. It then focuses on the extensive academic literature on organizational learning. The *recurring* nature of these loan loss events, and the *similarities* in contributing factors across episodes raise a number of questions that guide the review and analysis of the organizational learning literature. How does learning occur after such loan loss events? Who learns, and who does not? Why do the lessons frequently not seem to be applied to future situations, in different industries or geographic locations? How are lessons disseminated? Is their transfer across business units or time blocked in some predictable way? How do organizations remember what they have

learned from the loan loss crises? Why is their memory apparently so short? Following this line of questioning, the OL literature is reviewed for what it has to say about how the organization *initially learns* from an experience, how these lessons are *disseminated* across people, groups or business units, and how the lessons from history are *remembered* over time. Because the loan loss phenomenon seems to be characterized by a failure to learn, transfer lessons, or remember them, particular attention is also paid to the factors that might lead to such failure.

Two other concerns or themes also guide the review of the OL literature. Firstly, I am interested in understanding the *levels* at which learning occurs, and the patterns of influence between one level and another. Much of the OL literature focuses on one of three levels of analysis: the individual, the group, or the organization (see Crossan et al 1995; Crossan and Hulland 1995). However, a number of researchers have taken a more integrated approach, arguing that to understand the OL process, we need to recognize the contributions of all three levels (Crossan et al 1995; Hedberg 1981; Huber 1991; Shrivastava 1983), and develop a better understanding of the interplay and tensions among levels (Crossan et al 1999; Hedberg 1981). Secondly, because the research question deals with *how* learning occurs after sector-specific loan loss events, I am interested in the *processes* by which learning -- and its dissemination and memory -- occur at each level.

2.2 CRISES

2.2.1 Financial Crises

"There can be few fields of human endeavor in which history counts for so little as in the world of finance. Past experience, to the extent that it is part of memory at all, is dismissed as the primitive refuge of those who do not have the insights to appreciate the incredible wonders of the present."
(Galbraith 1990: p.2)

Economic boom-bust cycles have long been associated with the type of loss episode being studied. Financial history, from the Tulip Mania in Holland in the 1630s to the present day, is characterized by the frequent occurrence of speculative episodes, each following a remarkably similar pattern: displacement > boom > euphoria > distress > panic (Kindleberger 1989; Minsky 1982). The events underlying each of the loan loss episodes being studied also followed this pattern, although they stopped short of the panic stage.

Displacement is an exogenous shock to the economic system which alters participants' perceptions of profit opportunities in one or more important sectors of the economy. The boom occurs as individuals and businesses take advantage of the new profit opportunities caused by the displacement. The boom period is fed by the expansion of bank credit, as well as new credit instruments and sources. As positive returns stimulate further investment, and the demand outpaces the supply, prices rise resulting in new profit opportunities and attracting still more investors, and speculation increases, resulting in mania or euphoria. Behaviour during this stage may include pure price speculation, overestimating prospective returns, or excessive use of debt (Matthews 1976). The object of speculation varies, but in the cases studied here, they were loans to developing economies, oil, and commercial real estate.

Financial distress refers to the uneasy period at the top of the market, when the number of new investors is balanced by insiders who are starting to withdraw and prices begin to flatten. Distress is heightened as participants realize that a rush out of assets and into cash may develop, with the predictable effects on asset prices, which could leave some investors unable to repay their bank loans. The crash or panic stage which may follow the period of distress refers to the stampede of participants trying to sell the asset into a falling market. Not every period of financial distress ends in panic, however. Participants may incur heavy losses, but withdrawal is orderly, and financial distress gradually subsides (Kindleberger 1989), as happened in the cases studied here.

Galbraith (1990) notes the similarities in psychology or attitude which seem to characterize speculative episodes. These include: a strong personal interest in maintaining the euphoric belief; the pressure of public and financial opinion which supports the euphoric belief and ridicules or condemns dissenters; and the specious association our society seems to make between intelligence and money. The recognition that speculative episodes are regularly occurring events in financial history, and the identification of a pattern of behaviours and attitudes common to these events, suggest that the banks could and indeed should have learned lessons from their sector-specific loan loss episodes which would have been applicable to later episodes.

As described above, models of financial speculation are commonly based on the irrationality of crowd behaviour, and focus their analysis at the level of the market. In contrast, Abolafia and Kilduff (1988) propose that mania > distress > panic result from and also influence three corresponding "enactment" processes engaged in by powerful market participants acting in their own self-interest. These processes of action > attribution > regulation correspond to Weick's (1979) processes of variation, selection and retention. They emphasize the deliberate efforts of participants to create situations through strategic action, dominate how situations are interpreted, and shape future rules of transaction through regulation.

Abolafia and Kilduff lower the level of analysis somewhat to examine the motivations of major market participants. However, like the economists and historians referred to above, they do not get inside participant organizations to examine speculative behaviour at the firm, business or human levels.

2.2.2 Non-Financial Crises

Research into non-financial crises has concentrated primarily on industrial disasters resulting in the loss of human life or severe environmental degradation. Prior to the work of Perrow (1984), investigations tended to focus on the role of operator error in

triggering the crisis. Correspondingly, the reduction of operator error was the focus of proposed preventative actions. Perrow, however, examined high-risk systems including nuclear power plants, petrochemical factories, and air travel, and identified a number of characteristics of the *systems* that made “accidents in them inevitable, even ‘normal’ ” (Perrow 1984: p.4). Since Perrow, a number of researchers have studied such disasters and their possible prevention as the outcome of social or decision-making systems (eg. Shrivastava 1992; Starbuck and Milliken 1988; Vaughan 1996, 1997; Weick and Roberts 1993). The conceptualization of disasters as systemic rather than the exclusive result of operator error is of particular relevance to this study. The fact that the loan loss episodes occurred simultaneously across many banks, across a number of industrialized countries, suggests that a systemic explanation is required.

A number of properties of organizational systems have been identified as contributing to the likelihood of a disaster. Perrow (1984) discussed the potential for small, independent failures to become major crises when systems were both highly *complex* and *tightly coupled*. Shrivastava (1992), studying the tragedy in Bhopal, concluded that:

“crises occur most commonly in situations where complex technologies are embedded in communities that do not possess the infrastructure to support them. The technological and industrial events that trigger crises are caused by a complex interaction of human, organizational, and technological factors. These events in turn interact with economic, social and political forces to create crisis.” (p.x)

Vaughan (1996, 1997), researching the space shuttle Challenger disaster, identified a system of cultural norms, decision-making patterns, and performance pressures at NASA that resulted in increasingly higher levels of risk being accepted as normal, a process she called the ‘normalization of deviance’.

Studies of non-financial crises have focused on explaining the cause of the disaster, and so have looked most carefully at the events leading up to it. Analyses of response to the crises has been at a fairly macro level in that it has focused on the

interactions among major organizational and political stakeholders (eg. Shrivastava 1992) As a result, little work has been done examining how the affected organizations have learned from these events.

2.3 BANKING RESEARCH

Academic studies of loan loss episodes, or the corporate credit process, are conspicuous by their rarity in the banking literature. Most of the academic research situated in or pertaining to banks falls into two categories. The first is comprised of strategic management / organizational behaviour / organizational theory research into a wide variety of managerial issues, which utilizes the banking industry as a convenient population and control group, but has little to do with specific banking businesses. The second category is comprised of highly quantitative finance research focusing largely on particular capital markets activities undertaken by a bank.

At the time this study was being planned and the data collected relatively little academic research had been done into bank-specific management processes and issues. This scarcity was noted by Rogers (1993), one of the few researchers to conduct such a study. The apparent absence of academic research into loan losses, or the corporate credit process, was confirmed repeatedly in conversations with academics at the University of Western Ontario, York University, and Harvard whose research focused on the financial services industry.

In the past year or two, however, a few studies have been published about credit decision-making and loan losses. Examining the cognitive and organizational factors that influence risk assessment in commercial lending decisions, McNamara and Bromily (1997) found that organizational pressure for profitability increased the likelihood that newer borrowers and larger loans would be given overly favourable risk ratings. They found that decisions were also affected by the level of "excitement" in an industry sector

(which we refer to in this study as a boom situation), with decision makers tending to under-rate the riskiness of loans in exciting industries and overrate the riskiness of loans in unexciting industries. To their surprise, McNamara and Bromily also found that increased standardization of the loan review process did not make decision-makers either more conservative or more accurate in their risk assessments. As standardization increased, so did the likelihood that a loan's riskiness would be underrated. The study also yielded two interesting general findings. Firstly, where cognitive factors and organizational factors predicted opposite results, organizational factors were consistently shown to have more influence on the risk assessment decisions than cognitive ones. Secondly, informal organizational influences (eg. the informal translation of branch-level profitability objectives into loan growth targets) had more influence on the decisions than formal ones (eg. standardization of credit processes).

Recent research in the Swedish banking industry also helps to improve our understanding of this phenomenon. Studying the Swedish banking crisis in the early 1990s, Eriksson (1996) concluded that, while all banks had suffered credit losses, the ones that experienced the greatest losses were the ones that had expanded their commercial lending most aggressively in the late 1980s. He suggested that these more aggressive banks took on clients that their competitors did not want, and that they had insufficient knowledge about these companies. Eriksson and Mattsson (1998) offered an explanation for McNamara and Bromily's puzzling findings on standardization. They suggested that increased knowledge of the customer's business context developed slowly over time was more significant than increased standardization in producing better credit decisions.

These researchers also noted that the following were common following the loan losses suffered by the Swedish banks: transfers of ownership, substantial layoffs, management changes, revised organizational structure, and more centralized decision making through tighter credit evaluation and control procedures (Eriksson 1996; Eriksson

and Mattsson 1998). Overall, however, they concluded that the nature of bank behaviour was not affected in a fundamental way by the crisis, or the changes.

For a greater quantity of published material about strategic bank management or the management of specific businesses within a bank, the reader must turn to practitioner rather than academic journals. The corporate credit process is written about regularly in such practitioner-oriented publications as Institutional Investor, the Journal of Commercial Lending, and the Commercial Lending Review.

In summary, studies of financial speculation and crises typically use the market or the organizational actor as the unit of analysis, providing little insight into processes within the firm. These studies do, however, establish the existence of a recurring boom – bust pattern of mania > distress > panic. This consistency across episodes suggests that learning from one should be applicable, to some extent, to the next episode.

The recent research on non-financial crises, typically industrial disasters, directs our attention to systemic causes rather than simple operator error. A number of characteristics of organizational systems are suggested that may contribute to the likelihood of a crisis. This body of research may be helpful in understanding the events and patterns leading up to a loan loss event, but offers little in the way of guidance about how the banks might learn afterward.

While much of the available bank-based research is not relevant to the topic being studied, the works of McNamara and Bromily (1997), Eriksson (1996), and Eriksson and Mattsson (1998) provide potentially valuable insights into the findings that will emerge from this study. McNamara and Bromily's study in particular also provides rigorous empirical testing of several of the cognitive and organizational factors that affect credit decision-making. The remainder of this chapter focuses on the organizational learning (OL) literature, which is the lens through which I will frame this research.

2.4 ORGANIZATIONAL LEARNING

2.4.1 Organizational Learning Overview

2.4.1.1 What is Organizational Learning?

It has become customary to introduce this type of review with the observations that the organizational learning (OL) field is diverse and fragmented, and that little consensus exists about what OL is or how it occurs. A number of researchers have sought to impose order on the chaos, identifying common themes or perspectives that differ from each other along key dimensions.

Early attempts at categorization include those of Shrivastava (1983) and Daft and Huber (1987). Shrivastava identified four distinct conceptualizations of OL that emerged from the literature: adaptation, assumption sharing, developing knowledge of action-outcome relationships, and institutionalized experience. Daft and Huber distinguished between the system-structural perspective, with its emphasis on the acquisition and distribution of information, and the interpretive perspective, with its focus on the interpretation or meaning given to information. More recent categorizations include those of Miller (1996) and Easterby-Smith (1997). Easterby-Smith broke out the OL theories and research according to their contributing disciplines: psychology and organizational development, management science, sociology and organizational theory, strategy, production management, and cultural anthropology. Miller developed a typology of OL literature arrayed along the dimensions of voluntarism vs. determinism and methodical analysis vs. emergence.

So what does all this mean for an exploratory study into how banks have learned from their sector-specific credit losses? The research question itself -- and the underlying assumption that banks can learn from such crisis events and modify their actions to

reduce future losses in similar situations -- suggests that this study is grounded in the adaptive, experiential learning perspective of theorists such as Cyert and March (1963), March and Olsen (1975), and Hedberg (1981). This tradition “assumes a simple logic of experiential learning: an action is taken, there is some response from the environment; and then a new action is taken reflecting the impact of that sequence” (March and Olsen 1975: p. 157). Its basic model of individual beliefs leading to individual action, leading to organizational action, leading to environmental change, or a response from other organizational actors, leading back in a complete cycle to individual beliefs, recognizes the importance of both cognition and action in organizational learning. It also holds that the learning process is intendedly adaptive, but that problems can occur at any stage in the learning cycle that may prevent any actual improvement. These assumptions -- that organizations can learn from experience and improve their performance; that performance may not improve, however, due to problems in the learning process; and that both cognition and action are integral parts of organizational learning -- are central to the approach to this research.

However, this traditional adaptation perspective does not tell a complete story. It does not explicitly recognize the social or group aspects of organizational learning. It does not discuss the role of institutionalized artifacts including organizational structures, processes, or routines. It does not explicitly deal with organizational memory, except as it exists in individual beliefs.

Because this research is exploratory, it is more concerned with using any available tools that might help us to understand the phenomenon, than with testing or adhering to a particular theoretical perspective. The work of Shrivastava, Daft and Huber, Miller, and Easterby-Smith -- as well as many other researchers in the OL field -- is used to build upon the traditional adaptation perspective, and *systematically cultivate an open mind with which to approach the research*. An earlier section highlighted my interest in understanding organizational learning as it *flows across three levels of analysis*, and the *processes* by which such learning occurs (Crossan et al 1995; Crossan et al 1999;

Shrivastava 1983). Daft and Huber's work emphasizes the need to pay attention to both the *acquisition and distribution* of information, and its *interpretation or meaning*. Miller's typology warns the researcher to be aware of the degree to which action and cognition may be *constrained by social and structural forces*, and directs attention to both *emergent* learning and that which results from *deliberate analysis*. In the following sections, a range of theoretical perspectives will be drawn upon for the purpose of shedding light on the phenomenon of bank learning from sector-specific loan losses.

2.4.1.2 Learning is Often Problem-Triggered

Consistent with the adaptation perspective described above (Cyert and March 1963; March and Olsen 1976; Hedberg 1981), the current study assumes a stimulus-response type learning cycle, where organizational actions stimulate changes in the environment, including responses by other organizational actors, which in turn lead to changes in individual and group level interpretations and actions, which affect organizational actions and so on. It focuses primarily on one type of environmental event -- heavy, sector-specific credit losses -- and the learning which occurs as a result. Expecting to observe learning in the wake of a dramatic negative event is consistent with an established literature, which suggests that, in mature firms, organizational search and re-evaluation is usually triggered by problems (Hedberg 1981; Huber 1991; March and Simon 1958; Starbuck 1976; Thompson 1967), and that these problems have to be quite large before they have this type of effect (Ansoff 1975; Bonini 1963; Downs 1966).

2.4.1.3 Dimensions of Learning

Theorists have proposed a number of dimensions along which organizational learning may be assessed and classified. These dimensions deal with how much learning occurs, the extent to which it is shared, and the degree to which it represents a departure from existing beliefs and routines. Huber (1991) suggests that OL may be characterized in terms of existence, breadth, elaborateness, and thoroughness.

- *Existence* "an organization learns if any of its units acquires knowledge that it recognizes as potentially useful to the organization";
- *Breadth* "more organizational learning occurs when more of the organization's components obtain this knowledge and recognize it as potentially useful";
- *Elaborateness* "with regard to an item of information, more organizational learning occurs when more and more varied interpretations are developed";
- *Thoroughness* "more organizational learning occurs when more organizational units develop uniform comprehensions of the various interpretations". (pp. 126-127)

These dimensions are potentially useful in assessing learning after a loan loss episode, the dissemination of lessons, and the extent to which they are remembered. Existence and elaborateness may be thought of as pertaining to the initial learning from the loan loss episode, while breadth and thoroughness are functions of how well the lessons have been disseminated across internal organizational boundaries.

While Huber argues that more interpretations equal more learning (the implication being that more is better), March, Sproull and Tamuz (1991) make the distinction between processes by which organizational members develop common understanding of their experience, and processes by which they develop a more accurate or effective understanding of their environment. *Shared* interpretations are viewed as a basis for *efficient* action, while *multiple* interpretations lead to *better* understanding, which is viewed as a basis for *effective* action. The distinction, and its associated trade-off, is echoed in various forms throughout the management literature -- between efficiency and effectiveness, adaptation and adaptability.

Although developing both multiple and shared interpretations is no doubt necessary for organizational learning, it is possible to predict that, in connection with the loan loss episodes, achieving multiple interpretations will be more of a problem than achieving shared, stable ones. The incidence of a critical event like a major loan loss episode generates a number of pressures toward having a single, easily communicated

interpretation (March, Sproull and Tamuz 1991). The complexity surrounding the event, and need to explain it to a number of stakeholder groups, mean that an interpretation may be rapidly adopted by virtue of its temporal proximity, political convenience, or cognitive availability (Cohen, March and Olsen 1972; Cyert, Dill and March 1958).

The efficiency - effectiveness trade-off described above also enters the organizational learning discussion as the tension between becoming better at what the firm is already doing (efficiency), and developing new skills or competencies in preparation for future competition (effectiveness). This tension is discussed in March's (1991) conceptualization of exploitation vs. exploration, and Crossan et al's (1995; 1999) feed-back and feed-forward learning loops.

Another manifestation of this tension, framed somewhat differently, is Argyris and Schon's (1978) distinction between 'single loop' learning, where changes occur within the existing framework of norms and assumptions, and 'double loop' learning, in which fundamental changes are made in the organization's frames of reference. This distinction is picked up again in Fiol and Lyles' (1985) discussion of 'lower level' and 'higher level' learning, and in Senge's (1990) discussion of 'adaptive' and 'generative' learning.

In the context of bank learning from sector-specific loan losses, one might expect to see evidence of both refining and improving existing rules and procedures, and fundamentally changing them. However, since the rewards for improving on an existing process or capability occur sooner, are systematically more certain, and are closer to the locus of action than the rewards for developing new mindsets and capabilities (March 1991), it is likely that exploitation and single-loop learning will be observed more frequently than exploration and double loop learning. The theory would also suggest, however, that exploration-type changes will prove more effective at preventing future loan losses than exploitation of existing, presumably flawed, processes.

2.4.2 Learning from Experience

2.4.2.1 Learning from Infrequently Occurring Historical Events

The positive effect of experience on performance, particularly in manufacturing, is well documented (Dutton, Thomas and Butler 1984; Mody 1989; Muth 1986; Yelle 1979). It should be noted that experience in the manufacturing context is a continuous flow of activity, providing a continuous stream of feedback from which to learn. The learning effect is also shown to apply to management decision-making and implementation activities including new plant start-ups, equipment purchases, and vendor development (Abernathy and Wayne 1974; Boston Consulting Group 1968; Conley 1970). It is suggested that the process of learning from experience can be facilitated by improving the availability, accuracy, or analysis of feedback about the action-outcome relationships (Huber 1991).

How firms learn from historical experiences, however, is less well understood. Although a number of prescriptions exist for improving such learning (described below), Huber (1991) notes that "holding aside the literature on experience-based learning curves, the literature on organizational learning from experience contains very few formal, systematic field studies" (p.134). The primary contribution of the proposed research to the area of organizational learning is that it is an in-depth field study of this type. It is expected to further our knowledge of the processes by which firms learn from infrequently occurring experiences.

Learning from infrequently occurring or unique historical events is more problematic than learning from a continuous flow of activity for a number of reasons (Brehmer 1980; Levitt and March 1988; March, Sproull and Tamuz 1991). Learning is impaired by the small sample size, ie. the *paucity* of experience from which to draw inferences. The sample size problem is particularly serious in the case of low probability,

high negative impact events (such as major loan losses), because organizations are actively trying to avoid them. Learning is also made more difficult by the *complexity* of historical experiences, where events themselves are not always clear, and causality is difficult to ascertain.

In the case of bank learning from loan loss experience, learning is further complicated by the temporal separation between lending decisions and outcomes. Although loans are reviewed every year, it may be several years between the initial lending decision and the time the borrower pays back or defaults on the loan. When feedback is slow or unclear, it seems that individuals or groups are likely to repeat decisions or actions simply because they have made them before (Bjorkman 1989).

Although they cannot avoid these structural difficulties, organizations can employ a number of tactics to improve their learning potential. They may moderate the sample size problem and augment history through attending to more aspects of experience (Campbell 1979), focusing intensively on critical incidents, treating historical events as detailed stories rather than single data points (March, Sproull and Tamuz 1991), or encouraging multiple observers or interpretations to draw different lessons from the same experience (Dearborn and Simon 1958; Sproull and Hofmeister 1986). Several authors suggest that organizations can reduce an event's complexity by making large, relatively infrequent changes rather than multiple smaller ones (Lounamaa and March 1987; Miller and Friesen 1980). It may be useful to look for evidence of the banks' proactive attempts to learn more from their loan loss experiences, using these or other tactics.

2.4.2.2 Learning Processes and Levels at which Learning Occurs

Theorists have identified a number of processes by which learning occurs. Reflecting the fragmentation of the OL literature generally, there is not yet consensus about these processes. Different words are used to describe similar processes, and the same word may be used to mean two different things. With this caveat, six commonly

described learning processes are: *error detection and correction* (Argyris and Schon 1978), *search* (Duncan and Weiss 1979; Levitt and March 1988), *experimentation / taking experimental action / enactment* (Daft and Weick 1984; Hedberg 1981; Levitt and March 1988; Weick 1979), *communication / interpretation* (Brown and Duguid 1991; Daft and Huber 1987; Shrivastava 1983; Weick 1979; West and Meyer 1997), *becoming a practitioner* (Brown and Duguid 1991; Cook and Yanow 1993; Lave and Wenger 1990), and *institutionalization* (Shrivastava 1983).

Error detection and correction, search, and experimentation may be thought of as primarily individual level activities (although both search and experimentation have also been characterised as organization level activities). They are primarily concerned with generating new information and ideas, or raw material for learning. Interpretation takes place at both the individual and group levels, although its social aspect has been emphasized in the OL literature. It is the process by which information or raw material is understood and given meaning. Becoming a practitioner differs from the preceding processes in that it is entirely a social, or group-level activity, involving the transfer of largely tacit knowledge in the course of daily work. Institutionalization takes place at the organization level of analysis. It is the process by which learning becomes embedded in organizational structures, routines, information systems and other artifacts.

Perhaps the most comprehensive conceptualization of organizational learning as a dynamic interplay of learning processes across individual, group and organization levels of analysis is the "4-I" theory (Crossan, Lane, White and Djurfeld 1995; Crossan et al 1999). This perspective makes explicit the three levels at which learning can occur; the impact that lessons learned at one level have on learning at the other levels; the learning processes at each level; and the tension between new learning and old. Learning is conceptualized as occurring at the individual, group and organization levels of analysis. At the individual level, learning is characterized by the processes of *intuition* and *interpretation*. At the group level, learning is a function of the processes of *interpretation* within groups, and *integration* of knowledge across groups. At the

organization level, learning is reflected in the process of *institutionalization*, as lessons are embedded into structures, processes / routines, policies, and other artifacts.

This perspective also anticipates the ‘feed-forward’ of learning, from the individual to the group or the organization levels, and from the group to the organization level. Through the processes of interpretation and integration, lessons learned by an individual are shared with a larger group, and individual and group interpretations of events and lessons are embedded in rules, structures or procedures through the integration process. This sequence describes the assimilation of new learning. Finally, the perspective holds that lessons also feed ‘backward’. Policies, processes, and related artifacts, which are the institutionalized memory of lessons already learned, can direct or constrain learning by individuals or groups. And group level interpretations can shape what an individual is likely to learn. This represents the organization's use of the lessons it has already learned. As described in an earlier section, the perspective anticipates a tension between feed-forward and feed-back processes, between new learning and old, between exploration and exploitation.

To a great extent, these processes are invisible to the researcher. However, they may be inferred from the collected data. For example, changes in credit processes, risk management practices, policies, organizational structure and strategy are taken as evidence of learning at the organization level. Similar stories or explanations from members of geographically or organizationally separate groups are evidence that integration has occurred across groups. The answers given in response to interview questions, as well as speeches, presentations and other internal communications, are evidence of interpretation in connection with the loan loss events. Search activities and experimental actions may be reported in interviews, and evidenced in memos and other internal documents.

None of the perspectives described above are explicit in predicting *who*, exactly, is expected to learn from a given environmental event or change. There seems to be an

implicit assumption that both the raw material for learning and the opportunity to interpret it are equally available to anyone in the organization with the ability to perceive a problem, change or opportunity.

2.4.2.3 Factors Inhibiting Learning

Because the loan loss episodes being studied are widely perceived as organizational failures, and the recurrence of such events appears to show a failure to learn, the factors that may inhibit learning, its dissemination, and its remembrance, are of particular importance to this study. March and Olsen (1975) described four ways that the learning cycle could be interrupted and learning could be compromised.

The first is role-constrained learning, when changes in individual belief or understanding are not translated into individual action, often due to the constraints of organizational routines or role definition. Crossan et al (1995) describe this as blocked learning. The second occurs when an individual's actions have little or no impact on the organization's actions. The third situation that can prevent learning from occurring is when organizational action has little effect on the environmental response, which results in superstitious learning. The fourth incomplete cycle occurs when individuals have trouble understanding what has happened, or why.

Such difficulties with interpretation, which March and Olsen call experiential learning under ambiguity, has received much attention in the OL literature. A number of problems that arise in trying to interpret infrequently occurring historical events are described in a previous section (2.4.2.1). An extensive body of work describes the cognitive biases that individuals bring to their interpretations of events.

The lessons which individuals extract from their experiences reflect a staggering variety of well-documented biases. Information is frequently used, not for the purposes of learning, but to justify and reinterpret earlier decisions (Staw and Ross 1978; Weiss

1980). When it is used for learning, a person's existing cognitive map or 'frame' will shape his or her interpretation of information (Schwenk 1984), particularly when the information is complex or ambiguous (Bruner 1957). Interpretation is also affected by how information is labelled (Dutton and Jackson 1987; Tversky and Kahneman 1985). Furthermore, people

"make systematic errors in recording the events of history and making inferences from them. They overestimate the probability of events that actually occur and of events that are available to attention because of their recency or saliency. They are insensitive to sample size. They tend to overattribute events to the intentional actions of individuals. They use simple linear and functional rules, associate causality with spatial and temporal contiguity, and assume that big effects must have big causes." (Levitt and March 1988, p.521)

Other factors that may constrain the interpretation of events include commonly held organizational beliefs, structures that limit communication, and pressures for legitimation, justification and performance (Dunbar et al 1982; Dutton and Duncan 1981; Elmes and Kassouf 1995). For example, Elmes and Kassouf find that aggressive time pressures give individuals little time for reflection and dramatically curtail the amount of communication between colleagues.

2.4.3 Disseminating Lessons

2.4.3.1 Dissemination Processes and Levels at which Transfer Occurs

One of the most striking features of the banks' sector-specific loan loss events is that they tended to recur, *but in different sectors or geographic locations* than had been affected previously. Lessons may have been learned, but apparently they were not available for effective use in different parts of the business at a later date. This observation directs our attention to the problem of knowledge dissemination. How is it

transferred across business units? How is the dissemination of knowledge facilitated or inhibited?

The communication of learning or knowledge between individuals, and across different groups, is a central organizational learning process. Indeed, some theorists contend that *only* when it has been communicated to other people can it be considered 'organizational' rather than 'individual' learning (Duncan and Weiss 1979; Simon 1991). To understand the dissemination of learning, we must consider two dimensions of the knowledge being transferred: its information – interpretation requirements, and the degree to which it is explicit or tacit. The first is the information - interpretation dimension (Daft and Huber 1987). Information needs to be transferred or distributed (Duncan and Weiss 1979; Huber 1982; Porter and Roberts 1976), and interpretations of the information need to be shared and developed across people and groups (Crossan et al 1995; Daft and Huber 1987).

Theorists have identified a number of structural mechanisms which can influence the volume of information flow, and how effectively it is processed and interpreted. Galbraith (1973) suggests the creation of lateral relations to facilitate decision-making across lines of authority in a hierarchy, at the level where the necessary information resides. Lateral relations might include: direct contact between two people who share a problem, the creation of a new liaison role in cases where there is a large volume of contact between two departments or tasks, or the formation of an interdepartmental task force or team in situations characterized by higher uncertainty. Daft and Huber (1987) note that organizations have many different communication channels through which they process information, and that these channels differ in their media richness. Rich media (eg. face-to-face contact) are preferable when the goal is to construct shared interpretations of equivocal information, whereas media of lower richness (eg. newsletters, memos) are more efficient at transferring a large volume of information that requires less interpretation.

The second dimension of knowledge that must be considered in order to understand its dissemination is the extent to which it is explicit or tacit. Duncan and Weiss (1979) state that a key requirement of organizational knowledge is that it be “communicable – capable of being stated in terms that are in principle understandable to other members of the organization” (p. 86). Knowledge that can be stated is explicit knowledge. The assumption that knowledge can be stated underpins much of the discussion of organizational learning, particularly in the system-structural perspective described by Daft and Huber (1987), but also in the interpretive perspective.

A few theorists have begun to explore the issues surrounding the transfer of tacit knowledge (Cook and Yanow 1993; Nonaka 1994; Nonaka and Takeuchi 1995). Tacit knowledge is a large component of many skills and types of work (Polanyi 1962). Inkpen and Crossan (1995) find that the most significant component of learning in joint ventures is tacit. Tacit knowledge is acquired through experience, and is very difficult to articulate. It may reside in individuals or groups of people who work together. It is best communicated through direct experience, example, and socialization into the work process (Brown and Duguid 1991; Cook and Yanow 1993; Inkpen and Crossan 1995; Nonaka 1994).

So what does this suggest about how the banks disseminate the lessons from their loan losses? Knowledge may be transferred at both the group and organization levels of analysis. At the inter-personal or group level, it may be shared through discussion or communication through written or visual media, working together and socialization, or setting and following examples. At the organization level, knowledge may be captured and transmitted in routines, rules, and information systems (Levitt and March 1988). However, some channels are more effective than others given the characteristics of knowledge to be transmitted. Where information is equivocal, and requires a significant amount of interpretation, rich media such as face-to-face discussion will be more effective. Where knowledge has a large tacit component, experience, working together, communicating through example will be most effective. In both of these cases, we can

predict that it will be more difficult to disseminate knowledge widely throughout the organization. In assessing how learning from the loan loss events is transferred across business units, attention should be paid to these factors.

2.4.3.2 Factors Inhibiting the Dissemination of Lessons

As the previous section suggests, the dissemination of lessons may be impeded by channels of communication that are inappropriate to the knowledge being communicated. Channel capacity may be insufficient to transmit large volumes of information, information may be communicated in such a way that it cannot be interpreted appropriately and is therefore never used, or attempts may be made to transmit knowledge through rules or statements that ignore and therefore lose important tacit components.

These points are incorporated, and framed somewhat differently in a comprehensive study of the impediments to the transfer of best practices within the firm (Szulanski 1996). Szulanski notes that, although strategic management research has examined impediments to the transfer of best practices between firms, impediments to transferring capabilities *within* firms have received little attention. Distilling a quantity of prior research from areas including resource-based competition and technological innovation, Szulanski identifies four sets of factors which are believed likely to increase the difficulty of knowledge transfer. These are: characteristics of the *knowledge* transferred; characteristics of the *source* of knowledge; characteristics of the *recipient* of knowledge; and characteristics of the organizational *context*.

In particular, causal ambiguity (Grant 1996; Lippman and Rumelt 1982; Nonaka 1994; Polanyi 1962; Winter 1995) and unprovenness (Rogers 1983; Goodman, Bazerman and Conlon 1980) in the knowledge itself are predicted to make transfer more difficult. Lack of motivation and perceived unreliability (Perloff 1993) in the source of the knowledge is expected to have the same effect. Knowledge transfer is also made more

difficult when the recipient lacks motivation (Hayes and Clark 1985; Katz and Allen 1982), absorptive capacity (Cohen and Levinthal 1990) or retentive capacity (Glaser, Abelson and Garrison 1983). And finally, a 'barren' organizational context (Burgelman 1983; Ghoshal and Bartlett 1994), or an arduous relationship between the source and the recipient (Arrow 1974; Marsden 1990) are believed to impede the transfer of capabilities within the organization. Szulanski's study identifies the recipients' lack of absorptive capacity, causal ambiguity, and an arduous relationship between source and recipient as the three most important barriers to the transfer of best practice knowledge.

There is also a body of work that asserts that hierarchical organizational structures inhibit communication among functions and divisions, and that information must flow upward to those who have decision-making authority, then downward through the hierarchy in the form of decisions (Ashkenas, Ulrich, Jick and Kerr 1995; Hoskisson and Hitt 1994; Ostroff and Smith 1993; West and Meyer 1997). With their hierarchical structures, pressures to maintain consistency and control, and, until recently, relatively stable environments, the large Canadian banks are more mechanistic in their organization than organic. This form is characterised by the tendency for communication to follow a vertical rather than a horizontal pattern, and for work behaviour to be governed by the decisions or instructions of superiors rather than by communication with colleagues (Burns and Stalker 1961). We can therefore anticipate that structural factors may inhibit the communication of lessons from the loan loss events across business units.

This discussion suggests that the researcher must be aware of a wide variety of factors that might inhibit the dissemination throughout the banks of lessons learned from the sector-specific credit losses.

2.4.4 Remembering

2.4.4.1 What is Organizational Memory?

In the previous sections, we considered the transfer of organizational knowledge across business or geographic boundaries. In this section and the following ones, we consider its transfer across time.

The most thorough theoretical discussion and synthesis of prior literature on organizational memory to date is that of Walsh and Ungson (1991). Walsh and Ungson propose a model in which information about decisions is acquired and some of it is stored in the organizational memory. This memory is not centralized, but rather is distributed across the following retention facilities or storage bins: individuals, culture, transformations, structures, ecology, and external archives. Theorists including Walsh and Ungson do not, however, make any hypotheses regarding how these storage bins might interact, or which ones may be more or less effective than others.

In other words, organizational memory resides at all three levels of analysis: the individual, the group and the organization. Individuals remember information based on their own observations and experience (Argyris and Schon 1978; Nystrom and Starbuck 1984; Walsh and Ungson 1991). In analyzing organizational memory, “individuals are important not only because they, themselves, are a source of retained information, but because they largely determine what information will be acquired and then retrieved from other memory stores (Walsh and Ungson 1991: p.78). To date, researchers have focused on length of employment in the organization as the most important attribute affecting organizational memory (Pfeffer 1983). At the group level, it is helpful to augment Walsh and Ungson’s discussion of the fairly general memory held in culture with the very specific operational memory residing in work groups or communities of practice (Brown and Duguid 1991; Wenger 1991).

The memory retention facilities that Walsh and Ungson call transformations, structures and ecology have received quite a lot of attention in the organizational learning literature under the term 'routines'. A number of researchers hold that routines comprise an important – perhaps the most important -- part of organizational memory (Cyert and March 1963; Levitt and March 1988; Nelson and Winter 1982; Simon 1976). For example, Nelson and Winter “propose that the routinization of activity in an organization constitutes the most important form of storage of the organization’s specific operational knowledge. Basically, we claim that organizations remember by doing” (p.99).

However, as repositories for an organization’s experience, routines are not perfect. Not all of an organization’s experience is transformed into routines. It may be lost in the sensemaking process, or the costs of transformation may be too high (Levitt and March 1988). Even when experience has been captured in an organization’s routines, that memory may be lost through lack of use. Nelson and Winter (1982) suggest that learning needs to be incorporated into frequently performed routines if it is not to get ‘rusty’.

Walsh and Ungson (1991) suggest that, while individuals and the corporate culture can remember both decision stimulus and the organization’s response, transformations (processes transforming inputs into outputs), structures, and ecology (the physical setting) can only retain information about the organization’s response. In other words, only individuals – alone or collectively -- can remember ‘why’ a decision was made. Retrieval processes range along a continuum from automatic (information is accessed effortlessly, eg. through the execution of a well-established routine or procedure) to controlled (information is accessed deliberately and consciously, eg. through analogy to a past decision, or using information technology).

2.4.4.2 Effects of Organizational Memory

Researchers are divided as to whether or not organizational memory is a good thing. Some argue that memory results in blindness and rigidity, impairing an

organization's ability to react appropriately to changing conditions (Argyris and Schon 1978; March 1972; Walsh and Fahey 1986). Others contend that by embedding their knowledge and activities in routines, successful organizations can become more efficient, reduce transaction costs, and improve their decision making (Hedberg, Nystrom and Starbuck 1976; Neustadt and May 1986; Starbuck, Greve and Hedberg 1978). This is effectively the same tradeoff addressed in March's (1991) discussion of exploration and exploitation. For the purposes of this study, there is an underlying assumption that a certain amount of organizational memory is good, and in fact is necessary to prevent the recurrence of heavy sector-specific loan losses every business cycle. However, it is important to be open to the different effects that memory, as it resides in individuals, culture, and organizational artifacts like structure, processes and policies, might have on the banks' learning patterns.

The effects of organizational memory may be conceptualized in terms of Crossan et al's (1995) feed-back loop, where lessons that have been institutionalized at the organization level influence the learning that occurs at the individual and group levels, and lessons that have been remembered at the group level influence individual learning. Synthesizing a quantity of prior research, Moorman and Miner (1997) note that organizational memory plays a role in guiding both interpretation and action. Interpretation seems to be guided primarily by cultures and social structures, while action is guided largely by routines (Scott 1995).

Memory, as it has been institutionalized at the organization level, is both a constraint on, and an evolving result of organizational learning. While routines do not necessarily determine actual organizational behaviours (Brown 1992; Nelson and Winter 1982), they do act as a guide to what is likely, and a constraint on what is possible (Nelson and Winter 1982). In this way, previous organizational learning as it is expressed in routines acts as a guide and a constraint on individual and group level learning (Hedberg 1981; Levitt and March 1988). The likelihood of novel actions which

provide the raw material for learning is limited by existing routines, as is the interpretation likely to be placed on those actions (Weick 1979).

Finally, a number of theorists note that organizational memory may have a stifling or inhibiting effect on planned organizational change. “Change agents must recognize that encased learnings and responses are stored in the other retention facilities and that this information is subject to automatic retrieval. ... Change efforts that fail to consider the inertial force of automatic retrieval processes are more likely to fail than those that do” (Walsh and Ungson 1991: p.75). Furthermore, to the extent that embedded routines represent a ‘truce’ between competing political interests in the organization, efforts to change them often fail. “Adaptations that appear ‘obvious’ and ‘easy’ to an external observer may be foreclosed because they involve a perceived threat to the political equilibrium” (Nelson and Winter 1982: p. 111).

2.4.4.3 Factors Impairing Memory

Two concepts are described in the literature, and are relevant to this study. The first is unlearning, a process by which the validity of existing knowledge is questioned, the knowledge is determined to be obsolete or misleading, and it is discarded (Hedberg 1976, 1981). Unlearning may pertain to behaviours themselves or to constraints on behaviour (Huber 1991). Organizations can unlearn quite rapidly by getting rid of employees, particularly at senior levels (Hedberg 1981; Tunstall 1983). Unlearning may leave a temporary gap, when old mental models are not trusted but nothing has arrived to replace them. Alternatively, new learning may occur that makes the recall of old knowledge more difficult (Hedberg 1981; Walsh and Ungson 1991).

The second concept is forgetting, the gradual loss or decay of memory over time. Literature in this area is fragmented, and relatively little is known about the process of memory loss or decay. Walsh and Ungson (1991) suggest that the memory of *why* a decision was made (ie. its context) -- besides only being available in the “human”

memory retention facilities of individuals and culture (including language, stories, myths) -- is likely to distort and decay quite quickly as it is passed from person to person as part of an organization's culture. Nelson and Winter (1982) say that memory -- especially of tacit knowledge -- is easily lost when the routine in which it is embedded is not used frequently. Brytting (1986) suggests that memory, as it resides in routines, may be lost through breakdowns in organizational control. Furthermore, memory may be lost when the transfer of routines to new members in an organization is incomplete, due to inadequate socialization (Sproull et al 1978) or conflicting norms (Hall 1968).

2.5 SUMMARY

This literature review has provided an overview of the academic research and theoretical perspectives that might be useful in illuminating and explaining the phenomenon of interest. In particular, it focuses on what organizational learning theorists have had to say about learning from infrequently occurring historical events, learning processes and levels, how lessons are disseminated and remembered, and what factors inhibit or impair learning, dissemination and organizational memory. As will become clear in the discussion of the research findings (Chapter 8), some theoretical perspectives were more useful than others in explaining how the banks learned from their sector-specific credit losses. However, their utility emerged in the course of analysis and interpretation of the data. All researchers have perspectives that they find intuitively appealing, and which no doubt influence the way a study is framed and its findings interpreted. In this case, the works of Weick, Crossan et al, Mintzberg, Brown and Duguid, and a few other researchers exert such influence. However, the research was entered into with a "systematically open mind", represented as much as possible by this literature review. The research design is described in the following chapter.

CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

This study explores a phenomenon. The first objective of this research was to understand how organizations learn from historical crisis-type events. Specifically, it sought to understand how the major Canadian banks learned from recurring episodes of heavy, sector-specific loan losses. A second, related, objective was to develop some understanding of what makes learning effective, in the sense that lessons learned during one episode could reduce the damage suffered in a subsequent episode. Because the goal of the research was to understand a relatively unstudied, complex organizational process, a case-based research strategy was used. This decision was consistent with the recommendations of Yin (1984), who suggests that the case study has a distinct advantage over other research strategies when "a how or why question is being asked about a contemporary set of events, over which the investigator has little or no control" (p.20). Furthermore, the nature of the process to be researched was similar to the one described by Leonard-Barton (1990), in that

"no single perspective, however numerous the observations from that one vantage point, would reveal the entire pattern. In order to understand all the interacting factors, ... it was necessary that the research methodology slice vertically through the organization, obtaining data from multiple levels and perspectives. Therefore a case study approach was appropriate and was used." (p.40)

3.2 RESEARCH DESIGN

This research is based on an in-depth field study of three major banks, selected from the population of Canada's five largest Schedule A banks. This population was

chosen because each of the firms experienced, to varying extents, the same three loan loss episodes over the past 15 years: in the LDC, energy, and commercial real estate sectors. That they experienced the same three events allowed for both within-bank comparisons of the phenomenon of interest across three episodes, and across-bank comparison with respect to any one episode. The banks' recurring sector-specific loan loss experiences represented a unique opportunity to study both a little-understood organizational learning phenomenon and a serious management problem which had cost billions of dollars in lost profit and shareholder value. Drawing cases from within this population also controlled for extraneous variation due to environmental / industry conditions, product characteristics, and firm size, and helped to define the limits of generalizability of the findings (Eisenhardt 1989; Pettigrew 1990).

A preliminary study of publicly available financial data had two purposes: to determine whether the loan loss episodes were similar enough that learning which occurred as a result of one episode could have been applied to another; and to look for some differential performance among banks which could be interpreted as evidence of learning. The preliminary study suggested that one might expect some learning to have occurred which would show up during the next loan loss episode. It also divided the banks into two groups: those that appeared to exhibit some cumulative learning across loan loss episodes; and those whose performance did not show evidence of such cumulative learning.

Research was conducted in one bank from the first group (C), and two banks from the second group (A and B). These were chosen according to the logic of theoretical sampling (Glaser and Strauss 1967; Yin 1984). The design allowed Bank A to be used as a starting point for addressing the central management problem: why learning did not appear to take place. The other two banks were chosen to provide theoretical replication, with Bank B expected to show a similar pattern and reasons for the apparently blocked learning, and Bank C expected to show a different and more effective learning pattern.

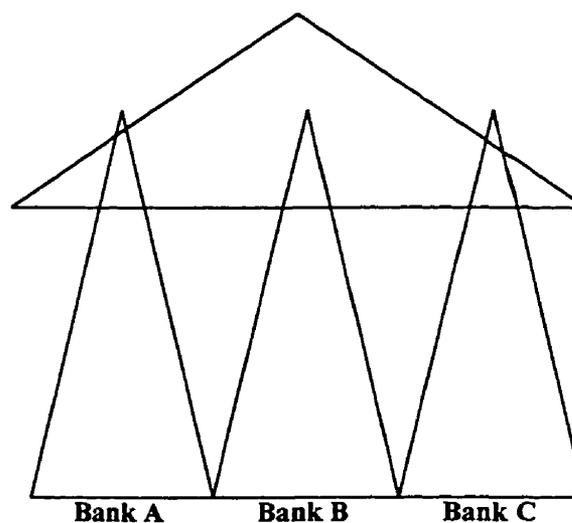
Overall, the research design and selection of cases are consistent with the advice of Pettigrew (1990), who recommends that researchers interested in organizational change processes should focus on social dramas or critical incidents, and that they should concentrate on cases representing polar types. Social dramas – in this case, the sector-specific loan loss crises – provide clear points for data collection.

3.3 DATA COLLECTION

Because it is comprehensive and consistent with the objectives of the research, Eisenhardt's (1989) process framework was used as a guide during the research process. The key data collection and analysis steps followed during this research are shown in Figure I.

Figure I

10. Conclusions
9. Compare across cases
8. Group clusters to yield key findings
7. Augment clusters with archival data
6. Sort interview data into within-code clusters
5. Sort interview data into groups by code
4. Write 'what happened, what changed' story
3. Code interviews
2. Transcribe interviews
1. Conduct interviews & collect archival data



Within each bank, semi-structured interviews and archival data were used to construct the 'stories' of each of the three sector-specific loan loss events. Appendix I contains the interview questions and protocol. The interview questions were developed based on two things: a review of the organizational learning and related literature (Chapter 2), and my initial understanding of the management problem and banks' credit

processes. My objective was to develop a set of interview questions that would be able to elicit comment on a wide range of the factors that the literature review had suggested might be relevant to the study, while also leaving room for respondents to raise the issues they thought were important. I tried to be open-minded, as was appropriate for an exploratory study, while systematically recognizing and drawing upon the many insights already available in the literature. In fact, there were too many questions to ask in any one interview, so approximately 6 particularly relevant questions were chosen as the basis for each interview. Although the questions varied somewhat according to the background and experience of each interviewee, every attempt was made to ensure consistency and comparability across similar interviewees (eg. account managers, or risk management people).

What were the internal and market conditions leading up to each loan loss event? What lessons were reported as having been learned? How were these lessons disseminated and remembered through changes in structures, policies, processes, and other institutionalized artifacts following each loan loss episode? Specifically, the research focused on the rules, structures and routines governing the corporate credit and related risk management processes, before and after each loan loss episode. The study sought to understand *what* changes occurred as a result of each episode and *how* these changes came about.

Where possible, for each of the three loan loss episodes, interviews were conducted with people representing each of the four key groups involved in large corporate or international credits: line or account management; credit; risk management; and workout¹. Interviews were also held with human resource and training people as well as senior executives to provide context. Interviewees were selected with the help of a contact person at each bank, according to the criteria summarized in Table 1. The

¹ Today it is not uncommon for the credit granting function to reside in the Risk Management department, and for its employees to be called 'risk managers'. For the purposes of this research, however, 'risk management' refers to the function which monitors risk, including but not limited to credit risk, at a higher,

majority of interviews were with bank executives, holding the position of Vice President or higher. Interviews were taped, and varied in length from 45 to 120 minutes.

Table 1

	Real Estate Loan Losses	Oil & Gas Loan Losses	LDC Loan Losses
Commercial Credit Process			
Line / Account Mgt	2 people directly involved 2 not directly involved	2 people directly involved 2 not directly involved	2 people directly involved 2 not directly involved
Credit	2 people directly involved 2 not directly involved	2 people directly involved 2 not directly involved	2 people directly involved 2 not directly involved
Workout	2 people involved	2 people involved	2 people involved
Risk Management	whoever contact person feels is appropriate		
Context			
Human Resources Training Information Systems Accounting Archives	whoever contact person feels is appropriate in each area		

Archival data were gathered on an opportunistic basis, from interviewees and from corporate libraries / archives. The amounts and types of archival data available varied considerably across banks. However, each bank yielded unique and rich archival material. In total, ninety-eight interviews across the three banks, and over 600 internal and public documents comprised the data set. Appendix I lists the interview and archival data sources for each bank. Table 2 provides a summary of these data sources.

Table 2

DATA TYPE	BANK A	BANK B	BANK C	GENERAL	TOTAL
Interviews	31	26	41	-	98
Documents					
Annual Report	17	17	17	-	51
Internal Docs	60	31	44	-	135
Speeches & Presentations	31	45	137	-	213
Articles / Publications	-	9	1	78	88
Newspaper Clippings	-	118	-	-	118
Total	108	220	199	78	605
Documents					

non-transactional level. 'Workout' refers to the group of people who recover, or 'work out' a bank's problem loans.

3.4 DATA ANALYSIS

The general approach to data organization and analysis was to become familiar with each case individually (within-case analysis), then compare and contrast across cases in search of patterns (cross-case analysis) (Eisenhardt 1989). Interviews were transcribed, then each one was coded twice, once to yield the 'what' story, and once to yield the 'how' story.

Coding bins are summarized in Exhibit II. The 'what' story coding bins included 'build-up to loan loss event', 'changes in structure', 'changes in policy', and changes to other institutionalized artifacts. Augmented by the archival data, the coded interviews were then summarized in a detailed chronological story for each bank, describing what had occurred in the build-up to each loan loss event, reported lessons, and the organization-level changes following the event. These 'what happened, what changed' stories are included in Chapters 4 - 6. Chapter 4 is the Bank A story, Chapter 5 is the Bank B story, and Chapter 6 is the Bank C story.

This research uses the "4-I" theory of organizational learning (OL) proposed by Crossan, Lane and White (1999; Crossan et al 1995) as an organizing tool and lens through which to examine 'how' learning from sector-specific credit losses occurred. The theory was chosen because it is the most comprehensive one available, directing the researcher's attention to the key dimensions of the organizational learning phenomenon, and because it seemed consistent with the management problem to be studied and with my initial understanding of the banks' credit processes. Its conceptualization of learning as a dynamic interplay across levels and processes, and the explicit recognition of the tension between embedded and new learning highlight issues typically neglected in the OL literature, and increase the likelihood that this study will

yield significant insights into the organizational learning phenomenon. The theory is framed by the following propositions:

- P1: Organizational learning reveals a tension between assimilating new learning (adaptiveness) and using what has already been learned (adaptation).
- P2: (a) Organizational learning is multi-level: individual, group, and institution.
(b) Learning at one level affects the other levels.
- P3: Processes link the three levels.
- P4: Cognition affects action and vice versa.

Figure II provides an illustration of the theory, making explicit the three levels at which learning can occur, the impact that lessons learned at one level have on learning at the other levels, the learning processes at each level, and the tension between new learning and old. The boxes along the diagonal represent learning at the individual, group and organization levels of analysis.

Figure II

	INDIVIDUAL	GROUP	ORGANIZATION
INDIVIDUAL		<i>Feed-Forward</i>	
		Individual → Group	Individual → Organization
GROUP	Group → Individual		Group → Organization
ORGANIZATION	Organization → Individual	Organization → Group	
	<i>Feed-Back</i>		

At the individual level, learning is characterized by the processes of *intuition* and *interpretation*. At the group level, learning is a function of the processes of *interpretation* within groups, and *integration* of knowledge across groups. At the organization level, learning is reflected in the process of *institutionalization*, as lessons are embedded into structures, processes / routines, policies and other artifacts.

The three boxes in the top right corner of the framework show the feed-forward of learning, from the individual to the group or the organization, and from the group to the organization. They direct our attention to how lessons learned by an individual are shared with a larger group, and how individual and group interpretations of events and lessons are embedded in rules, structures or procedures. These boxes also represent the assimilation of new learning, or the process by which the organization adapts to learning and change.

The three boxes in the lower left corner of the framework illustrate that lessons also feed 'backward'. Policies, processes and related artifacts, which are the institutionalized memory of lessons already learned, can direct or constrain learning by individuals or groups. And group level interpretations can shape what an individual is likely to learn. These boxes also represent the organization's use of the lessons it has already learned. The theory anticipates a tension between feed-forward and feed-back processes, between new learning and old, between adaptiveness and adaptation.

The 'how' story coding bins were drawn from the 4-I theory of organizational learning as illustrated in Figure II above: individual-level learning; individual to group; individual to organization; group to individual; group level learning; group to organization; organization to individual; organization to group; and organization level learning. Interview data were sorted first into bins according to this framework.

Then, within each coding bin, data were sorted again into clusters of related points. Archival data were then used to support, augment or contradict the points made in

these clusters. The output of this stage were a series of summary sheets, each including: a statement summarizing the data in the cluster; the interviews from which data were drawn comprising the cluster; sample interview quotes; the archival data related to the cluster; and a brief description of these documents. Separate summary sheets were maintained for each cluster, for each bank. An example of the summary sheets is included in Exhibit III.

These clusters, specifically their summary statements, became the basis for observations regarding each bank's learning pattern. To arrive at the findings discussed in Chapter 7, the clusters were sorted into groups of related points. Through this systematic sorting process, the study's findings emerged from interview and archival data.

3.5 DISCUSSION OF RELIABILITY AND VALIDITY

Although many perspectives exist among theorists regarding the standards that can and should be applied in assessing the quality of qualitative research (see Potter 1996 for a partial summary), this study has used the standards outlined in Yin (1984) as a guide. Yin's standards – construct validity, external validity, and reliability -- were chosen because they are used widely in assessing the quality of any empirical social research, and are therefore generally accepted in the research community. They were also chosen in recognition of Yin's well-respected work in applying these standards specifically to case studies. The preceding discussion of research design, data collection and data analysis outlines the many attempts made to ensure the study's accuracy, generalizability and replicability, without flagging them as such. This section will simply highlight the tactics used as they relate to the validity and reliability of the research. Table 3 (following page) summarizes the standards or tests used by Yin, the methods or tactics he recommends to ensure these standards in case study research, and the use of these methods in this study.

Table 3

Tests	How to Build into a Case Study	This Research
Construct Validity	Use multiple sources of evidence to achieve triangulation	Used interviews and a variety of documentation and archival data sources, summarized in Appendix I.
	Establish chain of evidence	The path taken from the initial research questions to the case study conclusions is outlined in Figure I. Augmenting this chain of evidence are: <ul style="list-style-type: none"> • Exhibits I and III; • Appendix I; • the summary sheets of which Exhibit II is an example; • the sources of evidence cited in Chapters 4-6; • the Data Sources Exhibit I in Chapter 7.
	Have key informants review draft case study report	Preliminary findings were discussed with some respondents in the banks. Banks reviewed research before it was made final.
Internal Validity	<i>Not applicable for descriptive or exploratory studies.</i>	
External Validity	Use replication logic in multiple case studies	Bank A was the starting case, Bank B was chosen to provide literal replication, and Bank C provided theoretical replication .
Reliability	Use case study protocol	Shown in Exhibit I.
	Develop case study data base	The database for this study is comprised of: <ul style="list-style-type: none"> • interview transcripts; • case study documents (see Appendix I); • summary sheets (sample in Chapter 3, Exhibit III); • early drafts of the narratives found in Chapters 4-6
	Chain of evidence	See above.

3.6 CHANGES MADE FOR RELEASE PURPOSES

The topic of the banks' major loan loss episodes is a very sensitive one for the organizations involved. As a condition of their full cooperation during the data collection, the banks asked to review the finished document prior to releasing it, and have the opportunity to change or delete points that they did not want made public. Participating banks understood that the thesis would make public the details of their loan loss experiences. However, they did not want it to reveal: client-specific information; specific pricing information; confidential information that was critical to maintaining a

competitive advantage; or information that would cause great embarrassment to an individual employee. In addition, they did not want readers to be able to track specific comments back to individual employees. I felt that these conditions were reasonable, and fully concurred with the banks' desire to protect their employees, clients, and competitive advantage.

Consistent with these conditions, this document has been released by the banks. The bank stories are reported in detail in the next three chapters. However, the following changes have been made to this document in order to secure release:

Table 4

	Earlier drafts / my own notes	This document
Chapters 4, 5, & 6	Ideas, comments, facts were referenced individually, to specific interviews and documents	Ideas, comments, facts are referenced in an aggregated form, with each section in the chapters referenced to a group of interviews (documents remain individually referenced)
Chapter 4	Included direct quotes	Direct quotes were removed, but content / meaning was retained
Appendix I Summary of Data	All information visible, descriptive information as detailed as possible	Names of interviewees blacked out; Comments and Interview Cross-References blacked out because they typically cite individuals; bank names deleted from documents
Chapters 4, 5, 6 & 7	I have made editorial changes at the request of the banks. These changes reflected the sensitivities noted above. It is important to note that <i>none of these changes have significantly altered the conclusions of the research, or my ability to answer the research questions.</i>	

-3.7 EXHIBIT I**INTERVIEW PROTOCOL AND QUESTIONS****INTERVIEW PROTOCOL****IDENTIFICATION**

Company Name: _____

Respondent: _____

Position: _____

Date / Time of Interview: _____

Tape Recorder (Y/N): _____

Also in Attendance: _____

INTRODUCTION

Purpose of the research: To understand generally how organizations learn from historical events, and specifically how the banks have learned from the commercial real estate, energy, and LDC loan loss episodes.

Addressing informant's concerns: All responses considered confidential. Name of informant will not be used. Information will not be shared among respondents or across organizations. Tape recorder will be used for research purposes. Transcript and notes to be seen only by researchers.

Interview questions: Three major lines of questioning: what happened during each loan loss episode; what was learned; how credit process, structure, and related artifacts. changed after loan loss experience.

INTERVIEW QUESTIONS**Background**

Tell me about what you do. (eg. Responsibilities, work patterns)

How long have you been in your current position? Where were you during each of the loan loss episodes?

Central Questions

See list of questions following

Exhibit I: Interview Protocol *cont'd***Conclusion**

Are you aware of any documents, reports or similar materials that I could use to support or elaborate on your comments?

Is there anything else I should consider? Anything you think is relevant which we have not covered?

If I think of anything else, or if new issues are raised in later interviews, may I call you back?
(get card)

If you think of anything else which might be helpful, please give me a call. (give card)

Thank you for your time.

POST-INTERVIEW

Review and clarify notes a.s.a.p.

What did I learn?

Things to follow up on

Exhibit I cont'd**INTERVIEW QUESTIONS**

(Note that each interview was based on a selection of the following questions. They were not all asked in a single interview.)

- How did the corporate credit process change after the loan loss episode? Generally? Specifically with respect to the booking of sovereign / oil & gas / real estate loans?
- Did anything else change as an apparent result of the LDC / o&g / real estate loan losses? (eg., organizational structure, autonomy, performance measures or targets, reward and evaluation systems, information systems, credit culture)
- To what extent did the changes in the credit process or other organizational systems reflect your own individual learning from the loan losses, or that of your unit?
- Who decided what changes were to be made?
- How were the changes implemented?
- What kinds of behaviour were encouraged or discouraged by the credit process, reward systems, and organizational structure? How did these factors influence your own learning from the loan losses?
- How 'radical' were the changes to the credit process?
- Has the new credit process been a success?
- What is the organization doing to guard against another major sector-specific loan loss episode?
- What kinds of discrepancies exist between credit process routines as they are prescribed in corporate policies / lending directives / operating procedures, and routines as they actually exist in the organization?
- Tell me about the LDC / o&g / real estate loan loss episode? What happened?
- What have you learned from the LDC / o&g / real estate loan losses?
- What actions did the Bank take to deliberately learn about / from the loan losses?
- If I had asked you to explain the loan losses to me several years ago, how would your answer have been different?
- Are you aware of any person or group who would have taken away different lessons from these loan losses?
- To what extent, and by what means, has learning about this loan loss event been shared across functional or geographic or industry unit boundaries?

Exhibit I: Interview Questions *cont'd*

- Did any key people leave or join your area following the loan loss event?
- Did anybody foresee trouble in this sector? What happened when these people expressed their points of view?
- Did you talk to your colleagues about the loan losses?
- Where your views on the loan loss episode ever significantly different from those of your colleagues?
- What feedback did you receive about the quality of your lending decisions? Was it adequate? What did you do with that feedback?
- Did you have any opportunities to experiment with new techniques or approaches?

3.8 EXHIBIT II

DATA CODING

NAME	CODE	DESCRIPTION
WHAT HAPPENED CODES (WH)		
Build-up	WH-BLDP	build-up to the loan loss event
Strategy Change	WH-CHG-STRAT	change in strategy after loan loss event
Structural Change	WH-CHG-STRUC	change in structure after loan loss event
Credit Process Change	WH-CHG-CREDP	change in credit process after loan loss event
Risk Management Change	WH-CHG-RISKM	change in risk management after loan loss event
Policy Change	WH-CHG-POLIC	change in policy after loan loss event
Personnel Change	WH-CHG-PERSO	change in key personnel after loan loss event
Other Change	WH-CHG-OTHER	change in other factors after loan loss event
Withdrawal	WH-WITHD	withdrawal from affected sector
Workout	WH-WORKO	workout of problem loans
Reentry	WH-REENT	reentry into affected sector
LDC Reported Lessons	WH-RL-LDC	reported lessons after LDC loan losses
O&G Reported Lessons	WH-RL-O&G	reported lessons after oil & gas loan losses
RE Reported Lessons	WH-RL-RE	reported lessons after real estate loan losses
LEARNING PROCESS CODES (LP)		
Individual	LP-I	learning at the individual level
Individual to Group	LP-IG	feed-forward from individual to group level
Individual to Organization	LP-IO	feed-forward from individual to organization level
Group	LP-G	learning at group level
Group to Organization	LP-GO	feed-forward from group to organization level
Group to Individual	LP-GI	feed-back from group to individual level
Organization	LP-O	learning at the organization level
Organization to Group	LP-OG	feed-back from organization to group level
Organization to Individual	LP-OI	feed-back from organization to individual level
External Influences	LP-EXT	external factors or forces influencing learning
BACKGROUND CODES (BK)		
Bank A	BK-A	respondent is from Bank A
Bank B	BK-B	respondent is from Bank B
Bank C	BK-C	respondent is from Bank C
Directly Involved	BK-INV	respondent was directly involved in loan loss episode
Not Directly Involved	BK-NOT	respondent was not directly involved in loan loss episode
Line	BK-LINE	respondent speaks from primarily a line perspective
Credit	BK-CRED	respondent speaks from primarily a credit perspective
Workout	BK-WORK	respondent speaks from primarily a workout perspective
Risk Management	BK-RISK	respondent speaks from primarily a risk mgt perspective
Other	BK-OTHER	respondent speaks from a perspective different from above
LDC	BK-LDC-1 or 2	LDC loan loss episode is discussed (primary or secondary importance)
Oil & Gas	BK-O&G-1 or 2	Oil & Gas loan loss episode is discussed (primary or secondary importance)
Real Estate	BK-RE-1 or 2	Real Estate loan loss episode is discussed (primary or secondary importance)

3.9 EXHIBIT III

SAMPLE DATA SUMMARY SHEET

<i>Individual → Organization</i>		
2. Bank C: The learning of a few senior executives and the key individuals who strongly influence their thinking is embedded at the organization level when they spearhead major change initiatives (eg. dual credit process and integrated risk management project).		
	SUPPORTING EVIDENCE	CONTRARY EVIDENCE
INTERVIEW DATA	C-1; C-4; C-9; C-10; C-14; C-17; C-21; C-26; C-34; C-36	
SAMPLE QUOTES	<p>“There was extremely strong leadership. <names deleted> met the problem head-on, took a military junta approach to implementing <name deleted> view of risk management (ie. the dual process). They got hold of the key elements of society: placed their own people in key areas including training and audit – got hold of the communication systems, ie. the people who wrote credit policies, tot the distribution network for the rules. Established the Risk Management Policy Group in something like the position it holds today as keeper of the rules. <name deleted> controlled training, rebuilt the curriculum around the dual process. Began to have exams which people had to pass as part of the requirement to get their credit limits.” (C-4)</p> <p>“I spent alot of time toward the end (of my last job) railing about how stupid we were in the corporate lending area and how we needed to change. So <name deleted> decided to put me where my mouth was, and created the <name deleted>.” (C-34)</p> <p>Entire C-9 interview.</p>	
ARCHIVAL DATA	<p>(a) C-doc-33; C-doc-65; C-doc-74; C-doc-79; C-doc-80; C-doc-87; C-doc-143; C-154; C-doc-176; C-doc-183</p> <p>(b) C-doc-46; C-doc-50; C-doc-55; C-doc-191; C-doc-192; C-doc-195; C-doc-199</p>	
QUOTES / COMMENTS	<p>(a) <names deleted>: dual credit process; C-doc-65 clearly shows (and says) that new credit process and related processes have already been designed by <names deleted> – credit people are invited to have input re implementing and refining the processes, but the main pieces have already been decided upon and they have no choice but to to along</p> <p>(b) <names deleted> articulating new approach to risk measurement, management and the changes in strategy which follow from this approach; C-doc-46, 50, 55 provide comprehensive description of Integrated Risk Managment project</p>	

CHAPTER 4

BANK A STORY

4.1 LDC LOAN LOSSES (1982)ⁱ

4.1.1 Background

In the late 1970s and early 1980s, Bank A had an extensive international business, which included the US as well as Europe, Asia, and Latin America / Caribbean. In 1981, it was the 6th biggest bank in North America and the 31st largest bank worldwideⁱⁱ. Its goal at the time was to become a major global bank. Awash in petrodollars, the Bank and others like it were looking for opportunities to lend out very large sums of money against these deposits. Industrialized economies were sluggish, in the wake of two oil shocks, and did not have a great appetite for funds, but developing countries needed the money to finance their social and industrial progress. As a result, the banks 'recycled' petrodollars by lending them in large amounts to developing countries. And, for banks with major global aspirations, these large sovereign loans had the added benefit of quickly building up their assets and their international book.

Bank A had a major presence in Latin America and the Caribbean, with 116 branches, representative offices, trust companies and subsidiaries in the region in 1981. As several respondents noted, the bank had an office in the Caribbean before it had one in Toronto (it was originally headquartered in Montreal), and felt very comfortable in the Latin American market. Bank A financed projects and trade as well as sovereign balance of payment needs. The project and trade financing were traditional businesses for the bank, with generally accepted principles regarding how much should be lent and under what conditions. In the mid- to late-1970s, however, the traditional lending businesses became overshadowed (in terms of volume and emphasis) by sovereign lending for projects and balance of payments financing. One respondent estimated the breakdown

between sovereign and private lending to be 80%-20%, reflecting the opportunity provided by sovereign lending to place very large sums of money with relatively little due diligence. Much of the remaining 20% was short-term trade lines in place with the countries' commercial banking systems to support their import-export businesses.

Like those at the other banks studied, Bank A respondents cited Walter Wriston's comments that "governments don't fail" as the assumption underlying their sovereign lending business. This despite Latin American defaults on bonds ("but not bank loans") in the 1930s. Believing that sovereign lending was safe, the bank competed aggressively to lend to developing countries. However, accurate information did not exist at the time about how much money the countries owed, or how payments on their debt would be tied to cash flow. One respondent described the horror that he and other bankers experienced when they started trying to reconcile the countries' records of their debt with the bank records, and found almost no correlation. Some governments did not know how much debt they had outstanding.

This lack of information was due, in part, to secrecy on both sides. The Euromoney and Institutional Investor league tables "were all-important in determining who was the biggest and the best international bank". They were based in part on the volume of underwriting for which a bank was lead manager. The banks, competing for these spots, were defensive about disclosing how much of the loans they had syndicated, and how much they remained exposed to. And the countries, which were competing just as fiercely for the banks' money, were reluctant to disclose how much debt they already had.

Whereas Bank C had concentrated its sovereign lending primarily in larger countries like Mexico, Bank A had made use of its extensive branch network, and had lent widely in Asia, Eastern Europe, Latin America and the Caribbean. When Poland defaulted in 1981, then Mexico in 1982, followed by the rest of Latin America, Bank A had assets in Latin America and the Caribbean in the neighborhood of \$7 billion.

Had the Bank any rules or processes in place designed to protect against this type of disaster? Respondents described a credit granting process in the international bank (applied to private trade and project financing, if not to sovereign lending) similar to that of the domestic bank. In the international bank, as in the domestic bank, credit people had been located in the revenue-generating business units reporting to the business manager. The credit process in the international bank is described in more detail in the following section on International Loan Losses Generally.

Respondents today emphasize that in non-sovereign lending, the bank was *not* “running around with an open cheque-book”. It was adhering to what were considered the prudent lending principles of the day. The Bank conducted feasibility studies, looked at markets, and generally tried to ensure that funds were going to the right projects. But some of the risk management concepts accepted today were not commonly understood at that time. According to one respondent, it was believed at the time that the principle underlying good credit judgment was to focus only on the transaction under consideration. Aggregating loans into portfolios was a relatively new concept, except for country limits.

Respondents also noted that the bank had country risk ratings and country limits in place during the 1970s, but for a number of reasons these had not been effective in preventing the LDC loan losses. The risk ratings were based on a mathematical formula, whereby the economics department provided a numeric estimate of economic risk, and the country managers did the same for political and business risk. These risk estimates were weighted to provide a quantitative rating number (0-100) which in turn corresponded to one of five categories ranging from ‘poor’ to ‘very good’. However, country managers had considerable leeway in arriving at their risk numbers, and the rating system did not differentiate in a meaningful and actionable way between countries (Holland was a ‘very good’ while Brazil was a ‘good’). The country limits suggested by

this process were viewed by the Bank As a mechanism for “slowing things down, making sure we didn’t move too fast”, rather than rules to be followed.

In addition to this, a rule had been put in place, saying that the bank could have no more than 50% of its capital exposed in any one country. Exceptions to this rule were the G5 countries, plus either Switzerland or Holland (i.e., countries with strong banking systems, where Bank A placed its excess liquidity with safe banks). The only country to ‘bump up against’ this rule was Mexico. So, while the 50% rule apparently protected the bank from higher losses in Mexico, it did nothing to reduce its exposure to the scores of smaller countries that comprised the bulk of the bank’s loan loss experience.

To manage the debt rescheduling / restructuring process, the major-lending banks formed a committee for each country. The Canadian banks got together, and sent one of their number to represent Canadian interests on each restructuring committee. Bank C and Bank A were most active in Latin America, and a bank not included in this study was very active in the Caribbean.

A respondent who had participated in the restructuring reported an experience like those of his counterparts at Bank C. The committees pieced together an understanding of the scope of the problem, and experimented over a period of years to find a restructuring solution that would work.

4.1.2 Reported Lessons

Reported as Personal

- “The people on the committees were the people doing the learning. How much of that translated into structural change or corporate strategy, I’m not sure. But individually, all of us who were participating, even in peripheral groups, were

learning a lot because we were faced with something nobody else had been faced with before. We were inventing things as we went along, hoping that they would work.”

- It was an intense, demanding, and sometimes exciting period in the lives of the people doing the restructuring. It was not uncommon for committees to work around the clock for weeks at a time, subsisting on “coffee and bad sandwiches”. Emotions ran high, people put their personal reputations on the line, they made good friends, they burned out. And felt that they learned a lot -- about economics, about the inner workings of the World Bank And the IMF, about their own banks.
- “We had the opportunity to create something new, and that is a chance you don’t get again.”

Reported as Organizational

- “We learned to put in a limit formula or guideline that takes the size of a country’s economy into account, so that if Bermuda and the UK have the same rating, Bermuda will have the smaller limit. Before we were setting limits based on risk rating criteria and Bank A capital, but the difference in size was not taken into consideration unless it showed up in the risk rating. What was not widely recognized at that time was that a country has to come up with the foreign exchange to pay back the debt, and that is in part a function of the country’s size.”
- “At the time many Canadians didn’t realize that borrowing in US\$ was riskier than borrowing in Cdn \$. You couldn’t hedge in those days; there was no long-term market, everything was done on a 3-6 month basis. What we learned was that if you have domestic earnings and borrow abroad, then you have currency risk and by extension, *so does the bank that lends you money*. That was not fully appreciated at the time.”

- “The Bank also learned that we needed a better rating system. We had a rating system for countries but it did not have an impact. We could not choose between two transactions if we did not have, to use modern terminology, the risk / return trade-off. We knew only the returns, but not the risks, so we would always choose the riskier transaction. We never made an explicit distinction between, e.g. Denmark and Brazil. If you got 200 basis points over LIBOR in Brazil and 75 bp over LIBOR in Denmark, we had no criteria or guidelines that would tell us to deduct anything (either notionally or otherwise) from Brazil for risk.”
- “We learned a lot about the internal workings of each of the countries, a lot more about the value of the macroeconomic approach. Our economists changed the way they evaluated a country; the country review process was reformed.”
- “Bankers have been slow to learn that you need to monitor profits as well as losses. If you have an investment and the return is extremely high, you need to get out of it fast. Most bankers know that you have to cut at the bottom, but not everybody agrees that there is a symmetrical trigger point at the top. I don’t think that anybody realized at the time that high profits were a danger signal.”
- “We were making a mistake in relying too heavily on the quantitative country rating system. We needed to place much more emphasis on judgment, the qualitative side, explaining why one does what one does.”
- “In hindsight, the systemic problem was so clear: you cannot continuously lend to one side and take from the other side. Eventually the lender owns the borrower or you go bankrupt. In Latin America, it was the same countries that were borrowing continuously.”
- “It was indicative of the sloppy approach taken by the countries themselves that they did not recognize their own levels of cash flow generation or their ability to service

the external debt they were acquiring. The banking community should perhaps have been more aware of that and had better controls in place to determine the true levels of countries' external debt. I don't think there was a case where we knew what the level of debt was! So we did not concern ourselves with the level of debt or the countries' ability to produce enough foreign exchange."

- "We also learned that putting your eggs in one basket, having all your debt in a sovereign name, was not right. We needed a healthier mix of sovereign and private loans, not just balance of payments."

4.1.3 Changes in Structure

Bank A dealt with its defaulted LDC debt in a similar fashion to other banks. It segregated all the debt to defaulted countries in a Special Sovereign Loans group, and assigned a small group of people to work on the restructuring.

The bank closed most of its rep offices, and collapsed its Latin American headquarters. The majority of the people in these offices were local, and most of them left the bank when the offices closed. The Canadians and a few key Latin Americans were brought back to Canada, but very few continued in that area of the business. Many quit, were reassigned elsewhere in the bank, were 'given a package', or languished in head office for a year or two, then quit on their own. After 15-20 years in Latin America, many of these people were not reassignable, and the bank did not know what to do with them. *(The disappearance of so many of the participants is perhaps reflected in the difficulty my contact people had in locating people with direct experience of this loan loss episode for me to talk to.)*

While voluntary lending had apparently ceased at approximately the time of the defaults, the organizational process of shutting down took Bank A until 1986. A respondent noted that it took several years because of the human resource consequences

that needed to be faced. For example, the Bank had a subsidiary in Hong Kong that specialized in syndicated loans, especially sovereign lending. Although sovereign lending had ceased, the office remained “on the payroll” for a period of time. One respondent estimated that it took 3–4 years and a lot of agonizing to “switch off”; it took a year after Mexico defaulted to realize that it was more than a liquidity problem, then another 2–3 years to change people and structure.

The country risk assessment was centralized in a Head Office portfolio risk management group after the loan loss episode. By centralizing the analysis, the Bank achieved more consistency and differentiation in ratings across countries. One reported result of this centralization was that country managers became more likely to treat the limit as a given, to be worked within (or around), rather than a variable to be manipulated.

4.1.4 Changes in Strategy

During this period, the bank had shut down all lending except trade lines to the countries in default (including all of the Caribbean and Latin America, Africa where the bank had never been aggressive, and large parts of Eastern Europe), and stopped all its sovereign lending (even in Asia, which had not experienced these problems).

Through the mid- to late-80s, the Bank did very little business outside of Canada. Respondents point to various economic factors that kept the Bank’s attention domestically focused. First, the need to work out the problems loans of the early 1980s, both domestic and international, kept resources and attention from new international business. And then the economic boom in North America in the mid- to late-80s meant that there was very little incentive for the Bank to look into foreign markets. One respondent noted that it was not a deliberate decision never to lend to these countries again. However, the international division did not make money in countries that were

doing as poorly as the Latin American ones were, and the Bank was able to choose from a wealth of lending opportunities in North America.

Today, the Bank still does not make balance of payments loans. It will lend for specific purposes to government agencies or to the corporate sector, with more emphasis on the corporate sector. The amounts are much smaller than in the early 1980s, and the terms are much shorter than the 5, 7, and 10 year loans which characterized lending at that time.

Bank A's reentry into Latin America began around 1991. The recession and real estate collapse in North America meant that the Bank was not making much money at home. Similarly, the Bank's clients were suffering from weak demand domestically and were demanding the export finance they needed to access markets abroad.

4.1.5 Changes in Risk Management

After the LDC loan losses, the bank made fundamental changes to the process by which it evaluated country risk and set country limits. This effort was led by an economist, whose mandate was to develop international strategies for the International Banking Division, which were to include mechanisms to prevent the bank from repeating its past mistakes.

Although a process had been in effect before, it had not been restrictive, had not limited exposure or required deliberate strategies within a country. Beginning in about 1984, the quantitative model was replaced by one based on judgment. Strengths, weaknesses, and decisions to do business in a given country were explained in words rather than numbers.

Under this new process, country limits were (and continue to be) set with reference to two things: the bank's capital base and the country's risk. And country risk

is still conceptualized in terms of economic, political and business risk. But these elements are evaluated using judgment with the help of a decision tree rather than with a formula. Limits also reflect the bank's business strategy within the given country.

The introduction of restrictive country limits caused a lot of anxiety at first among country managers. As one respondent recalled, they worried that the new restrictions would damage their ability to conduct business. It was reported that, within about two years, however, they had started seeing the benefits which discipline imposed: because they were limited, they had to start making trade-offs. They had to be more focused and more strategic in their client coverage.

4.2 INTERNATIONAL LOAN LOSSES GENERALLY (1982)ⁱⁱⁱ

4.2.1 Background

One of Bank A's distinguishing features -- one which will show up repeatedly in respondents' discussions of the loan loss episodes -- is its segmentation by geography. The domestic bank (Canada) and the international bank (non-Canada, includes US) had been managed as two separate entities. It is only in the 5 years preceding this research that the gap had narrowed, due largely to the career paths and interests of a few key individuals. In the years leading up to the first country defaults, the international banking group had been a star relative to its domestic counterpart. While Canada had been suffering through an economic recession, the international business had boomed. In both 1980 and 1981, it had accounted for 1/3 of the bank's balance sheet, and had generated 44% and 36% of the bank's revenues respectively. In 1980, international ROA was 0.78% compared to the domestic ROA of 0.47%. In 1981, these numbers were 0.71% and 0.63% respectively.

After the LDC loan defaults in 1984, changes occurred in the leadership of both the International Bank and the Risk Management / Credit function for the International Bank. The new leaders in these positions were both experienced Bank A bankers. At that time, the international loan portfolio was experiencing heavy losses, and not just on sovereign LDC debt. In addition to the problems with the LDC loans, the bank was showing losses throughout the international portfolio well in excess of its losses in Canada.

When the new head of risk management / credit for the International Bank started, he had 900 problem loan files on his desk. His response to this evidence of systemic weakness in the portfolio was to overhaul the credit process used in the Bank's International Division. In 1986, he began to consolidate the credit process.

Prior to 1986, the Bank had credit departments in New York, London, Hong Kong and Miami (covering Latin America and the Caribbean). Each of these units had reported to its respective regional general manager or business head. Approximately 130 people staffed international credit, located in head office and the field. Credit applications followed a long chain up to the decision maker: a fairly junior analyst received the application, looked at it, made a recommendation, and passed it on to the next level. Many applications passed through 5 people before reaching the decision maker, resulting in a very slow process. Credit people in general did not talk to account managers, and never met with clients.

4.2.2 Change in Structure

The new head of risk management / credit for the International Bank saw the dependence of the credit people on the goodwill of the business heads as the fundamental flaw in this process. How could they be relied upon for objective approval decisions when they reported to the person whose mandate was to produce business results? In 1986-87, he shut down the regional credit departments and centralized credit risk

management into a head office function, and reduced the staff from 130 to 32. These people dealt directly with the account managers in the field. Under this new structure, instead of being approved in the field by people reporting to the business unit head, loans were approved at head office by people, reporting independently up to the head of risk management / credit. At the time, he reported to the head of the International Division (a business head), so this change represented more independence, although not complete independence from the business unit.

4.2.3 Change in Credit Process

The 1986-87 reorganization also involved a streamlining of the credit process. Whereas a loan would previously have gone through 5 or more people en route to being approved, under the new system it went almost directly to the credit person who would approve the loan. It might be checked by 3 people en route. Where a loan may have taken a week to be approved before, it now took 24 hours. Where credits for Latin America were handled by a VP and 28 people before, they were handled by a part-time VP and 2 managers, after the reorganization.

Removing the risk management (credit) people from the field caused an outcry from the international field units. How could some guy at head office know what was really happening in Hong Kong? How could he possibly make an informed approval decision on a loan? These concerns were addressed in a way that was considered revolutionary. In the 1987-89 period, credit officers started going out into the field and met with client companies!¹ This challenged the prevailing belief that client contact would "taint" credit officers. The one rule was that loans were never discussed. The purpose of the meetings was for the bank to get a sense for the clients' operations and aspirations. They also helped to alleviate the clients' feelings that their fate was in the hands of a faceless entity in a foreign head office.

¹ Revolutionary because credit people are traditionally *not supposed to talk to clients*. Their role is to provide an objective 'sober second look', unbiased by client contact.

These changes to the international credit process seemed to have had a very positive impact on credit quality. International loan losses, which had been very high in 1982-83 shrank dramatically over the next 3 years. By 1988, the International Division was reporting loan losses of 0.4% of its average loans (excluding the general provision for country lending) compared to 0.6% in the Domestic Bank.

It is interesting to note that, while the credit process was common to both international and domestic divisions of the bank, changes were only made in the international division. So while there were major changes after the LDC and other international loan losses -- to risk assessment, country limits, and the credit granting process -- they were all contained within the international bank. They did not affect the domestic bank.

4.3 ENERGY LOAN LOSSES (1981 onward)^{iv}

4.3.1 Background

In the 1970s, Bank A was the dominant bank in the Canadian "oil patch". Respondents cited a range of market share numbers, averaging around 60%. The Bank had lent money in this sector since the 1950s, and had well defined rules governing how much credit should be extended and to whom. For decades prior to the 1970s, oil prices had been relatively stable, and respondents said the bank had "never lost a cent" in that sector. Lending to oil and gas companies was therefore considered a straight-forward activity, and the offices were staffed accordingly with more emphasis on the marketing function than the credit function.

The rapid escalation in oil prices during the 1970s, and seemingly unanimous projections of continuously increasing prices, led to a flurry of activity in the Canadian oil patch (mainly in the province of Alberta). Companies increased their exploration, drilling and production. Merger and acquisition activity heated up. Many Canadian producers were acquired by major US oil companies, while others merged together in an effort to maintain their independence and enlarge their holdings. The result of all this action was the greatly increased need for financing. As other banks saw an opportunity and moved in, Bank A found itself competing for market share in a sector it was accustomed to dominating.

Bank A was determined to maintain its position as the country's premier energy bank. In 1980 it started the Global Energy and Minerals Group, based in Calgary and with offices in London, Houston, Dallas, and Denver. The group comprised individuals with significant industry experience, and had responsibility for building the Bank's energy and minerals book on a global basis, through its own direct selling efforts as well as through providing technical and marketing support to lending and projects.

Of the four senior people in Calgary, three were described as having a clear marketing focus. Account managers at the time were reported to have felt under tremendous pressure to book new loans. In the overheated atmosphere of 1979-81 Calgary, "a deal a day" (not just for bankers, but for oil companies and real estate developers) was considered do-able and desirable. While they were not rewarded in a direct financial way for new business booked, Bank A employees saw that the best marketers got the promotions and correspondingly higher salaries, and were viewed more favourably by the senior people.

This almost exclusive emphasis on marketing meant that account managers had no time to monitor the loans once they were on the books. Getting the next deal was more important to everybody involved than looking back at an existing one.

Account managers were not the only people making energy loans. Several respondents concurred that it was not unusual for transactions, often quite large ones, to come in through senior management, who were in direct contact with oil company executives. The account manager then wrote up the loan application, making sure that the numbers worked.

One respondent, who had worked in the bank's energy group until 1978, then left for a while and come back in 1981-82, recalled his shock at the kinds of loans that were being made by that time. Where in 1978, loans were only made against proven producing reserves, in 1981 they were made against significantly riskier levels of reserves. In 1978 the bank did not lend against assets such as drilling rigs, because they were so much riskier than oil producing properties. Nor did it lend more than 50% of the NPV of discounted cash flows against a project. By 1982, it was lending a higher percentage against the riskier reserve base, and over 100% of the cost against drilling rigs (i.e. the full cost of the asset, plus carrying costs on the loan). Where it had been careful not to lend equity financing to the owner as well as debt to the company, it had begun to do both. It should be noted that there had not been changes in the Bank's *policy* to support these riskier lending decisions. The changes had occurred through exceptions made to the existing, more conservative rules.

Where the bank's experience and rules pertained to financing the development of producing oil and gas properties, much of the financing being done in the late 1970s and early 1980s was for acquisitions. It was not unusual for the bank to provide 100% of the acquisition financing as a bridge, on the understanding that it would be paid back "soon" when the company issued equity. The numbers always worked, because the discount rate was lower than the forecast oil price increases.

This period also saw a rapid turnover in staff. Account managers were brought in from all over the world because there were so many jobs in Calgary. With all of the banks expanding in Calgary at once, as well as the opportunities in the quickly growing

oil firms, the competition for people with any kind of industry experience was fierce. The bank lost several of its oil patch veterans to competitors, and hired many new young people in account manager positions.

Respondents seem to agree that people at head office -- senior management, risk management (credit) people, the audit function -- knew what was happening in Alberta. But the revenue out of Alberta exceeded that of any other province, including Ontario, so the business manager running Alberta was a very influential person within the bank. Furthermore, senior management, happy with the revenues being generated, were not inclined to intervene. Faced with people in positions of authority supporting the lending practices in Alberta, the people in risk management and audit reported that challenging them could be difficult.

Bank A's loan losses in the energy sector were at their heaviest in the early 1980s. While oil prices actually crashed in 1986, they started declining in 1981 from the \$30s to the \$20s per barrel. That year also saw the Canadian government's introduction of the National Energy Program (NEP). The NEP changed the level of taxation for energy companies, automatically decreasing cash flows for producing companies and causing them to withdraw from drilling. The NEP and the declining prices were enough to dry up the cash flows needed to service the debt. The price decline also diminished investor appetite for energy equity issues, leaving the acquiring firms stuck with large amounts of bank debt which they could not service or pay down.

The Bank's loan losses in both the Canadian and US oil patches fell into two distinct areas: pure oil and gas loans; and service and drilling loans. In particular, Bank A had financed a significant portion of the services and drilling industry (separate companies which owned the rigs, and drilled for oil on behalf of the producing companies). When oil prices fell, the rigs were worth 10 cents on the dollar, the price of scrap metal. The bank had financed them with long-term debt.

4.3.2 Reported Lessons

Reported as Personal

- “Nobody had any experience in oil and gas collections. We didn’t know about receiverships or documentation. The law and accounting firms as well as ourselves had to gear up and deal with these problems. The people involved learned about the receivership process. Many of the lessons cannot be put in writing, like negotiation.”

Reported as Organizational

- The head of risk management at the time sent one of his people to evaluate the situation, and report on what had gone wrong. This individual selected the 20 largest loan loss exposures for evaluation, and summarized his findings in a memo which has become the official answer to the question “what did the bank learn?”. A number of respondents referred me to this memo. Its conclusions are as follows”:
 - **There was not a complete disregard of prudent lending principles – they did exist – but where we did stray and gamble big, we lost.** Providing 100% of an acquisition or project financing proved disastrous. While justified as being on a short-term / bridge basis, there was rarely a second or third way out. All lenders understand the risks in providing 100% financing, but in each case noted, we banked the whole deal. Final approval was heavily influenced by marketing pressures. “Tier II” lending parameters were developed to allow some value for “probable” reserves. In the past, these were excluded from our lending formula. (Another way to lend 100%.) Lending against appraised values for the purposes of financing equipment led to security problems as the market turned.
 - **Prudent lending principles were disregarded when significant loans were made to principals (with no outside support) at the same time we were lending to the company.** In effect, another means of 100% financing. A permissive attitude was evident at some levels with respect to conjunctive accounts not being recognized or reported. Again, marketing pressure to “get the account” were primary factors.
 - **The lack of follow-up account administration contributed to the severity of our problems.** There was a widespread tendency to avoid recognizing the problems being encountered by the companies. This led to a “soft” approach

which allowed the borrower's position to deteriorate significantly before the bank took any action. Sufficient attention was not devoted to the use of bank funds, especially for o&g exploration or large projects. In many cases, they did not generate productive assets.

- **The recession and resulting deterioration in energy-related asset values is quite obviously the primary cause of our problems in this sector. A contributing factor was the Bank's approach to credit at the time:**
 - **Blind faith in a rosy future.** Energy prices would continue to rise, ensuring that all loans were paid; whether from cash flow or from a future equity offering was unimportant.
 - **Emphasis on market share at the expense of basic credit principles.** Conservative guidelines for margining against proven and producing reserves did exist. However, to "do the deal", we were prepared to provide 100% financing, capitalize interest, bend our margin formula and not ask too many questions. Where we did step outside normal credit practices, we were rarely compensated for the additional risk:
 - **Complete reliance on asset values.** Little sensitivity analysis or worst-case scenarios were applied. Primary consideration was security coverage, with less importance given to cash flow or management ability (financial, as well as operational). Assets and security were continually re-appraised to justify more lending.
 - **Inadequate monitoring and follow-up action.** Most companies had poor financial management. The Bank was not aggressive in obtaining current financial information or taking early action when warning signals appeared. Typically, the short-term solution was to advance more funds, not manage the account.

- "There was a problem with how to value oil companies. We had always lent some percentage of discounted cash flow, where the d.c.f. was a function of production and price forecasts (excluding income tax and G&A expenses), and a discounting rate tied to Bank of Canada rates or bond yields. This worked fine in a low-inflation environment. But in the 1970s and 1980s, inflation was very high, and the companies were becoming bigger and more complex. So you were lending against an asset value which in the future looked very high, without understanding the company's ability to service its debt in the shorter term (e.g. between when the loan was made to finance drilling and when the property started producing and generating cash flow)."

- “We are not the only ones who have learned. The people running the oil companies are much more concerned than they used to be with leverage. And the equity markets impose a penalty on companies with leverage greater than 2x cash flow. Investors see it as a danger signal, and it shows up in stock prices. So it’s not just our education process which has caused the change.”
- “I guess it would probably be the beginning of learning how to manage the portfolio, learning how things are inter-related. It sounds stupid today, of course rigs are connected to the price of oil. But we were still saying ‘it costs them \$1 million to build an oil rig, so let’s lend them \$750,000 and they can put in a quarter’, not realizing that if nobody was drilling the value of the rig could go down to \$0.”
- “We were very exposed on the drilling side. I don’t know what our market share was, but it might have been as high as 67%. One of the things we learned was that you have to establish limits on a sector basis. It’s not prudent to be so heavily exposed, particularly in drilling because it’s the first thing a company is going to cut during bad times.”
- “Also we had a couple of accounts in Alberta where our exposure was very, very high. We learned to keep exposure per name within limits. We didn’t do that in the 1970s or early 1980s; we’d give somebody \$1 billion. Today that wouldn’t be heard of unless it’s an investment grade high major entity.”

4.3.3 Changes in Structure

A Special Loans Unit was formed in 1982 to work out the problems. One participant recalls that, starting in March or April 1982, the monthly listing of “out of order” accounts started showing an increase of hundreds of millions of dollars every month. Twenty of the worst files were chosen to focus on. This was the beginning of the Special Loans Unit”.

In 1986, the Global Energy and Minerals Group was disbanded. Offices in Australia, Asia, Denver and Dallas were shut down. Remaining offices in Calgary, Houston and London became just part of the respective geographical business units.

4.3.4 Changes in Strategy

Lending to the industry effectively shut down, as people's efforts were focused on "cleaning up the mess". It does not seem that this shutting down was a "policy" decision. Rather, it was a natural result of the dramatically lower demand for financing combined with the effort and resources required to work out the loans.

The energy loan losses were followed by changes in the Alberta management team. The business head remained for only a year or so before retiring. A second-in-command was brought in to run the business, and had the mandate to recover what was possible of the energy loans. Other senior marketing people were moved out of Calgary. A few retired within a couple of years, but others went on to positions of responsibility within the bank, both on the marketing and the risk management (credit) sides. One respondent observed that many of these people left before the "post mortem" had been performed, so they came east believing that the problem had been oil prices. They had not been part of the group that developed an understanding of the role that faulty deal structures had played in the Bank's energy problems.

Today lenders in the energy sector are industry specialists. They review all of the companies in the industry, and focus their marketing efforts on the 'right' companies. In addition to dividing companies into three tiers according to how attractive they are to the bank, they also divide them according to their requirements in terms of financing and relationships, into juniors, mid-size firms, seniors and multinationals.

4.3.5 Changes in Credit Process

Overall, it was felt that the lending process used in the early 1970s had worked pretty well. After the losses, they returned to approximately that approach. However, a number of changes were also made to the credit granting and monitoring tools used in oil patch lending. Whereas the structural changes noted above were initiated by senior management at head office, these internal ones evolved at the front line (a group in Calgary including account managers, risk managers, engineers and workout people), in response to the pressures of working out the problem loans and deciding how to go forward. A computer model was developed which allowed the business unit to rerun the numbers for its entire energy portfolio at a variety of price points. This enabled the bankers to identify quickly which accounts were vulnerable to further declines in oil prices. It also let them respond to the continuous stream of anxious phone calls from head office asking what the bank's position was and where it was going. The portfolio monitoring program has evolved, and is still in use today. Bankers use high, low and base case oil price forecasts to do sensitivity analyses (not performed prior to the loan losses in this sector).

A second model was developed to remedy some of the defects in the one account managers had been using to assess the impact of a loan on the client company. This model used after-tax cash flow instead of pre-tax, and included G&A expenses. A local (i.e., Alberta, Calgary) group was formed, with representatives from the lending, credit and valuation functions. They created the software to evaluate a company on an after-tax, after G&A expenses basis. The program could be used by account managers to assess the real impact of different loan sizes and structures for the base and low price cases. These programs were in place by 1986-87.

4.3.6 Changes in Risk Management

The latter model helped bankers to answer the question “how much could we safely lend?”. They were left with the question “who should we be lending to?”. In 1990, they started systematically developing benchmarks based on mathematical factors and operating parameters to evaluate the population of energy companies, and tier them according to relevant industry-specific factors. Three tiers were developed, allowing the bank to identify which companies it wanted to have as clients (tier 1 and some tier 2), and which companies it did not want to deal with (tier 3). This system of tiering has since been adopted throughout the Multinational Bank, the Business Bank, and even the Retail Bank.

4.3.7 Changes in Policy

Overall, attention was refocused on prudent lending policies and practices. An Oil & Gas Lending Manual was written, and published in 1985-86. With some changes to reflect the better modeling tools and sensitivity to cash flow, these policies were very similar to the rules which had governed lending in the pre-1978 period. The bank “got back to basics”, refocused on “what we already knew”. The Oil & Gas Lending Manual is revised every few years, and is still used as the main reference book for lending in this sector. The observation that the bank would not have got into the trouble it did if it had stuck to its own rules was a common one, both in connection with energy loan loss episode and the real estate disaster in the early 1990s.

4.4 REAL ESTATE LOAN LOSSES I (early 1980s)^{vi}

4.4.1 Background

When I asked long-time Bank A employees to tell me about the real estate loan losses, a common response was “which ones?”. The bank had severe real estate loan losses in Western Canada (mainly Vancouver and Calgary) and the US in the early 1980s. Vancouver was experiencing a real estate boom. Bank A had a major presence in British Columbia, and lent heavily to finance real estate development. As well as lending to firms in the real estate business, the Bank also financed the (often speculative) participation of individuals in the real estate market.

The big Canadian real estate development companies at the time were making “more money than they knew what to do with”, and turned their attention to other markets. They diversified into other lines of business, including hotels, casinos and airplanes. They also moved into the US. The high oil prices were causing tremendous growth in cities like Houston and Dallas. The Canadian developers invested in these cities, as well as in California. The Canadian banks, including Bank A, had lent heavily to these development companies and followed them south. They had also charged these companies Canadian prices, which were lower than the US banks demanded for the same level of risk, and granted looser terms and conditions because the developers were major clients.

Similarly, Calgary was growing rapidly. From a population of 600,000 in 1980, it was forecast to grow to 1.2 million by 2000 (today it is 700,000), creating a great demand for residential and office buildings. In Calgary, as in Vancouver, the bank was an active participant in financing the acquisition and development of real estate. Respondents recall that many of the real estate deals done at that time represented a departure from the Bank’s previously existing credit practices. For example, the Bank provided 100% or more financing of raw land acquisitions.

Then, in the early 1980s, a combination of the recession and declining oil prices caused real estate prices -- in Vancouver, in Calgary, in the US oil patch -- to crash. The bank was left with a substantial portfolio of bad real estate loans. In 1983, it found itself the owner of 800 homes in Calgary.

The loans were worked out by a handful of people over a period of several years. In retrospect, the bank did not lose as much money on these loans as had been initially expected. This was credited to the efforts of the workout people, who, in time, were able to recover much of the bank's outlay.

4.4.2 Changes in Policy

The workout group also summarized the lessons they had learned in the Real Estate Lending Manual, first published 1982, which was a comprehensive guide to lending against various types of real estate. It outlined the decision criteria to be used for each real estate industry sub-segment, e.g.. shopping malls, office buildings. The driving force behind this manual was the banker who lead the workout, and it came to be known as *his* book. He then stayed in Vancouver as head of credit in the district. Respondents recall that, while account managers did not embrace it at first, they quickly learned that, if they wanted to get loans approved, they had to go by the book.

4.5 RISK POLICY GROUP^{vii}

4.5.1 Background

So the early 1980s were traumatic years at Bank A. It was hit, almost simultaneously, with major loan losses in its 'normal' international portfolio, its LDC sovereign debt portfolio, its energy portfolio, and its real estate portfolio in western

Canada and the US. Of these four areas of loss, three were greatly exacerbated by very high concentrations in geography, industry segments, single names, or types of business. Some people in the bank started to recognize the dangers of over-concentration, and the need for better diversification in the portfolio. However, accurate information regarding the composition of the bank's loan book was difficult to access on a timely basis.

While people had a general idea of which businesses or sectors or geographical areas the bank was most active in, the bank's information systems were not designed to provide a complete picture of the loan book. For example, forestry loans came in through several different geographic business divisions including British Columbia, Quebec, the US, and the European division encompassing UK and the Scandinavian countries. A division's revenues were not broken out by industry sector, and industry exposures were not aggregated across geographic divisions. So, while the information existed, it was not easy to access or disseminate. Furthermore, these concentrations were not systematically evaluated to determine whether they were too high or too low.

In part, this was a function of technological limitations. Information systems had been designed to support financial reporting, not risk management. The lack of information on concentrations was also a function of the belief, held by some people at very senior levels of the bank, that specialization by industry would inevitably lead to trouble. (The energy loan losses were held up as an example of this.) Since industry specialization was officially discouraged (even though the bank lent heavily in certain industries, this was seen more as a function of geography than deliberate specialization), information was disseminated on an industry basis.

At that time, the credit process was arranged so that the International Bank had its own credit limit (up to \$450 million per transaction), as did the National Accounts Division, which had been formed in the late 1970s to serve large Canadian corporations. This represented a substantial credit limit in these major business units. The credit

department picked up what was left (e.g., smaller corporations). Credits in excess of \$450 million had to be approved at the senior executive level.

4.5.2 Reported Lessons

“So the big lesson coming out of the early 1980s was the risk associated with too heavy concentrations in a single name, group, industry sector or geography. We became very much aware of the risks of concentration, the lesson was learned by 1987. We had experienced the losses by 1983, then set up the group and started understanding what we were learning. At first we didn’t know why we had experienced the losses. But we structured ourselves in the Risk Policy Group to learn about concentration risks. We learned about measuring them. That learning got diffused through borrower risk ratings (BRRs), through account managers having to adopt a risk rating system, through account managers having to follow policies that we had written or come to us for exceptions, and through having to come to a central credit group for more approvals than they had had to before.”

4.5.3 Changes in Structure

The Bank’s response to the lack of easily usable information around loan concentrations was to create the Risk Policy Group, an independent group reporting through a senior executive directly to the Chairman. The group’s mandate was to help the bank to understand and manage its credit risk. The group was formed in 1983, and during the 1984-86 period, it undertook a number of initiatives.

4.5.4 Changes in Credit Process

While the business units initially retained authority for up to \$450 million, they could no longer approve exceptions. Only the President could approve exceptions. The Risk Policy Group became responsible for evaluating all exceptions coming in from the

field, and recommending them (or not) to the President for approval. In this way, the Risk Policy Group provided an “objective” second opinion on the credit recommendations of the marketing people. So the Risk Policy Group, while it did not approve loans, became the “gatekeeper” in recommending exceptions for approval.

Then, in 1987, a Head of Credit and Credit Policy was appointed, reporting directly to the President. He was given the lending authority for all credits over \$50 million, across all business units. So at that time, the business units lost credit authority for anything over \$50 million. These credits could only be approved by the head office credit group.

4.5.5 Changes in Risk Management

A borrower risk rating (BRR) system was created, whereby every corporate and commercial borrower was evaluated and assigned to a risk category. Risk rating categories ranged from 1+ (government borrowers) to 6 (in default).

The Risk Policy Group also started to assemble data that could be used to measure concentrations of exposure in the loan portfolio. Account managers started to identify each borrower by SIC code, and the risk policy group tracked and reported this information.

4.5.6 Changes in Policy

During the 1983-87 period, a couple of the Risk Policy Group members wrote the bank’s first rough credit policy manual. Prior to this, Bank A’s rules had been scattered throughout the organization when they were written down at all. The Risk Policy Group pulled together existing credit wisdom, rules and guidelines, and started to put definitions around what constituted single name or group exposures.

Not all of the Risk Policy Group's recommendations were acted upon, however. The suggestion that the bank should organize its account managers and risk managers by industry sector was strenuously resisted by some key senior executives. They believed that such specialization would lead to more, not less, of the concentration problems the bank had experienced.

Whereas all of the other changes in process, people and structure were localized in the immediate vicinity (geographic and industry) of the bank's loan loss experiences, the Risk Policy Group represented an effort to address the loan loss problems on a bank-wide basis.

4.6 REAL ESTATE LOAN LOSSES II (Early 1990s)^{viii}

4.6.1 Background

Although Bank A was one of Canada's largest banks, its market share in Ontario, and especially Metro Toronto, was relatively low. In the late 1980s, Ontario was booming. It had been spared the worst effects of the 1982 recession, and the trials experienced in the West, so the bank's loan book in Ontario was clean. Buoyed by the optimism of the times and their strong track record in the province, Bank A executives decided that the time had come grow the Bank's market share in Ontario.

At the time, the Bank's geographical divisions developed their own business plans. The Risk Policy group was not involved, as it was not an all-encompassing risk management function. Business plans tended to be transaction-driven, placing no upper limits on business volume. More was better.

As many respondents have pointed out, the fastest, easiest way to grow a loan book is to lend to the real estate sector. In addition to being the fastest way to reach their

market share growth targets, real estate was attractive because the banks could charge higher interest rates than they could on ordinary corporate loans, and also generate significant fee income. So, exhorted by their senior executives and driven by their aggressive growth targets, account managers in Toronto went out and made real estate loans.

They had plenty of competition from other banks, with predictable results. Deal structures got looser and more favourable to the client. The rules for real estate lending started to get overlooked or exceptions were made. The bank started financing raw land as well as real estate development. It lent ever-larger amounts to single projects or borrowers. It provided 100% financing (including the equity component) to developers, plus financing for the interest payments. It lent without a 'takeout' provision².

Respondents point out that, with the possible exception of oil & gas, no sector had more policies and guidelines around it than real estate. The Real Estate Lending Manual from the early 1980s was widely distributed. But in Toronto real estate lending in the late 1980s, many exceptions to policy were being made. While some of these exceptions were being flagged and brought to the attention of the credit department, many were not. However, one respondent noted that the underlying problem was that the Bank was doing risky lending against things that didn't work, not that it was making exceptions, per se. The rules themselves were not believed to be relevant, given the circumstances. Another executive who was active in the post mortem recalls that it was not uncommon for a real estate deal to have 4-5 exceptions to lending guidelines.

Despite the wealth of real estate experience (through all phases of the market cycle) available within the bank, the account managers booking the loans tended to be young and inexperienced. However because the limits at the district level were quite low,

² Banks had traditionally provided construction financing. When the construction of an office building was complete, a pension fund or other large investor would give a mortgage on the building. This mortgage would 'take out' the Bank, allowing it to get out when the construction was completed. Where banks had

most of the significant loans that later caused such trouble for the bank were approved at head office credit by experienced bankers. Why were the *real estate* veterans not more involved? There seems to have been at least two contributing factors. Firstly, many were living out west and did not feel any incentive to come to Toronto. Secondly, they perceived that the executives running Ontario did not particularly want these outsiders showing up and saying things that nobody wanted to hear.

“Nobody wanted to hear about it” was one of the comments I heard most when talking to people about the real estate loan losses. Several respondents, who were outside Ontario at the time the loans were being made, recall thinking that the deal structures were becoming dangerously loose, but being effectively ignored by people in Toronto. Lenders in Toronto argued that Ontario had a broader economic base than British Columbia or Alberta, so was not vulnerable to a crash. They also pointed out that, while Western Canada had lost so much money, their own book had remained “clean”.

Whereas Banks B and C started to get nervous and pull back in their real estate lending in 1990 and 1991 respectively, Bank A kept pushing. When real estate prices did start to fall, the bank’s initial response was disbelief. Because Toronto real estate prices had not dropped initially the way they did in the US, it was believed that the Bank had escaped the worst of it. The depth of the drop in real estate prices, when it occurred, had been completely unexpected.

Recognizing a need to consolidate its real estate expertise, the bank had formed 4 real estate offices in the Toronto area in 1991-92. It should be remembered, however, that the bank still did not officially specialize by industry. Account managers with the largest real estate books came to be viewed as “specialists”, and had some had received additional training, but they did not specifically track the real estate industry.

traditionally required the mortgage takeout to be guaranteed up front, they stopped insisting upon it as the market heated.

But by late 1992 it had become apparent that the bank had serious problems in its real estate portfolio. Over the 1992-93 period, the bank made provisions for credit losses totaling \$3.8 billion, largely attributable to real estate losses.

The bulk of the bank's real estate loan losses occurred in Ontario, particularly in the Toronto area. Comments like "we didn't lose a cent outside of Ontario" are probably an exaggeration, but they do reflect the fact that the real estate portfolio in Ontario was much worse relative to the bank's market share than elsewhere. Respondents noted that the growth and demand in Toronto were much stronger than in other places, but agreed that the big problem was that loans were not made in accordance with the bank's prudent real estate lending guidelines. In Western Canada, where major real estate losses were fresh in people's minds, where some of the people who had worked out those loans continued to reside, and where there were "hard-nosed credit guys who just said 'no'", loans were generally made in accordance with the Real Estate Lending Manual and losses were minimal.

4.6.2 Reported Lessons

Reported as Personal

- "I personally, and the people I know who were involved, have learned that we've got to have the courage of our convictions. We already know what's right, but we have to not be swayed by the fact that "the guy's been a customer for 60 years, and he won't let you down" so you waive this or don't ask for that, or whatever."

Reported as Organizational

- "We've learned that you can't manage your portfolio on a transaction by transaction basis. We must try and be more proactive in managing our portfolio. You cannot

manage single names on a transaction by transaction basis, either. You have to be more strategic.”

- “Another thing we learned, and this wasn’t even in the old manual, is that somebody at the account management level or the risk approval level has to have walked the land. You have to see it. We had people in Vancouver writing in to Toronto to approve a real estate project in Denver. Nobody’s been there! What were we doing? So we’ve incorporated that and we will not waver.”
- “We had an awful lot of raw land, ‘dirt loans’. We would lend to somebody on land he was going to develop 2-3 years down the road, but it never happened. All his good operations were suffering from having to pick up the tab on that raw land that wasn’t contributing anything. So now we are saying ‘no’, for the most part, to dirt loans.”
- “We’ve learned to apply the rules. There is such a thing as best practices. We learned that we need to put in the research, understand the deal, structure it appropriately. We learned not to lend to people who do not know their real estate. We learned that we all have to play on the same ball team.”
- “You can’t have all of your centres doing real estate, so that’s why we consolidated real estate lending downstairs. You can’t have the marketing head and the credit head being the same person. You have to be careful to know what you have at any particular location, i.e.. portfolio management. You don’t want two of your customers competing. The value of a relationship is mighty important, because you want the project to be viable, but if it isn’t then you want your downside covered through a substantial guarantee from the borrower, and you need all the financial information to assess the risk of that relationship. We have also tiered our target market, and we want to keep the best.”

The following anecdote should also be included in this section: after the real estate loan losses, a senior workout executive took the memo written in 1985 explaining what had gone wrong in their oil and gas lending (conclusions summarized earlier), and changed all 'oil and gas' references to 'real estate', but otherwise left it exactly the same. The resulting document accurately and thoroughly described what had gone wrong in real estate!

4.6.3 Changes in Structure

As noted above, the bank had formed 4 real estate offices in the Toronto area in 1991-92.

Defaulting real estate loans were segregated into the Special Loans Unit (SLU) in early 1994. Any remaining healthy real estate loans were consolidated in the Toronto real estate office. The SLU was staffed, where possible, by experienced bankers with workout, real estate and risk management experience. It was lead by the banker who had previously been in charge of working out the real estate loans in Western Canada. The SLU in Bank A was not considered to be a 'development' position because the stakes were so high. But, although the workout of problem loans was handled by senior people in the SLU, the account managers never left the account. They continued to have day-to-day contact with their clients, and were aware of what was being done to work out the loans, even if they were not making the decisions. Respondents noted that, from a relationship management perspective, this approach was useful because the account managers continued to provide the client with a familiar and friendly face during the difficult workout period. It also expressed, both symbolically and practically, the bank's strategy of 'standing by' its clients and maintaining ongoing relationships.

4.6.4 Changes in Strategy

In addition to its real estate losses, the bank was also experiencing the normal losses associated with the recession. Ontario was particularly hard-hit, as the recession drove home the impact of fundamental changes in the province's economy. The Free Trade Agreement encouraged some businesses to close or move out of the country. Technological advances permitted decentralized office facilities, dramatically reduced the demand for certain types of worker, and enabled others to work from home, with predictable results on the demand for office space and retail sales.

The Bank substantially reduced its lending to real estate for a short period of time. This was in part a policy decision, and in part a function of the minimal demand for real estate financing and the tremendous amount of bankers' time and resources which were being devoted to working out problem accounts. In fact, lending to all sectors decreased dramatically during the 1993-94 period.

It resumed lending in the real estate sector gradually and cautiously when executives felt that the Bank was turning away good pieces of business. Respondents agreed that the guidelines used for making loans to real estate at the time of the interviews (1996) were not greatly changed from those in the early Real Estate Lending Manual. As they said in connection with the energy loans, respondents have tended to agree that "we knew how to lend in this sector -- we just did not follow our own rules". A lesson that many people say they took from the loan loss episode was that the Bank needs to trust and follow its rules.

4.6.5 Changes in Credit Process

Many of the Bank's real estate problems had their roots in the way the accounts were administered. For example, deals were being approved subject to certain pre-dispersal conditions, but these conditions were not always adhered to. Traditionally, the

account manager had been responsible for administration. However, during the real estate boom account managers' attention was on marketing. One respondent cites the amount of business on the account managers' desks at the peak of the market, and the lack of in-depth knowledge as to the importance of proper administration as the reasons that changing conditions may have been missed. In response, the administration function was to a large extent, removed from the account manager, and the account manager began receiving more help in that area.

4.6.6 Changes in Policy

The comprehensive changes to the Bank's policies, which were part of the credit process re-engineering initiative, are discussed in the following CPR section. At this point, however, it may be noted that this extensive documentation of principles, rules and guidelines began in the battered real estate sector, and then spread to other areas in the Bank. A number of people were involved in this process, including risk managers, account managers, and analysts from the multinational lending unit.

4.7 CREDIT PROCESS REENGINEERING^{ix}

4.7.1 Background

In the 1992-93 period, the Bank made \$3.8 billion in provisions for credit losses on a 1993 equity base of \$7.9 billion^x. The executive who had overhauled the credit process in the international division was made SVP Credit Risk for Canada in 1992. Six months later, he became EVP responsible for the Risk Management / Credit function bank-wide. The heavy domestic losses in 1992 underlined the difference in credit quality between the domestic portfolio and the international. The domestic portfolio reported its provision for loan losses as 2.6% of its related average loans, compared to 0.9% (excluding country risk provision) for the international portfolio. Respondents suggest that the magnitude of the losses and the difference in performance between the domestic

and international portfolios shocked people and made them very receptive to examining and changing the bank's credit granting and risk management processes, well beyond the real estate sector.

At the time, the Domestic Bank's credit granting process was very much like that of the International Division in 1984. District credit ("risk management") people reported to district general manager, i.e. to the business unit. Everybody, both line and risk management people, had approval limits, and the district had a limit. Then at the centre level, people had limits. Only above a certain point, would an application be sent in to head office credit. Up to that point, the person who ultimately signed off on a deal could have been either line or credit, depending on the size of the deal and whose hands it had passed through.

Under the leadership of the senior risk management and business line executives, a steering committee of 12 Bank A bankers went to work on a comprehensive program of changes grouped under the umbrella of 'credit process reengineering'. These were generally Canadian system people, and some with international experience. With the help of a consulting firm, this group conducted inquiries into what had enabled such heavy loan losses to occur. Their first eight months were spent diagnosing what had gone wrong, and identifying the root causes of the loan quality problem in Canada. The steering committee formulated a list of recommendations which were implemented beginning in the summer of 1993.

In the 1993-94 period, a number of initiatives were taken in response to the reengineering team's findings.

In 1994, the senior workout executive who had been active in the credit process reengineering, conducted a unique experiment. While he was very familiar with the reengineering activities, he wondered if the questions 'what have we learned? what should we have learned?' had been asked explicitly enough. He wrote to approximately

45 professional firms -- accountants, lawyers and consultants -- saying: "We have prepaid for your advice and now we would like it! What should we be learning from these problems? What do you know about where we went wrong?"

4.7.2 Reported Lessons

- The credit reengineering committee conducted a comprehensive "root cause analysis" with the goal of understanding and addressing the Bank's history of cyclically poor asset quality. The analysis identified 104 interrelated technical, structural / organizational, and cultural factors that had contributed to the Bank's loan loss experience. These factors were grouped into the following major categories: monitoring / early warning; risk analysis; strategy planning; staffing / roles / organization; training; policies; and reward / compensation^{xi}.

Lessons reported from the workout executive's approach to professional services firms:

- "Two things stood out unanimously from every professional firm: we the bank and we the industry were too slow to identify an emerging problem; and, once we had identified it, we were afraid or too slow to do anything about it."
- "We broke the responses into 3 categories of root causes of problems: was enough homework done, had the loan been done properly?; after it had been done, was it properly monitored?; and when a problem had been identified, how did we deal with the problem? There are different stages where problems can occur, and surprisingly few of our problems were bad loans at the beginning."
- "The accountants and consultants said we did not fully understand the business of our clients (eg. industry cycles, success factors, clients' ranking with respect to competitors), although we believed we did."

4.7.3 Changes in Structure

The first step was to centralize the credit function, as the international division had done in the mid-1980s. All credit was taken out of the business unit's control, so that district credit departments no longer reported to the district general manager. Instead, they reported to the head of credit, which became a head office function although many of its people remained located in the field. Credit became a head office function in the fall of 1993. To further ensure the independence of the credit function, the EVP Risk Management reported directly to the Chairman / CEO of the Bank. The centralization of the credit function was considered a huge and radical step in the Domestic Bank, and drew some resistance from the districts, which had historically had control over this function.

First line and then risk management officers were reorganized to specialize by industry sector. This specialization allows them to develop a deeper understanding of the industry and the firms which comprise it.

Related to this move toward industry specialization, a group was established within the Multinational Bank to provide industry and firm analyses. The formation of this group effectively removed the analytical function from account managers and transferred it to more objective people, with specific skills and industry experience. This group is comprised of industry specialists in each of the Bank's chosen sectors.

In response to the observations from the professional services firms that the Bank was too slow to identify an emerging problem, and then too slow to address it, the senior workout executive set up a Special Advisory Services Group. The group's mandate was to provide an early identification and consulting services at the first sign of a credit-related problem. The group could be called in by any one of three parties: the account manager (quite rare), the business centre manager, or the credit function. It was also automatically brought in upon a deterioration in the Borrower Risk Rating. At the time

of the interviews, this group has worked on 32 accounts, and reported considerable success in preempting problems.

4.7.4 Changes in Strategy

The 1992-93 period saw not only a significant decrease in lending in the real estate sector, but also a pulling back across all of the Bank's lending businesses. Lending practices at the time were described as conservative; exceptions were rarely granted to the multitude of newly established lending policies.

By 1994, however, the economy was improving. Executives noticed in 1994 that the Bank's market share was down, and decided it was time to "restart the engines".

4.7.5 Changes in Credit Process

The credit process in the domestic bank was reengineered to look much more like its international division counterpart. As described above, credit was centralized as a head office function. Instead of reporting up through the business units, risk management now reports independently up to the CEO.

Secondly, credit approval authority beyond a nominal level was taken out of the line function, and now resides within risk management. Where previously line people had had their own lending limits, these limits were taken away in 1993. Only credit people were allowed to approve a credit. This provoked tremendous resistance on the line, where people feared that they would lose their credibility with their clients, and their market-specific knowledge would not be taken into account.

Until this time, credit people had been clustered in the major centres, e.g. the credit people for BC were located in Vancouver. As part of the response to the "you don't understand the territory" resistance to taking away line approval limits, credit

people were put into local districts and centres. So, while the local branch manager no longer had authority to approve loans, there was now a credit person stationed in the branch with that authority.

As in the international division, risk managers now meet with account managers and clients to discuss general business issues. And risk managers and account managers work more closely to select accounts, target clients, and make proposals. This represents a fundamental change from the earlier risk manager - account manager dynamic, in which the account manager felt his job was to generate new business, while the risk managers concerned themselves with quality. These changes reflect the senior risk management executive's belief (supported by external research) that a credit culture based on partnership is more effective than an adversarial culture.

For each country, industry sector, line of business, and corporate client (Multinational Bank, now working downward to smaller clients), the bank started to develop an annual strategy. For a corporate client, the account manager, the analytic specialist, and the risk management counterpart will develop a strategy for what kinds of business the bank would like to do with the client in the upcoming year, and what amounts are appropriate and why. Developing the strategy allows the bank to make decisions in advance, not in the heat of the moment when an opportunity is presented. Although account managers do propose transactions not covered in the client strategies, these transactions do not necessarily get approval, and they take more explanation and justification on the part of the account manager. In what is reported to be an unusual practice in the industry, account managers share the bank's strategy for an account with the client. This allows for expectation management on both sides, and for the Bank and customer to work together to determine how best to use the allocated exposure amount.

One respondent described the annual strategies and the greater cooperation among account managers, credit people, analytic people and others as analogous to building quality control into the production of a car instead of making it the final step.

4.7.6 Changes in Risk Management

In 1995, two years after centralizing the credit function, the Bank adopted the concept of 'risk management', which included but went far beyond the management of credit risk. The group that had been the Credit Department was renamed Risk Management. While it still includes the management of credit risk as a major function, it has the wider mandate of ensuring effective risk management within the entire Bank A organization. The Risk Management Department today is comprised of many risk management activities pulled out of various parts of the bank (e.g. economics), and new activities which have been created.

Central to the Bank's risk management efforts was the development of the Risk Framework Pyramid, which summarizes the risks faced by the Bank at three levels. Level 1 is systemic risk, which the Bank must be aware of but over which it has no control. Level 2 is comprised of competitive, reputational and regulatory risk, which the Bank cannot control but which it can influence. Level 3 includes credit, market, operating and people risk which the bank ought to be controlling. The Bank employed consultants to help with the development of the Risk Framework Pyramid.

Another change in risk management since 1993 is the greater discipline around industry sector limits and strategy. In the 1980s, people met and talked about what was going on in different industry sectors, but they did not set limits or determine strategies with respect to those sectors. Since the loan losses in the early 1990s, however, the Bank has adopted an industry-specialized approach in both its corporate banking businesses and in its risk management. So the Bank now has strategies and limits in place at each of the following levels: country, industry and client company.

With this industry specialization has come the practice of categorizing clients in to three tiers according to their attractiveness to the Bank. This guides the account

managers, encouraging them to focus on clients in the top one or two tiers. So within the Forestry industry sector, for example, companies worldwide are rated by tier, and the forestry sector strategy would focus on servicing these firms. Because of the sectoral limits, account managers must now be pickier about which clients they lend money to. This practice of tiering clients may have originated in the oil & gas industry sector, as part of the changes there after the losses in the early 1980s.

Overall, the way bankers at Bank A have started conceptualizing risk and its management has changed profoundly in recent years. One executive notes that many more types of risk are managed, monitored, and debated today than was the case ten years ago. It is felt that, through monitoring the risks, and talking about them on an ongoing basis, assumptions are challenged because people are paying systematic attention to the risks around them.

4.7.7 Changes in Policy

As part of the credit process reengineering effort, participants “redid every policy in the organization”. One executive noted that, although there were many root causes to the problems in 1982 and 1992, a key one was that people did not pay attention to policy. He estimated that, if the policies had been followed, 80% of the loan losses would have been avoided. However, part of the reason that the policies were not followed was that they were perceived as being incomplete and dated.

Representatives from Risk Management worked with people from each of the Bank’s major business units to draft policies for each unit. These went beyond credit policies to include risk management policies. Because the business units were proactive in the drafting of the policies, this process was seen as a way to ensure that they would take ownership of the policies in a way that the line had not done before. The senior risk management executive reports that people were skeptical about the process at first, but then realized that this was an opportunity for them to decide how to run their business

rather than having that decision made for them. The policy drafting process took approximately 18 months.

Risk management also imposed a hierarchy of policies, with three levels. The highest level of policy is principles, to which no exceptions are made. The second level is rules, exceptions for which are “extremely difficult to obtain”, and need to be granted by the next higher person in Risk Management to the one who would ordinarily approve the credit. The third level is guidelines. The person who would normally approve something can grant an exception to a guideline “for good and valid reasons” which must be documented.

The policy making process was also reformed. Historically, the policy group had been seen as an obstacle. Under the new process, however, the group was expanded and people were given specific client (i.e. business unit) responsibility. Somebody would work with each business unit (e.g. Financial Institutions, or Consumer Banking) to ensure a proper fit between the policies and the business they were meant to guide. The Bank is now experimenting with putting a policy / risk management person into each business, who knows the business and can help propose the necessary changes with respect to policies and risk management.

i This section is based on interviews A-3, A-5, A-12, A-17, A-24 and A-29
ii Euromoney, June 1982
iii This section is based on interviews A-3, A-5
iv This section is based on interviews A-10, A-11, A-13, A-14, A-19, A-22, A-27
v A-document-27
vi This section is based on interviews A-12, A-19, A-22, A-28
vii This section is based on interviews A-12, A-14
viii This section is based on interviews A-4, A-5, A-6, A-12, A-14, A-18, A-19, A-22, A-27, A-28
ix This section is based on interviews A-4, A-5, A-7, A-12, A-16, A-18, A-21, A-23, A-24, A-26, A-27
x From Annual Reports
xi A-doc-101

CHAPTER 5

BANK B STORY

5.1 LDC LOAN LOSSES (1982)ⁱ

5.1.1 Background

Bank B's LDC loan experience is similar to those of Bank A and Bank C. With market share holding fairly constant in the domestic Canadian market, the banks were looking for growth to come internationally. Through the 1970s, Bank B and many other banks were actively opening offices in Europe, Latin America and Asia. In Bank B, what had been a small international department grew into an International Region headed by a senior executive, just as Ontario was a region headed by a senior executive.

This growth was fueled by the sudden flow of petro-dollars into the banking system in the early- to mid-1970s. Traditionally, the banks' international lending had been trade-related. But the banks' need to lend out this volume of money, and the encouragement by governments for the banks to 'recycle' the wealth, meant that they were willing lenders when developing countries started looking for bank financing of projects and balance of payment deficits. Like their counterparts at other banks, Bank B respondents reported working under the assumption that "governments don't fail". And, like the other two banks, the bulk of Bank B's LDC lending was to Latin America.

However, Bank B's LDC lending experience differed from those of Banks A and C in two ways. Firstly, it was a relative late-comer to the LDC lending game. One respondent suggests that the reasons for this were that some of the senior executives at the time were cautious about LDCs and had expressed "no interest" in certain parts of the world, and that the Bank had no syndicated lending capabilities at that time. Eventually Bank B became a participant in this market because the fees it offered were too good to

pass up. However, it did not have a strategic or philosophical rationale for participation. Its slow start meant that the Bank's LDC exposure was substantially less than Bank C's or Bank A's (approximately \$4 billion, with reserves and losses eventually totaling approximately \$2.2 billionⁱⁱ).

The second difference was that Bank B did virtually no lending to the private sectors in the LDC countries (except to privately owned banks). The bulk of its portfolio was in sovereign and quasi-sovereign loans, and the remainder was in loans to the LDCs' banking sectors, split between trade finance and deposits.

One respondent notes that there were "processes in place at the time governing country evaluation, the setting of country limits, and loan approval which were good given the time and conditions". Because of its minor position in the market and lack of syndication capability, the Bank did not originate or manage deals. It participated in (ie. took pieces of) those originated by other banks. After countries had been evaluated and limits set, the usual approval process was as follows. Often an invitation to participate in a deal would arrive by telex from the originating bank giving pricing details and other information. It would be shown to the Latin American region people for their okay, then to the credit department for theirs. "Are we within the country limit? Are these rates on market? How much do we want?" Most of the documentation and processing took place in the UK. In the meantime, Bank B's international people were traveling around Latin America, the Bank's rep offices were sending back country intelligence, the economics department was rating countries, and committees were meeting to set country limits.

However, the quality control processes did not always work perfectly. Sometimes the opinions of the economics department were not properly understood by the business line. Sometimes deals rejected by the line were accepted, nevertheless, at senior levels in the bank because of the fee income they would provide.

When the LDCs started defaulting on their loans in 1982, the loans to the banking sector were as hard hit as the sovereign loans. One reason for this was that, unbeknownst to Bank B, the LDC banks based in New York to which the Bank had lent money had been using the borrowed funds to participate in sovereign LDC debt deals. When the countries defaulted, the banks could not repay the loans. In the case of lending to local LDC banks to finance specific trade transactions, the banks could be able and willing to repay the loans. But when they asked their central banks for dollars in return for the local currency, the central banks could not give it. Instead they would assume the debt, so banking sector debt became sovereign debt.

Bank B became part of the same communal rescheduling process as the other Canadian banks. A coordinating committee was formed for each defaulting country, headed by the bank with the highest exposure (often a US bank like Citibank or J P Morgan). One Canadian bank would represent the Canadian banking interests. Bank B's experience of the workouts differed from that of Banks A or C in that, whereas these banks were each representatives on several committees, Bank B was not. In part, this lack of participation was a function of its relatively small LDC exposure. It also reflected a public relations decision ("we never wanted to be seen as the Canadian bank which had 'the most' anywhere, we preferred to say that we were just a small lender"), and the preference to let its competitors shoulder the burden of endless meetings.

5.1.2 Reported Lessons

Reported as Personal

- "The biggest lesson I learned was that you cannot operate out of greed, you cannot run a bank like that. Whatever you do in banking has to be done for business reason, the customer has to be involved."

- “I also learned that Latin America is a part of the world where you always have to know what you are doing and with whom you are doing it. So for me, when I deal with people in Latin America today, I am always remembering these things. I want things in black and white, I want to see that they have more money than we do in the business and that they keep it there. You need in-depth knowledge.”

Reported as Organizational

- “The balance of payment type loans we were doing were not tied closely enough to the uses to which they would be put, and they were not at all tied to sources of repayment. Now loans are tied to specific projects and cash flows. Country risk exposure is laid off. We take smaller pieces of a loan. We focus on essential goods and services. We look for projects that generate hard currency and we try to get into the flow of hard currency before it gets back into the country.”
- “We learned that sometimes it’s beneficial to be slow off the mark.”
- “We learned that balance of payments loans to highly indebted countries were not a good idea. Nor was it a good idea for banks to take over the lending function of the IMF and the World Bank.”
- “We also learned that it is important to have good information. About two weeks after the Brazilian crisis blew up, we found that we had \$200 million more out to them than we thought we did. It’s basic business practice, but it was hammered home to us.”
- “We had the same macro learnings as everyone else. Governments can go bust. Spikes that are caused by commodity prices are a volatile element in any lending decision. Hot situations can evaporate fairly quickly, so you need to take a more stable, long-term view of commodity prices.”

- “We learned about how markets develop for financial instruments. Prices might be much less than par, but there is a price. That lesson came about five years after the LDC loans hit the bottom, but what you saw was the development of a deep and fairly professional market where the debt could be traded on a secondary basis. We’ve built upon that learning, eg. in the market for high risk credit.”

5.1.3 Changes in Structure

In the first year or so after rescheduling started, structures didn’t change. The people who had made the loans went out and tried to collect them. The representative in Sao Paulo, and the Latin America region banker in Toronto, and his credit counterpart were all out meeting with clients and other lenders, assembling documentation and performing other necessary tasks. Then in 1983-84, when the magnitude of the problem became apparent, the loans were segregated into a Special Lending Unit. This unit was comprised mainly of people who had been involved in making the loans, as well as a couple of key people who had been brought in from elsewhere in the Bank to provide an ‘objective’ view.

Through much of the rescheduling, the Bank’s offices in Latin America remained open, allowing the Bank to gather country information and communicate with other creditors. Then in the late 1980s, the Bank closed its offices in Buenos Aires and Sao Paulo, and canceled its application to open an office in Caracas. Only a scaled-back office in Mexico City remained open.

In 1986, the Bank reorganized, moving from a geographically divided organizational structure to one focused on 4 key strategic business units. Within the businesses, organization was by product and industry lines. Under this arrangement, geographic expertise is housed in groups of ‘regional specialists’ (eg. Europe, Asia, Latin America), each with a coordinator. Line people are expected to seek out these specialists’

advice on any transactions involving the region. It should be noted that, although this structural change has had an impact on how the Bank does business today in Latin America, it did not *result from* the LDC loan losses. Rather, it was a byproduct of an unrelated organizational event.

5.1.4 Changes in Strategy

After the Latin American countries defaulted, the Bank stopped all voluntary lending in the region. It withdrew totally, discontinuing all business, severing relationships with correspondent banks, and declining to finance even trade. As one participant put it, “in 1983 we got mad at Latin America, that’s the word -- *mad*. We didn’t want anything to do with the region.” Top management had been quite outspoken on that subject, taking opportunities to “Lecture some of these foreign governments on what bad types they were and how we wouldn’t soon be forgetting what they had done”.

Most of the people who had been involved in making the loans remained with the Bank, particularly in the short term. Most of the senior people had ongoing roles in the workout. More junior people moved elsewhere in the Bank, or left if their career interests had been explicitly related to Latin America. When the Latin American offices were closed, most of the local employees were severed, and the Canadians brought home. Respondents were careful to emphasize that the Bank’s attitude toward employees who had been involved was not punitive. Management viewed the loan losses as the result of a mistake that they had made along with many other banks, not as a result of irrational or irresponsible behaviour on the part of employees. Many decisions were made at very senior levels. As one respondent summarized, “We went into it with our eyes open, we just didn’t know we needed glasses”. This attitude is very consistent with those of the other two banks.

In recent years, Bank B has resumed lending in Latin America. In the late 1980s and early 1990s, executives drafted a “North American Strategy”, saying that the bulk of

the Bank's customer base would be North American, and that outside of North America they would follow these customers. So Bank B was effectively forced back into Latin America by its clients, many of which were natural resource companies with investments in the region.

It lends differently today (ie. at the time of the interviews in 1996) than it did in the 1970s. It does no balance of payments lending. Loans are now tied to specific projects and cash flows. Country risk exposure is reduced by export insurance (EDC) to a maximum of 85% (remaining 15% is divided among Bank B, the correspondent bank, and the customer). The Bank takes smaller pieces of its loans. The focus is on financing essential goods and services like electricity, and on projects that generate hard currency.

But there is an underlying similarity between the Bank's Latin American activities in the 1970s and today: they are based on a response to opportunity and market demand, *not* on any Latin American business strategy. The Latin American region coordinator is currently pushing for a coherent strategy, along with a commitment of resources to shore up the Bank's depleted expertise and capabilities in the region.

5.1.5 Changes in Policy

The Bank will not do balance of payments lending.

5.2 ENERGY LOAN LOSSES (1981- 1982)ⁱⁱⁱ

5.2.1 Background

Bank B had been lending to the energy sector since the 1950s, and by the 1970s had a well-developed methodology for evaluating companies and lending against their reserves. They calculated the revenue stream expected to flow from a company's reserve

assets, based on certain oil price assumptions, took the present value of the revenue stream, and lent some percentage of the net present value. Respondents differ in their recollections of the oil price forecasts being used in the 1970s, but are in agreement that they were very high relative to actual oil prices, but fairly modest compared to what many other participants in the market were using.

The Bank was active in oil and gas lending, because it had historically been a stable industry with very low loan losses, and was experiencing high oil prices and great demand for financing.

Like Bank A, Bank B's energy sector difficulties occurred in the early 1980s, after the introduction of the National Energy Policy in 1981. Its clients were not that badly hurt by the oil price drop in 1986 because by that time they were operating at very low levels of leverage.

During the downturn in the early 1980s, Bank B lost virtually no money in production loans. It had stuck fairly close to its normal lending methodology. Whereas Bank A had started to lend against riskier classes of reserves, the engineers at Bank B had not yielded to pressure from the line to do the same. Oil price forecasts were set and approved by credit people at head office so, although they were high, they were not astronomical. A number of respondents declared "we have never lost a cent on energy production loans".

Where the Bank did lose money was on loans to the drilling and service sectors. It also had some very large and high profile problems with specific companies. The Dome problems were particularly notorious, having caught the attention of the media and government. The Bank's exposure to Dome was over \$1 billion^{iv} (approximately 2/3 of the Bank's equity capital), and the company's CEO was a director of the Bank. Respondents were quick to point out, however, that the amount of money the Bank actually lost on Dome after the problems had been worked out was relatively small. They

were also consistent in differentiating between these loans, which they call ‘corporate’ loans, and ‘energy’ loans by which they meant production loans and in which they experienced virtually no losses. Corporate loans, they explained, were the ones that were not made based on the value of the underlying assets. Many of these loans were to finance acquisitions. The companies had diversified beyond oil production and into drilling or refining or distribution.

5.2.2 Reported Lessons

Reported as Organizational

- “We pay attention now to keeping assumptions sensible.”
- “We don’t throw away the rule book. We make sure we know the management of companies and how they will respond in a downturn.”
- “The industry has learned that it cannot operate at very high levels of leverage. Bank learning and industry learning reinforce each other. This is especially effective because the o&g community is geographically concentrated in a 10-block area in Calgary, so everyone knows everyone else and what each other is doing. Also these are mostly public companies, so if their leverage gets too high then the analysts and rating agencies will notice and their stock price will start to drop.”
- “The key lesson from Dome was the danger of large single-name concentrations. We had far too much exposure to Dome. Also it was an acquisition / corporate loan, not really an oil and gas loan.”

Reported as Personal

- “I learned that in resource lending, and oil & gas is no different, you have to focus on the underlying value of the asset. When the crunch comes, you get paid back from the assets, not the people (ie. the corporate structure).”

5.2.3 Changes in Structure

The distressed loans were moved into the Special Loans Unit (which had been formed in the early 1980s) to be worked out.

In 1985, all the oil & gas business was gathered into one location, staffed to a great extent by bankers with industry experience. Prior to this, a small group of people had made loans to major corporations in the energy sector, while most of the smaller loans were done out of the branches by people who dealt with companies across all sectors.

5.2.4 Changes in Strategy

In an exception to the pattern usually seen across all three banks after a sector-specific loan loss event, Bank B maintained quite a stable presence in the energy sector after its difficulties in the early 1980s. Its resources seem to have been more focused on working out the drilling and large concentration problems than on marketing, but the Bank did not withdraw from the sector as it had from Latin America.

It did stop lending for drilling rigs, although occasionally makes operating loans to well capitalized drilling companies.

5.2.5 Changes in Credit Process

No substantive changes were made to the credit process as a direct result of the energy loan losses. The process for evaluating and lending against producing companies is the same today as it was in the 1970s. Oil price forecasts are reviewed every 6 months and kept at the low end of competitive.

After the energy loan losses, the Bank reduced the lending authorities of local regional business heads. These authorities had been increased significantly in the late 1970s and early 1980s (eg. from \$500,000 to \$3 million, which was a lot of money at that time). It should be noted, however, that the reduction in lending authority was interpreted as a response to heavy loan losses throughout the Bank's portfolio, not to the energy losses specifically.

5.2.6 Changes in Risk Management

One executive tells the story of a change in risk management which was apparently supposed to happen but didn't. "*<A document dated 1982>* mentioned the establishment of limits for individual companies and groups of related companies. That's the first reference I can find, but I can't find an amount. And nobody that I know of remembers either a limit or an amount. If there were limits, I don't think that anybody paid attention to them. I don't really think there were any -- we introduced limits in 1991 or 1992 for that purpose."

5.2.7 Changes in Policy

No changes were made to policy in the period immediately following the energy losses, even regarding lending for drilling rigs. One executive explains why not. "When I mentioned 'the rule book', it is not a physical rule book. It is a set of understandings about how to make loans to the industry. I don't write down 'we don't do loans for rigs' because if it were a good client and a sensible deal, we might. It is easy to transfer knowledge, even without written policies. The 45 of us who do loans to the energy

industry are all on one floor. We all know what each other is doing, and I see every deal we do. For real estate lending we have to write down policies, because we need to communicate them to far-flung branches and monitor how the rules are followed. Not here.”

It should be noted, however, that the establishment of single name and industry concentration limits in 1993 was seen as a reflection, in part, of the lessons learned in the energy sector.

5.3 REAL ESTATE LOAN LOSSES (1991-92)¹

5.3.1 Background

In 1981, the decision was made to bring together all of the Bank’s corporate and public real estate business under one roof. Until that time, real estate lending had been done in the branches, with a branch manager approving a real estate deal one day and a loan to an automobile dealership the next. But the demands of real estate companies were changing: the transactions were becoming bigger and more complicated, the geographic scope of projects brought to the bank was broadening. So it was felt that there was a need to consolidate the Bank’s real estate expertise, and focus it on real estate transactions. An experienced real estate professional was brought in to grow and manage the new real estate unit.

During the 1980s, the Bank’s real estate business flourished. Account managers were rewarded on the basis of asset growth and ROA, with no adjustment to reflect risk. Because real estate offered returns which were much higher than those available in corporate lending, Bank B bankers and their competitors chased after real estate business.

In many respects, the story told in this Bank about the overheated real estate market and the types of deals that were being done is consistent with those told in the other banks, particularly Bank A. Where the Bank had historically made construction loans, which were then paid off when the building was completed and an insurance company or pension fund took out a mortgage on the building, it started lending without the takeout provision already in place. It might have done a 3 year construction loan and then added on a 5 year 'mini-permanent'. It made loans on raw land. It took very large pieces of loans (maybe half or all of a \$200 million building) because the spreads were so good.

While credit principles and accepted formulas did exist around real estate lending, these tended to be informal. They were not written down as policies. Such of these as were written down in the Bank's Methods of Operations manuals were not considered relevant or comprehensive enough to be much of a guide, and seem to have been largely ignored. There is some disagreement as to whether or not the Bank adhered to its commonly understood (but not written down) real estate credit principles (the extended term financing noted above would suggest that it did not). In any case, there were no formalized policies in place, and therefore no process for flagging and dealing with exceptions to policy. Furthermore, the principles did not include either single name or industry lending limits.

As at Bank A, Bank B respondents reported feeling pressure from top management to do certain loans. A number of respondents recalled that loans which they felt were not good ones were made 'for political reasons'. Some large, high profile loans were committed to at the top of the bank, and sent down to the line for the paperwork to be done. In other cases, when line people reported that clients did not have the assets necessary to pledge as security for liquidity lines, management told them to "take whatever they have, these are good clients and they need the money". Ironically, around this time, an article by the Bank's CEO appeared in an industry magazine, blaming 'poor corporate governance' for every major loan sectoral loan loss event in the prior 20 years,

and castigating directors and senior management for their unwillingness to take leadership and ensure proper discipline^{vi}.

In one important way, however, Bank B's real estate experience was like that of Bank C and very different from Bank A. As early as 1989, Bank B real estate lenders were predicting a downturn in the industry. One respondent recalls that the market had become frenzied, with long-time customers announcing that they were 'shopping' deals, banks bidding wildly on them, and traditional underwriting criteria being ignored. One respondent who was in a position of some responsibility recalls, "I told my boss 'we're going to have a difficult time meeting our targets, but I'm not going to compete in this frenzy'". Bank B started structuring deals more tightly, demanding more equity and more presales. A respondent remembers losing four deals in a one week period in the fall of 1989, and points to that as when the bank effectively pulled back from the real estate business. It should be noted that this was not a complete withdrawal: they continued to lend to house builders and provide interim financing, and they continued to "make exceptions and do corporate loans for clients who had been with us a long time". Overall, however, relatively little real estate lending was done after 1989.

In 1990-91, the Bank's real estate lending business underwent a major structural change. A senior risk management executive was asked to pull together all of the Bank's real estate exposure 'under one roof' and manage the business. Although corporate real estate lending had been consolidated in 1981, commercial real estate lending continued to take place independently in the branches. The bank also had a US real estate arm, and real estate loans being made in Europe and Asia. A number of factors were cited as possible contributors to the decision to consolidate: concerns about weakness in the real estate market being expressed by the line and by Moody's rating agency; the bank's massive real estate exposure (estimated at up to \$11 billion); and the feeling that while they knew the exposure was huge, they didn't know what it was.

After the restructuring, the Bank was left with: a real estate office in Chicago (with branch offices in New York and Los Angeles); two Toronto-based mid-market operations (down from 18 commercial banking centres doing real estate loans) and a large corporate operation; and an office in Vancouver. The main real estate operation was at the bank's headquarters in Toronto. Asia and Europe were left alone.

For Bank B, the real estate downturn began with O&Y's well-publicized difficulties in the fall of 1991. It experienced losses throughout its portfolio, but respondents described being particularly hard-hit on land loans and 'corporate loans'. Corporate loans were those to major real estate developers (especially public companies, but also large private companies) which were made, not on the basis of a specific project's fundamentals, but on the assumption that the company was strong enough to provide a solid guarantee¹. The amount of analysis performed on the companies varied, especially when the client was a public company with a fairly strong debt rating. It should be noted that getting major companies to disclose the information which the Bank might have wanted was not an easy job. Large international companies might have 70-100 bankers calling on them. As one respondent explains, if one bank starts asking for more information than the firm wants to disclose, the firm just says "Good-bye, next bank". The varying amounts of due diligence, and the perception that a bank which pushed for adequate disclosure would be excluded from deals, meant that some loans were done on a 'corporate' basis to firms which were not as strong as they appeared (although this was not always the case).

The Bank's highest profile real estate problem was O&Y. Bank B was the firm's lead bank, and had exposure to it estimated at over \$1 billion^{vii}. In many respects, O&Y is not considered to reflect 'normal' real estate lending practices: it was a corporate loan; it was so big and important that it was brought in at the most senior levels in the Bank,

¹ Recall that this was also how respondents described the loans to Dome and a few similar energy companies, compared to 'normal' energy loans.

beyond the scope of account management; and, as was the case with Dome, the CEO of O&Y was on the Bank's Board of Directors.

5.3.2 Reported Lessons

- “One of my learnings was that although I said ‘No’ to a client on one thing another bank often said ‘Yes’, which weakened the client company overall. So any obligations that you had, which may have been well-founded at the time you made them, became riskier as the overall corporate structure was undermined. This means you have to know the total exposure. You have to monitor the entire relationship, not just the projects you have financed. We probably didn’t understand our clients’ balance sheets as well as we should have.”
- “You have to recognize that real estate is a cyclical industry. Trees don’t grow to the sky. We refused to participate in plenty of deals because we thought they were structured poorly and knew that the market would turn down eventually.”
- “We are not term lenders. If you make an 8 year commitment then the loan is going to get caught in the next downturn. On the other hand, we are a tremendous residential lender, we had next to no loan losses there. And we are a fairly good interim construction lender. But when we try to become a medium term lender then we are going beyond our sphere of expertise and opening ourselves up to risk that we shouldn’t be facing.”
- “You’ve got to be careful about who you are dealing with, the management style of the client company. Are they expansionists? Are they growing too fast and doing too much? This is especially a problem for publicly owned companies.”
- “When you try getting into areas that are further away geographically, they are much more difficult to manage. You don’t understand the market as well as the local

players. You have to hire somebody to represent your interests and then you feel bound to do what they recommend. Companies end up buying properties at hugely inflated values.”

- “One more lesson, and it’s my view only, is when you are dealing with real estate, don’t ever take into account a government guarantee. Don’t ever expect that the government will deliver what it says. Look at Canary Wharf, look at Toronto Airport.”
- “You have to pay as much attention to how to get the money *back* as how to get it out the door. We never asked how we were going to get repaid, and that’s pretty fundamental in the banking business!”
- “We were not looking at real cash flows. Real estate companies capitalize a lot of expenses, which we were missing in our cash flow calculations because they were capitalized. You have to understand the cash flows.”
- “We learned that inferior asset quality will punish you in terms of loan losses, and we cannot afford that.”
- “If a project does not make sense, we should not be doing it on the basis of covenants or sponsorship (from senior management) or whatever. The project has to make sense.”
- “One thing we did learn and are applying is about concentrations. You probably heard the same thing at <Bank A> because they told me they had done a study that told them that, above all else, concentration issues caused the problems. We had two concentration issues in real estate: single name concentration problems, and a portfolio or industry concentration problem. We had thought that because our

portfolio was geographically spread out, we were properly diversified. We learned that this was not the case.”

- “We also learned, again, the dangers of speculative lending. This gets back to the \$85 oil price we used in the early 1980s. All our real estate projections went in one direction only: up.”
- “I think the biggest lesson we learned was discipline. Today our guidelines and lending philosophy are properly and precisely set out in manuals. And I don’t think we trained people as well in specific areas as we do today.”
- “We realized that we were moving people around too much. People moved every 9 months, it was like a pregnancy. We’ve learned that you have got to have product and industry expertise, and to get that you need stability. If you are always in a state of flux, you will never have that consistency of approach.”
- “There were guidelines for real estate, but what was appropriate in the 1980s is not appropriate in the 1990s. We have dissected lending in this industry and have learned what is appropriate in terms of ratios, valuing properties, and how much to lend against specific products. And we have a clear definitive direction we want to go in with our real estate lending.”

5.3.3 Changes in Structure

While many real estate loans were transferred into the Special Loans Unit, many more were worked out in the large corporate business line unit. While there was still hope for a company, they tried to keep it in the line unit.

In 1992 or 1993, the newly merged real estate group was split again, with the large corporate business becoming part of what would become the corporate and

investment bank, and the commercial and domestic business becoming part of the retail bank. Since the executive with responsibility for real estate was still trying to get control of, and reduce the size of the real estate portfolio, it was decided that both sides would continue to report to him, and then he in turn would report into the retail bank and also the corporate and investment bank.

5.3.4 Changes in Strategy

Respondents at Bank B are emphatic that they never completely got out of lending to real estate. For awhile, their resources (both in the workout unit and the line) were concentrated on getting back the money they had lent as opposed to lending more. And the real estate group had a very clear mandate to reduce its exposure dramatically, so the amount of new business it was willing to do was extremely limited. But the decision, when it was made, was to withdraw from certain real estate businesses, not to withdraw from real estate lending overall.

In 1993-94 the Bank segregated the real estate portfolio into a high-risk book and a normal business book. The Bank followed separate business and client strategies in the management of these books.

At the time of this research, the Bank would not lend to finance the acquisition of land. It did, however, lend for projects that would create value on a property. It did not do long-term lending except through its mortgage company. It did not do unsecured or non-recourse lending, or speculative lending. It did not do 100% financing. Instead, it focused on the construction business, particularly on residential in Canada and construction financing for large corporate clients. It focused on the clients it had targeted for ongoing business, and avoided one-off transactions with other companies because these used up precious 'availability' under the Bank's new industry concentration limits (discussed in Rethinking Credit Process section).

Participants agreed that the Bank's willingness to remain in certain real estate businesses gave it a competitive advantage compared to banks that withdrew indiscriminately. Having decided that this was ongoing business, the Bank was able to nurture relationships with clients through this difficult time instead of severing them. It was also more careful about preserving and growing its real estate experience, through keeping its real estate people, and developing them through exposure to the workout process.

Respondents noted that, at the time of the interviews, the real estate market was heating up again, particularly in the US. The market is experiencing a period of liquidity, as new players entered including pension funds, banks and other financial institutions. Already, pricing and underwriting parameters were starting to change. Bank B's position was "we are prepared to compete on price if the risk and structure are acceptable, but we refuse to compete on structure".

Overall, there continued to be a concentrated focus on quality. In the wake of the real estate crash, the bank wrote off \$2 billion. As the executive with responsibility for the real estate portfolio told his unit at a conference a few years ago, "<Bank B>, in its history, has *never made one cent* in real estate lending". (Interestingly, Bank C reached approximately the same conclusion.) Management is hoping that the focus on asset quality, combined with the greater emphasis on investment banking business that can be done in real estate (eg. advisory work, securitization), will result in a more profitable business.

5.3.5 Changes in Credit Process

In 1991, months before O&Y's demise, a banker who had been at the Bank for almost 20 years, but had no real estate experience, was brought in to manage the Canadian large corporate accounts. With no real estate knowledge and the need to deal with a major problem, this individual asked questions about things that experienced real

estate lenders had been taking for granted. This led to a fundamental reassessment of the assumptions that had underpinned real estate lending. The questioning of assumptions led to changes in the credit process as applied to real estate. The large corporate real estate department developed a new client / account evaluation model which was based on *real* cash flows. Computer software the Bank had been using for valuing properties was ripped apart so its underlying assumptions could be identified, and rebuilt to reflect the lessons being learned during the workout. A key one was that models had to be constructed without inflationary projections in order to reflect fundamental values. As the group scrutinized its underlying assumptions, it also built a new set of shared ones. It turned out everyone had been doing certain calculations differently, and this process brought everybody onto the 'same page'.

The new leader was also meticulous about reviewing loan documentation, an area in which the real estate loans had been very weak. Every term sheet was reviewed before it was documented, and every loan document was reviewed before it was signed. (A deal can apparently change fundamentally during documentation.) Instead of focusing on how the money gets out the door ("They know how to do that!"), attention was shifted to how it would be collected.

In addition, account managers started learning to monitor the client relationship, not just the specific projects the bank had financed. Because this involves more disclosure on the part of the client, it met with strong resistance. One respondent explains "We've changed the rules on the clients and they don't like it -- this has been very much an educational process: educating the banker about what to ask; explaining why we have to ask; and earning the right to be able to ask the client for the information".

The Bank has also become stricter about the external appraisers it uses, and the standards they have to meet. A list of qualified appraisers who meet the Bank's standards is in place.

5.3.6 Changes in Policy

When the real estate group was consolidated in 1991, its members began to talk about creating a real estate policy manual. The policies as they stood at the time of the interviews were determined in 1994, and then rolled out in 1995 and 1996. One respondent described these policies as “very stringent, very detailed, very objective”. Another concurred that “They were put in during our toughest times, it’s difficult for our line people because the standards are so tight”. The time it took to put the new rules in place means that not only were they different from the principles which guided lending in the 1980s, they were also different from what they were when the group first started talking about them. It should be noted that not all of the policies were new. Some were part of the original lending principles (eg. the rules around residential lending), and were just formalized in the policy manual.

The group involved in putting the real estate policy manual together included people from Risk Management, the corporate and commercial real estate units, and Bank B Mortgage Corp. Respondents emphasize that “this was not a Risk Management initiative, it was a bank initiative with full support from the line”.

With the stringent new policies came an exception process to deal with the transactions that did not fit within policy. In addition to being highlighted for credit officers’ attention, exceptions were also brought to the Real Estate Board, a group of 5 senior line people from across the country in the real estate unit. The Real Estate Board met by conference call once a week. It was the ‘owner’s’ responsibility to raise any transactions that were being put forward as exceptions, so that the Board could discuss it. As one member explained, “We have made a pact among ourselves that there are to be no surprises. We don’t just want to rely on risk management for quality control. If risk management is happy with a transaction that is an exception, we will likely go along with it, but we want to recognize and discuss it. Why are we doing this deal? What are the underlying reasons?”

It also seems that fewer transactions managed to bypass the credit process. Several respondents have noted that, while pressure from top management to do a particular deal still happened from time to time, it was far less frequent than it was prior to 1991.

5.4 RETHINKING THE CREDIT PROCESS AND RISK MANAGEMENT (1987-96)^{viii}

5.4.1 Background

Prior to 1991, Bank B's commercial and corporate credit process worked as follows. Commercial loans up to \$1-2 million were approved by business unit managers in the banking centres, each with their own lending authorities. Branch managers were under the influence of regional business heads. Commercial loans up to \$10-15 million were approved by regional credit people. The credit people were not, however independent. They reported to (and received performance reviews and salary increases from) the regional business heads, who had the authority to over-rule credit decisions. Commercial and corporate loans over \$10-15 million were approved at head office by a group of professional credit people who reported to the head of the Corporate Bank. Then there were the very large deals, brought in and championed through the credit decision process by top management, based on high-level relationships.

The LDC and energy sector loans had not been the Bank's only losses in the early 1980s. The recession had caused heavy losses throughout the commercial and corporate loan portfolios. For a five year period, until about 1987, the Bank's focus was on "fighting the fires that were burning so brightly on our own desks". Then in 1987, the Chairman appointed a task force comprised mainly of workout people to answer the question "What have we learned over the past five years?". The task force interviewed a

variety of people involved in the lending process, and documented their own experiences. In addition to answering the “What have we learned?” question, they tried to understand how the lending process was followed, and how the organization’s political structure was experienced and reacted to. As one participant put it, “Was the organization serving us politically? Structurally? Were we safe from ourselves?”

The task force found that there was room for considerable improvement in the Bank’s approach to managing credit risk, and a number of initiatives ensued. On the commercial side, the Credit Management Project was formed to implement the recommendations of the task force. In 1988 it established a risk rating system for commercial credits. In 1990, it installed an expert system for commercial lending to support risk rating decisions, which was considered to be years ahead of its time.

The task force and Credit Management Project set the stage for the major changes in the Bank’s credit process and risk management techniques which were to take place in the 1991-96 period. Through these early initiatives, Bank B management had begun to scrutinize the Bank’s processes with a view to improving them. However, the more profound changes did not take place until later. Respondents suggest that the heavy real estate loan losses in 1991-92 were a catalyst for change. They also cite a number of external factors which forced the bank to make significant changes in the early 1990s, including the new CDIC requirements introduced in 1994 which demanded very specific risk management standards from Canadian banks in order for them to get deposit insurance, and the intensified scrutiny of banks from research analysts, regulatory agencies, rating agencies, the government, and the public.

5.4.2 Changes in Structure

In 1988-89, in the head office credit department, a few people who had seen the types of deals being approved under the regional limits, and felt the pressure from the business line to approve deals they felt were ill advised, proposed that the credit function

across the bank be consolidated into an independent unit reporting directly to the Chairman. When this idea was proposed at a management conference, it was greeted with friendly derision and ignored. However, a few credit / risk management people continued to push for the separation of line and credit, and compiled information to support their case. They found that, contrary to popular internal and external perception, it was *not* the huge loans to a few high-profile companies going bad which caused the Bank's below-average credit performance. While these problems were material, they were far from isolated. Loan losses were an issue throughout the Bank's corporate and commercial portfolios. However, they found that the category of loans with the lowest losses was the >\$15 million which went through the Bank's credit process and were approved by relatively independent credit people.

Shortly thereafter a consulting firm was brought in to do some work in the corporate bank, which included examining its loan loss experience. The consulting firm reported that 'best practices' banks like J P Morgan and Wachovia had split up their line and credit functions. In 1991, an experienced banker who, at the time of this research, was the EVP Risk Management and senior credit officer, was asked to develop recommendations based on the analysis which had been done. He designed and began to implement a series of changes to the risk management function and credit risk management in particular. Central to these changes was the consolidation of credit and other risk management activities into an independent Risk Management function reporting directly to the Chairman. This change was announced in 1992 shortly after the appointment of a new Chairman. At this time also, the 4 SBUs were streamlined into two: the corporate and investment bank, and the retail bank.

5.4.3 Changes in Credit Process

When the credit function was consolidated, all credit approval authority (with specific exceptions for very senior officers) above \$250,000 was taken out of the business line and given to credit. All credit approvers became part of Head Office Credit in terms

of reporting structure, although, at the time of the research, the bank still had physical credit rooms across Canada, plus in London, Singapore, New York and the West Indies.

So under the new credit process, at the branch level, business line people could make their own decisions up to a limit which varied for each individual, up to a maximum of \$250,000 per borrower. These transactions were reviewed by local credit people. At the next level up, local credit rooms were run by regional credit heads, whose lending authorities varied to a maximum of \$15 million, depending on individual abilities and local market needs. Within these limits, there are some accounts (eg. the largest ones) which have to be approved by a committee.

Anything over a specified amount (\$15 million for domestic regions, much higher for the U.S., depending on individual qualifications and risk rating) came in to the head office credit department, where it went to industry specialized approving officers at the VP through to EVP levels (e.g. forest products, mining, manufacturing, oil & gas). If it were in real estate, then it would go to a group of people who specialize in real estate. The limits of these individuals varied up to \$100 million, or US\$70 million.

At the time of this research, credits over \$100 million were approved by the Senior Credit Committee, which was mainly comprised of experienced credit people with some line representation. It was chaired by the senior risk management executive, and members included the three senior head office credit executives, two senior market risk management people, the heads of credit from Europe and the US, the Chief Economist, and the head of the corporate and investment bank's corporate and investment grade debt business line. The credit's strengths and weaknesses / risks were presented to the committee by the industry specialist (ie. by credit, as opposed to the business line as was occasionally done prior to the reorganization), who has already analyzed and typically supported the deal.

If a credit was declined at any stage in the process, it was sent up to the next level for confirmation. And if it were going to be declined or changed materially, the credit person would call the line person before sending the reply to explain credit's position.

There is one element of the new credit process which, at the time of the interviews, its architect felt had not yet been addressed properly. Many of the people in the credit approval function have been there for a long period of time. Traditionally, these positions were seen by employees as the last stop before retirement. While much had changed in terms of process, structures and policies, the people have remained the same except for a few 'symbolic', high-level additions. A number of executives believed that making the risk management / credit approval function a legitimate part of high-potential employees' career path rotations was essential to keeping the function up-to-date and relevant. It would also give business line people a better appreciation of risk management, and it would work against the natural tendency of these two groups to become polarized into the people who say 'yes' and the people who say 'no'. Although this was held to be a good idea, it had not been widely implemented. Some rotation had been undertaken, but the fear of becoming 'trapped' in risk management and becoming unwanted on the line seemed to act as a deterrent for many potential candidates.

5.4.4 Changes in Risk Management

In 1992, senior executives identified risk management as one of the Bank's five key performance drivers. In recognition of this, and as part of the consolidation of the independent risk management function, a number of changes were also made in risk management techniques. A Credit and Investment Policy Committee was formed in early 1993 to focus on credit risk issues.

The risk management function was specialized by industry line, geographic market and type of client. There was also some specialization by product (eg. for derivatives). Having recognized the need for specialization in both line and risk

management areas, there was also an effort made in the Bank to promote stability in these groups. By staying in one position longer, people were thought to be better able to develop expertise and make consistent decisions over time.

The Bank also started to apply a more portfolio-based approach to its loans. Single name and industry concentration limits were put in place in 1993. Single name concentration limits were (inversely) tied to risk ratings, and these were reviewed quarterly at the highest level in the Bank. In addition to setting targets and benchmarks, Risk Management publicized them both internally and externally. So the Bank has created expectations against which it would be evaluated by rating agencies, investment analysts and regulators, increasing the accountability of people in positions of responsibility.

In 1994, the CDIC mandated a self-appraisal process whereby any bank wanting deposit insurance had to perform a self-assessment of eight key areas including its market risk, credit risk, liquidity, capital adequacy, and portfolio concentrations. This process represents an in-depth review of all parts of the bank. Each of the eight sections must be signed off by the senior officers responsible for them, as well as the Chairman. One respondent notes, "It has turned out to be one of the best things that has happened for this bank. Because people had to put their name on the bottom line, they really had to investigate the business. It also meant we had to look at our controls and procedures and policies in a much more definitive fashion than we did before. In fact, we started a Policies and Procedures project to look at how we were doing policies and tighten up the process."

At the time of the interviews, people in the Bank's Risk Management group were working towards a more sophisticated approach to portfolio management. One current initiative was the risk-adjusted return on capital (RAROC) project, which was being managed out of the market risk area with the involvement of the credit risk people. The objective of this project was to recast Bank B's management accounting systems on a

more economic basis, so it could attribute economic capital (as opposed to book capital or regulatory capital) against risk. So for a given transaction, the Bank wanted to be able to measure its associated risk and allocate the appropriate amount of capital against that transaction.

A second project involved developing an equivalent measure of performance which could be used across all of the Bank's businesses, so management could see the normalized rate of losses given a particular risk level. Bank losses tend to come altogether when the economy turns down. The Bank was trying to reflect the future losses incurred through doing business in its management accounting systems, thus allocating the losses more smoothly across years. The ability to measure normalized losses, and allocate capital to them, was expected to allow the Bank to start optimizing its portfolio of businesses.

In the future, the Bank also wanted to be able to correlate performance across industries or transactions, so that portfolio theory's concepts of diversification and covariance management could be applied. Overall, Bank B was several years behind Bank C in its portfolio management techniques, but it was attempting to apply them to its entire range of businesses whereas Bank C applied them primarily in the large corporate lending business.

As the Bank moved away from holding large pieces of loans (tied to concentration limits), it greatly strengthened its syndication and capital markets capabilities so that it could sell down loans in the marketplace. While all three banks reported moving in this direction, Bank B seemed to have made the most progress, supporting this capability both strategically and structurally. Structurally, the Bank's corporate and investment banking businesses have been combined, making it easier for bankers to access capital markets expertise and information. Strategically, the Corporate and Investment Bank had adopted a 'liquid credit' strategy. The rationale was that credit risk is capital intensive, so the Bank does not want a lot of it on its books. It can make a much higher return on the

assets in its portfolio by originating the transaction, structuring it, underwriting it, syndicating it, selling it down, and keeping a little piece – and skimming off fee income at each step. The Bank’s ultimate objective was to have its loan portfolio be as liquid as a bond portfolio.

Respondents noted that structuring a loan which had to be sold down imposed a new level and type of discipline on pricing and structure. Syndication and capital markets specialists were involved while loans were still being negotiated, giving information on what the market required in terms of structure and returns. If a loan’s risk-return relationship is poor enough that it is unattractive in the marketplace, then it also sends a strong signal that the bank probably does not want to do the deal and then have to hold it.

5.4.5 Changes in Policy

One of the things which had been identified as a problem was the absence of relevant policies to guide the Bank’s lending activities. Bank B had a set of Methods of Operations manuals which had been added to on a piecemeal basis over the years (some sections dated back to the 1950s). The guidelines in these manuals were not followed with any particular rigour, because they did not adequately address the Bank’s lending businesses and were “far from fresh”. The risk management function replaced them with a new and more dynamic set of lending policies. The new portfolio management approach was also embedded in policy, as concentration limits and hold limits.

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- i This section is based on interviews: B-2, B-7, B-9, B-11, B-24
- ii The \$4 billion number is the bank's 1983 foreign currency assets in middle and low income developing countries, calculated from 1983 annual report. Exposure in Latin America and the Caribbean was \$3.4 billion. The \$2.2 billion number is from the Globe and Mail, 18 January 1990 – should also be available from annual reports.
- iii This section is based on interviews with: B-2, B-5, B-10, B-13, B-14, B-18
- iv In 1987, the Bank's exposure to Dome was \$902 million (from CEO's address at 1987 annual meeting, also Globe & Mail, 24 April 1992).
- v This section is based on interviews: B-1, B-2, B-5, B-6, B-8, B-14, B-19, B-21, B-23
- vi B-document-95
- vii Globe & Mail, 22 January 1993
- viii This section is based on interviews with: B-5, B-9, B-11, B-12, B-14, B-15, B-16

CHAPTER 6

BANK C STORY

6.1 LDC LOAN LOSSES (1982)ⁱ

6.1.1 Background

The context for Bank C's LDC lending was the same as for Bank A and Bank B. The late 1970s was a period when size was an important measure for evaluating banks, and asset growth was a high priority. Size was considered critical to being perceived as a 'major player', and bankers believed it enabled them to compete in other businesses. The banks were experiencing a great build-up in liquidity as deposits came in from oil-rich nations. At the same time, the oil shocks had dramatically decreased the demand for money in industrialized countries, and caused their governments to reduce the money available to finance governments in developing countries. The 'recycling' of petrodollars into sovereign loans to developing countries was encouraged by governments, as well as representing an attractive opportunity to reduce liquidity and significantly grow assets, while earning high interest rates and large fees from underwriting and syndication.

Every respondent quoted Walter Wriston's "governments don't fail" comment to support the point that the Bank had not really considered the risks associated with this kind of lending. The only rules the Bank had pertaining to concentration or diversification were its country limits, and these were increased as they were reached. It was also more difficult to assess a country's riskiness than it is today. Countries provided the IMF with long-term financial information, but did not provide information on short-term assets or liabilities. The Bank for International Settlements did not exist. Countries would borrow significant sums through syndicated credits, but then would also go into the markets and borrow 3-, 6-, and 12-month money which was never reported. So the banks never knew how much total debt the countries had outstanding.

Bank C's LDC experience differed from those of Banks A and B along two dimensions. Firstly, Bank C had a very strong syndication department, which was the engine driving much of its sovereign lending business. It ranked among the top three banks in the global syndication tables for three consecutive years. The desire to rank highly in the league tables was a strong motivator. One participant recalls, "being #1 in the league tables looked wonderful and felt very good -- we would fight like dogs for these deals".

The second difference was that Bank C's lending was fairly concentrated in a few Latin American countries, particularly in Mexico where it had a well established office. Through this office, Bank C was also an active lender to the private sector. Private sector lending comprised approximately \$350-400 million of a \$1 billion Mexican book. When the defaults started, Bank C chose to swap its private sector debt into government debt, still on the assumption that governments didn't fail. This was the subject of arguments within the Bank, as the line people in Mexico wanted to keep the private sector debt, work with their clients, and maintain relationships.

There is some suggestion that prior to 1982, the Bank's normal credit practices were not rigorously applied to its international businesses. One banker who taught credit courses in 1980 recalls that when international bankers filled out questionnaires at the end of the course evaluating its usefulness, the following response was common: "This was not practical for me because I am in international banking. We cannot get the same covenants as you can in Canada and the US because companies won't give them." He goes on to note that since 1982, the Bank's normal credit practices have in fact been applied very successfully outside of North America.

When Mexico defaulted in 1982 followed by most of Latin America, Bank C's LDC portfolio was approximately \$5-6 billion (over 10% of total assets), of which \$4.5 billion was in Latin America. Faced with a succession of defaulting countries, the banks

with the heaviest exposures joined forces to deal with the problem. It was immediately apparent that, in addition to not knowing what to do about it, the banks had no real information on the dimensions of the problem itself. How much debt was outstanding, and with what terms? Who held it? What had gone wrong? What needed to be done?

For several years, the bank groups and debtor countries bumped through a series of debt reschedulings. Although Bank C had ceased virtually all further voluntary lending to these countries, the reschedulings typically involved the banks extending additional credit on what they described as an involuntary basis. These reschedulings and additional credit allowed the countries to make interest payments on their debt, although their benefits never seemed to last for long. A country's debt was typically rescheduled on an annual basis during the 1982-87 period. Because it continued to be serviced, banks did not have to recognize losses on the debt, although general loss provisions were established and increased during this period.

By the mid- to late-1980s it had become apparent to all concerned that rescheduling LDC debt was a "band-aid" solution to a problem that was not going to disappear. In 1987, banks converted what was left of their LDC debt portfolios into securities known as Brady Bonds. Under this scheme, banks wrote down some portion of the value of their LDC loans (eg. Mexican debt was written down by 35%), visibly incurring significant losses in this business. They had the choice of converting the remainder of the amount into par or discount bonds, at fixed or floating interest rates, and were given guarantees for the remaining principal.

6.1.2 Reported Lessons

When asked what caused the LDC loan losses, and what the bank learned from them, participants tell quite a consistent story. (It should be noted that the participants who were identifiable and available for interviews were all involved in working out the loans.) Every respondent noted that the bank had entered the business under flawed

assumptions, encapsulated in then-Citibank Chairman Walter Wriston's assertion that the "governments don't fail". Furthermore, the bank did not sufficiently understand the economic fundamentals of the business.

Participants in the workout commonly described Bank C as having learned the following lessons:

- Question your assumptions.
- Lend as close as possible to the underlying, cash generating transaction or project.
- When evaluating the sovereign entity's ability to pay back a loan, look at both cash flow generating ability, and the ability to make payments in \$ (ie. the hard currency generating capacity).
- Part of what the LDC workout unit learned from the workout experience was that no money had been lost on self-liquidating trade financings, where the bank financed a specific underlying transaction. At the recommendation of the LDC workout unit, trade financing lines remained open.

In addition, there were some more personal observations:

- "Another thing we have learned since that time, and it is a worry for our risk management people, is that there are cycles of management. There are not many of us left in the Bank who remember the LDC crisis, what we went through, why it happened. Now, markets are reopening, and we are all rushing out again to participate in the global market. People forget what happened last time because the context is no longer there."

6.1.3 Changes in Structure

During the 1982-85 period, the LDC loans continued to be handled by their respective account managers. Then, a series of organizational changes resulted in the eventual formation of the LDC workout unit in 1985, the LDC loans and those responsible for their workout were consolidated into a separate unit within the bank. The LDC workout unit reported to a special Committee, composed of the Bank's top five executives. Within the LDC workout unit, accounts continued to be managed at three levels: public sector (sovereign and quasi-sovereign debt); correspondent bank; and private sector (non-bank financial institutions and corporate debt).

Some key people in the LDC workout were drawn from the Latin American offices; others were brought in from elsewhere in the bank. The individual who led the workout had been at Bank C for a number of years in project finance. While several key people from the Latin American offices were retained to work out the loans, the others either left or dispersed within the bank. In particular, those with careers as 'international bankers' tended to leave, as did most of the loan syndication department which had been the engine behind the bank's dominance in that business. (Despite the asset size, the LDC loans had been booked by quite a small group of people, perhaps 60 maximum, including representative offices – non-branch business development offices – in Brazil and Mexico.)

The LDC workout unit was not a permanent structure. As the LDC workout task wound down, so did the unit. In the summer of 1996, only one person remained in the group, trading the Brady Bond portfolio. Responsibility for Latin American countries has been moved out of the LDC workout unit and back onto the business line.

6.1.4 Changes in Strategy

By 1984-85, the Bank had pulled out of Latin America and Asia. It ceased virtually all voluntary lending to countries which had defaulted. Specifically, it no longer engaged in balance of payments lending, and severely restricted all term lending. However the LDC workout unit and trade finance people persuaded management to keep trade lines open. This reflected the finding that the Bank had not lost money on trade financing, which was tied to specific underlying transactions. Whereas Bank C had, in the early 1980s, considered itself to be an international bank, by the late 1980s, it had redefined itself as a North American bank with international interests.

It is only in recent years that the bank has started to get back into Latin America and other developing countries. It targeted Latin America, and especially Mexico, as being of strategic importance, and purchased an equity stake in a Mexican bank. It also began to explore project financing opportunities in these markets.

Re-entry into these markets came slowly. It was driven largely by the demands of existing North American clients as they expanded in these countries, and in turn by the line personnel who saw the business opportunities. Also instrumental were senior people in what had been the LDC workout unit, who were viewed as providing 'objective' guidance as to the desirability of these opportunities. But according to the people leading the way back into developing country markets, each step forward represented a hard-won battle against resistance from elsewhere in the bank, most notably the risk management function.

The Bank focused on transactions that benefited existing North American client companies. Along with the country limits, this guideline was meant to prevent loans being made indiscriminately.

At the time of the interviews, the Bank did not make balance of payment loans. Credit was to be granted only where there was a clear underlying, cash generating transaction or commercial entity.

6.1.5 Changes in Risk Management

Credit was extended subject to strictly monitored country limits. Whereas in the late 1970s, country limits were raised as they were reached, at the time of the research they were treated as a scarce commodity and raised only if a compelling business case was made and approved by the head of Risk Management. Country limits were established with a specific business purpose in mind (types of business the Bank will want to do, customers it will need to have), and required the backing of the economics department.

The Bank became more rigorous in its attempts to know and understand the countries in which it did business. The Bank's international business was restructured around teams dedicated to their respective countries. These teams' mandate was to become very familiar with the country, its people, regulatory requirements, and other issues, so they could make informed decisions about the indigenous companies they wanted to deal with. Respondents also pointed to a better economics department, the information flow enhanced by the office and equity investment in Mexico, and the fact that both Mexico and the Mexico and Latin America Division were being headed by people with extensive experience in Latin America and / or in working out the LDC loans. Nevertheless, one respondent on the front line expressed a concern that the bank's understanding of the political and economic risks in many of the other countries was seriously lacking. As he and other respondents noted, when the bank pulled out of developing markets in the 1980s, it lost most of its international knowledge and expertise through personnel turnover and disuse. As a result, it was building capabilities in international risk assessment and loan syndication from the ground up.

6.1.6 Changes in Policy

A corporate policy was issued which remains in place today, prohibiting all balance of payments lending (ie. lending without an underlying commercial transaction) and severely restricting other forms of lending to these countries.

6.2 INTRODUCTION OF DUAL PROCESS (1983)ⁱⁱ

6.2.1 Background

In addition to the LDC defaults in 1982, the bank suffered a major shock in its mid-market (commercial) domestic portfolio. The bank had been aggressively pursuing growth in this market segment, with inadequate attention to the risks. The recession triggered unprecedented loan losses across all major Canadian geographic regions and industry sectors. Provisions for loan losses in 1982 and 1983 totalled \$1.1 billion, of which \$733 million were for domestic lossesⁱⁱⁱ.

6.2.2 Changes in Structure

At the time, the Bank did not have a group dedicated to working out problem loans. Initially, it relied on branch managers and account managers to work with the distressed accounts. When it became apparent that the problems were beyond the scope of the people in the field, the Credit Department also became involved, advising both account managers and clients. The Credit Department had to grow to cope with increasing demands, and many people were working full-time on distressed accounts. This was the birth of the workout unit (a general workout unit, not the LDC-specific unit), which has worked out the Bank's distressed loans since that time.

6.2.3 Changes in Credit Process

Respondents generally recalled the impact of the Chairman at the time on the changes that were made. He had been brought in several years earlier from outside the bank, with the mandate to turn around an inefficient bank and bring it into the 20th century. When he tried to identify who and what was responsible for the bank's problems, he found that decision processes in the bank were characterized by a lack of accountability. Frustrated with the bank's evidently flawed decision making processes, he was determined to overhaul the credit granting system and create an environment where, as one employee described it, "there was no place to hide". He chose a long-time Bank C employee, who had been closely involved in the workout of problem loans in the domestic portfolio, and who had also introduced credit process changes in the international banking area. This individual was promoted to SVP and the Senior Credit Officer, and given the responsibility for designing and implementing a new credit process.

The Chairman had spent a period of time traveling around the world, and meeting with other bankers, to learn what the current best practices were regarding credit granting. He had determined the key elements that should be in the credit process, and then the Senior Credit Officer was credited with designing and implementing the comprehensive and coherent system for managing credit risk which remained in place at Bank C at the time of the research.

At the heart of the new system was the 'dual process', where each credit had to be approved by its originating account (line) manager, and also receive the concurrence of the corresponding credit officer. Where the loan size exceeded the approval limits of the line and credit people, the application proceeded upward through successive line and credit pairings until it reached the pair which had the authority to authorize it. Loans exceeding the approval limits of individual line and credit people (typically \$100 million for large corporate credits, and \$50 million for commercial credits) were presented to a

newly-formed credit committee to be authorized through a vote. The committee was comprised of about half a dozen of the bank's most senior line and credit officers, and was chaired by the head of corporate banking. It met every morning to discuss and vote upon the day's credits.

Paralleling the dual process of approval and concurrence was the qualification process, which determines the size of an individual's authorization limits. A higher level of authorization was granted by a panel (members chosen by Risk Management), based on the individual's nomination by his boss, approval by the boss's boss, and concurrence by the credit officer at that second level. Assessment was based on an application package attesting to the individual's skill and ability to take on additional lending responsibility. The package included training program results, performance of the individual's loan portfolio, and an auditor's report detailing the extent to which the individual's transactions were consistent with corporate policies, lending directives and operating procedures.

Underlying this system was the principle that bank employees be held accountable for each loan they added to the bank's books. In addition to the two key elements noted above, the new system called for beefing up the training and corporate audit functions, and also strengthening the processes of loan review and loan loss review conducted by lenders' superiors and by the headquarters' risk management function. This loan loss evaluation process examined each significant loss to assess whether or not it was avoidable, and what changes were required in policy, directives, procedure or staffing to prevent its recurrence.

The Bank C's introduction of the dual process differed from Bank A's and Bank B's improvements to credit process and risk management during the same time period in that it was much more comprehensive. Its scope was bank-wide, and it addressed much more than just the credit policies or process. Training, evaluation, audit and accountability were all aligned to support changes in the credit process. One respondent

used the analogy of a military coup. “<*The Senior Credit Officer*> got hold of the key elements of society, and placed his own people in charge. He controlled the rules (credit policies) and the distribution network for the rules, communication systems (training), the police force (audit).”

By all accounts, the Senior Credit Officer implemented his plan (1983) in a top-down, unilateral, autocratic fashion, with the complete support of the Chairman. Employees who lived through it remember the time as very painful (“there were a lot of fights, awful fights”; “the atmosphere was confrontational”; “people’s jobs changed dramatically, and there was nothing they could do about it”; “a lot of people left”), but exhilarating (“the bank was fighting for its survival”; “the dual process was very good”). While more people apparently opposed the changes than supported them, many of the supporters were in key management positions. And, as many people echoed, “there was no choice”.

The dual process and its related changes were implemented in the 1983-89 period. Respondents noted that the focus had been on changing the rules, then ensuring that they could be and were followed. There had been little attempt to include a broad base of people in planning the change or influence their thinking (as opposed to their behaviour). In 1989, however, just before his retirement, the Senior Credit Officer decided that most of the Bank’s executives had not really grasped his risk management vision. To remedy this, he created the Credit Culture course on risk management, a 3-5 day course which every one of the Bank’s 250+ executives was required to attend. He was said to have vetted the material word for word, and taught much of the course himself. The course continued to be offered for new executives and some senior managers until a few years ago. At the time of the research its abbreviated content was included in a 1/2 day of the new-entrant training program.

6.2.4 Changes in Policy

Concurrent with the implementation of the dual process, the Chairman spearheaded an overhaul of the Bank's policies. Historically, rules and changes had been communicated by way of a circular from head office followed by an operating procedure. So many of these had accumulated that they were very difficult to use, so it was decided that key policy statements (ie. things that the Board and top executives should be aware of) should be extracted from the procedures. Some of these policies have not changed since that time (eg. Philosophy and Principles of Credit Granting, authored in 1982).

What had been called 'lending policies' were renamed 'lending directives' to differentiate them from the higher-level policies. These addressed the parameters for acceptable credit risk in the bank's operations in specific geographic or product markets. The process of developing lending directives was made more systematic. Where they had been issued periodically to reflect changes in markets, they became compulsory, driven off any product introduction or enhancement.

6.3 ENERGY LOAN LOSSES (1982-86)^{iv}

6.3.1 Background

It is not unanimously agreed within Bank C that they even had a problem with oil and gas loans in the early to mid-1980s. While even fairly junior people at the bank (5 years tenure) knew of problems with LDC and commercial real estate loans, and could often describe what had happened in very general terms, they had nothing to say about the energy problems. One said, "I did not know that we had losses in oil and gas". While the bank classified \$1.1 billion of its oil and gas loans as non-accrual and took a reserve of \$264 million in 1986 against potential losses in the sector^v, they were able to work

through the oil price crash with their clients and lost relatively little (\$71 million) at the end of the day. Most of the reserve was reversed in the subsequent two years.

Apparently the reason that Bank C was less hard hit than many of its competitors was that it had concentrated on financing the development of producing properties, and had stayed out of the service sector almost entirely. (Service sector includes drilling rigs and related equipment that loses its operating value when the industry slows down.) The decision to stay out of the service sector was a deliberate one. One respondent noted that the industry had been through a couple of troughs since the early 1970s, and the bank had learned from these that the service sector would be hit the hardest in a downturn. As a result, Bank C's exposure to the service sector was estimated at \$30 million while Bank A's was many times that.

There is a marked difference in energy stories between Bank C and Bank A. Respondents cite a variety of factors, which reveal a very different strategy and set of behaviours than those described at Bank A. Whereas at Bank A, the culture promoted hanging on to market share and doing a deal a day, at Bank C a conservative tone was set at a senior level in the Bank by the reigning Senior Credit Officer. Whereas participants at Bank A described a high level of employee turnover, those at Bank C described the anchoring effect of three very experienced individuals in Calgary (20 years ++) who had been through cycles in the petroleum industry before. Where participants at Bank A describe having ignored the rules they had been using to govern lending in the energy sector for years, those at Bank C recall the willingness of line people to stick pretty close to the bank's stated strategy and rules, and not try to push through many exceptions. Respondents at Bank C say the Bank had a deep understanding of the industry rooted in experienced bankers, a tradition of hiring many of their people with engineering degrees and/or petroleum industry experience, and an oil and gas engineering department in Calgary which provided independent technical evaluations.

Nevertheless in the early 1980s, Bank C was the same as other banks in its expectation of further significant increases in oil prices. Apparently consistent with the views of governments, universities, and economists, as well as competitors and the oil companies themselves, Bank C was predicting that oil prices would rise from \$20 per barrel to \$80+ per barrel over the ensuing 15 years.

Bank C participants reported that the market began to unravel in 1982-83 (the period when Banks A and B were experiencing their major losses in the industry), then stabilized, but then weakened considerably in 1986 when the oil price crashed. In the 6-8 month period after the crash, Bank C scrambled to revalue its loan portfolio. Participants recall that they spent a lot of time in meetings with clients, reiterating the need for them to live within their cash flows. Then Bank C “rode with the industry” for about two years, working with clients to get them running smoothly again. Then it took more dramatic action with respect to the weakest companies, forcing them into bankruptcy or selling off assets.

6.3.2 Reported Lessons

Reported as Individual

- “Stick within lending directive rules, or, if you don’t, then keep the loan short term.”
- “Stick to your knitting. If you are uncomfortable, say that you are, and don’t do the deal until you are comfortable. You need to stay on top of changes in an industry. If you see a loan deteriorating, you need to act early.”

Reported as Organizational

Respondents’ views on what the bank learned were varied. Several respondents said that the bank didn’t learn much. Others reported the following lessons:

- “We learned the importance of retention limits. Now we have risk ratings from 10 to 45, with retention limits tied to the risk ratings, but that did not exist in those days.”
(note that this change did not actually occur until after the real estate loan losses)
- “We learned to place more importance on the value of the oil and gas Engineering Department. They evaluate the properties. Today we pay more attention to the engineers’ evaluations.”
- “We learned the importance of hiring people with industry experience. Our hiring practices have become steadily more industry-oriented.”
- “You have to look at cash flow. You have to look at the downside. What happens if the price drops?”

There was little consensus around what the bank should have learned or did learn from the energy experience. This is probably a reflection of the widespread feeling that the bank’s lending systems seemed to be working well, and protected it from the worst of the energy problems.

6.3.3 Changes in Structure

While small and mid-sized petroleum industry lending had previously been done within the bank’s commercial portfolio, in 1987 it was moved into the corporate portfolio. This meant that concentrated industry experience could be brought to bear on all energy loans regardless of their size.

6.3.4 Changes in Strategy

Despite the relatively small impact the energy loan losses seem to have had on the lending process (in the industry specifically or overall), the price crash in 1986 had some significant short-term organizational repercussions. The individual who had been brought in to run the Calgary office in 1984 with a mandate to grow the business was brought back to Toronto and replaced in 1986 by someone with a lot of credit experience. His mandate was “recover what you can and don’t lose another cent”. An executive from the workout group was put in charge of the oil and gas portfolio. From 1986 until about 1990, energy loans comprised the main part of the workout unit portfolio.

In 1989, leadership of the Calgary office changed again. The new person’s mandate was to focus on growing the business. At the time of the interviews, the business was being grown according to approximately the same rules that had been followed for the past 20 years. The oil and gas department remained central. Commodity price forecasts were much flatter, but the committee process for forecasting remained very similar.

The preceding 5 years or so had seen a lot of activity in the petroleum industry. Companies were undergoing rationalization, specialization, and technological changes. One Bank C banker noted that in this market, “there is lots of demand, so we can pick and choose, and focus on conservative opportunities”.

6.3.5 Changes in Credit Process

With the addition of some sensitivity analyses, the bank’s petroleum lending continued on pretty much the same basis as before.

6.3.6 Changes in Risk Management

Since 1986, the Bank had used “very conservative” oil price parameters. A pricing committee was formed that included the heads of the Oil and Gas Division, Risk Management, and Economics, as well as senior corporate banking officers, and the oil & gas engineering department. This group met regularly (every 6-12 months) to determine oil price forecasts. While some form of group forecasting was in place before 1986 it has become more conservative since that time.

6.3.7 Changes in Policy

Minor changes governing lending to the petroleum industry were to be found in successive iterations of the Petroleum Industry Lending Directive. In particular, new directives required lenders to focus on integrated companies, and a balance between oil producers and gas producers in the non-integrated portfolio.

6.4 REAL ESTATE LOAN LOSSES (1991)^{vi}

6.4.1 Background

Like Bank A, Bank C had lost money in real estate in the early 1980s. However, real estate was a relatively small part of the Bank’s portfolio at the time (approximately 30-40% of capital, versus as high as 116% of capital in 1990^{vii}), and was dealt with as part of the overall credit quality problem that gave rise to the dual process. A large proportion of the losses were on land loans, and the experience was reflected in the Bank’s policies and lending directives which were cautious in this sub-segment of the real estate market.

Throughout the 1980s, Bank C and many other banks saw real estate as an area where their portfolios could be grown quickly. As disintermediation lessened the demand for bank credit among investment grade corporate clients, and competition for this declining business narrowed the spreads, real estate with its strong demand, increasing asset values, and high spreads and fees, looked increasingly attractive. In an ordinary market, the growth would have been tempered by a correction in prices. But in real estate in the 1980s, every time the available capital seemed likely to dry up, another source materialized: e.g. thrifts, the Japanese, pension funds. When the downturn in demand came, there was a huge oversupply.

The real estate downturn unfolded across North America over a period of years. The downward spiral of assets prices and rents began in 1987 in the US Southwest, in the wake of the oil price crash. Property values in the Northeast (especially in Manhattan) started falling in 1987 after the stock market decline, and trouble was apparent in Bank C's portfolio by 1988 or 1989. New York was on the leading edge of the Bank's real estate problems, followed by the midwest, the US west coast, and Toronto.

In 1991, the bank embarked on a re-evaluation of its real estate strategy. At this time, it was only beginning to experience problems in its own portfolio. By 1992, the bank's portfolio was experiencing considerable difficulties, and the rethink of its real estate strategy had acquired greater urgency. Much of the bank's real estate portfolio was located in New York City, Los Angeles and Toronto, and it was hit hard by property price declines in these markets. Within these geographic regions, much of the portfolio was office buildings, which was one of the most vulnerable market segments. The Bank also experienced some big single-name hits. In the US, for example, it lost approximately \$1/2 billion of which 72% was on 15 accounts^{viii} (out of hundreds of deals booked by 3 geographic real estate groups). Overall, the bulk of the Bank's loan losses came from 25-50 borrowers, which was considered to be a high degree of concentration.

The prevailing feeling in Bank C with respect to their real estate loan losses in the early 1990s was “We didn’t lose as much as some of our competitors, but we lost more than we should have”. The ‘more than we should have’ feeling seems to stem from a couple of things. Several people describe having experienced discomfort at the heat of the market and the structure of the loans, yet they continued to originate and authorize the applications. Enough people felt uncomfortable to prompt tightened loan parameters in 1991. While respondents concur that this tightening helped to limit the Bank’s subsequent losses, they note that loans, which subsequently lost the bank money, were granted as exceptions to these rules.

By the late 1980s, country, industry and borrower limits were in place. But the real estate losses happened despite them. Confronted with lucrative lending opportunities (one respondent cited spreads on real estate loans in the 1-3/4% range compared to 3/8 on a regular corporate loan), and line people who had strong incentives to book new business, senior management (most of these loans would have gone through the credit committee) who relied on loan-to-value ratios supported by appraisals and forecasts, could see *no defensible reason* for having a limit of x instead of $x + \text{this one more deal}$. The second reason that their limits did not seem to protect Bank C from the real estate losses was that the borrower retention limit was the same for all transactions. It did not differentiate between riskier and less risky transactions (although faulty risk assessment practices lessened the potential effectiveness of risk-based limits).

Some respondents noted that a major problem was the Bank’s lack of attention to real estate industry fundamentals: demographics, employment, real interest rates, inflation and cyclicity. In a high interest rate, high inflation environment, companies borrow in today’s dollars and pay back in inflated dollars. And inflationary assumptions are built into real estate prices. In that environment, it was feasible to lend against value, and value was assumed to be increasing. In a low interest rate, low inflation environment, the old formula no longer works. Accordingly, the bank’s appetite for real estate lending should be curtailed in such an environment. A respondent recalls at least one executive

who sent out a memo to this effect in 1988-89 to the Canadian lending units, and became very unpopular. However real estate losses in the Canadian mid-market commercial segment were contained by this pro-active portfolio management and leadership.

The bank did not lose money on real estate in the Vancouver market. A respondent from there says that this is because of their understanding of the local property market -- a number of people in the office had been through earlier market cycles in the city, and new people were strongly encouraged to take an in-depth, locally offered course on urban land economics (5 years of night school at UBC). Even so, a respondent from Head Office noted that the restrictions imposed centrally met with local resistance from those who felt that they could read local markets better.

6.4.2 Reported Lessons

Respondents were largely in agreement about what the bank learned from its real estate losses. The first key lesson which was quite widely articulated within the bank was the importance of focusing on contractual cash flows rather than market value in assessing a property for financing. Prior to the real estate losses, it had been common practice to loan up to some % of a property's assessed value. The loan losses taught some participants that relying on outside estimates of value is no substitute for in-house market knowledge (although another respondent noted that in-house knowledge is still susceptible to overlooking the cyclicity of the market because it is so close to it), and that value is not a meaningful concept when divorced from cash flows.

The second widely noted lesson was on diversification -- the bank needed to limit its exposure to any one industry / geographic market / borrower / asset.

In addition to the two broad lessons widely mentioned in the bank, a recent (at the time of the interviews) strategy document from the US real estate group added the following^{ix}:

- Too many of the bank's real estate developer clients had been highly leveraged, thinly capitalized, and had geographically concentrated portfolios and limited access to capital markets.
- Problem deals had been characterized by high loan to cost or value, and a lack of meaningful financial covenants.
- The bank's need for profits and asset growth in the 1980s resulted in it taking too much risk, too far into the real estate cycle. While some respondents believe that the real estate business plan / planning techniques have changed to reflect the cyclical nature of the industry, it is not at all clear that the more cyclically aggressive business plan will survive the heat of another long real estate upswing.

Other lessons included:

- "Lack of liquidity is very difficult to deal with, so you should put a premium on liquidity. A good loan is not enough, you must also look at how liquid it is (ie. how easy it is to sell to another lender). The loan portfolio management group is in part an outgrowth of this lesson. Liquidity has become a huge factor in assessing the attractiveness of a loan."

6.4.3 Changes in Structure

Subsequent to the real estate losses in the early 1980s, all the Bank's real estate lending had been handled by industry specialists. In 1990, the commercial real estate lending group merged with the national real estate group. The Bank set up special real estate offices in Vancouver, Toronto and Montreal, and any credits over \$1 million had to go through the newly created group.

Part of the real estate portfolio was segregated as a workout group, and later moved into the workout unit. In the summer of 1996, real estate represented 80% of the total workout portfolio. Approximately 50% of the people working out the real estate loans had been involved in making them. The workout group also hired people from outside, some with banking and credit experience and some with real estate workout experience (the real estate market had soured in Texas first, and by 1992 there were people available with workout experience). As many as 65+ people were involved in working out the real estate loans. By the summer of 1996, 25-30 remained in the group.

The remainder of the real estate portfolio was moved into the Bank's Canadian mid-market lending group.

The loan portfolio management group was created in 1991, with the mandate to rethink the Bank's approach to corporate lending. This will be discussed in the Integrated Risk Management section.

6.4.4 Changes in Strategy

The research conducted as part of the real estate strategy reassessment revealed that the top (ie. large corporate) end of the real estate market had been consistently unprofitable over recent business cycles. While a lot of money was made in the 8-year upswings in the real estate market, it was all lost in the 2-year downturns. In contrast, the bank had fared much better in the smaller-scale residential and commercial markets (e.g. residential construction, strip malls) where the time frames were shorter, the diversification greater, the lending disciplines were stronger, and the bank's branch network was believed to provide some real market understanding. This insight was reflected in the new real estate strategy, unveiled in 1992, which divided the real estate portfolio into continuing business and business which the bank planned to exit at the earliest opportunity. No further credit was to be granted to these latter clients, and they were to be managed on a run-off basis. Continuing business included residential and

commercial real estate in Canada and in the Chicago - Midwest region of the US. Business to be shut down included everything in New York City and Los Angeles, as well as all office buildings, and hotels.

This reassessment of real estate strategy was driven by the most senior levels of the bank, with the Vice-Chairman of the Corporate Bank and the EVP Risk Management involved from the very beginning.

Apparently there was quite a strong difference of opinion regarding the speed with which the "exit" portfolio should be run off. "Doves" said that given the poor condition of the market, and the fact that some clients were worth more alive than dead, the bank should work with its clients over a several year period to recoup the losses. "Hawks" said that the bank did not want to be in this business, and wanted out of it as soon as possible to prevent further losses. Doves seem to have included US line people; hawks seem to have included senior bank management and risk management. The hawks seem to have prevailed, resulting in what a dove might, with hindsight, have considered to be some suboptimal workout solutions and perhaps diminished recoveries of past losses.

In early September 1996, a meeting was held including the Vice-Chairman of the Corporate Bank, the senior workout unit executive, and several of the key real estate people to discuss how to go forward in the real estate market. One respondent quoted the Vice-Chairman as saying, "We have some hard-won experience and intellectual capital in this industry -- it would be a shame to waste it". Despite this stated commitment to participate on a selective basis in the real estate market, some of the account managers on the front lines expressed the same sentiment as those leading the way back into developing countries -- that each step back into the market was taken against strong resistance from elsewhere in the bank (the risk management function in particular), and that the industry sector continued to be managed on a very centralized basis.

The bank's renewed participation in real estate lending was based on the following four changes. It focused on lending against the present value of contractual cash flows. Shorter-term projects were preferred to high-rise buildings. Borrowers were sought who had stronger balance sheets, more equity capital, more geographically diversified portfolios, and better access to capital markets than before. The Bank demanded higher levels of equity capitalization and tighter covenant provisions which include triggers to signal any loan deterioration.

There was also an effort made to recognize the cyclicity of real estate in business plans. Historically, targets were reached by applying a year-over-year growth percentage to the current business plan. Following the loan losses, when the Bank developed a business plan for real estate lending, it first arrived at an institutional point of view of the market and stage in the real estate cycle, and then determined targets based on that. Recognizing the conflict between corporate growth and risk management objectives, the Bank was described as attempting to give higher priority to risk management objectives in riskier industries and growth objectives in less risky ones.

6.4.5 Changes in Credit Process

The importance of cash flows as the only source of debt servicing and repayment was understood elsewhere in the bank. It had been a lesson learned by the group working out LDC loans, and it had long been central to the analysis of project financing transactions. However, it had not been applied to the real estate loans. After the real estate loan losses, a cash flow analysis became a required part of loan applications (in real estate and certain other high-risk industry sectors), and information systems were developed to improve the modeling of cash flows. It is notable that the executive who was brought in to head the real estate workout, had a background in project finance, and therefore an understanding of cash flow analysis. As one participant noted, "He was able to apply project finance principles to real estate, and it was at a time when people were willing to listen to him".

Participants also described the credit process as becoming “much more centralized, with a huge amount of scrutiny on the transactions”.

6.4.6 Changes in Risk Management

The failure of the various limits to protect the bank against serious loan losses provided impetus and credibility to a growing awareness among a few key individuals in the corporate bank that they were going to have to fundamentally change how they were thinking about and measuring risk. This will be discussed further in the next section. At this point, it is sufficient to note that, after the real estate losses, the bank began to tie concentration limits (inversely) to the riskiness of the borrower.

6.4.7 Changes in Policy

The 1991-92 reassessment of real estate strategy also involved the rewriting of policy and lending directives. The team doing the rewriting was composed of three people representing line, credit and risk management, under the direction of the SVP in charge of real estate lending and the EVP Risk Management.

The new lending directives were much more restrictive than the old ones. One respondent noted, “it doesn’t mean you can’t do anything, but because many things are exceptions they throw up a red flag so that they can be related to our experience and more people can have a look at them”.

Since the loan losses, the policy has been amended to explicitly address the cyclicity of the real estate business, and the requirement for cash flow valuation in support of lending.

The strategy reassessment also resulted in a mechanism for amending lending directives more quickly in response to changing market conditions. Since that time, real estate lending directives have been reviewed on an annual basis, and every sector is reviewed every couple of years at a minimum. The line person in charge of an industry sector submits to Credit and Risk Management suggestions for changes to the lending directives and a rationale for these changes.

6.5 INTEGRATED RISK MANAGEMENT PROJECT (1991)*

6.5.1 Background

When the new management regime took over in 1989, it had no particular commitment to corporate lending. The new Chairman gave the new Corporate Bank Vice-Chairman, the mandate to “reinvent the business and make it profitable or get out”. The new Vice-Chairman had a treasury background, and brought with him a trader’s view of portfolio risk and risk management. This perspective saw the bank’s outstanding corporate loans as a portfolio of poorly diversified, long-term, illiquid risk to which only the most primitive portfolio management techniques were being applied. When he asked for information on the Bank’s loan exposure by risk type, term, or yield, the information was not available. He believed that the bank needed to do a much better job of measuring the risk in the loan portfolio if they were to manage it properly.

Although portfolio theory had existed since the 1950s, a number of factors had prevented it from being applied to bank loan portfolios. It had been developed for equity securities, which were traded (ie. liquid and daily price data available) and had both an upside and a downside. A bank loan, in contrast, was illiquid, difficult to price, and had a very small upside and a much larger downside.

By 1991, however, several developments in financial theory and markets (eg. options pricing theory, a developing secondary market for bank debt in the US) were making it possible to apply portfolio theory to bank loans. Firms had emerged which were developing the mathematics to make the application possible. A few individuals within the bank, most notably the Corporate Bank Vice-Chairman and a colleague of his from the treasury function, saw a need to make use of these new tools. While they may have held the bank's losses lower than its competitors', the dual process and portfolio management tools currently in place (primarily country, industry and borrower retention limits) had not protected the bank against unacceptably high levels of loan losses, and did not provide a framework for assessing the adequacy of returns for the risks undertaken.

The portfolio management vision evolved in the Bank over the 1991-93 period, driven by the Vice-Chairman of the Corporate Bank and the loan portfolio management group which was formed in 1991 and led by his colleague, noted above (named VP Loan Portfolio Management). In 1990-91, they found a US company which was developing a database that tracked how well banks priced their US loans to reflect risk. To subscribe to the data, a bank had to contribute its own loan portfolio information in a very specific format. Bank C subscribed to the database, and learned that at best, it ranked low in the third quartile of banks in its comparison group in pricing for risk. To increase returns, it would have to understand the 'best practices' of the banks in the first quartile. This information was used to support further research into portfolio management techniques. The experience of getting the data to conform to the company's template was also the beginning of developing information systems that were meaningful from a portfolio management perspective.

The loan portfolio management group worked to access the data and develop the information systems required to monitor and understand the loan portfolio. They also redefined the components of risk present in every loan transaction (focusing on default probability, potential exposure amount, and loss given default). These components were disaggregated so that, through modeling, capital could be assigned that reflected the

degree of risk. As a result, loans could be priced to earn a return on capital that properly reflected the quantified underlying risks.

In 1993, senior management and a consulting firm undertook a strategic risk review to address the problem of the Bank's earnings volatility (largely due to loan losses). The findings which emerged from this effort were consistent with the portfolio management work being done in the loan portfolio management group. The Corporate Bank was volunteered as the site for a pilot project which would put these concepts into action. Overseeing the pilot project was a steering committee of senior executives chaired by the Bank's President, and an operating committee which worked for several months to flesh out what needed to be done.

The Integrated Risk Management project was the implementation of the portfolio management vision. In 1994, the operating committee hired a four person implementation team. The operating team was subsequently disbanded, and activity shifted to the implementation team, working closely with the consultant's material and the steering committee.

Respondents who were not directly involved report that everybody in the Corporate Bank knew that there were changes to risk management and measurement in the works. In addition to the formal communications to this effect, there was a highly visible executive team leading the effort which made people take notice. The implementation team involved a wide cross-section of Bank employees in focus groups and work groups which gathered information, and gave input into what the new system should include.

The changes were communicated through three versions of the central document, which spelled out specifically what people would have to do and the time frames they would follow. Before and between documents, the implementation team held countless meetings with people who would be affected. The point of these meetings was to explain

the rationale behind the changes and what people would be doing differently, answer questions and concerns (of which there were apparently many), and take suggestions.

Participants note that there are a number of changes which still need to be made. Nevertheless, by the summer of 1996, the portfolio management vision and the changes to credit process and risk management introduced through the Integrated Risk Management project had been entrenched in the corporate bank.

6.5.2 Changes in Structure

The loan portfolio management group was formed in 1991. Its VP had been outspoken on the subject of why banks were going to keep losing money in one sector after another unless they overhauled their entire approach to credit risk, and this position represented a challenge to put his money where his mouth was.

In 1996, he was given overall profit responsibility for the loan product. This profit responsibility has given the loan portfolio management group 'teeth', and allowed it to manage liquidity and diversity in the portfolio better than it could when the profit responsibility lay with the individual business lines.

6.5.3 Changes in Strategy

The major change in strategy associated with the Bank's new emphasis on portfolio management was the addition of an explicit return target on all relationships and facilities. Initially, the Vice-Chairman had said "let us at least aspire to every facility we negotiate giving us an industry average return or higher on allocated capital". By allocating capital to each transaction and pricing for a certain return on that capital, the Bank expected to move away from those businesses and clients which take up too much capital for the returns they generate, and gravitate towards those which make the most efficient use of capital.

While the portfolio management tools were originally developed to ensure proper diversification and flag proposed transactions that the portfolio ‘didn’t want’, the loan portfolio management group has started to use them more proactively. The models can show what the portfolio requires for optimal performance, and account managers can be requested to bring in these transactions, eg. “more 6 month real estate risk” or “more 2 year forestry risk”. This proactive approach is called ‘portfolio optimization’.

These two changes meant that strategy in terms of what clients the Bank chooses to target and what products it offers them had become more driven off ‘the numbers’ -- returns and portfolio contribution -- than in the past. This is not to say that Bank C’s choice of clients or its product selection were chosen by a computer. Client relationships were monitored and fostered. This change was a matter of degrees rather than absolutes. Nevertheless, the direction in which Bank C’s strategy had shifted contrasted quite strongly with Bank A’s client-driven strategy.

(It should be noted that there was a continuous tension between what account management wanted to do and what the portfolio wanted to accept. The balance between these often contrary demands was renegotiated all the time, day-by-day, transaction-by-transaction. One loan portfolio management group member noted that the demands of client relationships have meant that the portfolio “takes on a pile of assets that it doesn’t want”.)

6.5.4 Changes in Credit Process

The Bank’s risk rating system for corporate loans was changed. It was divided into nine acceptable risk categories instead of four. Credit risk started to be broken down into its component pieces. This new risk rating matrix was designed to allow the rating of a specific facility as well as client entity. It was also designed to allow for the application of risk-adjusted return on capital (RAROC) standards.

The Bank's internal assessment of risk was also validated with outside measures. In 1995-96, the loan portfolio management group brought in a tool which could help to track each client and facility in the loan portfolio. This tool was developed by another US company. It assessed the estimated default frequency (a measure of quality) of every loan based on publicly available market data: leverage; volatility of share price; and absolute share price. This system could predict an upgrade or downgrade by the major rating agencies 85% of the time, 18 months before it happens. If an account manager brought forward a transaction for approval, and its risk rating told a significantly different story from the credit monitoring tool's data, then the account manager had to explain why his or her point of view was right and the market was wrong.

Every transaction was expected to meet the RAROC hurdle rate. Transactions which did not meet this rate were referred to the loan portfolio management group with information including the RAROC of the client relationship overall.

The IRM manual gave trigger points to highlight the deterioration of loans which were tighter than those in the loan covenants. And the credit monitoring tool was also used to provide an early warning signal. If a loan moved above a certain estimated default frequency, the line had to contact the workout unit so the two could do a joint assessment of the loan and devise ways of lessening the risk. These early warning systems are intended to allow the Bank to catch potential problems, so that the workout unit could intervene at an earlier stage in order to head off problems, or loans could be moved into the workout unit while there were more workout options, or the loans could be sold.

6.5.5 Changes in Risk Management

The portfolio management vision and the changes associated with its implementation represented a profound change in the Bank's approach to risk and the

management thereof. Whereas the dual process focused on more objectivity and accountability in credit risk management, the new approach broke the risk down into components that could be measured and allocated capital, and overlaid portfolio risk as something to be monitored and managed.

Under the dual process a risk was either acceptable or unacceptable, a binary decision. Under the new paradigm, three decisions had to be made: is the risk calculable? what is it?; is the risk acceptable for the associated reward? (some would go so far as to say there is no such thing as a bad risk, only a bad price); how does that risk interact with the others in the portfolio?

6.5.6 Changes in Policy

Some policies were written which reflected the new rules associated with the portfolio management approach (eg. Lending Directive on Pricing). But several key respondents believed that the Bank's policies and lending directives still *needed to be completely redone* to reflect its new approach to lending, portfolio management, and risk. The existing risk management policies were predicated on a system of caps -- single name caps, industry caps, and country caps -- which were a proxy for diversification. Portfolio management tools which could theoretically measure the effect of each new transaction on the portfolio's diversification rendered these caps almost obsolete, if not misleading. According to one respondent, a more appropriate policy would be one which said "you will only add assets that improve the portfolio's Sharpe Ratio" (a measure of return for each unit of incremental risk). At the time of the research, however, a move to throw out the existing risk management and credit policies would have encountered a great deal of resistance within the Bank.

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- ⁱ This section is based on interviews: C-10, C-19, C-20, C-27, C-19, C-29, C-30
 - ⁱⁱ This section is based on interviews: C-1, C-4, C-14, C-17, C-21, C-37
 - ⁱⁱⁱ 1983 Annual Report
 - ^{iv} This section is based on interviews: C-5, C-12, C-18, C-23, C-30
 - ^v 1986 – 1989 Annual Reports
 - ^{vi} This section is based on interviews: C-6, C-8, C-16, C-36, C-38, C-40 and also C-3, C-5, C-12, C-18, C-25, C-34
 - ^{vii} 1992 Annual Report
 - ^{viii} C-document-56
 - ^{ix} C-document-56
 - ^x This section is based on interviews: C-9, C-10, C-11, C-27, C-35, also C-document-55

CHAPTER 7

FINDINGS

7.1 INTRODUCTION

This chapter describes the pattern of learning observed in the three banks after the loan loss events. The findings identified in this chapter and the following two emerge from the interview and archival data collected at the three banks. As discussed in the Methodology chapter, semi-structured interviews were used to elicit respondents' views on what had been learned from each sector-specific loan loss event, what had changed, and how the changes had come about. Interview questions stimulated discussion of learning and change as they applied to individuals, groups, and institutionalized organizational artifacts including processes, structures, strategies, and policies. They sought to uncover both cognitive and behavioural change. They attempted to trace the flow of lessons from individual to group to organizational levels. However it should be noted that the interviews were unstructured enough that respondents could discuss whatever they thought was relevant to the research question.

Recall that the purpose of this research was to investigate the phenomenon of interest. I approached the data collection with a "systematically open mind", and have drawn upon whichever theoretical perspectives emerged as useful. Data were analyzed using the 4-I theory as an organizing tool because it systematically directed attention to what I believed to be key dimensions of the organizational learning phenomenon (discussed in Chapter 3). The interviews were coded twice: once to yield a "*what* happened, *what* changed" story; and once to explain "*how* did the learning occur". The coding bins used in determining *how* learning occurred were drawn directly from the 4-I theory as depicted in Chapter 3 Figure II. The bins were: individual-level learning; individual to group; individual to organization; group to individual; group level learning;

group to organization; organization to individual; organization to group; and organization level learning. Interview data were sorted first into these bins.

Then, within each coding bin, data were sorted again into clusters of related points. Archival data were then used to support, augment or contradict the points made in these clusters. Finally, these clusters were sorted again into related groups (e.g. all the clusters pertaining to working out the loans and the learning which was reported as occurring in the workout units), each of which was summarized as a key discussion point. In this way, each of the discussion points highlighted in this chapter and the following two chapters emerged inductively from the data through a process of coding and sorting interview and archival data, then grouping related clusters. Exhibit I summarizes the data sources underpinning each key discussion point or finding. Key points are outlined briefly in this section, and are discussed in more detail later in the chapter.

Firstly, an intense period of problem solving and change appeared to occur in the period of time following the loan losses, in the immediate vicinity of these events. The people who learned the most about what had caused the events and how to extricate the bank from the problems were those who were involved in 'cleaning up': work-out people, and the line and credit people who remained close to, and involved with, the problem loans. Two characteristics of the workout process made it conducive to a high degree of learning at the individual and group level: the opportunity it provided to experiment with solutions; and the amount of communication it entailed. When an 'inquest' was held to examine the causes of the loan losses, the people who were involved in the inquest also learned a great deal about the economic conditions and lending practices that led up to them. However, inquests were not always held after the loan loss episodes. Senior bank management also learned about the loan losses as they oversaw and authorized steps taken during the workout, and explained the problems to shareholders, regulators, and rating agencies. However, it was frequently the case that the lessons that emerged from this period were neither exhaustive, nor representative of a variety of interpretations. In particular, they were often the byproduct of efforts to recover the banks' money, not the

outcome of an inquest into what went wrong and how to prevent its recurrence. Although the workout people did examine the problem loans to determine what had gone wrong, the lessons overall were biased toward 'getting out' rather than 'getting in'.

Secondly, changes were typically made to policies, credit evaluation or granting tools and procedures, and structure in the affected business unit. These changes tended to be local in nature, impacting only the business that had experienced the loan losses. They also tended to reflect the technical lessons about what had gone wrong with the worst of the bad loans, but did not address the systemic forces that had contributed to the loan loss event. In addition, some of the lessons learned did not get institutionalized, and some of the institutionalized changes reflected pressures to reenter the market as well as lessons learned. Nevertheless, it appears that these changes, and the lessons they did embody, were quite durable. People report remembering and paying attention to them, and they seem to be slow to erode.

Thirdly, lessons were sometimes disseminated beyond the affected unit. This occurred primarily when the losses themselves were larger or more or wide-spread, or when executives with boundary-spanning roles identified the applicability of lessons to other business units, and took steps to transfer the learning. In either case, the leadership of bank management was essential condition for any meaningful degree of dissemination to occur, because there was very little direct communication of lessons across business units at the front line level. Two types of boundary-spanning mechanisms were identified. Structural mechanisms, which were observed most frequently, involved lessons going 'up' to a function such as Risk Management (or coming 'in' to executives from outside the bank), and then coming 'down' again across a wider range of business units in the form of new policies, processes or structures. Social mechanisms included discussion, decision-making, story-telling, and training, and also tended to follow an 'up' or 'in' then 'down' pattern.

Finally, it appears that the lessons frequently did not travel well, in the sense that they failed to ensure the behaviour they were designed to encourage, over a period of time. They were often ignored, and in the face of performance pressures, they were systematically eroded. They were ignored when they were in conflict with other factors influencing behaviour, including strategy, culture, and promotion and reward systems. And from the time they were institutionalized, policies and processes were subject to continuous pressure from the front lines to become more lenient. Increasingly risky transactions were brought forward to be approved as exceptions, the levels of risk accepted by the banks increased incrementally but steadily over time, and eventually policies and procedures changed to reflect the higher levels of acceptable risk. This pattern was particularly evident in sectors experiencing economic boom conditions. In an economic boom, negative feedback on loan decisions virtually ceased for a period of time, while the availability of transactions and the pressures to enter into them increased.

The first reason that lessons were vulnerable to erosion and inattention was that, although the rule itself may have been transferred beyond the affected unit, its *context* typically was not. Context, or the story that explained why a rule was in place and when, why and how it was to be used, resides in people – individually and collectively – but not in rules or procedures. When a lesson, institutionalized in a rule or process, was *also* remembered and explained and defended by decision-makers, it was eroded more slowly than when it stood alone without context. Secondly, lessons did not travel well when they were in conflict with other institutionalized artifacts that influenced behaviour, including measurement and reward systems, strategy, reporting structures, or organizational culture. When the behavioural message sent by a particular rule conflicted with those sent by these other artifacts, it was in people's best interest to ignore the rule or find ways to get around it.

Accordingly, three factors increase the likelihood that institutionalized lessons will erode more slowly, and have a meaningful influence on behavior, over time. These are: the presence of a comprehensive, mutually reinforcing system of policies and

processes that embody the lessons from the loan loss episode; individual memory and leadership of key decision-making individuals; and an organizational culture that transmits, supports, and rewards behaviour in accordance with the lessons.

In summary, the research shows that institutions do learn, but they have trouble disseminating and remembering the lessons learned. Rules and processes are less durable, and have less impact on behaviour than has been believed. When they are divorced from context or meaning, which only resides in people – individually or collectively – rules and processes tend to erode, be ignored, and get replaced in the face of performance pressure if they are not continuously reinforced. Institutionalization alone does not assure that processes and rules will maintain their power and integrity over time. To be durable and influence behaviour in a meaningful way, they must be continually affirmed, explained and defended, particularly by people in the organization with the power to change or uphold them.

7.2 INDIVIDUAL AND GROUP LEVEL LEARNING

The initial learning that took place did so as a by-product of the banks' 'normal' reaction to the loan loss events. All three banks exhibited a similar three-stage response. While the responses varied in intensity according to the sector and severity of the loan losses, the overall pattern was a very consistent one of: withdrawal → workout → selective reentry.

The banks' first reaction after the loan loss events was to dramatically reduce new loans to the troubled sector. This ranged from a deliberate decision, formalized in policy, to an effective contraction of lending reflecting reduced demand for new financing and internal focus on workout / recovery, but not because of any formal decision to stop lending in the sector. The loans in the troubled sector were typically parceled off into a separate workout unit. The goal was to recover as much as possible of the money lent,

quickly and efficiently. Eventually, the banks reentered the abandoned markets, but with a different strategy or rules.

The people who seemed to learn the most about the loan loss episodes were those who were involved in working with the affected clients and recovering the banks' money: workout people, as well as the line and credit people who remained close to the problem loans. This observation is based both on reports of the participants themselves, and on the comprehensiveness of their responses compared to those of non-participants.

Working out a sector's worth of problem loans involves a relatively small group of people in an intense problem solving experience. Individuals developed negotiating skills, experimented with novel ways to solve problems, and became intimately familiar with the legal environment, loan structures, documentation and client companies. Alone and as a group, they identified which loans had been affected, developed an interpretation around what caused the loan losses, how problems were to be fixed, and how lending practices should be amended if the banks wanted to lend to the affected sector in the future. And, as their understanding of the loan loss episode developed, they applied it to further restructuring of the troubled loans.

There was some variation across banks regarding the staffing practices in the workout groups, and the degree to which the account managers responsible for the clients / loans remained involved after a major sector-specific loan loss event. Because so much of the banks' money was on the line, the key workout people were typically experienced, senior bankers and new hires with specialized industry and/or workout experience. Account managers were also included on the team, but often these people represented only a small proportion of the group that had made the loans. Sometimes, however, either because of the sheer number of loans going bad (e.g. Banks A and B real estate) or because of some deliberate management decision (e.g. Bank A, all workout situations), more account managers were involved in the workout. Bank B's corporate real estate group took primary responsibility for working with many of the distressed clients unless

they were forced into bankruptcy, at which point a Special Loans unit took over. In Bank A, the account manager maintained contact and continuity with the client, although the Special Loans Unit has primary responsibility for working out the problems and making decisions. The separation of problem loans from account managers was more pronounced in Bank C. As the following paragraphs describe, participants in the workout process experienced a great deal of learning-by-doing about the loan losses, suggesting that staffing practices might have an impact on the bank's memory of the events in the long-term.

Two characteristics of the working-out process made it highly conducive to learning: the opportunity for experimentation; and the amount of communication that took place among participants. The opportunity for experimentation was far greater in the workout units than in other areas of the banks. Because the banks were not in the business of managing office buildings, or transporting oil, or running developing countries, actions taken during a workout were not as closely governed by rules and norms as in other banking businesses. There was more room for trial and error, more flexibility. Furthermore, 'owning' an asset and trying to increase its value demanded, and fostered, a much deeper level of understanding (e.g. of cash flows, leases) than lending against it.

Several respondents noted that there was a lot of communication among the people involved in working out a sector's worth of loan losses, including workout people, the line and credit people who remained involved, the banks' top management, the client companies, and workout groups at the other banks. This quantity of communication around a serious common problem fostered a great deal of learning at the group level. This observation, combined with the remarkable consistency of "what happened, what the bank learned" stories told by participants in a given workout, indicates a lot of flow back and forth between individual and group learning during the workout experience.

It should be noted, however, that the workout was not the only process by which people learned about a loan loss event. Sometimes the banks held an 'inquest' into a major loan loss episode, the goal of which was to understand what had gone wrong and how to prevent its recurrence. We see such inquests in Bank A after both the energy and real estate loan losses, and in Banks B and C after their widespread commercial loan losses in the early 1980s. In addition, Bank C's loan loss review process was essentially an inquest into every substantive loan loss on a transaction-by-transaction basis. Line, credit, workout, audit and risk management people all participated in the loan loss reviews. Because such inquests were geared toward learning, as opposed to recovering the bank's money, they seem to have yielded a broader scope of lessons than did the workouts.

The third category of individuals to experience significant learning about the loan loss events was the banks' senior management. They made or approved decisions to commit additional resources to troubled clients. They made strategic decisions concerning the banks' withdrawal from and eventual reentry into the affected sectors. They made or approved changes in policy, process or structure. And they explained the banks' problems, and how they were being fixed, to the Board of Directors, shareholders, regulators, rating agencies, governments, and bank employees.

In the absence of an inquest, interpretation of a major loan loss event -- what had gone wrong, what it meant, what needed to be done differently in the future -- was largely the province of the people who were responsible for the clean-up and explanation. Disagreements about how to handle the problem tended to occur in the early stages of the workout, and were concentrated within the small group of people who were directly involved with the loans. The interpretation which emerged as dominant was communicated inside the banks by a few senior workout executives and, more widely, by top management. Top management also communicated its interpretation with outside stakeholders. In the absence of an inquest, alternative interpretations were rarely offered, sought or encouraged. The significance of this observation will be discussed in the

following chapter, in light of theorists' suggestions that more interpretations of an event result in more thorough or better learning.

The one notable exception to this tendency was observed at Bank A, where the executive in charge of working out the bank's real estate loan losses asked approximately 30 professional services firms, including accountants, consultants and lawyers what they thought the problems had been and what the bank should learn, given their past experiences with the bank. Interestingly, the problems identified by the professional services firms were remarkably consistent, but surprisingly different from the ones already recognized by the bank! This anecdote is included to make the point that, while the working-out process gives rise to a lot of learning among the people most directly involved, it is only when an inquest has also been held that it can be assumed that a variety of interpretations have been seriously considered.

It is re-emphasized that more was learned about getting out than about avoiding getting in to sector-wide loan loss episodes. However, analysis of the problem loans *did* lead to conclusions about what had been done wrong and what should be done differently in the future. These lessons tended to be technical in nature: e.g. lend against estimated cash flows, not forecast asset values; include factors *x*, *y* and *z* in cash flow calculations; don't lend unless there is an underlying, cash-generating project or transaction. They were the conclusions that could be drawn from studying the loans themselves. In contrast, the lessons from the workout were augmented by different, and possibly more systemic ones when the banks held inquests into the loan loss episodes.

7.3 LOCALIZED INSTITUTIONALIZATION OF LESSONS

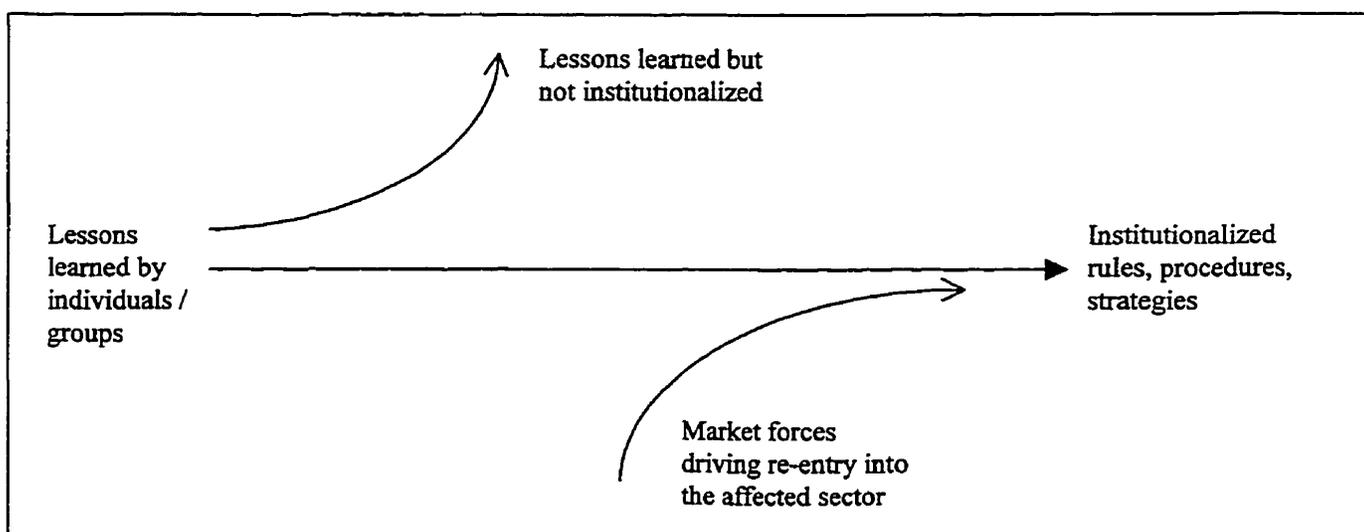
When the banks reentered the affected sectors, they were driven by pressure from customers and from the banks' line people. The suggestion to re-enter the sector typically encountered resistance within the banks, particularly where a deliberate decision

had been made to exit the market, and lending policies had been made much more restrictive. As a result, the reentry decisions – and the new rules or procedures upon which reentry was based – were often the outcomes of much discussion among the line, credit, risk management, workout, and top management groups.

These changes, made by the banks to govern their reentry into the affected sectors, are summarized in Exhibit II. While the specifics vary across banks and loan loss episodes, a pattern is clear. Rules governing lending in the sector going forward became more restrictive, or, where the rules were in place but not followed, old rules were reemphasized. Changes were made to computer models, loan applications and related tools which reflected a new understanding of lending in the sector. These included better methods for calculating taxes, and assessing cash flows, as well as improved recovery mechanisms.

However, while they emerged from the lessons learned as the losses were worked out and explained, they should not be taken to embody them directly. Some lessons were not in fact institutionalized, and some of the changes reflected market pressures exerted during the reentry phase as much as they reflected lessons learned. Figure I (adapted from Mintzberg 1978) helps to illustrate what typically occurred.

Figure I



Many of the lessons were too subtle or tacit to be captured in policy or process. These lessons continued to reside in the individuals or groups that had learned them, but did not lend themselves to transfer except through direct personal contact. Furthermore, because different groups of people were typically behind the workout and reentry, the transfer of lessons was not automatic. It was a function of the level of communication between the workout unit and other decision-making groups, particularly line and credit. The level of communication was higher when a key workout executive transferred to the line or credit functions with specific responsibilities regarding reentry into the sector. It was higher when workout executives were systematically involved in reentry decisions. Bank C typically showed greater communication between the workout and the line than the other banks, and made greater use of its workout executives in reentry decisions. The level of communication was also higher when line people had been involved in the workout, and were able to apply this experience in the sector going forward.

Market considerations also influenced what changes were or were not made. For example, as one respondent explained, by the time his bank was ready to reenter the real estate sector, the crisis had passed. Line people were anxious to get back into the market, afraid that otherwise they would be left behind, and there was little interest in getting the workout group involved in the reentry decisions.

Overall, the changes in structure, credit tools, and policies typically observed after a loan loss event should be viewed as only a partial reflection of lessons learned during the workout. It is more accurate to think of them as a function of: the lessons learned during the cleaning-up and explaining of the loan losses; communication across key decision-making groups; perceptions of the market demands and opportunities associated with reentry into the affected sector; the relative power of key decision-making groups and their executives; and senior management's will to apply lessons from the past to future business initiatives.

What the changes that were made had in common was that they all occurred in the immediate vicinity of the affected sector. Their future impact was restricted to the affected sector. These changes did not generalize experience from the loan loss event across other lending units in the banks. This observation is interesting because it begins to explain why lessons learned from one loan loss event may not have been available for application in a different sector years later. Although hindsight reveals that key lessons learned from the LDC and energy loan losses (e.g. regarding cash flows and portfolio concentrations) were relevant and should have been applied to banks' real estate lending, the 'normal' pattern of learning from working out the losses, and the changes which accompany it, are unit-specific in nature. There is no part of the withdrawal → workout → reentry cycle which inherently includes generalization beyond the sector.

We see that, just because a lesson has been institutionalized, does not necessarily mean that it is far-reaching in its scope, or that its impact is felt beyond a small group. Changes to policy and procedure are viewed as an important mechanism by which lessons can be transferred to employees over time, even when the individuals who learned the lessons initially have left the organization. But examination of the withdrawal → workout → reentry cycle forces us to recognize explicitly that the actual impact of these changes may be narrow in scope.

However, although these changes in the immediate vicinity of the loan loss events may have been imperfect reflections of the lessons learned, and limited in their scope, respondents described them as durable, for as long as the people remained in the office who had first-hand experience of the lessons behind the changes. The study offered some support for this belief. Both Bank A and Bank C reported having lost money in Vancouver in the early 1980s. When real estate prices dropped for the second time in the early 1990s, neither bank lost money in Vancouver, although both did in other places. Both banks cited experienced real estate lenders who knew the market as factors contributing to their better performance in Vancouver (although the flow of Asian money into the city also meant that it was spared the worst effects of the early 1990s recession).

7.4 TRANSFER OF LESSONS TO OTHER ORGANIZATIONAL UNITS

7.4.1 Little Direct Horizontal Communication

Before embarking on a discussion of how learning was transferred, it is important to note that the lessons learned by individuals after loan loss events frequently did not find their way to people who might have benefited, or be expected to benefit from them. This is because, in all three banks studied, there was very little direct horizontal communication of lessons learned across different groups.

This is not to say that no communication occurred. It occurred largely at senior levels (Senior Vice-President), between executives with management and often boundary-spanning responsibilities. But communication rarely occurred at the 'front line' levels, between the people dealing directly with the client companies. This was particularly true across industry-specialized line units (e.g. from real estate lenders to telecommunications industry lenders). But it also held for communication between line and workout, line and risk management, credit and workout, credit and risk management¹. Where there was some communication across these units, it was typically when individuals came together to work on a specific transaction.

The group that consistently showed more communication, internally and with other groups, was head-office credit (i.e. the group approving the largest corporate loans). In all three banks, there was ongoing communication between line and credit people concerning specific transactions. This communication was, in each case, a function of the bank's credit granting process.

¹ At the time of research, two of the banks combined "credit" and "risk management" into what was known as the Risk Management department. I continue to use the two terms to maintain a conceptual distinction between the people who were involved in credit approval on specific transactions ("credit"), and those who monitored and managed the banks' many different types of risk, including credit risk ("risk management").

Two factors accounted for the lack of direct horizontal communication across business units. The first was the great pressure on account managers to increase revenues and assets, often intensified by the strategic priority placed on lending in a 'hot' market sector. The second was the presence of organization-level structures or processes that made communication more difficult, or reinforced power relationships that discouraged the communication of lessons from a loan loss event.

Behind the banks' aggressive lending in LDC, energy and real estate was the continuous pressure exerted by the investment community on top management to show growth in revenues and profits, and passed down to the business units. However, the spreads the banks could earn in corporate lending were very small, and shrinking. So many new loans had to be booked every year to show an increase in revenue. Throughout each of the banks, and especially in the revenue generating units, people felt under tremendous pressure to book new business.

This pressure was frequently cited by account managers and credit people as severely limiting the discussion of lessons from previous loan loss events. It created a strong disincentive for line people to seek out information which might have reduced their willingness to make a loan, and ability to meet their growth targets. Even when account managers were aware that their markets may have been 'overheating', they were much more strongly motivated to look for reasons that their current situation was *different* from the time, location, and industry that experienced the problems before than to look for parallels. Failure to book a loan would impact negatively on the account manager's revenue targets, however if the loan were made and the entire sector ran into difficulty, the account manager could not be blamed because many other deals just like it had also been approved.

When the pressure to increase revenues was augmented by strategy, its limiting effect on the communication of lessons was made stronger. The banks' aggressive

participation in a ‘hot’ market was often a strategically mandated priority, and line people were under more pressure than usual to produce. This was particularly true for Bank A in the cases of energy and real estate, for Bank B in the case of real estate, and for Bank C in the case of LDC lending.

When the pressure was further supported by other organizational factors, like structure or culture or process, the effect of reducing horizontal communication was further intensified. For example, Bank A’s deeply entrenched geographic structure, with each province lead by powerful line executives, reinforced the independence and perceived ‘untouchability’ of the energy lenders in Alberta and, later, the real estate lenders in Ontario. In both banks A and B, the credit processes up until the mid-1990s also reinforced the importance of revenue growth over credit risk management. In these banks, the credit function reported through the geographic business units, making it difficult from a political or career perspective for credit people to disagree with lending trends in a strategically important sector. In these banks too, the credit process, policies and culture allowed loans to come in and be approved through senior executives, bypassing the normal credit due diligence process. This practice had been largely erased in Bank C as part of its comprehensive credit process overhaul in the early- and mid-1980s. (By the mid-1990s, the practice was also said to have been largely eradicated at the other two banks.)

7.4.2 Structural Boundary-Spanning Mechanisms

Despite the forces limiting communication, however, some lessons *were* disseminated beyond the affected sector. Typically this occurred when the losses themselves were more widespread, and/or executives assumed a leadership role in the transfer of learning.

The sector-specific loan loss events being researched occurred during periods of economic downturn. Particularly in 1982, each of the banks experienced losses in other

loan portfolios besides LDC and energy. Bank A also lost money in Western Canada real estate and throughout its international portfolio. Meanwhile, Banks B and C had major losses in their Canadian mid-market commercial portfolios.

While localized changes were being made in the vicinity of the LDC, oil and gas, and real estate loan losses, other changes were also taking place with broader reach and impact. While the sector-specific loan loss events being studied provided some of the impetus behind these more general changes, they were typically not the primary triggers (except in the case of Bank A's very large real estate losses in 1992-93). Broader-based loan loss problems tended to result in more generally applicable changes. Besides their broader scope, reaching across different lending units, what these changes had in common was that they tended to be driven at a higher level than the localized ones described earlier, by one or more senior executives.

The lack of direct communication of learning across groups was offset by the leadership of Bank executives, who played an important role in disseminating lessons through the organization. They did this through their boundary-spanning responsibilities, their leadership of change initiatives, and their decisions with respect to loan approval, policy, strategy, structure and process. Broadly, they had two types of boundary-spanning mechanisms at their disposal: structural and social. Structural, or institutionalized mechanisms involved lessons going 'up' to a boundary-spanning function then coming 'down' again across a wider range of groups through changes in policy, process, or structure.

Typically the lessons originated with workout, line, credit people, or executives who had been involved in managing the banks' loan losses. The boundary-spanning function most commonly used to transmit lessons across groups was Risk Management, which among other things controlled the authoring of credit policies. To varying extents across the three banks, Risk Management also provided a policing function, overseeing

the credit process. Another key boundary-spanning function was senior management. The role of this group in disseminating lessons will be explored in the following section.

The common mechanisms by which lessons were transferred to other groups included changes in structure, policy, process, and training. These included the formation of Risk Management Departments, changes in credit process and credit risk management, gathering new information, and writing or rewriting policies. Exhibit II provides a summary of organization-level changes at each bank. The 'General Changes' segments of this exhibit also list the boundary-spanning mechanisms for transmitting learning.

The systematic use of structural, or institutionalized, boundary-spanning mechanisms to disseminate learning from loan losses was observed most strongly in Bank C. The Bank had created a strong Risk Management Department (the Risk Management Policy Unit) in the mid-1980s as part of its credit process overhaul. This department controlled the authoring and changing of bank policies, oversaw the credit, credit training, qualification, audit and loan review processes, and assessed how each of these interlocking components was performing as markets changed. It had the mandate to monitor these things and propose or make changes as necessary. In other words, learning about what was and was not working (and why), and disseminating lessons to where they were needed, was one of the department's central tasks. As well as having the mandate to learn and transmit its learning, Bank C's Risk Management Department had the 'teeth' to institutionalize changes and enforce them. It also had close functional relationships with both the workout group and training, so it was able to ensure lessons were passed on by way of workshops, which were case examinations of actual workouts conducted bank-wide. (This practice has been stopped, as the bank ran out of fresh workout examples.)

In contrast, the other two banks used boundary-spanning mechanisms to transmit learning in a much more haphazard way. Neither of these banks had a culture that placed much emphasis on formal rules. The policies being used in these banks prior to the real estate loan losses in the early 1990s were commonly viewed by employees as being out

of date and not very useful, so they were treated quite casually. They were not rigorously followed, and there was not a systematic process for assessing and changing them to reflect new knowledge or market conditions. So, where policies were used as a tool for transmitting lessons in Bank C during the 1980s and early 1990s, Banks A and B lacked the infrastructure and the culture to use them in the same way at that time.

Prior to the real estate loan losses, Banks A and B also lacked powerful Risk Management departments. Risk Policy Group formed by Bank A had a few of the same tasks as its counterpart at Bank C. It authored bank policy, reviewed certain credit transactions, and had the mandate to learn about concentration and portfolio management issues -- but it did not have the scope or the power to make and enforce change. In Banks A and B, centralized, independent, apparently powerful Risk Management Departments are a recent development -- they were put in place after the real estate losses in the early 1990s.

7.4.3 Social Boundary-Spanning Mechanisms

Executives also transferred lessons through their organizations in social ways, including discussions, decision-making, and story-telling. They shared lessons across groups through formal and informal discussion when their responsibilities crossed group boundaries, or involved their participation in key decision-making committees. For example in Banks A and B, both credit and risk management functions reported to the senior Risk Management executive. In Bank C, the executive in charge of the workout group was also responsible for project finance. At Banks B and C, a committee of senior line, credit, risk management and sometimes workout executives met regularly to approve very large or exceptional corporate loans. Their lessons were systematically reflected in their decisions with respect to loan approval, and changes in policy, strategy, structure or processes.

Senior executives also performed an important story-telling function. Through informal conversations as well as speeches delivered inside and outside the banks, executives transmitted the loan-loss 'stories' across organizational boundaries -- what had gone wrong and why, what the bank had changed to prevent a recurrence of such an event. They exercised considerable influence over what lessons were transferred. Like any good story-tellers, they decided which points to highlight or downplay: which contributing factors they would recognize; which lessons they would emphasize; whether to give an in-depth accounting of the past or skim over it and focus on the future.

Story-telling was also an integral part of three major change initiatives observed in the banks: Bank A's credit reengineering program in the early- to mid-1990s, and Bank C's credit process overhaul in the early- to mid-1980s and its integrated risk management project in the early- to mid-1990s. These events will be discussed in greater detail in the following section, but for now it is sufficient to note that, because each of these events entailed a profound change in the way the bank understood and managed credit and/or portfolio risk, they were accompanied by intensive communication efforts. The executive behind each of these initiatives, and a few key members of the group managing the change, traveled through the organizations, meeting with people at all levels and telling powerful, consistent, compelling stories about why the changes had to occur. These story-telling blitzes in support of major change initiatives each lasted for 2-3 years, longer in the case of Bank C's credit process overhaul.

Training is both a social and a structural way of communicating an organization's knowledge to newcomers. Lessons from the loan loss events were incorporated into the banks' account manager training programs in a number of ways. When a policy or procedure was discussed which reflected lessons learned, the loan loss event was cited as the reason that the policy was in place. Lessons were sometimes referred to when a representative of the workout group, credit, risk management, or portfolio management addressed the class. For those people who specialized in lending to specific industries, short training programs were sometimes offered. Overall, the emphasis in the banks'

training programs was in using the loan loss episode as necessary to illustrate or support a discussion of the bank's lending and risk management practices.

However, none of the banks focused on the loan loss event itself as a starting point, and engaged in an in-depth discussion of 'what did we learn?'. Typically, the work performed by specialized groups was covered in general terms, not in detail. It was assumed that an account manager who found himself in such a group would learn the details on the job. Specialized groups included the workout unit, and also industry-specialized line units -- in other words, the groups which would have specific interest in, or utilize finer-grained lessons from, the loan loss events. Going into a lot of detail about events and lessons that were perceived as pertaining only to a specialized group was not considered a good use of training time. An exception to this was the Credit Culture course at Bank C, which did address each major loss scenario, and the lessons learned. However, the course has fallen into disuse in recent years, and most of this detail has been cut out as the material has been condensed for use in a different course.

7.5 LESSONS DO NOT TRAVEL WELL

Although some dissemination of learning occurred, and many of these lessons were institutionalized in processes and rules, they often did not 'travel well'. They frequently did not guarantee the types of behaviour they were designed to ensure over the business cycle, and they failed to prevent subsequent loan loss episodes. The act of institutionalizing a lesson or idea in policy, structure, or process was by no means enough to ensure that it would influence behaviour in the desired way over an extended period of time. There are two main reasons institutionalized lessons could not be taken for granted. Firstly, when the behavioural direction encouraged by a policy or process contradicted those encouraged by other organizational factors -- notably strategy, culture, reward and promotion systems -- then it was often ignored, or followed half-heartedly with attention to form but not substance. Secondly, from the moment they were put in place, rules and

procedures designed to manage or lower risk were under continuous pressure from the front lines (reflecting customer demands, competitive and market forces) to become less restrictive. This pressure led to policies and processes being systematically eroded over time.

It should be noted at this point that both the ignoring of institutionalized lessons and their erosion were more prevalent under 'economic boom' conditions than under conditions of 'normal' economic growth. The great number of available transaction opportunities and the tremendous optimism surrounding the increase in asset prices and profit opportunities led to a higher than usual level of performance pressure and pressure to approve transactions. At the same time, the buoyant asset prices and flow of money into the boom sector ensured that, for a period of time at least, transactions would continue to do well, virtually eliminating any negative feedback on the transactions and reinforcing the desirability of similar – and incrementally more risky – transactions.

7.5.1 Ignored

Respondents from Banks A and B reported that, in the period leading up to the real estate losses in the early 1990s, they did not attend to many of the rules they had in place governing lending to the real estate sector. In contrast, although Bank C's rules became more lenient, they were followed to a much greater extent. The result was that Bank C's real estate loan losses were significantly lower than those of Banks A or B. To understand why this is so, we must look at how each bank's credit policies and process fit within its other institutionalized elements and social structures.

In Bank C, the credit process and policies had successfully acted as a vehicle for transferring lessons across groups in the organization, and were a powerful means of guiding behaviour. In response to heavy loan losses throughout its mid-size commercial portfolio, a new credit process and policy system had been put in place in the mid-1980s. They were supported by policing and training systems, and portfolio management

practices. These policies were consistent with the organization's management philosophy, and other policies and organization level processes. Balancing the pressure to book new loans which the bank's growth strategy imposed on account managers, the bank had a number of institutionalized processes to promote loan quality, responsible lending behaviour and adherence to the rules. These included: loan review, which reviewed individual transactions; audit which reviewed the credit process; the 'dual credit process' whereby loans had to be approved by the account manager and concurred on by the credit officer; and the qualification process, which tied an individual's training and credit track record to his or her approval limit.

Banks A and B also had rules and credit processes, but they did not exert the same influence on behaviour. This was because they were easier to ignore, in the sense that they could often be disregarded without fear of punishment. All three banks had taken steps during the 1980s to improve their ability to manage credit risk, through revised policies or procedures. But, in comparison to Bank C's comprehensive overhaul, the initiatives of the other two banks were piecemeal, with rules written or changed for lending in one sector, or reduced approval limits for a category of account managers, or a department created to gather information on the corporate loan portfolio. But these efforts typically were not integrated with each other, or with fundamental changes in the processes and attitudes which had given rise to the loan loss events in the first place². One respondent provided an eloquent summary of this point: "the changes had not much affect on deal people – they still went about their business as usual – the real changes were made at the head office level"³.

² The exception to this statement is Bank A's comprehensive overhaul of the credit process governing its international business in the mid-1980s. The domestic and international businesses of the bank were run separately, so the new international credit process did not affect the bank's domestic credit process, which remained the same. In the 1990s after the bank's heavy real estate losses, the domestic credit process was also reengineered. Today it is very similar to the international credit process put in place almost 10 years earlier – under the leadership of the same executive.

³ Interview A-14

The result of these different approaches to change in the 1980s was that, in the period leading up to the real estate loan losses in the early 1990s, Bank A and B had corporate cultures which sent fundamentally different messages to their employees than did their credit rules. Their credit rules also sent different messages from their credit processes, in which the credit functions reported up through the business units, from training programs which were not systematically tied to individuals' lending decision track records and career opportunities, from reward systems which were based to a great extent on revenue and asset growth, and from audit systems which lacked the 'teeth' to ensure that rules were followed. In Bank C, however, the rules governing the granting of credit were in alignment with the bank's 'credit culture', processes, training, and policing systems.

7.5.2 Eroded

While the credit policies and processes were ignored in Banks A and B, but not in Bank C, their erosion was evident in all three banks. However, the speed of erosion differed: lessons were forgotten more quickly at Banks A and B than at Bank C.

Learning that is remembered at the organizational level in processes, structures, and policies was subject to erosion and change, largely due to pressure from business units which were themselves reacting to pressure from market forces. This erosion or change followed a predictable pattern. Groups which were in direct contact with clients (primarily account management) responded to intensified competition in the marketplace by bringing forward proposed transactions that did not fall within current bank policy, and required decisions to be made on whether or not to do the transactions. By doing so, the 'front line' groups forced the balance between new opportunities and previously learned lessons to be continuously renegotiated. On the other side of the negotiation were the groups with 'gatekeeper' or 'memory' type roles: the credit department, the risk management department and, to a lesser extent, top management.

Under this ongoing pressure from the front lines, policies became less restrictive and more favourable to the client over time. First, exceptions were granted to policy, and then more exceptions. Then the front line said that the policy didn't reflect the realities of the market (evidenced by all the exceptions the bank has been making), and needed to be changed. In other words, organizational memory of the loan loss events which had given rise to the relatively strict policies and procedures, diminished and faded. This pattern held very strongly across all three of the banks studied.

Whether and when the policies and processes were changed depended, to a great extent, on whether they were still believed to be relevant. If nobody was around who understood why a rule was made in the first place, and how it applied to the current situation, then there was little reason not to change it. To withstand the pressures against them, rules and procedures had to be explained and often defended by decision makers who understood and remembered their importance, and who had the power to uphold or change them.

It was the individuals who were involved in 'working out' a major loan loss event who, individually or sometimes as a group, later functioned as the organization's memory of the event. Even when lessons had been institutionalized in new policies or procedures, these people who 'lived through it' provided the context for institutionalized changes by explaining them to others. When they were in positions of power, they often defended the new policies or rules against pressure from the line units. But they seemed very aware that the balance was being renegotiated all the time. Many respondents with first-hand experience of the loan loss events across all three banks agreed that:

"It is important to keep some people who were involved, especially workout people. If you lose workout people then you lose valuable institutional experience. The new people can read the policies but they don't understand the context. They will see a policy written many years ago and say 'this is why we should make an exception'. If you don't have

people with the workout experience then you don't have context. Even a really good policy is not enough. It will be lost.”⁴

While this memory may reside in either individuals or groups, it appears that normal patterns of turnover make it difficult for lessons to be retained over time at the group level. At the individual level, the memory of lessons learned through working out the problem loans appeared to remain vivid for a number of years. But at the group level, membership in the workout unit ebbed and flowed. At Bank C, the workout unit was quite fluid, with few people staying longer than 3-4 years. At Banks A and B, the core workout group was more static, but there were nevertheless far fewer people in the units at the time of the research than there were in the early 1990s. In some cases, the group disappeared altogether when the work was done. So, five or ten years after a loan loss episode, the memory appeared to remain vivid at the individual level in a relatively small handful of people, but may not have resided in the collective memory of a specific group. And in the cases where there was a fairly stable core workout group, more memory would have been retained at the group level, but in a group with relatively little contact with the business units.

7.5.3 Factors Predicting Durability and Influence

However, three factors emerged from the research that predict the likelihood that institutionalized lessons will be more durable, and have a meaningful influence on behavior, over time. These are: the location of institutionalized lessons within a comprehensive, mutually reinforcing system of policies and processes; key decision-makers' individual memory and leadership; and an organizational culture that transmits, supports, and rewards behaviour in accordance with the lessons. It is interesting to note that the presence or absence of these factors is strongly related to the type of change process through which the lessons were originally institutionalized.

The research revealed two typical patterns of executive-driven change that disseminated lessons through the organization, beyond the affected sector. Some, like Bank A's formation of the Risk Policy Department in 1983 and the initiatives undertaken by that department, or Bank B's reduction of regional lending authorities in 1985, were modifications of rules, structures, information gathering processes and related artifacts designed to improve results within the existing credit and risk paradigms. Changes were made which reflected learning, but *because the fundamental assumptions that underpinned them remained the same*, I have called them 'first order' change initiatives.

Others, like Bank C's introduction of the dual credit process in the early- to mid-1980s, its integrated risk management project in the early 1990s, and Bank A's credit process reengineering in the early 1990s represented efforts to move beyond the existing paradigms. These were responses to the realization that "improving what we do is not going to be enough". I have called these 'second order' change initiatives because they required and engendered profound changes in mindset and culture inside the banks. They seemed to be responses, not to a single loss event, but to dissatisfaction with systems whose weaknesses have been highlighted by two or more loss events. They were initiated and driven at the most senior levels of the bank. They required changes not just in policy or structure, but in many interrelated areas of the complex organizational system involved in making corporate loans, including policy, risk management philosophy and techniques, structure, training and HR practices, accountability. In varying degrees, they encountered widespread and strong resistance to their implementation.

In these major change initiatives, a few executives recognized the need for fundamental change, and set out to learn what that change should look like. As they learned – largely from outsiders including consultants, competitors and regulators – they shared their learning within the bank. Initially they built a shared interpretation around what needed to change with a small group. Then they shared their findings more widely through a variety of communication channels and organization level change.

The study shows that second order change initiatives were much more likely to produce institutionalized lessons with influence and staying power than first order change initiatives. They were implemented in a comprehensive way, with processes, policies, training and other institutionalized artifacts all pointing behaviour in the same direction. In contrast, the piecemeal approach common in first order change initiatives made it much more likely that a given policy or process would send conflicting messages about expected behaviour. Second order change initiatives required the commitment and leadership of a few key executives, whereas first order change initiatives were more likely to be the province of executives who saw the need for change but were not as prepared to put themselves on the line. The comprehensiveness of the institutionalized elements in a second order change initiative, combined with the extensive communication efforts that accompanied them was also more likely to give rise to an organizational culture that supported behaviour in accordance with the lessons learned. In contrast, first order change initiatives had very little impact on culture.

An interesting question is raised regarding the relative importance of alignment and communication in ensuring the durability of institutionalized lessons. This study finds both to play a significant role. However, it is not able to 'disentangle' the relative effects of the two.

7.6 SUMMARY

In summary, the research shows that institutions do learn. The banks learned from their sector-specific loan losses. In particular, the people who were involved in cleaning up and explaining the problems learned a great deal about what had caused the loan losses and how to recover the banks' money. A certain amount of that learning was subsequently incorporated in lending rules and tools for use in the affected sector.

But they have trouble disseminating and remembering the lessons learned. In the banks, many lessons were never disseminated beyond the affected sectors. Those that were disseminated were subject to systematic erosion over time, and were frequently ignored in the face of performance pressures, particularly during economic boom conditions. The research showed rules and processes to be less durable, and have less impact on behaviour than organizational theorists and managers have tended to believe.

The content of lessons ('what') may be institutionalized in rules, structures, processes, and other artifacts. However, the context of the lessons ('why', 'how') cannot be institutionalized. Context, or meaning, only resides in people – individually or collectively. But the research shows that, when they are divorced from their meaning, rules and processes tend to erode, be ignored, and get replaced. Institutionalization alone does not assure that processes and rules will maintain their power and integrity over time. To be durable and influence behaviour in a meaningful way, they must be continually affirmed, explained and defended, particularly by people in the organization with the power to change or uphold them.

This chapter has outlined the findings of this study. The following chapter "lowers the microscope" on the various findings, exploring how existing academic theories and prior research can contribute to our understanding of how the banks learned from their loan losses. The chapter will also highlight areas where findings from this study can extend or contribute to prior research.

7.7 EXHIBIT I: Data Sources Supporting Findings

Findings	Bank A	Bank B	Bank C
<i>INITIAL LEARNING</i>			
1. Withdrawal → workout → differentiated reentry resulting in localized change	<i>Interviews</i> A-1; A-4; A-16; A-17; A-27; A-28; A-29 <i>Documents</i> A-doc-42; A-doc-49; A-doc-68; A-doc-89; A-doc-93; A-doc-94; A-doc-99	<i>Interviews</i> B-1; B-2; B-5; B-6; B-7; B-8; B-9; B-11; B-13; B-14; B-18; B-19; B-21; B-23; B-24; B-26 <i>Documents</i> B-doc-39; B-doc-54	<i>Interviews</i> C-3; C-6; C-19; C-20; C-23; C-27; C-29; C-35 <i>Documents</i> C-doc-24; C-doc-34; C-doc-36; C-doc-37; C-doc-38; C-doc-101
2. Working out problem loans key learning mechanism, who controls interpretation	<i>Interviews</i> A-1; A-4; A-6; A-10; A-11; A-12; A-5; A-16; A-17; A-18; A-19; A-22; A-26; A-28 <i>Documents</i> A-doc-52; A-doc-60; A-doc-62; A-doc-99	<i>Interviews</i> B-5; B-9; B-11; B-12; B-14; B-15; B-19; B-20; B-21; B-23 <i>Documents</i>	<i>Interviews</i> C-8; C-9; C-10; C-14; C-19; C-20; C-21; C-23; C-27; C-28; C-29; C-30; C-33; C-37; C-39 <i>Documents</i> C-doc-31; C-doc-70; C-doc-91; C-doc-152; C-doc-153
3. Organization-level factors influence individual and group learning	<i>Interviews</i> A-1; A-4; A-6; A-11; A-12; A-14; A-18; A-19; A-22; A-27; A-28; A-30 <i>Documents</i> A-doc-20; A-doc-21; A-doc-22; A-doc-28; A-doc-30; A-doc-79; A-doc-81; A-doc-84; A-doc-100	<i>Interviews</i> B-1; B-5; B-6; B-7; B-8; B-11; B-14; B-15; B-16; B-19; B-20; B-21; B-22; B-23; B-24; B-25 <i>Documents</i> B-doc-68; B-doc-71; B-doc-80	<i>Interviews</i> C-3; C-5; C-8; C-10; C-12; C-18; C-20; C-21; C-28; C-30; C-33; C-35; C-37; C-39; C-40 <i>Documents</i> C-doc-70; C-doc-73; C-doc-75; C-doc-91; C-doc-93; C-doc-108; C-doc-119; C-doc-121; C-doc-133; C-doc-139; C-doc-147; C-doc-182; C-doc-192
4. Learning by executives results in broader scope of changes	<i>Interviews</i> A-1; A-4; A-5; A-6; A-11; A-12; A-13; A-14; A-16; A-19; A-21; A-22; A-23; A-26; A-29; A-30 <i>Documents</i> A-doc-34; A-doc-35; A-doc-36; A-doc-96; A-doc-98; A-doc-100; A-doc-101; A-doc-105	<i>Interviews</i> B-5; B-11; B-12; B-14; B-15; B-16; B-22; B-23; B-25; B-26 <i>Documents</i> B-doc-23; B-doc-30; B-doc-84; B-doc-87; B-doc-92; B-doc-97	<i>Interviews</i> C-1; C-2; C-4; C-9; C-10; C-11; C-13; C-14; C-17; C-21; C-26; C-27; C-29; C-30; C-34; C-36; C-37; C-40 <i>Documents</i> C-doc-31; C-doc-33; C-doc-46; C-doc-50; C-doc-55; C-doc-65; C-doc-74; C-doc-79; C-doc-80; C-doc-87; C-doc-143; C-doc-154; C-doc-176; C-doc-183; C-doc-191; C-doc-192; C-doc-195; C-doc-199
<i>DISSEMINATION OF LESSONS BEYOND AFFECTED LENDING UNIT</i>			
5. Lack of direct horizontal communication	<i>Interviews</i> A-4; A-5; A-6; A-10; A-12; A-14; A-16; A-17; A-19; A-21; A-22; A-24; A-28 <i>Documents</i> A-doc-27; A-doc-60	<i>Interviews</i> B-1; B-2; B-4; B-6; B-8; B-11; B-14; B-15; B-19; B-20; B-21; B-24 <i>Documents</i>	<i>Interviews</i> C-2; C-17; C-18; C-23; C-27; C-33; C-37; C-39 <i>Documents</i>

EXHIBIT I: Data Sources Supporting Findings (continued)

Findings	Bank A	Bank B	Bank C
6. Institutionalized boundary-spanning mechanisms	<i>Interviews</i> A-5; A-12; A-16; A-21; A-23; A-26; A-30 <i>Documents</i> A-doc-63; A-doc-65; A-doc-66; A-doc-72; A-doc-73; A-doc-74; A-doc-105	<i>Interviews</i> B-6; B-10; B-11; B-15; B-16; B-21; B-24; B-25 <i>Documents</i> B-doc-32 to B-doc-38; B-doc-40 to B-doc-43; B-doc-45; B-doc-46; B-doc-48; B-doc-87; B-doc-92	<i>Interviews</i> C-3; C-10; C-12; C-13; C-14; C-25; C-26; C-27; C-30; C-37 <i>Documents</i> C-doc-19; C-doc-28; C-doc-66; C-doc-71; C-doc-80; C-doc-88; C-doc-107; C-doc-114; C-doc-120; C-doc-127; C-doc-128; C-doc-144; C-doc-154
7. Role of executives	<i>Interviews</i> A-1; A-5; A-7; A-12; A-13; A-14; A-21; A-30 <i>Documents</i> A-doc-45; A-doc-47; A-doc-48; A-doc-53; A-doc-54; A-doc-56; A-doc-58; A-doc-59; A-doc-96; A-doc-98; A-doc-106; A-doc-107; A-doc-108	<i>Interviews</i> B-1; B-5; B-6; B-11; B-12; B-14; B-15; B-16; B-18; B-19; B-20; B-21; B-23; B-24 <i>Documents</i> B-doc-25, B-doc-28 to B-doc-31; B-doc-51; B-doc-52; B-doc-55; B-doc-58; B-doc-59; B-doc-69; B-doc-76; B-doc-77; B-doc-83; B-doc-87; B-doc-89; B-doc-95	<i>Interviews</i> C-6; C-9; C-10; C-11; C-13; C-19; C-20; C-21; C-23; C-26; C-29; C-34; C-39 <i>Documents</i> C-doc-46; C-doc-50; C-doc-55; C-doc-65; C-doc-67; C-doc-74; C-doc-79; C-doc-80; C-doc-82; C-doc-84; C-doc-87; C-doc-94; C-doc-95; C-doc-100; C-doc-102; C-doc-107; C-doc-120; C-doc-144; C-doc-191
8. Role of training	<i>Interviews</i> A-1; A-4; A-15; A-25 <i>Documents</i> A-doc-67; A-doc-71	<i>Interviews</i> B-12; B-19; B-20 <i>Documents</i>	<i>Interviews</i> C-4; C-13; C-18; C-21; C-22; C-24; C-26; C-36 <i>Documents</i> C-doc-33; C-doc-60; C-doc-68; C-doc-83; C-doc-97; C-doc-122; C-doc-138; C-doc-149; C-doc-150; C-doc-155; C-doc-181
REMEMBERING LESSONS			
9. Normalization of Deviance – I.e. Erosion of Memory	<i>Interviews</i> A-1; A-2; A-4; A-6; A-7; A-11; A-12; A-14; A-18; A-19; A-21; A-22; A-24; A-27; A-30 <i>Documents</i> A-doc-27; A-doc-60; A-doc-77; A-doc-100	<i>Interviews</i> B-1; B-2; B-6; B-7; B-8; B-9; B-14; B-15; B-18; B-19; B-21; B-23; B-24 <i>Documents</i> Newspaper clippings	<i>Interviews</i> C-1; C-6; C-10; C-12; C-14; C-21; C-25; C-26; C-28; C-29; C-33; C-37; C-39 <i>Documents</i> C-doc-33; C-doc-48; C-doc-94; C-doc-154; C-doc-164; C-doc-183
10. Importance of Workout People in Providing Memory	<i>Interviews</i> A-1; A-4; A-6; A-9; A-16; A-17; A-18; A-19; A-22; A-28 <i>Documents</i> A-doc-60; A-doc-62	<i>Interviews</i> B-2; B-5; B-6; B-7; B-8; B-9; B-11; B-12; B-14; B-18; B-21; B-23; B-24 <i>Documents</i>	<i>Interviews</i> C-5; C-18; C-19; C-20; C-21; C-22; C-26; C-27; C-29; C-37; C-39 <i>Documents</i> C-doc-33; C-doc-183

EXHIBIT I: Data Sources Supporting Findings (continued)

Findings	Bank A	Bank B	Bank C
11. Influence of Memory in the form of Institutionalized Artifacts on Behaviour	<i>Interviews</i> A-1; A-2; A-4; A-5; A-6; A-7; A-10; A-11; A-12; A-14; A-16; A-19; A-21; A-22; A-24; A-27; A-28 <i>Documents</i> A-doc-19; A-doc-24; A-doc-29; A-doc-32; A-doc-33; A-doc-34; A-doc-64; A-doc-69; A-doc-70; A-doc-100	<i>Interviews</i> B-1; B-4; B-5; B-6; B-7; B-8; B-11; B-14; B-15; B-16; B-18; B-19; B-20; B-22; B-23; B-24 <i>Documents</i> B-doc-39; B-doc-48; newspaper clippings	<i>Interviews</i> C-1; C-3; C-9; C-10; C-12; C-13; C-18; C-21; C-22; C-26; C-28; C-30; C-33; C-34; C-37; C-39 <i>Documents</i> C-doc-19; C-doc-20; C-doc-21; C-doc-26; C-doc-30; C-doc-32; C-doc-33; C-doc-65; C-doc-84; C-doc-96; C-doc-112; C-doc-120; C-doc-144; C-doc-148; C-doc-149; C-doc-154; C-doc-157; C-doc-169; C-doc-192

**TIME FRAME /
LOAN LOSS
EVENTS
1982 -
LDC Losses**

BANK A

<i>Sector-Specific Changes</i>
Special Sovereign Loans Unit Country risk mgt centralized New process for country risk Most Latin American offices shut Stop LDC country lending

BANK B

<i>Sector-Specific Changes</i>
Special Sovereign Lending Unit Withdraw from Latin America Close Latin America offices No balance of payments lending

BANK C

<i>Sector-Specific Changes</i>
Special Country Unit Exit Latin America etc. Stricter Country Limits No Balance of Payments lending

**Energy Losses
1982 for A & B
but 1986 for Bank
C)**

<i>Sector-Specific Changes</i>
Special Loans Unit formed Global Energy Group disbanded Shut down energy lending New models for energy lending Oil & Gas Lending Manual Tiering clients

<i>Sector-Specific Changes</i>
Energy Loans included in SLU Focus on workout, not marketing Stop lending to service sector Consolidate o&g portfolio

<i>Sector-Specific Changes</i>
Energy Loan Portfolios merged SAMU exec takes o&g portfolio Mandate to recover o&g \$ (86) Sensitivity analysis Conservative oil price estimates Minor changes in o&g policy

**Other Bank-
Specific Losses**

**International Portfolio; Real
Estate in Western Canada**

<i>Sector-Specific Changes</i>
International credit centralized Pursue North American growth Real Estate Lending Manual

**Domestic Commercial
Portfolio**

<i>General Changes</i>
Special Loans Unit formed Regional lending authority lower Bank reorganized into SBUs Risk rating system (88) Com'l lending expert system (90)

**Domestic Commercial
Portfolio**

<i>General Changes</i>
Special Accounts Mgt Unit Overhaul: Dual credit process Redo policy process & controls Qualification Process & training Audit / monitoring systems

**1992 -
Real Estate
Losses**

<i>Sector-Specific Changes</i>
Defaulting r/e to Special Loans U Healthy r/e loans centralized Shut down r/e lending (92) Reduce lending overall (92) R/E acct mgrs relieved of admin New r/e policies

<i>Sector-Specific Changes</i>
Consolidated N.Am. r/e lending Some r/e loans into SLU R/E split into corp & comm, and into high risk & ongoing business No land, speculative, term loans New models for cash flows Focus on documentation, collection & relationships

<i>Sector-Specific Changes</i>
New real estate strategy RE2 workout, moved to SAMU RE1 moved to PCFS Exit RE2 Cash flows in r/e loan apps Retention limits tied to risk Stricter r/e lending policy Policy to address cyclicality Quicker changes to lds

<i>General Changes</i>
Industry specialization Industry analysis group formed Special Advisory Services Risk Mgt Dept - broader mandate Risk Mgt Framework pyramid
<i>General Changes (Credit Process Reengineering)</i>
Credit centralized bank-wide Client, sector, country strategies Tiering clients in all sectors Every policy rewritten New policy process & hierarchy

<i>General Changes</i>
Risk Mgt / Credit consolidated, & independent New credit process, policies Process for exceptions to policy Liquid Credit' strategy Credit fn specialized by industry Concentration limits Developing portfolio mgt

<i>General Changes</i>
Loan Portfolio Management Unit RAROC targets Portfolio optimization Expanded risk rating RMV Credit Monitor Early warning signals Back into Latin America (95) SCU wound down

Signifies part of a major 'second order' change initiative

CHAPTER 8

DISCUSSION

8.1 INTRODUCTION

In this chapter, the findings described in the previous chapter are interpreted in the context of prior research, and their implications are discussed. As discussed in Chapters 2 and 3 (Literature Review and Methodology), this study draws upon a range of theoretical perspectives in order to understand the phenomenon of sector-specific credit losses and how banks learned from these experiences.

Several observations emerged from early efforts to discuss the study's findings in the context of existing theoretical perspectives and prior research. The first was that the discussion was fragmented, in the sense that there were a number of theories that helped to illuminate parts of the phenomenon. But no one theory satisfactorily explained the entire phenomenon. Bank learning from sector-specific credit losses did not fit neatly into any of the available organizational learning theories. This observation suggested that organizational learning processes or patterns may be quite different under different circumstances, and that the various theories made different assumptions about these circumstances.

What are the salient dimensions of a situation that make one learning theory more applicable than another? This research suggests that the magnitude and seriousness of the consequences of failure may be an important dimension. It should be noted that, in the context of a learning situation, errors or failures are not necessarily negative things. They represent potential feedback on decisions or actions, and as such can be key triggers of learning. Failures or errors can be thought of as occasions for learning. The seriousness of the consequences of failure may be pictured as a continuum. One end of the continuum is anchored by the research into learning curves (eg. Yelle 1979), where the cost of a single error is small. The characteristics of the manufacturing process and

the low cost of failure mean that feedback can be continuous. There are many low-cost opportunities to learn from small errors and, as a result, make improvements in the manufacturing process. In this situation, there is a low risk / cost to experimentation, a relatively high tolerance for experimental failures, a short and continuous feedback cycle providing many opportunities for learning. An error is not catastrophic.

At the other end of the spectrum are high-reliability systems, including air traffic systems, aircraft carriers, and nuclear plants (eg. Perrow 1984; Weick and Roberts 1993). The consequences of a failure in this type of environment can be catastrophic. Because the risk / cost of a failure is so high, great efforts are made to avoid it, and usually these efforts are successful. As a result, there are relatively few opportunities to learn from mistakes. In this type of situation, “real-time” or “on-line” experiments are risky and potentially costly, tolerance for failure is very low, feedback is very limited, and negative outcomes are potentially disastrous.

These characteristics of a learning context are interesting in light of the phenomenon being studied. Many of a bank’s activities – including retail loans, mortgages, credit cards – fall at the “low cost and high tolerance for error” end of the spectrum. The commitments are small in size and large in number. A single error is not catastrophic. Indeed, the banks target an acceptable error rate.

Under normal lending conditions, corporate loans also fall toward this end of the continuum, although their larger size and lower frequency mean they have higher risk and less feedback than smaller and more numerous retail loans. Banks usually receive regular feedback, both positive and negative, on their corporate lending decisions. The availability of feedback allows them to test the boundaries of their credit policies through making “exceptions”, find out whether these experiments have been successful, and reflect this feedback in subsequent decisions. So, although the risks of learning are higher than for retail lending, corporate lending under normal circumstances is an activity characterized by regular feedback, relatively low risk associated with a single error, and a fairly high tolerance for experimentation.

In a “boom” situation, however, this profile changes. Negative feedback is minimal for prolonged periods of time. Everything appears to work. More and larger exceptions are made, and for an extended period, feedback on these “experiments” is positive. While the cost of one corporate loan going bad is not material to a bank, the deterioration of a whole sector of corporate loans during the bust following the boom is catastrophic.

Large corporate lending is an interesting phenomenon from a learning perspective because its characteristics with respect to the cost of failure, the availability of feedback, and the risks and rewards of experimentation are not stable. Instead, they oscillate from one end of the continuum outlined above to the other, depending upon exogenous lending conditions, “normal” or “boom”. This characteristic may pose a problem for learning theories and for practitioners. Where theories of learning make assumptions about underlying conditions – tolerance for failure, timing and volume of feedback, and the cost or risk of experimentation – these stable assumptions may make it difficult for one theory to explain a phenomenon that oscillates with respect to these conditions.

The literature review provided an extensive ‘menu’ of theoretical perspectives that were available for application to this phenomenon. The theories used coming into the study tended to fall toward the low-risk, high desirability of experimentation, high feedback end of the spectrum, or did not deal explicitly with this subject. During the data analysis stage of the research, it became apparent that the theories used going in fitted well with some of the data but not all of it. Efforts to make sense of the remaining data led to the use of theories with assumptions falling further toward the high-risk, low tolerance for experimentation and failure, low feedback end of the continuum.

8.2 INITIAL INDIVIDUAL AND GROUP LEVEL LEARNING

The research streams and theoretical perspectives that are most useful in furthering our understanding of the individual and group level learning that occurred in the period immediately following the loan loss episodes are the 4-I theory (Crossan et al 1995, 1999), work on improvisation (Crossan et al 1996; Crossan and Sorrenti 1997), and research into communities of practice (Brown and Duguid 1991; Lave and Wenger 1990).

The OL literature has tended to make the implicit assumption that all of an organization's employees are equally likely to learn (or equally capable of learning) from a given environmental change or event. However, this research shows that certain work processes and situations are much more conducive to learning from an external crisis than others. Specifically, it appears that the workout process was particularly conducive to a high degree of learning at the individual and group levels because it involved a great deal of communication, and offered the opportunity for experimentation.

That a great deal of learning was found in the workout units, where experimentation and novel actions were required from each of their members, highlights the fact that changes in action may generate changes in cognition. Novel actions can open the door to new ideas and insights, can reveal presumed constraints and barriers as illusory, and can stimulate further novel action. Because the workout process requires actions which are novel by virtue of the fact that they are part of activities which are outside the banks' normal businesses and routines, it stimulates new ways of viewing the situation and reveals possibilities which may have been unthinkable in 'normal' circumstances.

This observation is consistent with the contention of a number of theorists (Daft and Weick 1984; Hedberg 1981; Levitt and March 1988; Weick 1979) that action, or 'enactment', is an important source of raw material for interpretation and, more generally, learning. What we see during the workout process is what Crossan and Sorrenti (1997)

describe as experimental learning, where changes in behaviour precede changes in cognition. They note that “a mindset that suspends judgment while trying new behaviours” increases the probability that new behaviours will in fact lead to changes in cognition. The uncertainty inherent in the workout process allows such a suspension of judgement. It should be noted, however, that experimental learning is inherently local in nature, and is more fragmented and harder to integrate than other forms of learning (Miller 1990, 1996; Staw 1977). This assertion is consistent with the finding described in the previous chapter, that the lessons learned during the withdrawal → workout → reentry process tended to be institutionalized in the unit that had experienced the loan losses, with very little generalization to other units.

As noted above, one of the characteristics of the workout unit was a great deal of communication among its members. The 4-I theory would describe this communication as interpreting and integrating the insights generated by members as they experimented with ways to work out the problem loans. Consistent with the theory, the communication seemed to give rise to a flow of learning between members, and back and forth between individual and group levels. We can draw a parallel between the workout bankers talking to their colleagues about issues in their problem loan files and the Xerox repairmen described in the communities of practice research (Brown and Duguid 1991; Wenger 1991) swapping war stories and suggestions over a broken photocopier machine. It appears that the communities of practice which arose around working out the problem loans facilitated individual and group learning about the loan loss events because of the intensity of communication among members.

In addition to requiring novel actions, which seemed to have been instrumental in generating insights into the loan loss event, and a lot of communication, which allowed ideas to be shared, the workout unit also provided an environment where these insights could be tested immediately by applying them to the management of problem loans. It is possible that the opportunity for both experimentation and applying newly generated insights to other problem loans is a combination which made the workout process a particularly fertile ground for individual and group level learning.

The observation that a great deal of learning takes place during the workout process, which is characterized by novel actions, intense communication, and the opportunity to act on newly generated insights, directs our attention to recent work on improvisation in organizations (Crossan, White, Lane and Klus 1996; Crossan and Sorrenti 1997). The 4-I theory of organizational learning defines intuition, an individual level learning process, as where new ideas originate. Improvisation is action which reflects a high degree of both intuition and spontaneity. "Intuition becomes improvisation when it is applied to action in a spontaneous way" (Crossan and Sorrenti 1997: p.4).

Crossan and Sorrenti propose several factors that are expected to enhance the improvisation process: intuitive insight; technical ability; group dynamics; and motivation. They also suggest that improvisation would be limited by external structure. It is interesting to note that several of the enhancing factors seem to be present in workout groups. Because many of the key individuals who worked out the problem loans were senior people with many years of credit, workout, or industry-specific experience, we can infer high levels of expert intuition and technical expertise. Although the banks are organizations that ordinarily embraced a high level of planning and control, the breakdown of their normal systems reflected in the major loan losses, and the nature of the work-out task created the motivation to improvise. Furthermore, the workout groups also enjoyed a certain amount of freedom from the structures that virtually eliminated improvisation in the banks' other corporate credit-related functions, including many of the lending policies and bits of the credit granting process.

In the absence of an inquest into the loan losses, alternative interpretations were rarely sought or encouraged. This observation is interesting in light of research which suggests that one of the tactics organizations can employ to moderate the sample size problem associated with learning from a non-recurring event is to augment history through encouraging multiple observers or interpretations to draw different lessons from the same experience (Dearborn and Simon 1958; Sproull and Hofmeister 1986). It is also

interesting in the context of Huber's (1991) contention that multiple interpretations implied more, or more "elaborate" learning.

But the incidence of a critical event like a major loan loss episode, and the need to explain it to a number of stakeholder groups, appeared to generate a number of pressures toward having a single, easily communicated interpretation. Respondents attributed the absence of alternative interpretations to two things. Their colleagues were happy to get rid of the problem files and not have to think about them any more. And, because the workout unit was comprised largely of senior, credible people, nobody saw any point in questioning their interpretation. This observation is anticipated by theorists (Cohen, March and Olsen 1972; Cyert, Dill and March 1958) who note that, under circumstances of high complexity and high pressure to explain, an interpretation may be rapidly adopted because of its temporal proximity, political convenience, or cognitive availability.

The finding that the people who investigated, explained, and 'cleaned up the mess' learned most from a loan loss episode provides an important insight into how organizations learn from an infrequently occurring crisis-type event. In terms of the 4-I theory, it locates the most intense individual and group level learning in one or more very specific and identifiable groups of people. It supports three of the 4-I theory's propositions: that learning at one level affects the other levels; that processes link the levels; and that cognition affects action and vice versa. It provides particular insight into the interaction between individual and group level learning, and into the effects of action on cognition.

This finding regarding who learned the most may prove to be generalizable well beyond the banks that were studied, or even the banking sector. It suggests that, in the absence of a formal ex post inquest after an organizational crisis event, researchers and executives may be well served by looking to the people who picked up the pieces for the greatest learning, and the best articulation of lessons to be learned.

8.3 DISSEMINATION OF LESSONS BEYOND THE AFFECTED UNIT: EXPERIMENTATION IS MODERATELY DESIRABLE; FEEDBACK IS EQUIVOCAL AND LESS FREQUENT

This research has identified a predictable pattern of withdrawal → workout → reentry that occurs to varying degrees after a major sector-specific loan loss event. The learning that occurs as a byproduct of this process is typically institutionalized in the unit that experienced the loan losses, but that the institutionalized lessons have little or no effect on other lending units. The initial, ‘normal’, process by which banks learn from their sector-specific credit losses is localized in nature, and does not travel much beyond the affected units. This finding is important because it provides our first clue as to why the lessons learned from a loan loss event often appear not to have been applied in other business sectors, at later points in time.

This study found that many factors inhibited the dissemination of lessons, and learning from a sector-specific loan loss episode was largely a local phenomenon, which, even when embedded in new policies or systems, may only have had an impact in the affected sector.

However, some lessons *were* disseminated across business units. This research shows that executives played (or had the potential to play) a crucial role in ensuring that lessons were disseminated beyond the affected sector. Senior executives were able to transfer lessons across organizational boundaries, or facilitate their transfer, in a number of ways. They were particularly influential through their story-telling activities, decisions, boundary-spanning responsibilities, and leadership of change initiatives.

The most dramatic – and apparently effective – instances of executives disseminating the lessons they had taken from their banks’ loan losses across business units were the ‘second order’ change initiatives described in the previous chapter.

In considering the extent to which lessons were disseminated beyond the affected unit, how dissemination occurred, and why the transfer of lessons was frequently blocked or incomplete, the 4-I theory continues to be useful in explaining much of what was observed. It is joined by several other theoretical perspectives, however, most notably March's work on exploration vs. exploitation, and Nelson and Winter's evolutionary theory of economic change. These latter two perspectives share assumptions regarding the desirability of experimentation that are similar to each other, but somewhat different from the 4-I theory. Whereas the 4-I theory is neutral in its position with respect to the cost of experimentation, these perspectives explicitly note that experimentation may be costly, with potentially significant costs and likelihood of failure. They see the outcomes of experimentation (ie. the feedback) as potentially difficult to identify and predict, often taking some period of time to become known. March summarized his position as follows: "The essence of exploration is experimentation with new alternatives. Its returns are uncertain, distant and often negative" (1991: p.120). Nelson and Winter note that "changes that seem like obvious improvements viewed from a particular role can easily have adverse affects elsewhere in the system" (1982: p.116).

We can discern a shift in the learning environment that corresponds with these assumptions concerning the cost of experimentation and the availability of feedback. The initial learning after a loan loss event was a localized activity, occurring in a single area of the business, with the lessons thoroughly shared and understood within the affected unit, and resulting in institutionalized changes based on what these people had learned. In contrast, dissemination of those lessons across units involved people who were not directly affected by the loan loss episode making changes based on other people's experiences, that may or may not have been applicable to their own situation. It involved them taking on a potentially greater risk of failure (eg. failing to meet their unit's revenue targets vs. losing \$5 million, a small amount in the context of a large bank) for less obvious rewards (having already avoided the previous loan loss episode, avoiding the next one would not be a compelling benefit). It also tended to involve making changes whose outcomes would not be fully understood for months or years. Again, we see that

the theoretical perspectives appear to be more applicable in a learning situation where their assumptions regarding failure, feedback, and experimentation are fulfilled.

In the following section, the study's results will be discussed in the context of previous research, with particular attention to the theories mentioned above. To a great extent, the discussion will *not* be about the risks and costs of failure and the availability of feedback. However, underlying assumptions with respect to these characteristics may provide the link between the theories discussed and their applicability to the dissemination of lessons from the loan loss events beyond the affected units.

8.3.1 Localized Institutionalization of Lessons

Although the withdrawal → workout → reentry cycle was not anticipated by the 4-I theory, there are many aspects of this cycle which are consistent with the theory, and offer insight into three of its propositions. Learning occurred during the workout and reentry stages of the cycle. It occurred across all three levels of analysis, and was characterized by the processes of intuition, interpretation, integration and institutionalization. During the workout, a great deal of learning occurred at individual and group levels within the workout unit, through the processes of intuition, interpretation and integration. During the reentry period, learning was evident at the group and organization levels as decisions were made on the reentry transactions, and decision criteria were embedded in new policies, structures and analytical tools. This period was characterized by a great deal of discussion across key decision making groups (integration), and the institutionalization of these decisions.

It is important to note, however, just because something has been institutionalized does not necessarily mean that it is far-reaching in its scope, or that its impact is felt beyond a small group. Institutionalization, particularly into organizational routines, is viewed in the OL literature as an important mechanism by which lessons can be transferred to employees over time, even when the individuals who learned the lessons initially have left the organization (Cyert and March 1963; Levitt and March 1988;

Nelson and Winter 1982). But examination of the withdrawal → workout → reentry cycle forces us to recognize explicitly that the ability of institutionalized artifacts to transfer and sustain learning may be very limited in scope. Just as the previous finding highlighted the OL literature's tendency to be too general about who learns, this finding suggests that it also needs to be more specific in its treatment of the influence of institutionalized processes and structures. It is helpful, as we assess the impact of institutionalized learning, to think along two dimensions: time and scope.

Scope, for example, appears to be a function of the level in the organization at which learning occurs. The lessons that were institutionalized through the withdrawal → workout → reentry cycle reflected a 'bottom-up' learning process. In terms of the 4-I theory, the Individual → Group, Individual → Organization, and Group → Organization feed-forward of learning may have originated with middle-level or front-line people in the workout unit and related departments. In the following section, this will be contrasted with the much greater scope exhibited by 'top-down' learning initiated at the executive level.

Finally, it should be noted that these lessons, while they may be narrow in scope, appear to be durable. There is some evidence to suggest that they resist erosion over time, or erode more slowly than more widely disseminated lessons. This observation is consistent with the views of theorists including Brown and Duguid (1991), Cook and Yanow (1993), and Lave and Wenger (1990), who espouse a learning-in-working approach to OL. This approach holds that learning is virtually inseparable from the work context in which it occurs, so learning is expected to occur within a given work group. When learning occurs in the context of work, it includes both information and the meaning or interpretation given to the information, as well as both tacit and explicit knowledge.

8.3.2 Little Direct Horizontal Communication

Very little direct horizontal communication occurred across lending units. First let us consider the barriers to the transfer of learning arising from strategy and reward systems, ie. from performance pressure. The pressure to book new loans appeared to severely limit the transfer of learning from previous loan loss events because it created a strong *disincentive* to listen to, or seek, information that might have impaired a person's ability or desire to make a loan. When the pressure to increase revenues was augmented by an organization-level factor like strategy, its constraining effect on learning was made stronger. When it was further supported by others, like structure or culture or process, the effect was further intensified.

This study offers insights into the feed-back loop, the specific ways in which institutionalized artifacts shape and constrain learning. The finding that performance pressure inhibits the dissemination of learning provides strong support for the 4-I theory's proposition that tension will exist between new and earlier institutionalized learning, and the assertion that "the tension between assimilating new learning and using what has already been learned arises because the institutionalized learning (what has already been learned) impedes the assimilation of new learning" (p. 34).

The 4-I theory describes intuiting as largely a process of pattern recognition. However, the above discussion shows that performance and strategic pressures prevented pattern recognition and/or the communication of perceived patterns. They simultaneously guided account managers towards attending to information which would support their drive for new lending business, and suppressed the discovery or discussion of contrary information, including the parallels between the current 'hot' market and the previous one. The observation that performance pressures can inhibit learning processes at both the individual and group levels supports the findings of Elmes and Kassouf (1995). They reported that pressure to produce results as quickly as possible prevented scientists from taking time to reflect upon their work or communicate beyond the necessary with their colleagues.

That performance pressure influences risk assessment decisions, causing the systematic underrating of both new borrower riskiness and the riskiness of large loans, is also a central finding of McNamara and Bromily (1997). This observation is consistent with other studies in the risk literature, which suggest that organizational pressures exert significant influence on managers' assessments of risky decisions (Bromily 1987; March and Shapira 1987).

Institutionalized artifacts, primarily geographic structure and credit process, also shaped learning. Both of these reflected and defined organizational power structures in which the account management or marketing function took precedence over the credit or risk management functions. These power structures directed participants' attention and effort toward growth, and inhibited the discussion and development of ideas that might get in the way of growth. Structure also influenced learning by defining and restricting who participants talked to and worked with. To the extent that people with different (potentially contrary) interpretations of market opportunities and the wisdom of making certain loans were geographically distant, they were not heard in the course of normal work, and there was no reason that their points of view had to be considered.

That learning would be influenced by institutionalized artifacts is anticipated by a number of organizational researchers, particularly through the effects of routines and structure. In particular, a body of existing work would suggest that we should not be surprised to find that learning after loan loss events is not 'naturally' disseminated throughout the affected banks. Their hierarchical, mechanistic structures limit the lateral flow of information, and the influence of peers as opposed to superiors (Ashkenas et al 1995; Burns and Stalker 1961; Ostroff and Smith 1993).

This study yields quite different results from those of Szulanski (1996). Szulanski's study identified recipients' lack of absorptive capacity, causal ambiguity, and an arduous relationship between source and recipient as the three most important barriers to the transfer of best practice knowledge. In contrast, this research finds that strategic

and structural factors – referred to as institutionalized organization-level elements in the 4-I model – and the patterns of motivation engendered by these structural factors play a major role in preventing the dissemination of lessons from loan loss events. Many factors inhibited the ‘natural’ dissemination of lessons from loan loss events across business units, but the data collected for this study suggests that the most important of which were the barriers imposed by organizational structures, promotion and reward systems which discouraged the acquisition of potentially awkward information, and social pressures toward conformity.

A possible explanation for the different results is that the data in Szulanski’s study was based on transfers of knowledge that *actually happened*, although with varying degrees of success or difficulty, whereas this research includes both transfers that took place and those that did not. It is possible that a data set that includes potential transfers of knowledge that never actually materialized would show a much stronger influence of structural and motivational factors. This suggests that the exploration of internal stickiness needs to focus more on organizational context. It also suggests that the factors inhibiting the flow of knowledge in an organization vary depending on the extent to which dissemination has already occurred.

8.3.3 Institutionalized and Social Boundary-Spanning Mechanisms

Despite the barriers to direct horizontal communication, some of the lessons from the loan loss events were disseminated beyond the affected units. The broader dissemination of lessons tended to correspond to more broadly-based loan loss experiences, in which losses occurred over several industry sectors. The leadership of executives with boundary-spanning responsibilities was the most important factor in ensuring the transfer of lessons beyond the affected units. Lessons were transferred when someone with the power to do something about it recognized their applicability to other areas of the business. Executives had two types of tools to use in disseminating lessons: institutionalized boundary-spanning mechanisms, and social boundary-spanning

mechanisms. This finding is of practical significance because it begins to suggest how organizations can improve the internal dissemination of lessons across business or functional units. It also helps us in beginning to understand why some banks appear to have been more effective than others in learning from their sector-specific credit losses.

Institutionalized boundary-spanning mechanisms commonly used in the banks included changes in policy, risk management procedures, risk rating systems, and credit process. Consistent with the earlier observation that hierarchical, mechanistic organizations promote a vertical rather than lateral flow of information, institutionalized boundary-spanning mechanisms typically followed an ‘up-then-down’ pattern. Lessons flowed ‘up’ from the people closest to the problem loans to boundary-spanning functions such as risk management and the senior executive team, then ‘down’ again across several business units in the form of firm or industry concentration limits, new risk rating guidelines, or changes in the credit process.

The role of institutionalized artifacts in transferring learning across organizational units is predicted by the 4-I theory. The theory anticipates a feed-back loop whereby changes in process, policy, structure and other institutionalized artifacts influence what is learned at the group and individual levels. However, that institutionalized boundary-spanning mechanisms are important *because there is a lack of horizontal communication across groups* is not anticipated by the theory. Instead, the theory would tend to suggest that some degree of communication would occur across groups through the process of integration.

The observation that institutionalized boundary-spanning mechanisms help to offset the lack of direct horizontal communication provides a new insight into how banks learn from loan loss events. It suggests that $\text{Group}_1 \rightarrow \text{Organization Level} \rightarrow \text{Group}_2$ is a more common or likely way for lessons to be transmitted than $\text{Group}_1 \rightarrow \text{Group}_2$. This has a number of implications. Firstly, as will be discussed later in the chapter, only people -- alone or in a group -- can remember why decisions were taken. Only people can remember context (Walsh and Ungson 1991). When learning is institutionalized in

organization level artifacts such as policy or structure, the context or the *meaning* is filtered out. So, with the Group₁ → Organization → Group₂ pattern of dissemination, Group₂ learns ‘what’ but not ‘why’. It receives the rule but not the context. Whereas with the Group₁ → Group₂ pattern, Group₂ receives both the lesson and the context, through discussions, stories and working together.

This distinction may be particularly significant when the lessons being transmitted are about errors or negative events. This research suggests that people in organizations are unlikely to seek out lessons other have learned from negative events, and may also be reluctant to communicate what they have learned. The research showed executive intervention, often in the form of organization-level boundary-spanning mechanisms, to be essential to the transmission of lessons from the loan loss events (Group₁ → Organization → Group₂), suggesting that lack of context or meaning will be a pervasive problem.

Framed somewhat differently, institutionalized boundary-spanning mechanisms are not what Daft and Huber (1987) would call rich media channels of communication. While they allow the transfer of information (eg. “don’t lend more than \$500 million to any one client”), they do not facilitate its interpretation (eg. “why is it wrong to lend too much to one client? why is \$500 million the limit? is this relevant under all circumstances?”) They are more effective in disseminating information that requires little interpretation than in disseminating equivocal information. However, major loan loss episodes are highly equivocal events. Their causes, the nature and extent of the problem, and the appropriate remedies are all unclear while the episode is happening, and often for many years afterwards. Even with the benefit of hindsight, a number of plausible explanations may exist for a loan loss event. Furthermore, judgement has traditionally been an important component of the credit-granting process for large corporate borrowers. Credit officers are typically bankers with many years of experience. Judgement is a form of tacit knowledge, not readily transferable through institutionalized boundary-spanning mechanisms.

This research has shown institutionalized boundary-spanning mechanisms to be important and effective tools for disseminating lessons within an organization. However, the preceding discussion suggests that there are certain components of the lessons learned from sector-specific loan loss events that cannot be transferred through these mechanisms. This brings us to executives' other tool for disseminating learning: *social* boundary-spanning mechanisms.

Executives' interpretations of and reactions to a loan loss are influential in social terms. Research in the field of social psychology has documented the pressures toward uniformity experienced by people in organizations (reviewed in Nemeth and Staw 1989). In particular, "persons who hold positions of power or who are viewed as higher in status are powerful sources of influence, and agreement is often achieved by adopting the positions they propose" (Nemeth and Staw 1989: p.180). Pressures to agree with those in positions of authority, combined with the lack of widely available competing interpretations identified earlier in the chapter, mean that through their communication of the loan loss stories, bank executives exercised considerable power in determining what their organizations would remember about the loan loss events, and what context would be widely available to support (or undermine) institutionalized changes.

Executives are influential in sharing lessons across business units through their participation in decision-making, informal discussions, and formal communication efforts. Much of this takes the form of story-telling, as pieces of the explanations or prior loan loss events are applied to current concerns. As was mentioned in the previous chapter, these people have a considerable amount of choice about how they interpret events, what they include and what they leave out.

A number of theorists identify story-telling as an important part of both initial learning and dissemination (Brown and Duguid 1991; Crossan et al 1999; Orr 1990). They focus on the type of evolving, mutually negotiated stories associated with communities of practice. These stories evolve to reflect the interpretations of many group members. In contrast, the stories discussed in this section are told *by* senior

executives to employees and external stakeholders. To the extent they reflect or are subject to any negotiation, it is among a very small and elite group within the organization. This suggests that, to better understand the integration process that characterizes learning at the group level, we need to consider different types of stories, how they evolve, and who tells them.

This point is interesting because theorists have suggested that equivocal information is best shared through a mutual process of interpretation, not in a unidirectional, top-down fashion. Nevertheless, the major communication efforts undertaken by executives for the purpose of disseminating loan loss lessons appeared to be quite effective. This was especially true in the case of the second order change initiatives discussed in the following section.

The final boundary-spanning mechanism to be discussed is training, which is both institutionalized and social in nature. The effectiveness of training depends to a great extent on its degree of alignment with organizational culture, strategy, reward systems, and processes. This finding is also consistent with the 4-I theory's proposition that learning at one level will influence the lessons learned at other levels. In particular, it provides us with insight into the feed-back loop, in which lessons already learned and institutionalized are transmitted to individuals and groups. It supports the point, discussed in greater detail in a later section, that there is not just one feed-back loop -- there are many. And when the messages sent in the various feed-back loops (by different institutionalized artifacts) are conflicting, then some of the lessons get lost.

8.3.4 First Order vs. Second Order Change

Many lessons from the loan loss episodes are institutionalized in changes to policy, processes or systems. These changes may be emergent from the workout process and local in nature, or boundary-spanning in their scope and driven in a top-down fashion by executives. This study identified two types of executive-driven change. These two types of change -- *within* the existing operating and risk management paradigms, and

overturning the existing paradigms -- correspond to those identified in the organizational learning literature as first and second order, or single and double loop learning (Argyris 1977).

This finding explicitly addresses the tension between new lessons and ones that have already been learned and institutionalized, between exploration and exploitation. The tension increases with the potential impact of institutionalizing the new lessons. First-order changes, reflecting the decision to fine-tune existing capabilities and processes (exploitation), were made more frequently than second-order changes, although their influence on behaviour was less durable and effective over time. These observations are consistent with March's (1991) predictions, and with the risk and benefit profile he outlines for the two approaches.

The finding also contributes to the 4-I theory by suggesting that learning patterns differ according to where the learning originates. The differences seem to occur both in the interplay between cognition and action, and in the feed-forward mechanisms by which individual learning is shared at the group level and ultimately institutionalized. The finding contributes to our understanding of how lessons learned at the individual level can feed forward to the group and organization levels, providing an alternative path to the one described in the withdrawal → workout → reentry cycle. The previous findings describe lessons learned by individuals who reside at middle levels in the organizational hierarchy, which become strongly integrated in a particular group through the normal course of work, and then imperfectly institutionalized through the group's participation in the reentry decisions. In contrast, this finding describes lessons learned by very senior executives, which are integrated first in a small group through a deliberate learning process ("we need to find out more about this"), and then, in the case of second order changes, across different groups through a deliberate and concerted sales effort.

The link between what the individual and key work group have learned and what gets institutionalized varies. In the case of first-order change, the degree of institutionalization may be far from complete, making it more similar to the bottom-up

learning pattern described in the previous findings. However in the case of second-order change, which is characterized by a fundamental shift in beliefs and assumptions, a great deal of what is learned seems to be institutionalized in an integrated system of new policies, processes, and other artifacts. This more thorough institutionalization of executive level learning may be explained by the power of the one or two key individuals behind second order change initiative to mandate organization level change.

A different cognition ↔ action dynamic than the one described in the previous finding is also observed. Whereas the previous findings emphasized learning by doing in the workout group, where action appeared to precede cognition, this finding describes a pattern where cognition, and the deliberate development of understanding at very senior levels precedes action.

The observation that executive-driven change, particularly second-order change, represents a different learning mechanism from that found in the workout process is reinforced by Miller (1996). Applying Miller's dimensions of voluntarism – determinism and methodical – emergent, we see that the localized changes made in the course of the withdrawal → workout → reentry process were more action-constrained and emergent than executive-driven changes, particularly second order changes. The second order changes corresponded to Miller's 'analytical' or 'synthetic' learning modes – methodical, or possibly emergent, but with relatively few constraints on thought or action. As predicted by Miller, this learning tended to occur at higher levels in the hierarchy. In contrast, localized learning corresponded to Miller's 'interactive' learning mode. Consistent with the withdrawal → workout → reentry process, "interactive learning involves learning-by-doing but instead of systematically experimenting with practices and offerings, managers learn in a more emergent and implicit way: by bargaining and trading with each other and with external stakeholders (Cohen, March and Olsen)" (Miller 1996: p. 493).

The observation that second order change results in an *integrated system of new policies, processes and other institutionalized artifacts*, while first order executive-driven

changes tend to be piecemeal, is an important one. As will be discussed in detail in the next section, lessons do not appear to travel well across business units, in the sense that the institutionalized changes embodying the lessons are often eroded or disregarded. They are most likely to be ignored or eroded quickly when the messages they send are in conflict with those sent by other institutionalized elements like credit process, reward systems, culture or strategy. This research has found that when lessons from a loan loss event are disseminated beyond the affected unit in the piecemeal way typical of first-order executive-driven changes, they tend to be in conflict with many other organizational elements that influence people's behaviour including how they are measured and rewarded, what the firm's strategy and culture expect of them, and what their boss and other senior people want and expect. Consequently, while these lessons may be institutionalized in a policy or a change in credit process, it is in most people's best interests to ignore them or to get around them. There may be a new rule or loan approval hurdle, but 'the way we do things' – which led to the loan loss event in the first place – had not fundamentally changed.

In contrast, second order changes involve realigning a number of different elements – including policies, credit process, risk management procedures, training, reward systems and policing systems – so they work together to articulate and support the new business paradigm. Consequently, lessons institutionalized as part of a major second order change initiative are much more difficult and costly to ignore, and slower to erode.

Nelson and Winter (1982) offer a related explanation for why second-order change initiatives are more durable and more effective in influencing behaviour than first-order changes. They hold that an organization's operational knowledge or memory is stored in its routines. However, they also recognize that members of an organization may have conflicting goals, and that routines represent "some sort of stable accommodation between the requirements of organizational functioning and the motivations of all organization members" (p.108). In other words, routine operation represents a truce, implicitly negotiated between organizational members with conflicting goals (eg. the marketing / lending function and the risk management / credit function).

They go on to say that the adaptations that appear sensible and easy – ie. first order changes – may be shut down or ignored because they are perceived as threatening to the truce or political equilibrium. In contrast, second-order changes by definition involve explicit, systematic destruction of the existing equilibrium, and its replacement with a different truce.

8.4 EROSION OR DISREGARD OF LESSONS OVER TIME: HIGH COST / RISK OF EXPERIMENTATION AND RARE OR SPORADIC FEEDBACK

The preceding sections discussed the ways in which bank executives' lessons from the sector-specific loan loss events were disseminated beyond the affected units through institutionalized and social boundary-spanning mechanisms. However, the dissemination of lessons often failed to ensure desired behaviour over a period of time. Policies and procedures designed to guard against subsequent loan loss episodes were often ignored, particularly when they ran contrary to the messages being sent by strategy, culture, and reward systems. And they were subject to systematic erosion in the face of performance pressures. In particular, they eroded more quickly when the rules or procedures were separated from their context, ie. when people did not remember why they were in place, and when key decision makers were not available to explain them and defend them against pressures to relax.

This finding is central to our understanding of why many banks seemed to forget the lessons they may have learned from previous loan loss events, and why they repeated earlier mistakes. While the banks did appear to learn from their loan loss experiences, this research shows that systematic shortcomings in the organizations' dissemination and memory of the lessons frequently made them unavailable for application to different situations at a later date. The following sections will discuss first the systematic erosion of memory, and then the reasons lessons were often ignored.

The word “memory” will be used frequently in this section. It should be noted that this is referring to “organizational memory”. Drawing upon the formulation proposed by Walsh and Ungson (1991), this study defines organizational memory as information about decisions and experience pertaining to an organization that is stored in any of the six memory retention facilities identified by Walsh and Ungson (individuals, culture, transformations, structures, ecology and external archives).

As with the other sections, a number of research streams and theoretical perspectives are drawn upon to further our understanding of this study’s findings. However, in considering why lessons that had been disseminated within the banks did not ensure the desired behaviour or outcomes over time, the theory that stands out as most useful is Vaughan’s normalization of deviance. Normalization of deviance differs from the learning theories considered so far in that it was developed to explain a situation in which the result of failure was potentially catastrophic, the cost of real-time experimentation high, and the feedback on decisions was limited, sporadic and rare. It was developed in a learning environment that had a very low tolerance for failure.

As the following discussion shows, it was also applicable in a learning situation that was characterized by a higher cost of failure. As discussed at the beginning of the chapter, a boom-bust situation in a bank’s corporate lending portfolio represents an extremely costly failure. The banks’ tolerance for this type of failure is low. After the real estate losses, a frequently heard comment was “we cannot afford to do that again and still remain in business”. The banks have a variety of credit processes, risk management procedures, training programs and other mechanisms to guard against the occurrence of heavy losses throughout an industry sector, and – like air traffic control systems – they ‘work’ most of the time. Under normal economic conditions, the banks receive regular feedback, both positive and negative on their large corporate lending decisions, although the various controls governing the business typically ensure that negative feedback is relatively rare. During ‘boom’ conditions in a sector, however, negative feedback ceases almost entirely for a prolonged period of time.

As in earlier sections, we see here that a theory developed in a situation exhibiting a very low tolerance for failure, a catastrophically high cost of failure, and very little or sporadic feedback emerges as highly applicable to explain a learning situation showing similar failure and feedback characteristics. In the following sections, the study's results will be discussed in the context of previous research, particularly the normalization of deviance theory.

8.4.1 Memory of Lessons Was Eroded

The pattern described in the previous chapter whereby increasingly risky signals (in this case, transactions which were in violation of a bank's lending or risk management policies) were gradually incorporated into what were considered to be normal and acceptable levels of risk (exceptions become more frequent and routine, and eventually the policy changed) bears a striking resemblance to that observed by Vaughan (1996, 1997) in her research into NASA's decision to launch the Challenger space shuttle. Based on her observations, Vaughan develops a theory describing and explaining the *normalization of deviance*, the process by which "evidence initially interpreted as a deviation from expected performance (is) reinterpreted as within the bounds of acceptable risk" (1996: p. 120). Exhibit I summarizes Vaughan's key points regarding the normalization of deviance at NASA, and the parallels observed in this research at the banks.

As the Exhibit shows, organizational memory as it is stored in transformations, policies, and individuals or groups is subject to erosion or decay over time through the normalization of deviance. In organizations where the management of risk is a central task, organizational memory defining acceptable levels of risk erodes as increasingly risky situations or transactions are encountered, justified, and incorporated into the experience base which governs decision makers' perceptions of how much risk is normal and tolerable. Vaughan's (1996) work suggests that a number of conditions make this pattern possible, including the presence of three social forces -- the production of culture in relevant workgroups, the culture of production, and structural secrecy -- and the fact

that signals of potential danger tend to be mixed, weak or routine. The study of learning from loan losses in the Canadian banks suggests that these preconditions for the normalization of deviance may not be uncommon in large, bureaucratic organizations.

The finding that normalization of deviance has considerable explanatory power with respect to the erosion of policies and processes begins to answer the important question posed by Walsh and Ungson: “we need to understand how retained information is affected by the passage of time. Does this information decay in some predictable fashion?” (1991: p. 83). It makes a significant contribution to our understanding of organizational memory by identifying both a pattern of continuous memory erosion in the banks, and a theory that explains the process and supports its generalizability well beyond the situations and banks that were studied.

This finding that memory erodes in a predictable fashion over time also provides strong support for the 4-I theory’s proposition that organizational learning reveals a tension between assimilating new learning and using what has already been learned. We see memory and new interpretations competing for dominance, and memory slowly giving way in the face of market forces combined with the lack of reinforcement that lessons receive in boom situations. In effect, the tension is resolved on a transaction-by-transaction basis when one side or the other backs down. This finding makes a substantial contribution to our understanding of how feed-forward and feed-back mechanisms can interact under a certain set of circumstances. Specifically, it identifies the groups that represent memory (exploitation) and change (exploration), and the forces which drive them. It offers a theory that predicts and explains how new lessons systematically erode old ones under certain cultures and structures.

The normalization of deviance describes a process by which new lessons or interpretations replace old ones. Whereas the learning from the loan loss events described up to this point have tended to be lessons about risk management, and occurred during economic downturns and periods of difficulty for the organizations, we may also think about the erosion of these lessons as a pattern of learning about marketing and

revenue growth, occurring during the expansion phase of the business cycle in a sector, during a period of optimism within the organizations. The lessons from the loan loss events originated where the action was: with the people who were working out the problem loans, and senior executives who had to explain them to stakeholders. Similarly, the lessons about growth discussed here also originated where the action was: with the revenue-generating individuals closest to the banks' clients or markets.

Account managers perceive opportunities in the marketplace which do not fit within the banks' current policies. Typically they reflect a new area of business, or a more optimistic reward vs. risk calculation than do the bank's policies. Account managers generate support for pursuing these opportunities among their colleagues and line management. So intuition, interpretation and initial integration occur in line units, in response to perceived market opportunities. On a transaction-by-transaction basis, these opportunities are presented to the banks' credit and risk management functions for approval or concurrence. In this way, discussion -- and the integration of new interpretations -- occurs across key decision making groups.

Under the normalization of deviance pattern, this integration process results in the acceptance, at the group level, of an incrementally higher level of risk than had previously been considered acceptable. In terms of the 4-I theory, a gap is created between learning at the group level and learning as it has been institutionalized -- between the new lessons and previously embedded ones. The gap is bridged by the group deciding to make an exception to the existing rules. This gap widens as escalating levels of risk are accepted, and the number of exceptions increases. Finally, when the size of the gap becomes big enough, the key decision making groups change the rules to reflect their new interpretations of risk and opportunity.

The rate at which erosion occurred was found to be a function of the availability of individuals in key decision-making positions who had direct experience of the previous loan losses, and could explain and defend the rules that had been put in place to prevent their recurrence. If nobody was around who understood why the rule was made

in the first place, and -- in that context -- applied it to the current situation, then there was little reason *not* to change it. Many respondents with first-hand experience of the loan loss events described themselves as interpreters, providers of context, and keepers of the story.

This finding highlights the connection between learning and memory at the individual and group levels. It shows that memory of an event will be strongest where the greatest personal experience of the event occurred. While this may seem self-evident, it highlights how *little* horizontal dissemination of the lessons coming out of the loan loss events seemed to occur (discussed earlier in the chapter). That memory at the individual and group levels should reside strongly in those people whose lessons from the loan loss events were ‘learned by doing’— and weakly elsewhere – is consistent with assertions that organizational memory is a distributed rather than concentrated phenomenon (Simon 1976; Walsh and Ungson 1991). The connection between learning by doing and memory is recognized in the literature on communities of practice, eg. “learning is seen as a form of membership that evolves as the individual engages in the practices and activities of the community – which becomes the living repository for knowledge” (Wenger 1991: p.8).

This finding also supports the 4-I theory’s contention that learning at one level affects other levels, and provides some insight into the phenomenon. Walsh and Ungson note that the different storage bins vary in the types of information they are able to retain. Recall that individuals – alone and collectively – can retain information about both the decision stimulus and the organizational response, whereas transformations, structure and ecology retain only response information. And only individuals and culture can remember *why* a decision was made. Walsh and Ungson do not, however, discuss the potential interaction between the storage bins. This research shows that when memory at the individual and group levels *supports* and *provides the context for* memory as it has been stored in policies, processes and other artifacts, it slows down the rate at which this institutionalized memory erodes or decays. In terms of the 4-I theory, it shows that when lessons are remembered at the individual and group levels which support and provide context for institutionalized learning, they slow down the rate at which new (conflicting)

lessons feed forward and erode what has been institutionalized. They also strengthen the feed-back effect of institutionalized artifacts on new learning.

This observation is interesting because it suggests that, for lessons to endure over time in the face of market and social pressures, an organization must remember *why* as well as *what*. And it focuses our attention on one of the things that gets systematically filtered out as lessons are transferred from the group to the organizational level: *context*.

This suggests that an organization that relies on rules, processes and other institutionalized artifacts to retain lessons learned from a crisis event, without considering how the context or story is to be passed on is vulnerable to memory loss. Information may be passed on, but its meaning or interpretation is lost because institutionalized changes cannot communicate both (Daft and Huber 1987). Furthermore, tacit knowledge is also easily lost when it is taken from the work environment in which it is embedded (Brown and Duguid 1991). Without context, and without its tacit components, the knowledge that can be institutionalized is easily eroded.

Finally, this finding also contributes to our understanding of the interaction of learning and memory across levels by showing how memory at the group level may be systematically eroded over time in the course of normal organizational practice. Just because memory once resided in an identifiable group does not mean that it will continue to do so over time. In light of the role that individual and group level memory play in providing context to support institutionalized lessons, this observation has implications for management and for the study of organizational memory.

8.4.2 Some Lessons Were Easy to Ignore

The previous section discussed the threat to organizational memory posed by erosion in the face of market forces. In this section, we will explore how a lack of fit or alignment between key organizational elements leads to institutionalized lessons eroding even more quickly or simply being ignored.

That formal policies or stated procedures may be ignored, or may be different from what people actually do, is recognized by Nelson and Winter (1982). They note that “routine operation is consistent with routine laxity, slippage, rule-breaking such behaviours typically violate nominal standards and expectations in an organization, but they do not necessarily violate empirically-based expectations” (p.108). Formal rules and procedures still allow individuals considerable latitude in behaviour, and the decision whether or not to conform to them is guided by a variety of considerations.

In the period leading up to the real estate loan losses in the early 1990s, Bank A and B had corporate cultures which sent fundamentally different messages to their employees than did their credit rules. Their credit rules also sent different messages from their credit processes, in which the credit functions reported up through the business units, from training programs which were not systematically tied to individuals’ lending decision track records and career opportunities, from reward systems which were based to a great extent on revenue and asset growth, and from audit systems which lacked the ‘teeth’ to ensure that rules were followed. In Bank C, however, the rules governing the granting of credit were in alignment with the bank’s ‘credit culture’, processes, training, and policing systems.

Consider this observation in the context of organizational memory and its decay through the normalization of deviance. It suggests two things: firstly, that the influence of memory on behaviour will be less, and memory erosion will be greater and faster where the memory is stored in relatively few storage bins (eg. in rules, but not in processes or culture). Secondly, it suggests that erosion of lessons remembered from a crisis event will be greater and faster, and the influence of this memory on behaviour will be less, when it is in conflict with other facets of organizational memory. When lessons remembered from a crisis event are stored in certain rules or processes or people, but these lessons are inconsistent with the messages sent by other processes or reward systems or culture, they will decay more quickly.

This finding significantly enhances our understanding of the feed-back loop posited by the 4-I theory. The theory predicts that learning at one level will have an effect on other levels and that a tension exists between new lessons and old ones, but it does not explicitly anticipate the level of complexity that this research reveals about the feed-back process.

From the discussion above, we see that there is not one feed-back loop -- there are many. In this study, culture had an effect on individual and group level learning, as did each bank's credit rules, credit process, risk management practices, audit practices, training regime, structure, and strategy. And the influence of one artifact was often quite different from, or in conflict with, the influence of another. This research shows that new learning which is in conflict with the messages sent by many of the institutionalized organizational artifacts is likely to be ignored or lost through lack of use, even when it too is institutionalized.

The need for 'fit' or 'alignment' between an organization's strategy, its internal predispositions and capabilities, and its external environment is a central proposition in strategic management research and education (eg. Andrews 1980; Balkin and Gomez-Mejia 1987; Chandler 1962; Fry and Killing 1989; Hofer and Schendel 1978; Lenz 1980). The observation that rules are ineffective if they are not aligned with other internal processes, management preferences, and strategy is not new. The contribution of this research, however, is to show that this well established stream of research could be used to further development of organizational learning research and the 4-I theory, particularly with respect to understanding the feed-back loops. There is much still to understand about the alignment of institutionalized memories with each other, with desired behaviour, and with what may or may not be learned.

It should be noted, however, that the necessity for balance or tension between old and new learning is at odds with prescriptions for alignment. Taken to its extreme, perfect alignment around lessons learned from previous loan loss events would drive out

experimentation, new learning, and the organization's ability to innovate. This issue is discussed further in Chapter 10.

This finding also suggests that certain artifacts may be more powerful than others in their ability to store memory and influence behaviour. Culture, in particular, seems to play an important role in moderating the influence of the non-human retention facilities. It dictates the role of rules in shaping behaviour in the organization. Are rules to be followed quite closely, with a systematically monitored process to govern exceptions as at Bank C, or are they to act as guidelines, like at Banks A and B? Culture also sends messages to individuals regarding expected behaviour and priorities which may either be consistent with or in conflict with the rules and transformations governing credit granting and risk management. Where behaviours encouraged by culture are in conflict with those encouraged by rules, culture seems to be a consistently more powerful force. This observation is supported by McNamara and Bromily's (1997) finding that informal organizational influences seemed to have a greater effect on risk assessment decisions than formal or deliberate ones.

These findings also suggest a number of avenues for future research. Vaughan's work on the normalization of deviance, and strategic management's concept of alignment or fit are two lenses which may profitably be applied to further our understanding of organizational memory. The research also suggests that Walsh and Ungson's memory retention facilities may exist in a hierarchy, and may exert different kinds of influence on behaviour. Or it may be that it is the *interaction* between the different memory bins that holds the key to understanding how organizational memory influences behaviour.

8.5 SUMMARY OF KEY THEORETICAL PERSPECTIVES

This section summarizes the contributions of five theoretical perspectives that emerged as particularly useful in understanding and explaining how the banks learned from their sector-specific credit losses. The intention is not to reiterate the discussion in

the earlier sections of the chapter, but to highlight where each of the key perspectives contributed to the interpretation of the phenomenon, and where this research, in turn, informed the theoretical perspectives.

It should be noted that these theoretical perspectives are not mutually exclusive. For example, the tension between exploration and exploitation described by March is also at the heart of the 4-I theory, which describes it in terms of a tension between feed-forward and feed-backward learning flows. The 4-I theory also draws upon the insights offered in the communities of practice literature. The problem-oriented narratives and discussions central to communities of practice appear in the 4-I theory as the group-level learning processes of interpretation and integration.

With its focus on routines, the evolutionary theory of economic change can be seen as focusing on the process which the 4-I theory calls institutionalization, and the impact that institutionalized procedures have on behaviour, called the feed-backward flow of learning by the 4-I theory. Normalization of deviance may be seen as 'lowering the microscope' further on the process by which feed-backward mechanisms are subject to erosion and change over time, and new interpretations become institutionalized.

8.5.1 4-I Theory

It may be no surprise that the theory used as a tool for organizing and interpreting the data should emerge as useful in explaining the phenomenon. The 4-I theory was most useful in explaining the feed-forward and feed-back of learning, and the tension between new lessons and old. Both the changes that emerged from the workout, and those that resulted from learning at the executive level, may be interpreted in terms of learning from individuals and groups being institutionalization in organization-level policies, processes, structures and strategy.

Furthermore, the model's contention that previously institutionalized lessons, and beliefs held at the group level can influence or constrain individual learning provided a

powerful explanation for the lack of direct horizontal communication, the use of institutionalized boundary-spanning mechanisms, and the observation that some institutionalized lessons were ignored. The 4-I model also echoed March's discussion of exploration and exploitation in its recognition of the tension between old lessons and new learning, a tension that characterised much of the banks' learning from their loan loss events.

The theory operates at a relatively high level, drawing attention to the learning processes and flows. It recognizes organizational memory in its feedback loop, but is focused more on the processes of learning than the processes of remembering. It does not explicitly differentiate between first and second order learning or change, or different patterns of how lessons flow (eg. bottom up or top down).

This research fills these gaps in the 4-I theory, and adds a finer level of detail. It locates the greatest amount of initial individual and group level learning about a particular event among those people who are dealing directly with its consequences. It provides insight into the interaction between individual and group level learning, and draws attention to the important processes of interpretation and integration. It shows two quite different paths of learning from a loan loss event (bottom-up and top-down), both of which fall within the intuition → interpretation → integration → institutionalization feed-forward flow posited by the theory.

The research makes contributions to our understanding of what the theory calls the "feed-back loop", the impact of previously learned lessons on new learning. Firstly, although institutionalized lessons influence learning and memory in people, the scope of that influence may be very narrow. Some institutionalized lessons are boundary-spanning, while others are not. Secondly, the research shows that lessons that have been institutionalized at the organization level differ greatly in their ability to influence learning and behaviour over time. It suggests that we might be better served by thinking in terms of a number of separate, potentially conflicting feedback loops. Thirdly, the research offers some insights into the factors -- notably context and alignment with other

institutionalized artifacts -- that make a lesson that has been institutionalized in a policy, process or structure influential and durable over time.

The study also suggests that market demands, as they are translated into performance pressures (and in conjunction with other factors associated with boom situations), are powerful forces behind the erosion or discounting of lessons over time when the lessons are perceived to be in conflict with them. Conversely, the same market forces give the institutionalized lessons that are perceived to be consistent with them significant durability over time, even when later lessons would appear to contradict them.

8.5.2 Communities of Practice

The literature on communities of practice offered a parsimonious explanation for the significant amount of learning that took place among the people directly involved in the workouts of the problem loans. In those work groups we saw people learning a great deal as they worked, sometimes alone and sometimes together, on a shared task. Learning occurred through and around the work itself. Problems were solved through trial and error, swapping “war” stories, taking part in communal narratives that identified and gave context to problems and suggested possible solutions. The communities of practice literature also offered a partial explanation for the notable lack of lateral communication about the lessons learned beyond the affected unit. It suggests that because much of what is learned through work is tacit, and because the knowledge is to a great extent embedded in the context of the work itself, lessons are not easily or naturally communicable.

8.5.3 Exploration and Exploitation

March’s (1991) discussion of exploration and exploitation provided the conceptual tools and the vocabulary for interpreting situations when previously learned lessons competed with new ones, or decisions were made to either remain within or break out of existing credit and risk management paradigms. It predicted and explained the

tendency for executives to initiate first-order rather than second-order changes after a loan loss event.

Exploration and exploitation also provided insight into the observation that institutionalized lessons were often ignored when the message they sent conflicted with those of other institutionalized artifacts. March discusses employees conforming to the set of practices and beliefs that comprise the “organizational code”, while at the same time the code is adapting to reflect new practices and beliefs. Perhaps attempts to change the organizational code take awhile to gain legitimacy, and to be integrated into the fabric of the code (ie. become aligned and consistent with other pieces). Perhaps, when lessons are ignored, the bankers have conformed so thoroughly to the underlying organizational code that inconsistent changes to the code (either institutionalized changes or knowledge residing in a different group) are not attended to or ‘believed’.

Exploration and exploitation as articulated by March has some limitations in its ability to explain how banks learned from their sector-specific loan losses. It focuses on only one aspect of learning, albeit one that is evident at various points over the learning from loan loss cycle. And it is very limited in its explanation of what conditions give rise to one pattern over the other. For example, March predicted a tendency for organizations to pursue exploitation rather than exploration because its benefits were observed sooner. However, in the case of changes to credit or risk management processes, the benefits of either one are only observable after the next economic downturn. With the time until benefits are known held constant, it appears that both the risk and the cost of making second-order changes (exploration), in terms of effort and political goodwill, are additional deterrents.

8.5.4 Evolutionary Theory of Economic Change

It was Nelson and Winter’s (1982) discussion of routine activity as parsimonious organizational memory that directed attention to the routines surrounding credit granting

and risk management, in the planning stages of this study. As described earlier in the chapter, their conceptualization of routines as a truce between organizational members with conflicting goals was very helpful in understanding and explaining why first-order change initiatives often did not seem to have much effect on behaviour and outcomes, and why rules and procedures were not necessarily followed.

Nelson and Winter view routines as, to a great extent, self-sustaining and difficult to depart from. However, they qualify this generalization in their discussions of how routines can change over time. They note that resources and inputs are always changing, and that imposing a consistent routine across a changing set of resources is an ongoing organizational challenge. The loss of employees with unique knowledge and deliberate changes to some part of the routine are also challenges to the consistency of the routine. And so a tension develops: on one hand, a number of challenges to the consistency of routines over time mean that a certain amount of incremental 'slippage' is to be expected, and on the other hand, organizations devote considerable resources to protecting their routines and resisting adaptation. This tension helps to explain the apparently paradoxical findings of, on one hand, the incremental erosion of credit rules and processes over time and incrementally increasing levels of risk, and, on the other hand, the apparent resistance of the banks to the horizontal communication of lessons and to first-order change initiatives.

However, this theory is restricted in its ability to explain how the banks learned from their sector-specific credit losses by the fact that it has relatively little to say about learning processes. It views learning largely as an attempt to replicate the routines of another unit or organization, which while valid is limited. Furthermore, it does not deal comprehensively with what happens to routines that are under chronic pressure to be less constraining, routines that are designed to limit rather than enable market driven activity. As a result, the sources of slippage that this theory highlights (employee turnover and other changes in inputs), while valid, miss the other pressures and conditions that cause routines to slip. This research augments Nelson and Winter's discussion of how routines change by identifying and applying the theory of the normalization of deviance to this

phenomenon. Normalization of deviance provides a coherent theory governing a certain type of incremental degradation in organizational routines.

Overall, March's discussion of exploration and exploitation and Nelson and Winter's evolutionary theory of economic change have the greatest explanatory power with respect to the difficulties encountered in disseminating lessons beyond the affected unit. They help us to understand the resistance to change observed in those units that have not been hit by loan losses and must weigh the immediate and unforeseen risks of change against the possible future benefits. As noted in the foregoing discussion, they are most useful in explaining learning situations that fit their assumptions of a moderately high cost to failure, some risks associated with experimentation, and feedback that may be equivocal or not quick in coming.

8.5.5 Normalization of Deviance

Normalization of deviance is discussed in some detail elsewhere in this chapter, so will not be explained again here. It provided a coherent theoretical framework for explaining how institutionalized lessons were systematically eroded over time in the face of market pressures. It also identified the characteristics of the banks, credit granting processes, and flows of information that enabled the acceptance of incrementally higher levels of risk to occur.

It was uniquely useful in explaining the study's observations in a learning situation that fit with its assumptions of a very high cost of failure, significant risk associated with "real-time, on-line" experimentation, and infrequent or delayed feedback.

8.5.6 Summary

So how do these theories relate to each other in helping to further our understanding of bank learning from sector-specific credit losses? Each proved very useful in explaining certain pieces of the puzzle of how banks learned from their sector-

specific credit losses. However, the overall utility of each in explaining how the banks learned was limited by its specific applicability to certain learning situations.

The discussion in this chapter suggests that, in some cases, the characteristics that group around the cost of and feedback from failure are salient in distinguishing one learning situation from another. And, in the cases of March's (1991) work on exploration and exploitation, Nelson and Winter's (1982) evolutionary theory of economic change, and Vaughan's (1996, 1997) theory of the normalization of deviance, there is a correspondence between the theories' underlying assumptions and the learning situations in which they stood out as particularly useful.

This chapter has discussed the findings of this study piece by piece, linking them to various research streams. It has explored how previous research and existing theoretical perspectives can help us to understand how the banks learned from their loan losses, and also how this study can contribute to earlier academic work. In the following chapter, the influence of these key theories will be evident, as will the importance of failure and feedback, as the study's key findings are summarized in a model of learning through the loan loss cycle.

8.6 Exhibit I Normalization of Deviance: NASA – Bank Comparison

NASA	BANKS
<p>“In Man Made Disasters, Turner found that disasters were preceded by ‘failures of foresight’: long incubation periods typified by signals of potential danger that were either ignored or misinterpreted. ... Anomalies – deviations from design expectations – were found on many missions prior to Challenger. But in post-flight analysis, Marshall and Thokiol working engineers responsible for initiating risk assessments of the boosters continually normalized the technical deviation that they found. ... (They) gradually expanded the boundaries of acceptable risk. History and precedent were influential. ... Gradually, in their formal engineering risk assessments, the work group accepted more and more risk. Each of these decisions, taken singly, seemed correct, routine, and indeed, insignificant and unremarkable, but they had a cumulative directionality, stunning in retrospect. (1997: p. 85)</p> <p>The explanation of the Challenger launch) “is not only about the development of norms but about the incremental expansion of normative boundaries: how small changes – new behaviours that were slight deviations from the normal course of events – gradually became the norm, providing a basis for accepting additional deviance.” (199: p. 409)</p>	<p>In retrospect, the banks’ heavy sector-specific loan losses were also characterized by ‘failures of foresight’. In the approximately 2-year period preceding each loan loss event, potential danger signals were evident which were disregarded or not widely interpreted as symptomatic of a problem. Loans were brought forward and approved with increasing frequency which contravened the existing accepted rules for how the banks lent money to the energy or real estate sectors.</p> <p>While Bank C did report a loosening of its real estate lending parameters, evidenced by a high rate of exceptions, the pattern was even more pronounced in Banks A and B across both loan loss episodes. For example, in the 1978-82 period, Bank A went from lending only against proven producing oil reserves to lending against significantly riskier reserves. It went from not lending against assets such as drilling rigs, to lending 110% of their cost against such assets. It went from not lending more than 50% of net present value of discounted cash flows against a project to lending up to 2/3 against the riskier reserve base. Where it had been careful not to lend equity financing to the owner as well as debt to the company, it had begun to do both.</p>
<p>“The normalization of deviance was the outcome of three social forces: the production of culture in the SRB work group, the culture of production, and structural secrecy.” (Vaughan 1996: p. 394)</p> <p>Vaughan goes on to explain these forces. The production of culture refers to a decision sequence which is repeated over time, creating a work-group culture, particularly a cultural construction of risk which then influenced subsequent choices. The culture of production refers to the fact that the work group’s actions and decisions conformed to its cultural environment, so decisions were affirmed and not considered deviant. Structural secrecy refers to the fact that, although the process was designed to ensure that people external to the work group challenged the group’s assessment of risk, their ability to do so effectively was limited by the “patterned reduction (of information) due to official organizational practices, specialization, and the tendency of top decision makers to rely on signals when unable to discriminate in decision making situations” (p. 397).</p>	<p>These social forces were also discernible in each of the banks. That they would occur in all three banks is not surprising in light of the fact that each of these forces seems to fall quite naturally out of the corporate credit product and process.</p> <p>Within each bank, the account management function was formally or informally broken into a number of workgroups, specializing in different industry segments, geographic regions, or working in different offices. Each bank had its own corporate credit process, which involved account managers in completing loan applications, and the applications passing through a number of account management and credit levels before being approved. The repetitive nature of this decision sequence and the presence of the different account manager work groups fostered the <i>production of culture</i> within work groups, particularly with respect to the groups’ interpretation of risks and opportunities in their market environments. Each of the loan loss events was preceded by a ‘hot’ market in that sector, characterized by a high demand for bank credit, predictions of steadily increasing asset prices, and intense competition among the banks. In these highly-charged, optimistic markets, the cultures produced by the work groups tended to</p>

	<p>emphasize opportunity and downplay the associated risks.</p> <p>The decisions made by the account managers and credit people were also consistent with the cultural environments, or <i>cultures of production</i>, within the banks. Bank A's across-the-board excesses in both energy and real estate were driven in part by its ongoing concern with size and market share. The pattern of Bank B's losses reflected the pride the bank took in providing exception levels of service to its key corporate clients. Bank C's good performance in comparison to the other two reflected, among other things, the focus on improved credit risk management that characterized the firm throughout the 1980s.</p> <p>The corporate credit processes practised in the banks, with their multiple levels of approval and the participation of account management and credit functions, all fostered <i>structural secrecy</i>. The processes were designed so that an individual's judgement could be reviewed and challenged by more senior bankers, and particularly by the credit function. But, like at NASA, their ability to challenge the account managers' assessment of risk was limited by their access to information and the perceived expertise of the account managers, who were viewed as having better knowledge of the specific companies and markets.</p>
<p>"Signals of potential danger were embedded in patterns of information that affected the work group's definition of the situation. ... Signals were mixed: information indicating trouble was interspersed with and/or followed by information signalling that all was well. Signals were weak: the initial threat posed by an anomaly was neutralized as its consequences for performance were measured and understood. Signals were routine: recurring anomalies that were within predictions assured work group participants that they understood the joint and it was safe to fly." (1996: p. 397)</p>	<p>Signals that risk levels were becoming dangerously high as deal structures became more lenient and concentrations grew were mixed: they were interspersed with reinforcement that decisions were correct, as other banks did bigger deals with even looser structures, and economic reports called for ever-higher oil or real estate prices. They were weak: none of the banks' information and portfolio management systems at the time could provide timely and accurate information about industry concentrations and the contribution of each new transaction to the risk profile of the portfolio. And the signals were routine: the types of exceptions required and granted became normal within the banks and markets. 'Everybody' was increasing the length of the loan terms, or the percentage lent against underlying assets.</p>

CHAPTER 9

MODEL OF LEARNING THROUGH THE LOAN LOSS CYCLE

9.1 OVERVIEW

The previous chapters have described and discussed at length the findings of this research. The study focused on loan loss episodes, in sectors that had experienced boom conditions previously. It did not involve collecting data pertaining to ‘normal’ growth conditions. In this chapter, a model is outlined that summarizes the key findings, but also moves beyond the data at times to speculate on the patterns of decision making and change that may be expected in ‘normal’ growth conditions. In addition, the model:

- *Explains* why heavy sector-specific loan loss events continued to occur, despite the lessons learned from previous events;
- *Suggests* ways in which organizations can improve their learning, dissemination of lessons, and memory of lessons after an infrequently occurring historical event.

Each of the following sections focuses on one aspect of the model: the loan loss event; memory; learning; dissemination of lessons; and the tension between old lessons and new. Each section describes the relevant portion of the model, and identifies the contribution of this research to our understanding of that particular process or phenomenon.

9.2 MODEL OF LEARNING THROUGH THE LOAN LOSS CYCLE

9.2.1 Key Points: Effect of Boom Conditions

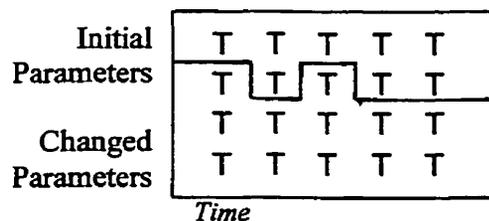
A major sector-specific loan loss is largely the result of an economic boom overwhelming the bank’s standard decision-making parameters. The ‘normalization of deviance’ process by which this occurs is described later in this section. Briefly, however, under ‘normal’ economic

growth conditions, lending decisions are made and feedback – frequently positive, but sometimes negative – on these decisions is received on a regular basis. In terms of the ‘error’, ‘experimentation’ and ‘feedback’ learning situation characteristics outlined in the previous chapter, corporate lending under normal conditions falls near the middle of the continuum. Failure is not disastrous, some experimentation is perceived as desirable, feedback is regular although not continuous. Experimentation takes the form of rule-testing behaviour, when exceptions are made to established lending parameters. The banks receive feedback on the decisions to make exceptions within a time frame that allows it to be factored into future lending decisions.

These ‘normal’ lending conditions are depicted in Figure I. The ‘T’s in the box represent potential transactions. The line inside the box shows how exceptions to existing parameters are made over time, and feedback either causes a return to the existing parameters or a change in the lending parameters depending on whether it is positive or negative. The first dip in the line indicates an experiment or exception to existing parameters. The line’s subsequent return to the higher level indicates that the experiment was not a ‘success’, that feedback suggested that the initial parameters were indeed appropriate. The second dip in the line indicates a second experiment. In this case, the flat line indicates that the experiment was a success, and that the feedback suggested that the new parameters were more appropriate than the old ones. Overall, in during an economic upturn, parameters can be expected to loosen somewhat over time.

Figure I

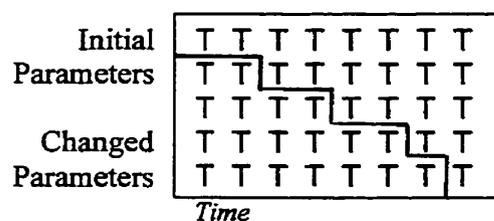
**"Exceptional" Transactions Accepted
During Normal Economic Growth:
Lending Parameters Loosen Somewhat**



In contrast, during a 'boom', the large number of potential transactions and the buoyant expectations regarding asset prices and profit opportunities intensify normal rule testing behaviour, resulting in many transactions being made as exceptions. This is shown in the box in Figure II below. Again, the 'T's in the box represent potential transactions. However, the box in Figure II has more Ts than the box in Figure I, representing the larger number of potential transactions available in a sector during an economic boom. The line inside the box shows how more and more transactions that fall outside the bank's initial lending parameters are accepted over time, with the effect of changing the lending parameters (normalization of deviance). With asset prices in the sector buoyed by the boom, transactions made as exceptions to the rules continue to perform well. This is indicated by the line either going down (experiment) or remaining flat (positive feedback on the experiment so no reason to revert to earlier parameters). Over time, continuous positive feedback on the experiments reinforces the belief that rules were indeed too restrictive, leading to more exceptions or rule changes, and formally loosening lending parameters.

Figure II

**"Exceptional" Transactions Accepted
During Economic Boom: Lending
Parameters Become Significantly Looser**



In contrast to sectors experiencing 'normal' economic growth, parameters change, but more quickly and to a greater extent. This is represented in Figure II by the steeper slope of the line in the box. This is because the pressure to make transactions is greater (more transactions available, as represented by more Ts, and more uniformly optimistic industry forecasts), and because most loans continue to perform, so negative feedback about lending decisions is suspended for a period of time.

9.2.4 Key Points: Memory

The previous section shows how, even when lessons had been disseminated and institutionalized in rules, processes, and other artifacts, memory of the lessons was *not durable* over time. During an economic boom, normal rule testing behaviour is magnified by market forces (strong demand, competitors loosening standards in the face of intense competition, widespread beliefs about continued profitability), leading to more transactions being brought forward as exceptions, and impassioned, plausible arguments for their acceptance. Transactions made as exceptions to the rules receive no negative feedback (ie. companies continue to make payments on loans). Over time, this reinforces belief that rules are too restrictive, leading to more exceptions and / or rule changes. Consistent with research findings in the area of decision-making, recent successes (or absence of failure) have more influence on the perceptions of organizational members than the failures of the distant past, or in other business units, and the lessons that may have emerged from them (Levitt and March 1988; Tversky and Kahneman 1985).

While the boom brings exceptionally strong pressures to change, it also undermines memory by creating a situation where institutionalized lessons are not reinforced and sustained. Rules reflecting previously learned lessons regarding appropriate decision-making criteria come under great pressure to change. The fact that rules exist is not sufficient justification for adhering to them, given the intense and plausible arguments to make exceptions or change them. The rules and processes providing the feed-backward force weaken because they are not reinforced by feedback on the transactions (ie. some exceptions result in losses), and because the individuals who usually provide the context for them are also influenced by the collective optimism of the boom phenomenon.

The result of the conflicting forces of change (the economic boom) and stability (memory retention facilities) is the normalization of deviance, or the acceptance of transactions that fall outside of existing decision-making parameters, and the incremental changing of parameters over time. The presence of an economic boom greatly increased the speed and magnitude of the

normalization of deviance process by increasing the pressures to make transactions that fell outside of existing rules, and reducing the amount (or increasing the equivocality) of negative feedback on the lending decisions.

9.2.5 Key Points: Memory Can Be More or Less Durable

The normalization of deviance influences lending patterns in any boom situation. However, memory may be more or less durable in the face of a boom. Two factors made memory more durable over time. The first was the presence of decision-makers (individual or as a group) who *remembered* why the rules and procedures were in place and provided *context* and *continuous reinforcement* for the institutionalized lessons through discussion, the decisions they made, and the explanations they gave for those decisions. The second was the institutionalization of lessons in a *comprehensive, mutually reinforcing* web of policies, processes, structures, training programs, and monitoring systems. These two factors, and their influence on the durability of memory, are shown in Figure III below. Figure III shows two different memory retention configurations and their effects on the durability of memory over time.

Figure III (a) represents a situation where learning has been institutionalized through piece-meal changes to certain credit or risk management rules and processes. These institutionalized changes are shown in the memory retention facilities box by the underlined words, eg. rules and processes. However, there is little or no widespread change in people's understanding of the factors contributing to the loan loss event or the lessons learned from it. This is shown in Figure III (a) as individual, group and cultural memory retention facilities *not* being underlined, representing no change in these facilities. In this situation, the *content* of some lessons was remembered, but *not the context*. As shown by the steeper slope of the line in the associated Transaction box, this pattern of memory retention is *less* durable in the face of an economic boom.

In contrast, Figure III (b) shows a situation where learning resulted a comprehensive, mutually reinforcing set of institutionalized changes to policy, processes, systems, training,

policing functions, and structures. The comprehensive, complementary nature of the changes is represented in the memory retention facilities box by the institutionalized memory retention facilities all being underlined, and the circle around them indicating wholeness. In addition, the extensive discussion required to implement such comprehensive changes results in changes in group understanding and even culture. These changes are represented in Figure III (b) as the underlined memory retention facilities 'group' and 'culture'. The *content* of the key lessons was remembered through the institutionalized changes, and also, to some extent, the *context* was explained and remembered by a wider range of people as a result of executives' intensive communication efforts. The flatter line in the associated transaction box shows how this pattern of memory retention is associated with more durable organizational memory in the face of an economic boom.

Figure III (a)

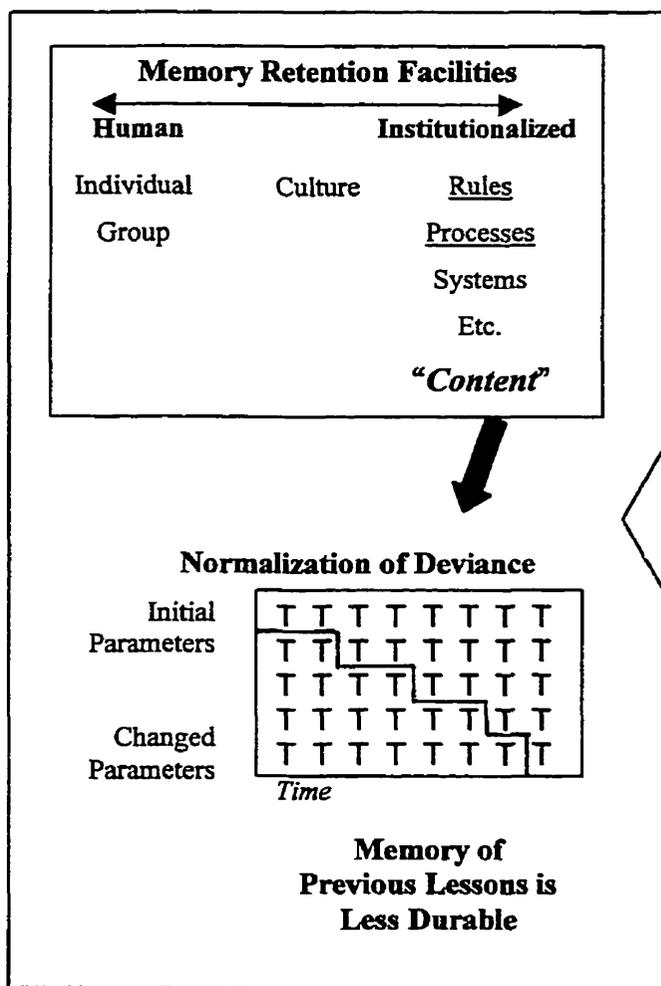
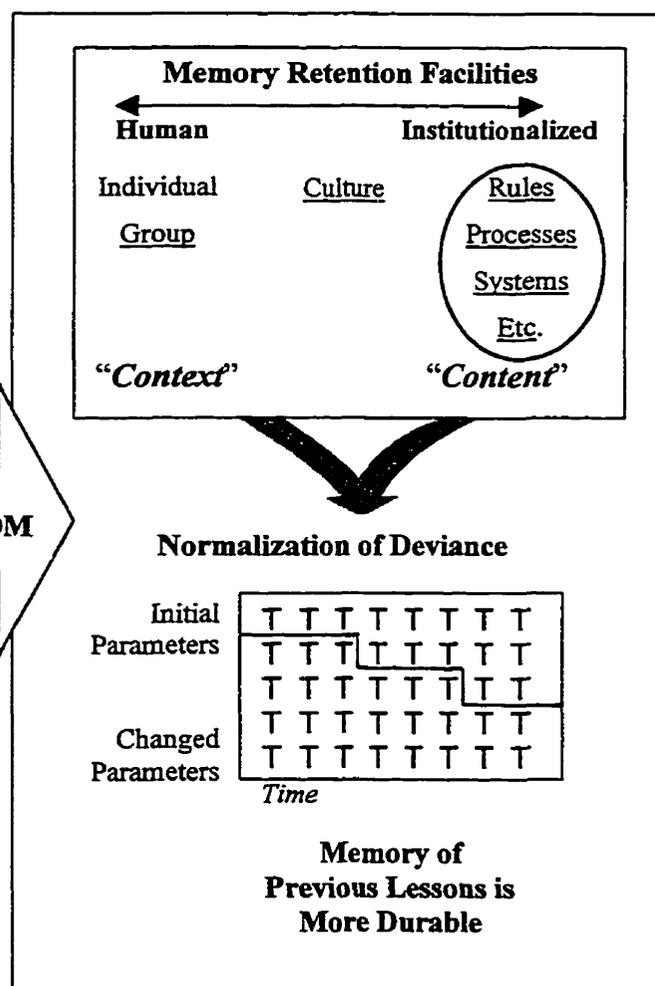


Figure III (b)



ECONOMIC BOOM

9.2.6 Key Points: Pattern of Dissemination Affects Memory Retention and Durability

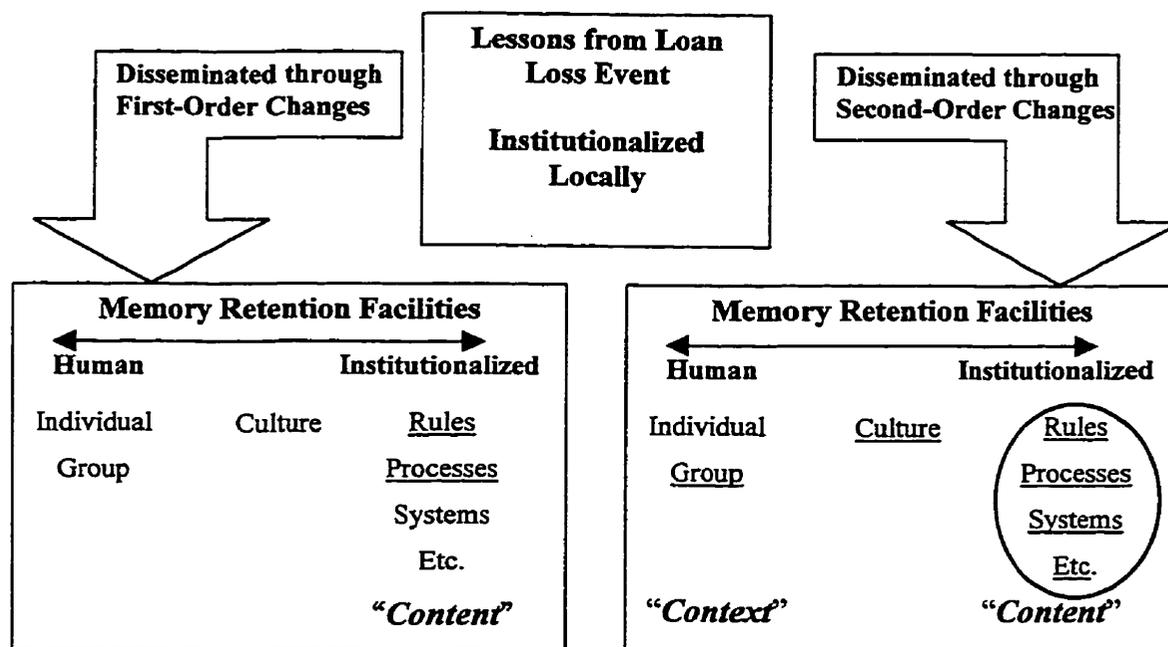
The presence of the factors that make memory more durable – context, and a comprehensive, mutually reinforcing pattern of institutionalized changes – is in turn a function of how lessons were disseminated. Initial learning about the loan loss events occurred primarily as a result of working out the problem loans, and through ‘inquests’ that were conducted for the purpose of identifying what had caused the loan losses to occur. Many of these lessons were institutionalized locally, in new rules, tools or procedures governing lending in the affected sector. Some lessons were disseminated beyond the affected sector by executives, who made an effort to transfer lessons across business units using a variety of institutionalized and social boundary-spanning mechanisms. There were two common patterns by which such dissemination occurred. As discussed in Chapters 7 and 8, first-order changes were those which took place within the existing set of norms and assumptions, while second-order changes involved a fundamental transformation in the assumptions that underpinned the banks’ approach to credit risk.

As Figure IV shows, these patterns of dissemination determine how and where memory of the lessons from the loan loss events was retained, and in turn how durable it is in a boom situation. Dissemination through first-order changes, as shown by the ‘First-Order Changes’ arrow, tended to result in institutionalized piece-meal changes to certain credit or risk management rules and processes. (The ‘Memory Retention Facilities’ boxes in Figure IV should be interpreted in the same way as they were in Figure III.) However, there was little widespread change in people’s understanding of the factors contributing to the loan loss event or the lessons learned from it. Overall, first-order changes reflected executives’ piece-meal use of institutionalized boundary-spanning mechanisms, and the very limited use of social boundary spanning mechanisms. The *content* of some lessons was remembered, but *not the context*.

In contrast, the ‘Memory Retention Facilities’ box following the ‘Second-Order Changes’ arrow in Figure IV shows that dissemination through second-order changes resulted a

comprehensive, mutually reinforcing set of institutionalized changes to policy, processes, systems, training, and policing functions. In addition, the extensive discussion around second-order changes resulted in changes in group understanding and culture. Overall, second-order changes reflected executives' comprehensive use of institutionalized boundary-spanning mechanisms, complemented by extensive use of social boundary spanning mechanisms. The *content* of the key lessons was remembered through the institutionalized changes, and also, to some extent, the *context* was explained and more widely remembered as a result of executives' communication initiatives.

Figure IV



9.2.7 Key Points In Model: Tension Between Old Lessons and New

There is a continuous tension between this pressure to do things differently, to learn and experiment (ie. to try new or different transactions, and incorporate the new learning about what transactions are appropriate and desirable), and the social and institutionalized forces that resist such change (ie. previously learned lessons which are 'remembered' in individuals, groups and

institutionalized artifacts). We will call these the feed-forward or learning of new lessons, and the feed-backward or memory of previous lessons.

Words like “feed-forward” and “new learning” and “exploration” have positive connotations, while words like “feed-backward” and “old learning” and “exploitation” have subtly negative connotations. However, it is important to note that feed-forward is not necessarily ‘good’. New learning can have positive outcomes (eg. innovation, or new policies and processes that reduce future loan losses) or negative ones (eg. systematically loosening lending parameters during an economic boom). Similarly, feed-backward is not necessarily ‘bad’. Remembering previously learned lessons may have positive outcomes (eg. preventing subsequent loan losses) or negative ones (eg. making the bank resistant to new lessons and stifling innovation). In thinking about these concepts, we need to keep in mind their essential neutrality.

This tension between the forces of change and stability is evident at various points in the model. After a loan loss event, we see considerable feed-forward momentum in the affected sector, at the individual, group and organization levels, as lessons are learned through the workout and inquest processes, and replace previously existing rules and procedures. The extent to which lessons are disseminated beyond the affected unit is a function of the relative strengths of feed-forward and feed-backward forces. No dissemination or first-order changes occur when forces of memory and stability are stronger than forces of change. Second order changes occur when forces of learning and change are significantly stronger than forces of stability. The normalization of deviance that characterizes an economic boom period reflects very strong forces of change at the level of the transaction and weakened forces of stability.

The ongoing tension between the forces of change and the forces of stability is anticipated by Crossan et al in the 4-I model and March in his discussion of exploration and exploitation. However, we know relatively little about how this tension plays out, or when one side or the other is dominant. This research makes a substantive contribution in identifying a number of factors that increase the tendency toward either feed-forward / exploration or feed-backward / exploitation.

A number of factors increase the likelihood that **new learning** (feed-forward, exploration) will prevail. The data suggest that, both at the group and organization levels after a loan loss event, and at the transaction level during the economic boom preceding such an event, there must be a champion, or champions, who believe that the organization must change the way it thinks about and manages central business issues in order to compete. Furthermore, these individuals must offer a compelling alternative to the existing model. In a boom situation, the strong market forces and absence of negative feedback create a large number of such champions on the sales-force and elsewhere in the organization. Typically, new learning will be accepted when existing processes, assumptions, and strategic thrust are believed (either widely or by someone with a lot of power) to be detrimental to the organization's revenue and growth objectives, or its continued survival.

New lessons are more likely to be learned and embraced when people are not bound by the existing prevalent assumptions. Both in the cases of the workout and major second-order changes, the champions of the new lessons and associated changes are very often 'outsiders' in some sense, who do not share commonly held assumptions, and have little stake in the existing status quo .

In general, an economic boom leads to significant strengthening of feed-forward forces at the transaction level, and undermining of feed-backward forces, while the poor performance associated with an economic bust strengthens feed-forward forces at the individual, group and organization levels, and undermines feed-backward forces.

In contrast, **old lessons** (feed-back, exploitation) tend to dominate when an existing web of mutually reinforcing institutionalized artifacts and culture exert a powerful influence on behaviour, and overrule the messages sent by new lessons that conflict with it. Previous learning is reinforced by perceptions that acting in accordance with new lessons will impair one's ability to meet performance targets, have a successful career in the organization. It is also reinforced by the perception that existing strategies, structures and procedures are already aligned with market

demands, revenue and growth objectives. Under such circumstances, there is a widely held belief that major changes are not necessary, and that their cost would outweigh their benefit.

This chapter has outlined a model of bank learning through the loan loss cycle. In the following chapter, the implications of this model for managers and for future research are discussed.

CHAPTER 10

CONCLUSIONS AND RECOMMENDATIONS

10.1 INTRODUCTION

This research has attempted an in-depth examination of a complex organizational phenomenon: infrequently recurring, industry-wide loan loss episodes. Its primary objective has been to understand how banks learn from these episodic events.

Research in the fields of strategic management and organizational theory offer a number of frameworks that could reasonably be applied to the study of this phenomenon. It could have been framed as an industry capacity problem to which game theory might have been applied. It could have been viewed as a resource allocation problem, and studied using competing models of micro decision making. However, this study framed it as a learning problem, and drew heavily upon the organizational learning literature in the planning, data collection and interpretation phases of the research. Taking an organizational learning approach allowed research into the phenomenon from inside the affected organizations, and understanding at a finely-grained level of detail. It permitted an in-depth exploration into what happened, how and why.

This lens was chosen in light of *how little we know* about how organizations learn from significant but infrequently occurring events. Most of the research into learning from experience has focused on continuous manufacturing processes and the ‘learning curve’ effect (eg. Yelle 1979), and writing on the subject of learning from historical events tends to be theoretical rather than empirical in nature (eg. Huber 1991; March, Sproull and Tamuz 1991; March and Levinthal 1993). Empirical research into crisis events has tended to focus on the human interactions and organizational contexts leading up to the crisis, and any discussion of subsequent events has been fairly high level and general (eg. Shrivastava 1992; Starbuck and Milliken 1988; Vaughan 1996, 1997, Weick and Roberts 1993). Overall, “holding aside the literature on experience-based learning

curves, the literature on organizational learning from experience contains very few formal, systematic field studies” (Huber 1991: 134).

Chapter 9 outlined a model of learning through the loan loss cycle that summarized the study’s key findings. In this chapter we conclude with a number of recommendations for managers, particularly bank executives, and suggestions for future academic research. The final section in the chapter summarizes the strengths and limitations of the study.

10.2 RECOMMENDATIONS FOR MANAGERS

10.2.1 Overview

This section will begin with a brief review of the banks’ recurring loan loss problem, an assessment of the extent to which they have addressed it, and an introduction to what still needs to be done. The problem is that, under strong growth (particularly “boom”) conditions, banks make and hold too many loans that are too risky, in respect of the returns they earn from them.

Lessons from previous loan loss episodes often do not prevent their recurrence because:

- Learning from such an event is largely a local activity, and often the lessons are not disseminated beyond the affected unit.
- Even when lessons have been disseminated more widely, and institutionalized in rules, structures and processes, they are frequently ignored or changed, and systematically eroded in the face of market and performance pressures and the desire to be adaptive to changing conditions.
- At the same time, negative feedback is largely absent, reinforcing line people’s contention that rules are too restrictive and that more such transactions should be undertaken.

In working toward a solution, the banks have made many changes aimed at addressing the problem of recurring loan loss events (summarized in Chapter 7, Exhibit II). They have disseminated lessons through a variety of institutionalized changes, including: new lending rules and tools; improved credit-granting and risk management processes; policies limiting the single name, industry, and geographic concentrations of loans they can hold; and the development of portfolio management capabilities, including portfolio analysis, pricing for risk, and loan syndication and sales.

Where these changes have been made in a piece-meal fashion, with little widespread communication or discussion, the new policies and procedures are vulnerable to erosion in the face of another sectoral boom and strong performance pressures, and are unlikely to have a great deal of influence on behaviour over the full course of the business cycle. However, to the extent that they have been made in a comprehensive, mutually reinforcing fashion, with their context widely shared through discussion and debate, it is expected that they will influence behaviour and prove more durable.

All three of the banks have been quite successful in disseminating lessons from their loss episodes beyond the affected sectors. However, success in ensuring the durability of these lessons through alignment, dissemination of context, and leadership by key decision-makers, shows variability across banks. Overall, the banks have made significant progress in their dissemination and institutionalization of lessons from the loan loss events. Despite this progress, however, the banks should not regard the problem as solved. They remain vulnerable to the effects of economic boom conditions on their learning and decision-making processes. As time passes, their institutionalized lessons will be eroded in the presence of boom conditions, and incrementally higher levels of risk will be systematically reinterpreted as acceptable. When this happens, they will no doubt experience heavy sector-specific loan loss events again. The lessons they have learned are likely to reduce their loan losses in the downturn of the current economic cycle, but may not have much influence on behaviour in the longer term (ie. the next sectoral boom and the one after that).

It may seem that the primary recommendation to bankers should be “follow your rules”, but this is *not* the case. Guarding against unacceptably high sector-specific credit loss is not the only job of bank management, which must balance the challenges of risk management against those of reaching strategic goals, growing revenues, improving profitability, and innovating to exploit market opportunities and to better serve customers in a competitive, continually changing marketplace.

Unquestioning adherence to rules and procedures will not serve the banks’ business development interests, and indeed may not necessarily serve their risk management interests either. Rules or procedures always reflect imperfect understanding of the business (eg. lending against projected asset values rather than cash flows). Rules can always be improved. They may no longer be appropriate to the customers’ demands or the competitive environment. And innovation, especially in the financial services industry, is a critically important activity in today’s economy, which necessarily involves the questioning of assumptions, and the challenging of existing rules and routines.

This study does not advocate that banks cease making exceptions to their rules and maintain them unchanged. Experimentation through making exceptions is an important way to explore a changing environment, identify new opportunities, and test the continuing relevance, or not, of existing rules and procedures. The key challenge for bank management in preventing unacceptably high sector-specific loan loss episodes is in managing the tension between feed-forward and feed-backward forces, allowing change to occur in a heedful way (Weick and Roberts 1993).

Having said that, many of the following recommendations (sections 10.2.2 – 10.2.4) are directed at improving the learning, dissemination and memory of lessons from sector-specific loan loss episodes. Several focus on sharing the lessons more widely in the organization, and institutionalizing them in such a way that they are more resistant to change. This reflects the original research question, and the tendency of the banks to forget the lessons they have learned. However, the underlying problem remains, which is

how to experiment successfully (particularly in a boom situation); how to adjust the balance between new and old learning in response to changes in the organization's economic environment. This issue is addressed in section 10.2.5

10.2.2 Individual and Group Learning from the Workout and Inquest

The finding that working out loan losses, and conducting an inquest into the reasons for the losses, are important sources of learning suggests that the views of senior workout and inquest people should carry substantial influence with respect to re-entry decisions and the establishment of rules to govern future lending in the sector. Bank C, for example, has made good use of the experience of the executive who ran the LDC loan workout. At the time of the research, he was in charge of the bank's newly revitalized Latin American business.

More generally, these findings indicate that workout experience is a valuable method for developing credit judgement. This point is echoed by people from all three banks. However, a number of organizational factors make developing judgement in this way difficult. Workout units are highly cyclical – in good times they become very small and do not need many people, and in bad times they need people with experience. So, while they may be good training units, relatively few junior bankers can pass through them. Furthermore, workout people are often viewed by line people as overly risk adverse. This makes time in the workout an unattractive career move for many account managers, who fear, sometimes rightly, they will be less desirable as marketing people afterwards.

To the extent that it is possible, the banks should make some time in the workout unit a normal part of the development of high-potential account managers. Perhaps a continuous stream of very high-quality 'graduates' from the workout unit, who go on to attractive positions within the banks, would erode the negative stereotypes. A number of possibilities exist for overcoming the workout units' size and cyclicity limitations, and enabling more people to benefit from the training they can provide. For example, Bank

A's newly created Special Advisory Services Group addresses credit problems at an earlier stage than does the workout unit, but may require and develop many of the same skills. Another possibility is for a bank to purchase the distressed loans of other institutions, develop a particular workout capability, and run the unit as a business. (Using 'inquest' postings as career development positions is not discussed here, largely because they seem to include only a small handful of people, but they would also be useful in developing contextual understanding that would be of use in other credit decision-making situations.)

This conclusion also suggests that organizations that want to remember lessons learned, eg. from a crisis event, should consider who will likely learn the most from the event – often the people who are most actively involved in assessing why the bank experienced the losses, and those who recovered the bank's money afterward – and how this relatively small group of people can be deployed most effectively in the future to maximize the influence of their individual memories. Bank executives should ask themselves the following questions: Is membership in the group that learned most from the event stable over time, or did the group disperse after the event? If it is stable, is it part of forward-looking strategic and business decisions? If not, where do its former members go? Are these people being used in central leadership roles in future business initiatives, or are they to be found on the periphery? Are they well represented in relevant decision-making groups? Bank executives should pay attention to the events that they believe the organization should learn from, identify the individuals who have learned most, and use them strategically, in positions where their impact can be maximized.

10.2.3 Role of Senior Management in Dissemination

Lessons learned by senior management are important because of their role in communicating the bank's interpretation of a loan loss event, their power to make changes which span lending or business units, and their ability to initiate and lead major change initiatives. However, most of the individual level learning about a loan loss

episode takes place within the workout group, by the people who became most intimate with the problems and their solutions. This suggests that for a bank to learn most fully from a loan loss event, and for the lessons to be disseminated widely enough to be applied to a future potential loan loss episode, it requires open and effective communication between the workout unit (specifically the executive leading the workout), the executive leading any inquest, and top management. In this way, the interpretation of the loan loss event and the lessons to be taken from it to be disseminated by top management is grounded in the bank's best learning about the event.

On a related point, executives must take responsibility for the dissemination of lessons in their organizations. They need to be aware of the power of the stories they tell, the interpretations that they choose to communicate. For many, their inclination is to downplay the problems and the damage, minimize the embarrassment all round, and focus on the positive going forward. However, taking responsibility for learning in their organizations means that they must balance this inclination with efforts to provide as candid and comprehensive a picture as they can to their employees, based on the best information available. The simple, forward-looking, sales story that executives prepare for the media or the research analyst community is not the one they should be telling internally. Within the organization, the story must include the content of the lessons, and should be richly grounded in the lessons' context.

Weick and Roberts (1993) assert that reliable performance, particularly in situations where feedback is limited and the costs of failure are high, require "a well-developed collective mind in the form of a complex, attentive system tied together by trust" (p. 371). Such a system requires that every participant understand how his or her actions connect and interact with the actions of others, and how their actions are interrelated within the larger system. For people in an organization to achieve this level of understanding demands a high level of openness and communication, beginning at the highest levels of management and including every participant in the system.

The study also suggests that the banks need to pay particular attention to changes with local versus general influence, and how lessons are transferred across lending units. The research indicates that major second-order change programs are the most effective in terms of communicating lessons widely and institutionalizing them in a way that will have an effect in the future. In contrast, incremental, stand-alone changes that cross boundaries but are not supported by other systems, structures, or culture seem to have relatively little long-term effect.

It is tempting to recommend that the other banks become more like Bank C in terms of the frequency with which they translate lessons learned into fundamental second-order change. However, such programs are very costly, and require a great deal of organizational time and effort. They also require an underlying idea or objective that is worth all the upheaval, and at least one leader who is committed to that idea, senior enough in the organization to push it through a great deal of resistance, and willing to risk the consequences of failure. For these reasons, the major second-order change program cannot be recommended as a panacea. However, two things can be said. Firstly, executives should be aware that sometimes this kind of change is necessary, and is worth the cost. Sometimes, this type of leadership may be required of them, such as when the organization seems to be repeating certain costly mistakes as a natural outcome of their business model.

The second point is more concrete: there are some lessons we can draw from the apparent success of second-order change initiatives which can be applied to other decisions. One regards the consistency of the message and its widespread communication. Another involves the consistency of direction, or degree of alignment between one communicated or institutionalized lesson and the organization's other structures, systems, rules, processes and beliefs.

These lessons suggest some questions which executives must ask themselves, at a minimum, when they seek to institutionalize a lesson in incremental change. What am I trying to accomplish with this change? What lesson am I trying to embed? What

systems, procedures, rules, people, strategies, habits will support and amplify the effects of this change? Which ones will offset or undermine or contradict the desired results of this change? Given the above, will this change be enough? Are there any other things that need to change to ensure the desired results? What is the message I am trying to send with this change? How else should this message be sent or reinforced? Who else might benefit from hearing, or need to hear this message? What contradicting messages am I also sending? What contradicting messages are my colleagues sending? Are we doing the best job possible of managing these conflicting goals?

Finally, taking responsibility for the dissemination of learning in their organizations means that executives need to be continuously on the look-out for ways to transmit lessons – particularly their contextual component – across organizational boundaries. In addition to the normal boundary-spanning tools like policy and process, it is important to look for ways in which the ‘why’ as well as the ‘what’ lessons can be transmitted, so that context is maintained and the lessons are less subject to erosion. For example, they may promote people who have learned a great deal about an event or market into broader decision-making or boundary spanning roles. They might move such people to strategic places in the organization, not alone, but in small groups, to keep memory alive at the group as well as individual levels and increase the potential impact these people could have in their new roles. They may move separate business units into the same office space, or identify market opportunities that would require previously independent groups to work together. They also need to be aware of the barriers that inhibit communication, and be consistent in tying promotion and compensation systems in to the organization’s strategy and goals.

The preceding recommendations regarding the dissemination of lessons beyond the affected business unit reflect, and work within, the up-then-down or in-then-down pattern of information transmission that this study found in the banks. This pattern is characteristic of hierarchical organizations, which raises an interesting question regarding the possible benefits of other – flatter, more lateral or ‘networked’ – organizational forms. While it is easy to dismiss this suggestion, saying that hierarchical organization is

most appropriate for banks given their size and control requirements, it is interesting to consider the example of Banc One¹. This U.S. bank created a flatter organizational structure, and fostered more lateral transfer of information and lessons, in a number of ways. However, its lateral transfers of learning are typically around internal ‘best practices’ or positive-outcome events. Whether they would work in promoting the horizontal dissemination of lessons following a negative-outcome event is an interesting yet unresolved question. It should also be noted that Banc One does not do large corporate lending, focusing instead on smaller, high-volume loans that are more incremental in their feedback, and “failure-tolerant”.

10.2.4 Remembering Lessons

Managers should take from this research a warning that, just because they have learned a lesson about the most recent loan loss episode and embedded it in policy, does *not* necessarily mean that the policy will protect them from a repeat occurrence in later years. From the time it is authored, the policy will be under pressure from line people who will push to have exceptions made to the policy and eventually to make the policy more lenient. And normal decision making and learning processes in the organization will facilitate this erosion.

The research shows that executives have a tool at their disposal to slow the erosion of institutionalized lessons, and ensure that the inevitable changes, when they come, are made more thoughtfully. When lessons are embedded in policy, structure, credit process, or risk management procedures, they can also think about who will keep them ‘alive’. Who will explain why they are important? Who will argue for their relevance when the young deal-makers come forward to say why times have changed and the rules are outdated? Who will ensure that a thoughtful discussion takes place around what changes can be made in light of new competitive pressures or business opportunities, and what needs to stay in place for the good of the bank?

¹ Banc One’s story is documented in a number of Harvard Business School Cases.

Two factors indicate who can effectively support and reinforce organizational memory through providing context: key individuals need to have the power and seniority to have significant influence when decisions are being made, and they should have lived through the events which gave rise to the rules. Ideally, they would have been involved in working out the problems in the first place. At the time of the research, all three banks had such people running their Risk Management functions. However, when they retire or move on, will they be replaced by people who can fulfil the same role?

The research also illustrates that comprehensive, systemic changes provide more influential and enduring repositories of organizational memory than incremental, isolated changes. This occurs for two reasons. Firstly, comprehensive change initiatives ensure that many of the relevant institutionalized structures, processes, rules, and systems are in alignment -- that they influence behaviour in approximately the same direction. The alignment means it is more likely that the lessons will exert a stronger influence on behaviour.

Secondly, comprehensive change programs are typically accompanied by a major effort to communicate them. The emphasis on communication, on telling the story about how the changes came about and why they are essential, means that more people in the organization understand why the policies and processes are in place and why they make sense. In other words, the context for the changes is shared and understood much more widely than when one or two incremental changes are made which never affect most of the people in the organization.

This means that, when executives perceive the need for certain organizational lessons to be remembered, they can make institutionalized changes more influential and more durable by initiating a program of complementary, consistent changes to all relevant policies, procedures, and systems. And they can accompany this program of changes with an ongoing, consistent, widespread effort to communicate what is happening and why. Such major, comprehensive change initiatives accompanied by years of determined story-telling effort were seen at Bank A in the early 1990s (credit

process reengineering), and at Bank C in the early- to mid-1980s and then again in the 1990s (dual credit process, and integrated risk management program respectively). If Bank C's dual credit process initiative is representative, then this type of change program is remembered for longer, and is more enduring than individual, isolated changes.

Overall, this conclusion suggests that the organization needs to recognize the fact that, in the absence of ongoing reinforcement, lessons from the crisis event will erode or decay over time. Armed with that insight, it must identify the forces that will contribute to this decay, and the forces that will provide resistance and slow it down. In which memory bins are the lessons stored? To what extent are the behaviours they encourage consistent with other organizational processes, management preferences, reward systems, and strategies? Is there some way that a greater degree of integration can be achieved?

10.2.5 Balancing Old and New Lessons

While the previous recommendations are directed at disseminating and institutionalizing lessons in such a way that they are resistant to change, the final recommendation recognizes the need for change and innovation as the bank pursues its business objectives. It may be helpful to think of transactions that are made as exceptions to policy or procedure as experiments.

Every bank must have a systematic procedure for assessing the subsequent performance of the transactions it makes as exceptions to policy, and feeding that information back into the policy-making process. An experimental action is taken. If, over time, the company and transaction continue to perform well, then the feedback would suggest that the exception was a good idea. If many similar exceptions are made, with continuing positive feedback, then this may indicate that loosening the policy or process could improve revenues at an acceptable level of risk. When exceptions are made and the transaction or company subsequently 'goes bad', this feedback suggests that the policy or procedure was a good one, and the bank should continue to adhere to it.

While such a procedure is necessary, however, it is not sufficient because it does not overcome the boom-bust cycle problem.

Under economic boom conditions in a particular sector, banks come under significant pressure to make exceptions to their policies or procedures, and more transactions are likely to be made on an exception basis. However, the economic boom also means that the normal feedback schedule is delayed. Because of the buoyant market, banks do not receive significant negative feedback for a long period of time, leading them (mistakenly) to believe that their rules were too restrictive. And then, when the negative feedback is finally received, it is so widespread that it fails to differentiate among transactions. Under both of these situations – no negative feedback and a huge quantity of negative feedback – no learning can occur because differentiating information is not being received and processed. The characteristics of the large corporate lending business with respect to the tolerance for error, the costs of experimentation and the availability of feedback change fundamentally in a boom situation. So the process of undertaking experiments (exceptions) and seeing how they turn out that works reasonably well under normal economic conditions does not work during an economic boom.

Banks are advised to pay attention to the process by which they grant exceptions, treating them as experiments, and systematically monitoring and using the feedback from them. But they also need to differentiate between the contexts under which their process is likely to work and those under which it is not. How do you differentiate between a boom and a normal period of economic growth, or between a boom and the development of a new market opportunity? These are difficult questions. This study suggests that close attention to the experimentation process, and discussion and debate around the meaning of the feedback received in the context of the market circumstances, are the necessary prerequisites. It also suggests that people who have directly experienced previous sector-specific loan losses, and participated in the learning after them, must be part of this ongoing debate as well as the bank's risk management and line people.

Weick and Roberts' (1993) research into high-reliability organizations also provides some insight into how banks can navigate more effectively between normal and boom conditions. They describe the need for "heedful" performance, that is characterized by a heightened level of attention and awareness of how one's actions connect with the actions of others, and how everyone's actions interrelate within the larger system.

"The word heed captures an important set of qualities of mind that elude the more stark vocabulary of cognition. These nuances of heed are especially appropriate to our interest in systems preoccupied with failure-free performance. People act heedfully when they act more or less carefully, critically, consistently, purposefully, attentively, studiously, vigilantly, conscientiously, pertinaciously (Ryle, 1949: 151). Heed adverbs attach qualities of mind directly to performances." (Weick and Roberts 1993: p. 361).

How can heedfulness be built into an organization? Weick and Roberts suggest that it requires a social system comprised of dense and ongoing interrelations, highly developed social skills, openness, trust, and a willingness to subordinate heroic or autonomous individual behaviour to the needs of the community and the system.

10.3 SUGGESTIONS FOR FUTURE RESEARCH

Understanding when normal learning processes are likely to work and when they are not, and how to conduct experiments 'safely' in situations where feedback is limited or delayed are also interesting avenues for future research. The observation that key characteristics of the learning situation oscillate with respect to tolerance for failure, desirability and cost of experimentation, and availability of feedback – and the effect this oscillation has on the effectiveness of the banks' learning and risk management processes – requires future study.

The model outlined in the previous chapter describes a number of the factors that this study found important in influencing the learning, dissemination and memory of

lessons from loan loss events, and the relative strength of feed-forward and feed-backward forces. Testing these factors using other research methods and designs will be an important avenue for future research because it will refine the findings and constructs of this study, and help to establish its generalizability. In addition to the possibilities suggested in the earlier sections, this section focuses on some of the interesting questions arising from the study's key findings.

The conclusion that the people who 'cleaned up the mess' learned a lot from a loan loss episode provides an important insight into how organizations learn from an infrequently occurring crisis-type event when a formal inquest is not held. It may prove to be generalizable well beyond the banks that were studied, and even beyond the banking sector. It suggests that after any organizational crisis event, researchers and executives may be well served by looking to the people who picked up the pieces for significant learning, and a strong articulation of lessons learned. A number of questions arise from this finding. Is this pattern of intense learning evident after other types of crisis? If so, how are these people utilized afterward? If not, who does learn, and what can we take from the comparison? How is learning from 'cleaning up' different from learning through a formal inquest into what has gone wrong and how to prevent its recurrence? Is learning from an episodic event always so localized? Under what circumstances is it a more wide-spread activity?

This study also suggests that people are more interested in exploring positive outcomes experienced by other business units than negative ones. They may also be more willing to discuss their own positive outcomes than their negative ones. Future research may usefully inquire into whether learning will be more localized after a negative outcome event than after a positive outcome event.

The study suggests that more learning about a crisis event will be found where the damage-control and immediate change activities triggered by the event have created the opportunity for novel actions and improvisation than where actions are constrained by existing norms and procedures. Future research could test this hypothesis.

Learning from a sector-specific loan loss episode was ‘naturally’ a local phenomenon, and many factors inhibited the ‘natural’ dissemination of lessons from loan loss events across business units. But this research shows that executives played (or had the potential to play) a crucial role in ensuring that lessons were disseminated beyond the affected sector. Executives were able to transfer lessons across organizational boundaries, or facilitate their transfer, in a number of ways. Senior executives and occasionally their hand-picked ‘deputies’ were particularly influential through their storytelling activities, boundary-spanning responsibilities, management decisions and leadership of change initiatives.

This finding suggests several areas of future research. It would be interesting to test whether dissemination of lessons from a negative outcome event will only occur in a hierarchical, up-and-down pattern. In contrast, lessons from a positive outcome event might occur in either an up-and-down or a horizontal fashion.

The study also suggests that breadth of learning is positively correlated with executive intervention and effort in promoting the dissemination of lessons, where breadth of learning is (i) the amount of integration across groups, and (ii) $O \rightarrow G$ feedback across more groups. It would be interesting to compare this with the breadth of learning in the absence of executive effort, under different outcome situations. The study would suggest that, without executive intervention, lessons from a loan loss episode or similar event will be confined to the affected business unit or region, and will not be available for use by other groups. What might be the characteristics of an event that make it more likely to travel across groups in the absence of executive intervention?

It has been common among organizational theorists to say that institutionalized elements such as structures and processes are important storage facilities for organizational memory (Nelson and Winter 1982; Walsh and Ungson 1991; see also Huber 1991). But their *limitations* as repositories for memory have not been explored, and are not well understood. This research makes three significant contributions to our

understanding of organizational memory as it resides in institutionalized rules, processes, structures, and other artifacts.

First, it shows that institutionalized memory needs to be continually reinforced over time. In organizations where risk management is a central task, deterioration or erosion occurs as incrementally higher levels of risk are accepted by the organization and incorporated into decision makers' experience base. In other words, they are transformed from being considered deviant to being considered normal (Vaughan 1996, 1997).

Secondly, this research suggests that the normalization of deviance process can be substantially slowed down when individuals with a strong memory of the historical events in question are (a) available to provide the explanation and justification, ie. the context, for rules and processes, and (b) are in positions of sufficient power to significantly influence decisions. So, for specific memories, institutionalized at the organization level, to withstand erosion and remain influential over time, they must be supported by memory at the individual and group levels. The 'why' or context cannot be institutionalized in rules, structures, processes or other artifacts. It can only reside in individuals and groups – in the form of individual memories, group norms, stories, and culture. And it seems that context is necessary to keep institutionalized memories 'alive' and uncorrupted.

Thirdly, the research suggests that in a large, established organization, institutionalized elements embody decades' worth of lessons, strategies, management practices and beliefs as they have applied to many different business lines and geographical locations. They reflect the organization's history, which includes much more than a few big loan loss events. As a result, while it is quite possible to identify a certain policy or process as the institutionalized memory of a particular lesson, it is a more difficult task to understand what its influence will be on behaviour. If its 'message' is in alignment with several other institutionalized artifacts, it will exert more influence on people's behaviour than if it runs contrary to the organization's other beliefs and systems.

Two characteristics of second-order change appear to make it more durable: the alignment of a greater number of processes, rules, systems, and structures; and the wider dissemination of the context of the changes, which seems to be a by product of the assumption-surfacing discussions and the later communication efforts associated with the implementation of the changes. This raises interesting questions about the relative influence of these two characteristics on durability. Is one significantly more influential than the other? The study does not allow us to 'disentangle' the two, but this would be an interesting topic for future research.

These findings also suggest some general avenues for future research. Vaughan's work on the normalization of deviance, and strategic management's concept of alignment or fit are two lenses which may profitably be applied to further our understanding of organizational memory. The research also suggests that Walsh and Ungson's memory retention facilities may exist in a hierarchy, and may exert different kinds of influence on behaviour. Or it may be that it is the *interaction* between the different memory bins that holds the key to understanding how organizational memory influences behaviour. These findings also raise questions about which factor is more important in promoting durability – alignment or context.

This study suggests that the erosion of rules and processes will be greater and faster when fewer people in relevant decision-making positions have personal experience of the events that gave rise to the rules and processes. Conversely, where more people in relevant decision-making positions have personal experience of the events which gave rise to the rules or processes, their erosion will be slower and of a smaller magnitude. Testing this proposition would be an interesting and useful avenue for future research.

The study suggests that the influence an institutionalized element will have on individual and group behaviour is positively correlated to the number of other relevant institutionalized elements that are in alignment with it. Influence seems to be negatively correlated with the number of relevant institutionalized elements that encourage

conflicting behaviour. However, alignment is not the only factor contributing to the durability of institutionalized lessons over time. The other is a widely shared context. An interesting research question would be to ask if one is more important than the other.

10.4 STRENGTHS AND LIMITATIONS OF THE RESEARCH

The greatest limitation of this study is that, because it is based in a single industry, its findings may not be generalizable to other types of organizations. However the findings are generalizable to a theory (or theories), and this is how they should be interpreted. Secondly, because it was exploratory and focused on understanding a phenomenon in all its complexity, it necessarily was limited in construct definition and measurement.

The greatest strength of this research is that it is an in-depth examination of a little-understood phenomenon that is of significant interest both to academic theorists and business people, in particular bank executives and investors. It has been conducted in a careful, systematic and thorough manner that is consistent with the standards of the social sciences research community. It makes a substantive contribution to existing knowledge about how organizations learn from their experiences. The research yields rich stories and multifaceted findings that will provide fertile ground on which to base a research program in the area of organizational learning and memory. Finally, the research is managerially relevant, and offers a number of recommendations to executives for improving their organizations' effectiveness at learning from experiences.

Appendix I
SUMMARY OF DATA

BANK A INTERVIEWS					
No.	First Name	Last Name	Job Title	Loan Loss Episode	Perspective
1			Senior VP		General, Credit Risk
2			Senior Manager		Credit Process
3			VP	LDC	Line
4			Senior Account Manager	RE	Workout, Line
5			Executive VP	International	Risk Mgt
6			VP	RE	Line
7			Senior Manager		Credit Policy
8			VP		Credit Risk
9			VP		Human Resources
10			VP	O&G	Line
11			Manager	O&G	Line
12			Senior VP	RE	Credit Risk, General
13			VP	O&G	Credit Risk
14			Manager	O&G	Audit, General
15			Training and Development Advisor		Human Resources
16			Senior VP	RE	Workout
17			VP	LDC	Line, Workout
18			VP	RE	Line
19			Manager	O&G	Line
20			Senior Manager		Line
21			VP		Risk Mgt
22			Manager	O&G	Credit Risk
23			Senior Manager		Risk Mgt
24			Executive VP	LDC	Line (not direct)
25			Implementation Manager		Human Resources
26			Senior VP		Risk Mgt
27			Executive VP	RE	General
28			VP	RE	Credit Risk
29			VP	LDC	Risk Mgt, Portfolio
30			VP		Line
31			Senior Manager		Line

BANK A DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
Annual Reports				
1	1980	Annual Report		
2	1981	Annual Report		
3	1982	Annual Report		
4	1983	Annual Report		
5	1984	Annual Report		
6	1985	Annual Report		
7	1986	Annual Report		
8	1987	Annual Report		
9	1988	Annual Report		
10	1989	Annual Report		
11	1990	Annual Report		
12	1991	Annual Report		
13	1992	Annual Report		
14	1993	Annual Report		
15	1994	Annual Report		
16	1995	Annual Report		
17	1996	Annual Report		
Internal Documents				
18	Sep-77	Organization Chart		
19	1977	Commercial Loans Handbook		
20	Feb-80	Global Energy & Minerals Group (1) & (2)		
21	Jul-80	Working Relationships of the Global Energy & Minerals Group to the Operating Divisions of the Bank		
22	Nov-80	Global Energy & Minerals Group Directory		
23	Sep-82	Organization Chart		
24	1983	Credit Policy Manual		

BANK A DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
25	Jan-84	International Debt and New Financing Problems: Priorities for the International Banks and the Institute of International Finance		
26	Jul-85	Organization Chart		
27	Jan-86	Energy Review: Problem Accounts		
28	Jun-86	Organization Chart		
29	Oct-87	Streamlining the Credit Decision & Reporting Process		
30	Apr-90	<Bank A> Forms New Real Estate Entity		
31	May-90	Organization Chart		
32	1990	Credit Policy Manual		
33	Aug-91	Business Credit Approval & Info System		
34	Oct-92	Domestic Corporate Credit Process		
35	Oct-92	Corporate Banking Centres Process Review		
36	Oct-92	Report on Risk Assessment		
37	Nov-92	Domestic Corporate Credit Delivery Process		
38	Dec-92	Update on Domestic Corporate Credit Delivery Process Project		
39	Feb-93	Minutes of Credit Task Force Meetings		
40	Mar-93	Credit Process Reengineering IMPACT		
41	Apr-93	Visits to Peer Banks Re. Credit Policy		
42	Aug-93	Special Loans Process Review		
43	Sep-93	Reengineering Implementation Steering Committee Agendas		
44	Oct-93	Realigning the Corporate Banking Workforce		
45	Oct-93	Realignment Communication Memo		
46	1993	Steering Committee -- Credit Process		

BANK A DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
47	Jan-94	Communication Plan in Support of Corporate Banking Reengineering		
48	Feb-94	Corporate Banking Reengineering District Implementation Guide		
49	Mar-94	Oil & Gas Lending Guidelines		
50	Mar-94	Risk Assessment Rating Memo		
51	Mar-94	Reengineering Steering Committee Minutes Letter to Professionals Asking for Feedback on Problem Loans		
52	Apr-94	Corporate Banking Reengineering: Principles of Organization & Operation		
53	Apr-94	Corporate Banking Reengineering Implementation Handbook		
54	Apr-94	Corporate Banking Reengineering Status Report		
55	May-94	Reengineering Content In Speaking Engagements		
56	May-94	Business Banking Reengineering		
57	May-94	Corporate Banking Reengineering: Principles of Organization & Operation, Business Banking		
58	May-94	Corporate Banking Reengineering: Guidelines, Business Banking		
59	May-94	Real Estate Review: Problem Accounts Opportunities Log - Status Report		
60	Jul-94	Best Practices: What Have We Learned From Our Loan Losses		
61	Nov-94			
62	1994			

BANK A DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
63	1994	Draft Risk Assessment Template for Corporate Banking Credit Applications		
64	Sep-95	Credit Principles, Rules & Guidelines		
65	Nov-95	Risk Framework for <Bank A>		
66	1995	Risk Mgt Quality Assurance Process and Framework		
67	1995	A Guide to Learning Resources		
68	Mar-96	Real Estate Relationship Credit Rules & Credit Guidelines		
69	Mar-96	Credit Policy - Credit Principles		
70	Mar-96	Credit Policy - Credit Rules & Guidelines		
71	Jun-96	Building Competencies & Winning Together		
72	Jul-96	Risk Management - To Serve <Bank A>		
73	Aug-96	<Bank A> Operating Risk		
74	Sep-96	Risk Mgt Policy Organizational Chart		
75	Oct-96	Multinational Banking Business Update		
76	1996	Multinational Banking Loan Documentation		
77	Jan-97	Credit Policy Exceptions 1993-96		
Speeches & Presentations				
78	Jun-80	Can the Euromarkets Withstand Another Oil Shock?		
79	Oct-80	Financing Energy Developments: A Banker's Viewpoint		
80	Dec-80	Outlook 1981: Worldwide Recession & Inflation		
81	Dec-80	Outlook 1981: Energy Supplies, Prices & Surpluses		
82	Mar-81	Critical Issues in International Finance		

BANK A DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
83	Mar-81	Global Energy Outlook: Supply, Demand & Alternatives		
84	Apr-81	Capital Requirements for the Canadian Oil & Gas Industry		
85	Jun-81	Some Critical Issues in Today's Economic & Financial Environment		
86	Feb-82	The Current Status of Canada's Oil & Gas and Pipeline Industries		
87	Sep-82	Canadian Energy Policy: The Impact on the Petroleum & Banking Industries		
88	Sep-83	Oil Policy: What Next?		
89	Oct-83	The International Debt Problem: Is There a Solution?		
90	1983	International Financial Stability in the New Oil Price Scenarios		
91	Oct-84	Canadian Energy Policies		
92	Apr-85	Energy Outlook Atlantic Canada		
93	Oct-85	Energy Loans and the Current Lending Climate in Western Canada		
94	Dec-85	Sovereign Risk Rescheduling		
95	Feb-86	Economic Issues & Challenges for the Bank		
96	May-88	Third World Debt: The Leadership Vacuum		
97	Jun-88	The Economic & Financial Outlook for 1988-1989: Implications for Real Estate & Development		
98	Apr-89	Third World Debt: The Fables & the Facts		
99	Jul-89	My Years as a Black Hat		

BANK A DOCUMENTS			
No.	Date	Title / Description	Comments
			Interview Cross-Ref
100	May-93	<Bank A> Impact Credit Process Reengineering Executive Review (1) & (2)	
101	May-93	<Bank A> Impact Credit Process Reengineering	
102	Sep-93	Realignment Project	
103	Oct-93	Credit Risk Mgt Realignment	
104	1993	O&G Lending -- Portfolio Quality Improvement Initiatives	
105	1993	Impact: Credit Policy Task Force	
106	Feb-94	Reengineering General Mgrs Meeting	
107	Mar-94	Corporate Banking Reengineering	
108	Mar-94	Corporate Banking Reengineering	

BANK B INTERVIEWS					
No.	First Name	Last Name	Job Title	Loan Loss Episode	Perspective
1			VP	RE	Line
2			Senior Executive VP		Risk Mgt
3					
4			Senior VP		Accounting
5			Senior VP	RE	Line, Credit Risk
6			VP	RE	Credit Risk
7			Senior VP	LDC	Line
8			Senior VP	RE	Line
9			Senior VP	LDC	Line
10			VP	O&G	Credit Risk
11			Executive VP	LDC	Line (not direct), Risk Mgt
12			Senior VP		Risk Mgt
13			General Manager	O&G	Workout, Portfolio Mgt
14			Senior VP		General, Risk Mgt
15			Executive VP		Legal
16			Senior VP	RE	General, Credit Risk
17			Archivist		
18			Senior VP	O&G	Line
19			Managing Director	RE	Line
20			VP		General
21			VP	RE	Workout, Syndication
22			Manager		General
23			Senior VP	RE	Workout
24			Senior VP		General
25			Manager		Credit Risk, Process
26			Senior VP		Accounting

BANK B DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
Annual Reports				
1	1980	Annual Report		
2	1981	Annual Report		
3	1982	Annual Report		
4	1983	Annual Report		
5	1984	Annual Report		
6	1985	Annual Report		
7	1986	Annual Report		
8	1987	Annual Report		
9	1988	Annual Report		
10	1989	Annual Report		
11	1990	Annual Report		
12	1991	Annual Report		
13	1992	Annual Report		
14	1993	Annual Report		
15	1994	Annual Report		
16	1995	Annual Report		
17	1996	Annual Report		
Internal Documents				
18	Jun-83	Management Organization & Philosophy		
19	Spring 86	The News: <Bank B> Moves Ahead With Market Driven Realignment		
20	Jun-86	<Bank B> Realignment for Corporate Bank		
21	Apr-87	Background: <Bank B>'s position on Brazil		
22	Sep-87	<Bank B> LDC Exposure		
23	Jun-92	Changes at <Bank B>		
24	Jun-92	The News		

BANK B DOCUMENTS			
No.	Date	Title / Description	Comments
			Interview Cross-Ref
25	Jul-92	The Way Forward 1: Customer Satisfaction	
26	Jul-92	<Bank B> - The Way Forward: Facing the Realities of the 1990s	
27	Jul-92	The News	
28	Aug-92	The Way Forward 2: People Management	
29	Aug-92	The Way Forward 3: Operational Capability	
30	Sep-92	The Way Forward 4: Risk Management	
31	Nov-92	The Way Forward 5: Sales Effectiveness	
32	Mar-93	The Risk Report v.1 n.1	
33	Jun-93	The Risk Report	
34	Sep-93	The Risk Report	
35	Dec-93	The Risk Report	
36	Jun-94	The Risk Report	
37	Mar-94	The Risk Report	
38	Dec-94	The Risk Report	
39	up to 1994	Branch Management & Operations Manual: Part III, Credit Business, Lending Principles & Practice	
40	Mar-95	The Risk Report	
41	May-95	The Risk Report, Special Edition	
42	Sep-95	The Risk Report	
43	Jan-96	The Risk Report	
44	Feb-96	Commercial Credit Risk: Real Estate Lending	
45	May-96	The Risk Report	
46	Jul-96	The Risk Report	

BANK B DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
47	Dec-96	The News		
48	1996	Investment & Lending Policies, Standards, Procedures & Limits		
Speeches & Presentations				
49	May-80	The Economy in the 1980s		
50	May-80	Short- & Medium-Term Implications of Foreign Borrowing on the Balance of Payments		
51	Jul-80	Economics in the 1980s - A Business View		
52	May-81	Speech		
53	Jan-83	Remarks		
54	Oct-84	Changing Banking Environment		
55	Oct-84	Latin America: A Review of the Present Crisis		
56	Jan-85	Notes for Remarks		
57	Apr-85	Canadian Outlook		
58	May-85	Speech		
59	Jan-86	Building on Strength		
60	Jan-86	Speech		
61	May-86	The New World for Energy Lenders		
62	Jun-86	Lending to the Construction Industry		
63	Apr-87	Notes for an Address		
64	May-87	Notes for Remarks		

BANK B DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
65	Jul-87	Upgrading Financial Control & Information Systems		
66	Sep-87	<Bank B>: Growth Through Specialization		
67	Sep-87	<Bank B> in the World Financial Markets		
68	Sep-87	<Bank B>: A Financial Overview		
69	Oct-87	Canada - The Northern Option in Real Estate Investment		
70	Jan-88	Notes for Remarks		
71	Mar-88	The Environment for Profitability		
72	May-88	Financing Major Construction Projects		
73	Jun-88	LDCs: Developing Country Market Access		
74	Jan-89	A Report on Strategic Direction		
75	Jan-89	A Report on Operations		
76	Mar-89	Notes for Remarks		
77	Mar-89	LDC Debt, LBOs and the Quality of the Balance Sheet		
78	Apr-89	REIT, LDC, Thrift - The Common Thread		
79	Jun-89	The Worldwide Implications of Nations in Financial Crisis		
80	Jan-90	Report on Operations		
81	Feb-90	Recent Developments & Emerging Market Trends in Canadian and US Real Estate Markets: A Lender's Perspective		
82	Jan-91	Report on Operations		
83	Jun-91	Lesser Developed Country Debt: The Illusion and the Reality		

BANK B DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
84	Nov-91	The Window at the Top: Observations on the Governance of Financial Institutions		
85	Jan-92	Report on Operations		
86	Jan-93	A New Concept of Leadership		
87	Jan-93	<Bank B>: Facing the Realities of the 1990s		
88	Mar-93	Risk Management Policies		
89	Apr-93	The Business of Business is Learning		
90	Apr-93	The Will to Act Responsibly		
91	Aug-93	The Learning Organization		
92	Oct-93	Notes for an Address		
93	Feb-95	Risk Management Overview		
Bank-Specific Articles etc.				
94	Oct-82	The <Bank B>		
95	May-89	Tracing a Common Thread in the Biggest Loan-Default Disasters		
96	Dec-89	Bank to Automate Credit Analysis		
97	Dec-89	More Profitable Commercial Lending With Expert Credit System		
98	Sep-91	Imperial Designs		
99	Sep-91	Like Money in the Bank		
100	Winter 91	Changing a Bank		
101	Nov-92	Banking on Change		
102	May-96	Poor Little Rich Bank		
220		118 newspaper clippings		

BANK C INTERVIEWS					
No.	First Name	Last Name	Job Title	Loan Loss Episode	Perspective
1			Senior VP		General, Credit Process
2			Human Resources		Human Resources
3			Senior Manager		General, Credit
4			Performance Consultant		Human Resources
5			Senior Manager	O&G	Credit
6			VP	RE	Line
7			VP	RE	Credit
8			Director	RE	Workout
9			Vice-Chairman		General, Portfolio Mgt
10			Director	LDC	Workout
11			VP		Portfolio Mgt
12			VP	O&G	Credit
13			Senior Manager		Risk Mgt
14			VP	PCFS	General, Line
15			Controller		Accounting
16			Senior Manager	RE	Credit
17			Senior VP		General
18			Managing Director	O&G	Line
19			Senior VP	LDC	Line, Workout
20			Manager	LDC	Line, Workout
21			VP		Risk Mgt
22			VP		Human Resources
23			Managing Director	O&G	Line
24			Faculty Head		Human Resources
25			Director		Syndication
26			Executive VP		General, Risk Mgt
27			Executive VP	LDC	Workout, General
28			Director		Line
29			Managing Director	LDC	Workout
30			Senior Manager	O&G	Credit
31			Senior Manager		Corp. Communication

BANK C INTERVIEWS					
No.	First Name	Last Name	Job Title	Loan Loss Episode	Perspective
32			Senior Manager		General, Credit
33			Human Resources		Human Resources
34			Managing Director		Project Finance
35			Senior VP		Portfolio Mgt
36			Managing Director	RE	Line
37			Senior VP	PCFS	General, Credit
38			Managing Director	RE	Line, Workout
39			Senior Manager		Information Systems
40			Senior VP	RE	Workout
41			Director		Human Resources

BANK C DOCUMENTS

No.	Date	Title / Description	Comments	Interview Cross-Ref
Annual Reports				
1	1980	Annual Report		
2	1981	Annual Report		
3	1982	Annual Report		
4	1983	Annual Report		
5	1984	Annual Report		
6	1985	Annual Report		
7	1986	Annual Report		
8	1987	Annual Report		
9	1988	Annual Report		
10	1989	Annual Report		
11	1990	Annual Report		
12	1991	Annual Report		
13	1992	Annual Report		
14	1993	Annual Report		
15	1994	Annual Report		
16	1995	Annual Report		
17	1996	Annual Report		
Internal Documents				
18	Sep-80	Real Estate Industry Lending Paper		
19	Jul-83	Corporate Policy: Commercial Lending Committee Mandate		
20	Jul-83	Corporate Policy: Philosophy, Principles & Conduct of Lending Activities		
21	Jul-83	Corporate Policy: Lender Qualification & Discretionary Lending Limits		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
40	Dec-91	Loan Portfolio Management		
41	Mar-92	Risk Management in a Zero Inflation Environment		
42	May-92	Q4 Productivity Target Analysis Process		
43	Jun-93	Real Estate Strategy Implementation Final Report		
44	Feb-94	CIFS Organization Charts		
45	Apr-94	Emerging Mkts (LDC) Debt Trading Lending Directive		
46	Jul-94	Integrated Risk Management Corporate Banking Initiatives		
47	Oct-94	Avoidable / Unavoidable Loan Losses		
48	Dec-94	Exceptions to Lending Directives / Corporate Policies Lending Directive		
49	Dec-94	Asset Sales / Syndicated Loans Lending Directive		
50	Dec-94	Integrated Risk Management Corporate Banking Initiatives 2nd ed.		
51	1994	Managing Risk		
52	Apr-95	Loan Pricing Lending Directive		
53	Jun-95	Real Estate - USA & REIT Performing Accounts Lending Directive		
54	Jul-95	General Lending Directive		
55	Mar-96	Integrated Risk Management Corporate Banking Initiatives 3rd ed.		
56	May-96	U.S. Real Estate Strategy		
57	Jul-96	Commercial Lending Committee Vote Analysis & Corporate Policy Exceptions		
58	Aug-96	Petroleum Industry Lending Directive		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
59	1996	Petroleum Industry Lending Directive		
60	1996	CIFS Training Curriculum		
61		Commercial Loans - Lending Decision Process		
Speeches and Presentations				
62	Apr-80	Energy, Economics & Growth		
63	Apr-81	Energy Policy and the Future of Canada		
64	Nov-82	Opening Remarks at Commercial Acct Mgrs Seminar & related papers		
65	Mar-83	Opening Address & Closing Remarks		
66	Mar-83	Corporate & Government Banking Overview		
67	Mar-83	Reorganization & Revised Work Flows		
68	Mar-83	Lending & Finance Training		
69	Mar-83	Human Resources Update		
70	Mar-83	Special Accounts Management Unit		
71	Mar-83	Loan Portfolio Management & Risk Diversification Policy		
72	Mar-83	Special Financing Groups Update		
73	Mar-83	Offshore Lending Update		
74	Mar-83	Policy on Large Credits (Corporate)		
75	Mar-83	International Banking Credit Organization		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
76	Mar-83	Lending & Pricing Policies		
77	Feb-84	Opening Addresses		
78	Feb-84	Corporate & Government Banking Overview		
79	Feb-84	The Changing Role of the District Mgr Credit		
80	Feb-84	Commercial Lending Process		
81	Feb-84	Economic Update		
82	Feb-84	Proposed Revisions to the Commercial Lending Process		
83	Feb-84	Lending & Finance Training		
84	Feb-84	Process Reviews		
85	Feb-84	Credit Department Committee Updates		
86	Feb-84	Canadian Commercial Banking		
87	Feb-84	The Changing Role of the Credit Function		
88	Feb-84	Loan Portfolio Management Update		
89	Feb-84	Manpower Review Process		
90	Feb-84	Multi-Level Appraisal System		
91	Feb-84	Special Accounts Management Unit		
92	Feb-84	Commercial Banking Officer Program		
93	Feb-84	Offshore Lending Update		
94	Mar-85	Planned Refinements in the Commercial Lending Process		
95	Mar-85	Commercial Lending Process		
96	Mar-85	Corporate Audit / Credit Process Review		
97	Mar-85	Lending & Finance Training		
98	Mar-85	Economic Update		
99	Mar-85	Human Resources Update		
100	Mar-85	Role of Credit Function S.M.C. / D.M.C.		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
101	Mar-85	Lending Updates in Various Sectors		
102	Mar-85	Changing Role of the Account Mgr		
103	Mar-85	Project Finance Update		
104	Mar-85	Trade Finance Update		
105	Mar-85	Canadian Commercial Banking Overview		
106	Mar-85	Corporate & Government Banking Overview		
107	Mar-85	Loan Portfolio Management		
108	Mar-85	Special Accounts Management Unit Update		
109	Mar-86	1986 Business Plan / 1st Quarter Results		
110	Mar-86	Corporate & Government Banking Overview		
111	Mar-86	Workshop: Commercial Lending Process		
112	Mar-86	Audits / Monitoring / Credit Process Reviews		
113	Mar-86	Commercial Banking Update		
114	Mar-86	Loan Portfolio Management Update		
115	Mar-86	Pricing Strategy, ROA Concept		
116	Mar-86	Career Pathing for Credit Officers		
117	Mar-86	Effectively Connected Credits		
118	Mar-86	Role of Field Credit Officer		
119	Mar-86	Offshore Lending Updates		
120	Mar-86	Credit Policy Committee Update		
121	Mar-86	Special Accounts Management Unit Update		
122	Mar-86	Credit Training for Lending Officers		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
123	Mar-87	Corporate & Government Banking Strategy		
124	Mar-87	1987 Business Plan & First Quarter Results		
125	Mar-87	Treasury / Capital Markets Update		
126	Mar-87	Regulatory Environment		
127	Mar-87	Commercial Lending Committee Update		
128	Mar-87	Credit Policy Group		
129	Mar-87	<Bank C> Update		
130	Mar-87	Commercial Banking Update		
131	Mar-87	Human Resources Update		
132	Mar-87	Message from President		
133	Mar-87	Asset Sales / Risk Participations		
134	Mar-87	Workshop 1: Commercial Lending Process		
135	Mar-87	Workshop 2: Role of Sr Mgr, Credit		
136	Mar-87	Trade Finance Update		
137	Mar-87	Organization Changes		
138	Mar-87	Update on Training of Line & Credit People		
139	Mar-87	Special Accounts Management Unit Update		
140	Mar-87	Capital Markets Products Risk Evaluation		
141	Mar-87	Corporate Audit Update		
142	Mar-87	Oil & Gas Update		
143	Mar-87	The Role of the Credit Function In the Bank		
144	Mar-87	Corporate Policies		
145	Mar-87	Credit Related MIS		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
146	Mar-87	Non-Performing Loans Management		
147	Mar-87	Country Exposure		
148	Mar-87	Credit Policy Group Loan Review Section		
149	Mar-87	Qualification / Discretionary Limit Process		
150	Mar-87	Credit Training		
151	Mar-87	Credit Manpower		
152	May-87	Brazil & Its Creditors: A New Approach		
153	Apr-88	Speech (on the LDC Debt Problem)		
154	Apr-89	Risk Management Policy Group		
155	Apr-89	Credit Training		
156	Apr-89	Regulatory Environment		
157	Apr-89	Corporate Audit		
158	Apr-89	Corporate Electronic Banking Services		
159	Apr-89	Corporate & Government Banking		
160	Apr-89	Commercial Banking		
161	Apr-89	Corporate Finance		
162	Apr-89	Asset Sales		
163	Apr-89	Treasury Activity Review		
164	Apr-89	Open discussion: real estate mkt, loan syndication, group exposure, loan portfolio diversification		
165	Apr-89	<Bank C Investment Bank>		
166	Apr-89	BAMI Update		
167	Apr-89	Personal Banking		
168	Apr-89	The Credit Function in <Bank C>		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
169	Mar-90	Opening Speech Future Directions Corporate & Institutional		
170	Mar-90	Financial Services		
171	Mar-90	Corporate & Government Banking		
172	Mar-90	Regulatory Environment: BIS		
173	Mar-90	Regulatory Environment: Tax Issues		
174	Mar-90	Regulatory Environment: Bank Credit Information Program		
175	Mar-90	Personal & Commercial Financial Services		
176	Mar-90	Risk Management		
177	Mar-90	Canadian Banking System as it Relates to Credit		
178	Mar-90	Economic Overview		
179	Mar-90	Bank Credit Information Project		
180	Mar-90	Real Estate Portfolio		
181	Mar-90	Credit Training - Lending & Finance		
182	Mar-90	Special Accounts Management Unit		
183	Mar-90	Presentation		
184	Apr-90	Risk Management Strategy		
185	1990-94	Orientation Presentation		
186	1991 or 92	Risk Management in the 1990s		
187	May-92	Notes for Remarks		
188	Apr-94	Breaking the Banking Mold		
189	Jul-94	Managing Risk		

BANK C DOCUMENTS				
No.	Date	Title / Description	Comments	Interview Cross-Ref
190	May-95	CIFS Risk Mgt Conference Overview and Credit Risk Mitigation Techniques		
191	Jun-96	The Challenge In Change		
192	Jun-96	Managing Risk: A ROC or a Hard Place		
193	Jun-96	Opening & Closing Addresses Reinventing Our World Corporate Strategy		
194	Jun-96	Update		
195	Aug-96	Portfolio Mgt The Efficient Frontier		
196	19967	Risk Management		
197	1996	Credit Granting & Credit Risk Control		
198	19967	<Bank C> Credit Culture		
Bank-Specific Articles etc.				
199	1996	Portfolio Management: The Key to Profitable Commercial Lending		

NON-BANK SPECIFIC DOCUMENTS				
No.	Date	Title / Description	Comments / Citation	Interview Cross-Ref
Risk Management				
1	Jan-93	Some Like It Hot	<i>Risk</i> , p. 48-53	
2	Mar-93	New Study Indicates Inefficient Bank Corporate Loan Pricing in Canada	Burns Fry (Hugh Brown) investment research report	BMO Jeff Chisholm
3	Oct-94	Special Report: Managing Risk	<i>Business Week</i> , p. 86-104	
4	Jan-95	Alpha Plus	<i>Risk</i> , p.17-19	
5	Apr-95	Courting Disaster or Simply Business as Usual	<i>Risk Management</i>	
6	1995	Integrated Risk Management	James C. Lam, in <i>Derivative Credit Risk: Advances in Measurement & Mgt</i> , Risk Publications	
7	Feb-96	Value-at-Risk (2)	<i>Risk</i> , p. 38-39 -- author at CIBC-WG	
8	Feb-96	Back From the Brink	<i>Risk</i> , p. 16-19	
9	Feb-96	Too Hot to Handle?: A Survey of Corporate Risk Management	<i>The Economist</i> , p. 1-22	
10	Spring 96	Financial Risk & the Need for Superior Knowledge Management	C. Marshall, L. Prusak & D. Shpilberg, in <i>California Management Review</i> , v.38 n.3, p. 77-101	
11	Mar-96	Have We Replaced Old-World Superstitions With a Dangerous Reliance on Numbers?	P.L. Bernstein, in the <i>Harvard Business Review</i> , p. 47-52	
12	Apr-96	Help or Hindrance	<i>Risk</i> , p. 21-23	
13	Jun-96	Credit Derivatives (2)	<i>Risk</i> , p. 47-48 -- author at CIBC-WG	
14	Jul-96	Firmwide Risk Management Supplement	<i>Risk</i> , various authors	RBC Anurag Saksena
15	Aug-96	Safe and Secure?	<i>Risk</i> , p. 20-24	
Credit Issues Generally				
16	Feb-82	Major Banks: The Loan Loss Spectre	Nesbitt Thomson (J. McColl) investment research report	
17	Mar-82	Bank Loan Losses	Pitfield Mackay Ross (F. Ma) investment research report	
18	Apr-82	Bank Earnings Revised Lower as Non-Current Loans & Actual Loan Losses Increase Sharply	McCarthy Securities (L.R. Cornwell) investment research report	
19	May-82	Canada Creates a Credit Crunch	<i>Business Week</i> , p. 110	

NON-BANK SPECIFIC DOCUMENTS

No.	Date	Title / Description	Comments / Citation	Interview Cross-Ref
20	Jun-82	Forget Bank Profits - The Real Scandal is Bank Losses	<i>Canadian Business</i> , p. 198	
21	Dec-82	What is a Problem Loan?	Pitfield Mackay Ross (F. Ma) investment research report	
		Canadian Chartered Banks: Review of Problem Loans and the Impact of Recaptured Interest on Future Earnings	McCarthy Securities (L.R. Cornwell) investment research report	
22	Feb-83	Your Friendly Banker: No More Mr. Nice Guy	<i>Canadian Business</i> , p. 81-105	
23	Apr-83	Basket Case Dept: Banks' New Schemes for Managing Sick Loans	<i>Canadian Business</i> , p. 93-99	
24	Apr-83	Have Banks Learned Their Loan Lesson? Preparing for a New Credit Crunch	<i>Industry Week</i> , p. 29-31	
25	Apr-86	Time to Leave: Survey of World Banking	<i>Macleans</i> , p. 40	
26	May-92	Make Portfolio Mgt 4-Dimensional	<i>The Economist</i> , p. 1-50 (recommended reading for BMO 1992 Credit Conference)	
27	Jul-92	When the World's Banks Stop Lending	<i>ABA Banking Journal</i> , p. 55-62	
28	Feb-93	Bank Lending: Even More Risky	<i>Global Finance</i> , p. 46-50	
29	Apr-93	Survey of International Banking	<i>The Banker</i> , p. 18-21	
30	Jul-93	A Market Emerges for Bulk Problem Assets	<i>The Economist</i> , p. 1-38 (recommended reading for BMO 1993 Credit Conference)	
31	Jul-94	Take Our Money, Please	<i>Bank Management</i> , p. 22-25	
32	Aug-94	Loans Move Signals Sea Change on Wall St	<i>Business Week</i> , p. 66-67	
33	Aug-95	Loan Quality Deja Vu?	<i>Financial Times U.K.</i> , p. 15	
34			<i>ABA Banking Journal</i> , p. 47-51	
35				
LDC Loans and Losses				
36	Sep-72	International Loans: Profit Center or Loss Leader	<i>Journal of Commercial Bank Lending</i> , p. 32-44	
37	Jun-76	Canadian Chartered Banks' International Consortium Loans	Nesbitt Thomson (T. Salzman) investment research report	
38	Dec-82	The Brave New World of Sovereign & Corporate Lending	speech by H. Taylor, President, Manufacturers Hanover, to Financial Times World Banking Conference	
39	Oct-87	What Has Citicorp Wrought?	<i>Barrons</i> , p. 13, 81, 89	
40	Apr-89	LDC Debt Will Restructure U.S. Banking	<i>Challenge</i> , p. 44-49	

NON-BANK SPECIFIC DOCUMENTS				
No.	Date	Title / Description	Comments / Citation	Interview Cross-Ref
41	Sep-90	Paper Chase	<i>Risk</i> , p. 31-37	
42	Mar-91	For What We Are About To Receive	<i>Risk</i> , p. 35-45	
43	Spring 1991	The Anatomy of the International Debt Crisis	<i>FDIC Banking Review</i> , p. 1-14	
44	May-91	What Ever Happened to the LDC Debt Crisis	<i>Challenge</i> , p. 47-51	
45	Sep-91	Miami's Latin Wall Street	<i>Risk</i> , p. 19-27	
46	Nov-91	The Evolution of Canadian Bank Claims on Heavily Indebted Developing Countries	<i>Bank of Canada Review</i> , p. 3-20	
47	May-92	A Sea Change in Sovereign Debt	<i>Global Finance</i> , p. 37-40	
48	Jul-92	After a Decade, Bankers Say "Adios" to Latin Debt Crisis	<i>ABA Banking Journal</i> , p. 36-92	
49	Aug-92	The Evolution of Debt Restructuring Techniques	<i>International Financial Law Review</i> , p. 8-12	
50	Sep-92	Third World Debt: The Disaster that Didn't Happen	<i>The Economist</i> , p. 21-23	
51	Sep-92	A 10th Anniversary Report on the Debt Crisis	<i>Finance & Development</i> , p. 2-5	
52	Sep-92	Recent Innovations in Debt Restructuring	<i>Finance & Development</i> , p. 6-8	
53	Oct-92	The Borrower's Trump Card Is His Weakness	<i>Euromoney</i> , p. 35-37	
54	Sep-93	A Survey of Third World Finance: New Ways to Grow	<i>The Economist</i> , p. 1-44	
55	Oct-93	Is the Debt Crisis Coming to an End?	<i>The OECD Observer</i> , p. 13-16	
56	Oct-94	Bank Lending: Hidden Horrors	<i>The Economist</i> , p. 95	
O&G Loans and Losses				
57	Aug-74	The Energy Crisis & Bank Lending Policy	<i>Journal of Commercial Bank Lending</i> , p. 17-22	
Real Estate Loans and Losses				
58	Dec-89	High Anxiety: Banks & Real Estate Lending	RBC-DS (Michael Goldberg) investment research report	
59	Jun-93	Banks Mull Benefits of Bulk vs. Single Real Estate Sales	<i>Wall Street Journal</i>	
60	Apr-96	Estate of the Art	<i>Risk</i> , p. 60-63	

NON-BANK SPECIFIC DOCUMENTS				
No.	Date	Title / Description	Comments / Citation	Interview Cross-Ref
Regulation				
61	Mar-88	Banks Forced to Recognize Loan Losses Immediately	<i>The Bottom Line</i>	
62	Jan-92	The Real Meaning of Reserve Reform	<i>Canadian Banker</i> , p. 14-18	
63	1992	Real Estate Appraisals	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
64	1992	Credit Risk Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
65	1992	Securities Portfolio Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
66	1992	Liquidity Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
67	Dec-94	BIS Recommends More Disclosure of Risk Management Information	<i>Canadian Treasurer</i> , p. 16-22	
68	1995	Real Estate Appraisals	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
69	1995	Credit Risk Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
70	1995	Internal Control	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
71	1995	Foreign Exchange Risk Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
72	1995	Interest Rate Risk Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
73	1995	Capital Management	CDIC Standards of Sound Business & Finl Practices	CIBC Derek Hayes
Other				
74	Sep-95	The Canadian Chartered Banks	WG (Catherine Code) investment research report	
75	Aug-96	The Canadian Chartered Banks	CIBC-WG (Mark Maxwell) investment research report	
76	Oct-96	The Canadian Chartered Banks	CIBC-WG (Mark Maxwell) investment research report	
77	Nov-96	Banking on Learning Institutes	<i>Learning for the Workplace</i> , p. L4-L7	
78	1996	Putting Consumers First: Reforming the Canadian Financial Services Industry	Jack M. Mintz & James E. Pesando, eds., C.D. Howe Institute, Policy Study 27	

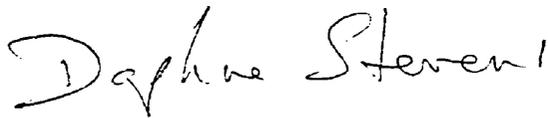
Ethics Committee Approval

May 5, 1998

To whom it may concern:

The Ethics Committee has approved the ethics submission for Catherine Paul-Chowdhury.
The title of the proposal is: Bank Learning from Sector-Specific Credit Losses.

Sincerely,



Daphne Stevens
Manager of Research and Development

BIBLIOGRAPHY

- Abernathy, W.J. and K. Wayne (1974). "Limits of the learning curve", Harvard Business Review, 52: 5.
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