

CHAPTER 4

METHODS & RESEARCH DESIGN

4.1 Introduction

As noted in the first chapter, there were several limitations in the existing literature on risk behavior in organizations. Specifically, the literature tended to focus on either failure and "normal accidents" (Perrow) or success and HROs (Roberts). Comparative studies examining success and failure within a single industry, for example, had not been conducted. In addition, the focus of studies (except for Turner) had been on organizations which were highly technological in nature.

Therefore, for this study I wanted to find a set of organizations which were in a high risk business, which would allow for comparative analysis, and which were low in technological complexity. I chose to use banks, looking only at the commercial lending divisions of the banks in my study. First, commercial lending is a very risky business. Banks operate on a very thin capital margin. A few bad loans can swiftly endanger a bank's health. In addition, I was able to obtain a set of ten banks which included some that were very strong financially, and others that were in weak financial condition. Finally, commercial lending requires no technological complexity. (Some banks I visited still spread financial statements by hand although there are off-the-shelf PC programs available to do such mundane work).

4.2 Methods

As mentioned earlier in this paper, two types of studies, qualitative and quantitative were conducted in order to test my model (as set forth in chapter three). I decided to conduct both a qualitative study using interview data, and a quantitative study using questionnaire data, for several reasons.

The most obvious reason is that if two very different measurement methods are used and they yield the same or similar results, the reliability of the results from either method alone is strengthened. This enhances the robustness of the model.

Furthermore, the "picture" that I could capture from each type of data was different. The interviews from the qualitative study allowed me to gather rich data which included an historical or "flow" perspective of each bank's performance and practices over the last several years. This was useful in the troubled banks where many of the people who had led the bank into trouble were gone, but the new people were able to summarize for me what had gone wrong.

These historical data were extremely important. Because all of the banks are under heavy regulatory scrutiny, those that remain open have substantially modified their operations to become more risk averse. Therefore, at points in the study where I note that a given bank "is" performing poorly in a particular category, that is in almost all cases based on recent historical behavior, not current practices.

In addition, with the qualitative study I reached a cross section of people within each bank, from line lending officers to the chief credit officer (and sometimes the president) of the bank. I was able to get a glimpse of the bank from a variety of perspectives. In the quantitative study, I had data from only a single layer of the banks--the line lending officers.

(Note: I chose to use only line lending officers for the broader quantitative study employing questionnaires because, as a group, they were relatively homogeneous between banks. The job of a line lender is virtually the same from bank to bank--all that differs usually is the loan size which is a function of the size of the bank. Homogeneity was preferable because it eliminated variance that could be attributed to differences in job characteristics. In the qualitative study, this was not a concern. In that study, I tried to interview people from the multiple levels, but ones which were the same across banks (i.e. senior credit officer at every bank) to develop a balanced perspective of the banks).

In addition, in contrast to the qualitative study which gave me a both a flow perspective and current practices picture of each bank, the survey data from the quantitative study gave me only a "snapshot" of current practices within each bank at the time of the survey. The surveys were helpful because they allowed me to reach the entire population of lending officers within the ten participating banks. And, to the extent that researcher bias existed in collection of the interview data, that bias was somewhat mitigated by using survey data.

Finally, I felt that using two methods was important because the area in which I am working is relatively new, the existing research is limited, and because my model is based on grounded theory.

4.3 Data

The study was conducted in ten banks located in California. In order to enlist at least ten banks for my study, I selected twenty-five banks in California that were in the top one-hundred fifty in terms of asset size in 1992 (Sheshunoff, 1992). My selection was done on a convenience basis; to facilitate the process of interviewing at the banks, most were located in Southern California. The dean of the Anderson Graduate School of Management sent an introductory letter to the president of each bank that I had selected, along with a one page summary of my study proposal (see Exhibits 4A & 4B).

I followed up with phone calls to each of the bank presidents. I was ultimately able to get ten of the banks originally contacted to participate in the study. In return for their participation, I offered the banks several things: a brief 10-15 page consulting study on their bank with recommendations based on my findings about their organization only; an overall summary of my dissertation findings and some comparisons of their bank with the other banks in the study; and a copy of the full dissertation.

I also promised all of the banks complete confidentiality. In the study, the ten banks are identified only by letter; Bank A through Bank J. Exhibit 4C provides a general summary of the key facts and features about each

EXHIBIT 4A
Letter of Introduction

UNIVERSITY OF CALIFORNIA, LOS ANGELES



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February 3, 1993

OFFICE OF THE DEAN
JOHN E. ANDERSON GRADUATE
SCHOOL OF MANAGEMENT AT UCLA
405 HILGARD AVENUE
LOS ANGELES, CALIFORNIA 90024-1461

(310) 825-7082
FAX (310) 806-8008

I am writing to introduce you to Carolyn Libuser, one of our fine doctoral candidates in Management. Ms. Libuser is currently doing dissertation research which I think may be of interest to your company.

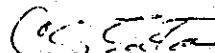
Her study will examine how banks manage the risk associated with their commercial loan portfolios and will seek to identify the characteristics that lead to lower loan portfolio risk (fewer classified loans), lower loan loss reserves and fewer charge-offs. A variety of factors will be studied, including the loan approval process, loan documentation, internal rules and procedures, the compensation and reward system and internal credit examination system.

Information will be gathered using two methods. One method will consist of short (1-2 page) questionnaires that will be administered to line leading officers. These surveys will take no more than 15 minutes to complete. The second method will consist of interviews with officers at various levels and will be 30 to 60 minutes in length. Access to interviewed personnel will be solely at the discretion of the participating bank. Complete confidentiality is, of course, assured.

I would be most grateful if you would direct this letter, along with the attached summary of dissertation research and interview goals, to the appropriate person within your company. Ms. Libuser will call your office in a few days to find out who that contact person is.

In today's unprecedented global and local business environments, success depends on foresight and flexibility in the face of change. With the help of business leaders such as yourself, the Anderson School can prepare individuals who are well qualified to meet these challenges and to provide the kind of effective leadership needed now and in the future. Thank you in advance for your courtesy and support.

Sincerely,


J. Clayburn La Force
Dean



One hundred twenty-five years of service.

EXHIBIT 4B

Research Summary Accompanying Letter of Introduction

Summary of Dissertation Research and Interview Goals by Carolyn Libuser

The purpose of this study is to examine how banks manage the risk associated with their commercial loan portfolios. The study will involve about 20 California banks, and it will seek to identify the characteristics that lead to lower loan portfolio risk (fewer classified loans), lower loan loss reserves and fewer charge offs. At each bank, a variety of factors will be studied including the loan approval process, loan documentation, internal rules and procedures, the compensation and reward system and the internal credit examination system.

At each participating bank, information will be gathered using two methods. One method will consist of short 1-2 page questionnaires that will be administered to line lending officers (the surveys will take no more than 15 minutes to complete). The second method will consist of 10 to 20 interviews with officers at various levels of the bank, ranging from senior management to line lending officers. The interviews will be approximately 30 to 60 minutes in length, and access to interviewed personnel will be solely at the discretion of the participating bank.

Complete confidentiality is assured to all of the participants, both on the individual and organizational levels. In the final report, the dissertation, banks will be identified by pseudonyms such as "Bank A" etc. In return for participating in the study, each bank will receive the following:

1. An executive summary (about 10 pages) of the dissertation report.
2. A copy of the full dissertation.
3. A comprehensive consulting report detailing the findings at the participating bank along with recommendations on ways in which the bank can reduce risk exposure. (In two pilot studies already conducted, the participating banks found this extremely valuable and useful.)
4. In the future, copies of articles and/or books that are published from the dissertation work.

The results of this study are expected to be extremely significant. The pilot studies conducted so far have yielded important findings that have resulted in a forthcoming article in the journal *Organizational Dynamics*. The researcher in this dissertation project has 8 years of commercial lending experience at the Vice President level in two major California banks, and is therefore able to bring a level of insight and "real world" application to the project that is not often found in academic research.

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02/05/93

Exhibit 4C -- Summary Description of Banks in Study

Asset Size Group **	# Officers in Survey	Return on Equity ***	Scale of Operations
Bank A	1	287	16.88% Statewide--Multiple dedicated commercial lending offices Typical loan size over \$2 million
Bank B	1	257	9.24 Statewide--Multiple dedicated commercial lending offices Typical loan size over \$2 million
Bank C	2	46	6.51 Statewide--Multiple dedicated commercial lending offices Typical loan size over \$1 million
Bank D*	3	35	10.04 Southern Calif.--Several dedicated commercial offices Typical loan size around \$1 million or less
Bank E	3	22	16.69 Countywide--Most commercial loans done at Main Branch Typical loan size less than \$1 million
Bank F	3	24	13.58 Single Branch Location Typical loan size less than \$500 thousand
Bank G*	3	16	-1.75 Countywide--Commercial loans made through retail branches. Typical loan size \$1 million or less
Bank H*	4	20	-26.8 Single branch Typical loan size less and \$500 thousand
Bank I*	4	5	-24.43 Single Branch Typical loan size \$125 thousand
Bank J	4	9	8.2 Several branches in a localized area Typical loan size \$100 thousand

*Indicates a bank under regulatory constraint.

*** Return on Equity (%) Sheshunoff (1992).

**As rated by Sheshunoff, BANKS OF CALIFORNIA, (1992). All banks are rated by sized on a scale ranging from 1-8.

bank. Further detail about each individual bank can be found in Appendix A.

Of the ten banks involved in the study, six were relatively healthy, and four were not so healthy. Of the four less healthy banks, two were operating under memos-of-understanding (MOUs) from the federal agency governing them. An MOU is essentially a warning letter notifying the bank that the agency is aware of trouble, and the bank agrees to do certain things (like raise its capital ratio) to help correct the problems. Two banks were operating under a more severe federal order known as a "cease and desist" order. In such a situation, the bank is severely restricted in its loan activities by the federal agency that issues the order. Usually, the bank has a limited time period to meet certain goals set out by the federal agency or face the prospect of being taken over by the government.

4.4 Qualitative Study

4.4.1 Qualitative Study Data: Structured Interviews

My objective in conducting the structured interviews was to find out about bank operations over time at each bank. I was interested both in the bank's current practices as well as past practices, particularly if it was a troubled bank. (In troubled banks, I wanted to find out as much as possible about what had contributed to their problems).

In order to accomplish that, each bank was given a list of the officer level at which I wished to interview, and then each bank selected officers for the interviews at those various levels. I requested to interview officers at the

following levels at each bank:

1. Line lending officer
2. Line lending officer supervisor
3. Credit administrator (loan approval officer)
4. Credit examiner (bank's internal loan auditing)
5. Senior credit officer of the bank

Interviews were conducted with about five to seven officers in each of the ten banks in the study. Exhibit 4D provides a summary of each bank and the officers interviewed within it. In some of the banks, particularly the smaller banks, I was able to interview the president of the bank. In all of the banks, I was able to interview the chief credit officer of the bank.

The number of interviews conducted in each bank was deliberately kept small for several reasons. One reason was because all of the banks were conscious of the "cost" of allowing me to take up an hour of an officer's time for an interview. Also, in my pilot research where I interviewed about 20 people in one bank and 10 in another, I found that the information that I was receiving in the interviews quickly became redundant. It was not necessary to go beyond five interviews at an absolute maximum to get a clear picture of the organization.

Each interview lasted about one hour. Each interviewee was asked the same set of questions (see structured interview questions, Exhibit 4E). I took extensive notes during each interview, but did not use a tape recorder. At the end of each day following a set of interviews, I transcribed my written notes onto my computer.

Exhibit 4D -- Officers Interviewed at Each Bank

BANK	Interviewees	Number
Bank A	Senior & Regional VP--Head of a major commercial lending unit; VP account officer; VP Credit Examination; Credit Administrator; EVP and Sr. Credit Officer for Comm. Lending	5
Bank B	Analyst for Loan Loss Allowance; Lending Officer; Head of Credit Exam.; EVP & Senior Credit officer for Bank for Commercial Lending;	5
Bank C	VP Lending Officer; Manager of Credit Exam.; VP Lending Officer; AVP Commercial Lending Officer; SVP & Regional Credit Administrator; CEO of Bank; Regional Vice President;	4
Bank D	VP Lending Officer; Senior Credit Officer of Bank; SVP & Head of Special Assets Group*; Head of Credit Exam.; Vp Lending Officer; SVP Commercial Lending Officer.	7
Bank E	President of Bank; Senior Lending Officer; Documentation clerk; Sr. Credit Administrator; Commercial Loan Liason for branches; Head of Credit Exam.	6
Bank F	Head of Credit Exam; VP & Team Leader in Commercial Lending; President of Bank; EVP & Senior Credit Officer for Bank; VP Group Manager in commercial lending.	6
Bank G	Manager of a Branch; Head of Special Assets*; Regional Manager VP Lending Officer; Senior Credit administrator.	5
Bank H	Chief Credit Officer of Bank; Credit Administrator; VP Lending Officer; VP Lending Officer; Loan Team Manager.	5
Bank I	Exec. VP & Sr. Credit Officer of Bank; Head of Commercial Lending Dept; VP Commercial Lending Officer. VP Commercial Lending Officer; Head of Special Assets Group*.	5
Bank J	Lending Officer; Senior Credit Officer of Bank; Manager of Branch; Credit Administrator; VP Commercial Lending Officer	5

* Note Special Assets refer to Problem Loans. In many bank, these loans are transferred to a separate Special Assets Group (SAG) for handling.

EXHIBIT 4E

Structured Interview Protocol

RISK:

Is your bank willing to take "calculated risks in making loans--explain?

Do you have a system for quantifying risk?

What is more important, loan risk or yield?

Do you use borrower risk ratings? How are they determined?

COMMAND & CONTROL:

Explain the nature of the command system.

Are there checks and balances in the system--what are they? Who checks loans once they are made?

Spread Sheet System, Documentation system, Tickler system to follow covenants and compicance.

Does your bank have formal rules and procedures? Is there a lending manual with written rules? Are written rules followed, or do people follow informal rules?

How well does information flow from the bottom of the organization to the top? From the top to the bottom? Do problems get communicated upward? Does senior management have the big picture?

EXHIBIT 4E (continued)

GOALS--CONFLICT AND PRIORITIZATION:

What type of reward system does the bank have for loan production (if any)?
Are there pressures to make new loans? Are promotions tied to loan production?

Are there punishments for making bad loans?

How are loans judged? Who decides if it is a bad loan or not?

How long do officers usually stay in their positions? Is there rapid rotation or promotion within the bank?

CREDIT EXAMINATION:

How often does credit exam come to the lending unit?

How thorough is the exam? How much of the portfolio is surveyed?

What do they look for? Documentation errors? Problems in the credit itself?

How good are the credit examiners?

Are they overly thorough, in your opinion? Do they judge loans and/or documentation too harshly?

EXTERNAL/INTERNAL STANDARDS:

How far does the bank go to exceed the standards set down by the regulators?

In what areas? Capitalization ratios, loan standards, etc?

Does the bank plan to do more to exceed externally driven regulations? If so, what?

In general, is this bank satisfied with meeting regulatory requirements or does it intend to set more strict internal standards? If so, why?

EXHIBIT 4E (continued)

TRAINING:

What type of training does the bank do?

Who is responsible? How often? Is it done internally or externally, etc?

Is it effective enough?

If you could **CHANGE ONE THING** (or things) about the bank, what would you change and why?

Later, after completing all the interviews at all of the banks, I went back and compressed the transcribed notes. I tried to get a one to two page summary of each bank that captured the essence of the information provided to me in the interviews. From these summaries, I was then able to measure, on a qualitative basis, the corresponding "values" for each of the variables for each bank.

4.4.2 Variables: Qualitative Study

Bank Performance: This is the dependent variable. It is defined as the bank's financial health as assessed by federal regulators. It was measured by the category into which the federal regulators place a bank. There were three categories into which a bank could fall: No Problems Exist; Memo-of-Understanding (problems exist); or Cease and Desist (severe problems exist). It is important to note here that bank performance is being used only as a surrogate for the real dependent variable of interest--risk mitigating or non-risk mitigating organization. I feel that bank performance is a good indicator of risk mitigation because it is an outcome variable. Banks that are good at mitigating risk should not experience portfolio problems, while those that are poor at mitigating risk should fall into one of the two problem categories (M.O.U. or C&D).

Of the ten banks in the study, six had no adverse rating, two were operating under an MOU, and two were operating under an order of cease and desist.

There were five independent variables, each of them corresponding with each one of the hypotheses:

Degree of Process Auditing: Degree of process auditing means the extent to which banks engage in formal and informal processes surrounding loan approval and followup. Banks could rank either strong or weak in the degree of their formal process auditing and either strong or weak in the degree of informal process auditing.

Banks that have a strong degree of process auditing will be characterized by frequent internal audits by the credit examination department and close monitoring of the portfolio by credit administration. Banks that have a low

degree of process auditing will be characterized by infrequent or non-existent internal audits by the credit examination department (such a department may not even exist), and by loose monitoring of the portfolio by credit administration.

In the banking industry, with regard to commercial loans, process auditing is conducted in two ways: one formal and one somewhat more informal. The most formal method is through the internal audit system, known in most banks as the credit examination department. The less formal method is through the loan approval system known as credit administration.

The formal part of process auditing involves actual auditing of the loans by an internal team. Credit examinations are very much like accounting audits, although much more extensive. The examination team arrives at the site where the loans have been made (usually this is done on an annual basis), and looks at the physical loan files and documentation.

The main role of the credit examination team is to determine the true quality of a unit's loan portfolio and to ensure that the right loan grades are being given to the loans in that portfolio. Most banks have a grading system for loans that runs from 1 to 8 with the highest grade being 1 (for cash secured loans). Most loans are 2,3, or 4, with 5-8 the categories for "bad loans" or classified assets against which the bank must hold extra reserves.

The role of credit examination can be explained in the following example. Suppose that an examiner is conducting an examination at a lending site. He/she might open the loan file of a borrower who had been paying interest as agreed on a line of credit. However, it might turn out that the

borrower's financial situation had been deteriorating over the last year (as evidenced by the periodically received financial statements). If the loan officer responsible for that account had not already downgraded the loan, it is up to credit exam to make the downgrade and classify the loan appropriately.

The informal process for process auditing comes from credit administration. Although this sounds like a "formal" process, I term it informal because it is not as formal as an official annual credit examination that takes place in a lending unit.

While credit examination typically has ultimate responsibility to the board of directors (the way an outside audit team would), credit administration has responsibility to the line organization, through the office of the president.

Credit administration is supposed to monitor and audit the portfolio on a daily and weekly basis. The credit administrators are the ones who are approving loans and who talk to the officers in the field. Credit administration also has the responsibility for following "exceptions" to loan policy and/or documentation. Exceptions are not uncommon. However, the reason for an exception being granted must be documented and the exception should be followed over time. Finally, credit administration is responsible for overseeing the loan officers to see that loan covenants are tracked and monitored and that borrowers stay in compliance.

Appropriateness of the Reward System: Appropriateness of the reward system refers to payoff that an individual within a bank gets for behaving in one way or another with respect to making commercial loans. The reward system is

inappropriate or appropriate; it either encourages or discourages risky behavior on the part of lending officers.

Banks with inappropriate reward systems will tie rewards (compensation and/or bonuses) to the amount of new loans made regardless of quality. Banks with appropriate reward systems will not tie rewards to the amount of new loans made. Or, banks with appropriate reward systems will tie rewards to new loans but will do so in such a way that the rewards are also tied to quality which is carefully controlled through immediate internal review.

The reward system for lending officers in commercial lending consists of year-end bonuses, salary increases and promotions. In many banks, the year-end bonus was (and in one case still is) in some way tied to loan production in terms of new loans booked on the part of the loan officer. In other banks, salary increases were, or are, a function of multiple facets of performance, including portfolio management and cross-selling of other bank products. In general, promotions as a means of increase in compensation have declined overall in the industry as the industry has consolidated and officers stay in one job much longer than previously.

Standard of Quality: Standard of quality refers to the quality of loans in each bank's portfolio with respect to the industry standards for quality. Banks should rank either as "meets and/or exceeds industry standards", or "below industry standards".

Banks that were below industry standards have many loans that are deficient in quality due to one or more of the following factors: source of repayment, loan purpose, loan structure, collateral, and documentation. Banks that meet or exceed industry standards have loan portfolios that are relatively free of quality deficiencies.

In commercial lending, everything revolves around loan quality. Banks are thinly capitalized, so if a bank makes a few bad loans, the capital base can be depleted quickly; if that happens the Federal Deposit Insurance Corporation

(FDIC) will come in and shut down the bank.

Furthermore, profit margins on loans are not sufficient to offset the risk/return relationship. The margin on most loans is 1 to 2 percent. So, if one loan for \$100,000 goes bad, the bank has to make NEW loans in the total amount of \$10,000,000 to \$20,000,000 just to stay even.

In fact, in the course of conducting this study, I found that the senior management at most banks remarked that the margins on loans had eroded to the point that the smartest business strategy might be not to make loans, but rather to simply invest the depositor's money in government securities. All agreed that it was impossible to charge enough in interest to make up for poor loan quality. At Bank G, for example, a senior officer that I interviewed remarked that the high margins they charged during their period of heavy loan growth were not sufficient to offset the loan losses that later began to accumulate. As he said, "High (interest) margins are not enough to compensate you for risk".

Loan quality is defined in several ways. The first aspect is the probability that the loan will be repaid. Much of this depends on the identified source(s) of repayment. A strong loan has a strong primary source of repayment (i.e. profits of the business) as well as a good secondary source (i.e. sale of collateral). Most banks like to see a third source of repayment as well (i.e. financially strong guarantor).

Another aspect of the loan is its purpose. Loans for certain purposes or

to certain industries tend to be more risky than other loans. For example, real estate construction loans are inherently more risky than lines of credit to ordinary businesses.

Loan structure is also important. If the loan is not structured properly, it can increase risk greatly. For example, a popular form of loan in the late '80's was the so-called mini-perm loan for construction. A bank would provide the construction financing for a building. Since long-term financing at the end of construction was hard to obtain, the bank would then roll the construction loan into a five year term loan that would have payments based on a fixed-rate with a 25 or 30 year amortization. The balance would be due in a balloon payment at the end of five years. The problem was that when the balloon came due many borrowers were unable to pay the balance or find alternate financing.

The way in which a loan is collateralized is also important. Many times, businesses obtain lines of credit collateralized by their accounts receivable. The banks audit the collateral regularly to ensure its quality in case they would ever need to call on the receivables as a source of repayment. Banks rarely use inventory as collateral, but when they do, it must also be inspected regularly for quality and to ensure that the amounts the borrower ascertains are there, are in fact there.

Finally, a loan has to be documented correctly for it to be a good quality loan. Documentation is only a problem when the borrower can't pay back the loan and the documents are found to be faulty. However, this is a terrible

position for the bank to find itself in. Most banks have now adopted standardized loan documentation and computerized systems to decrease the amount of errors in documentation that can occur. In general, faulty loan documentation does not seem to pose serious risks for banks now, although ten years ago it was a constant source of risk.

Degree of Risk Perception: Degree of risk perception is defined as (1) Whether or not people at the bank have had any knowledge that risk existed at all, and (2) If there was knowledge that risk existed, the extent to which risk was acknowledged appropriately and/or minimized. Banks should rank either high or low on risk perception.

Banks which are high on risk perception will have a variety of systems in place for spotting risk, such as ranking loans according to risk, limiting industry exposure and frequent reviews of borrowers' financial statements. Banks which are low on risk perception will have few if, any systems, in place for spotting risk.

All of the officers that I talked to, especially those in senior management, understood that the risk- reward relationship was so skewed that no amount of reward could make up for increased risk if you understood those risks ahead of time. Thus, it was clear that the bankers I talked to did not use expected-value criteria for evaluating loans. No one was willing to trade off more risk for somewhat higher return--and I asked this question of every officer. Thus, expected-values could not be used to operationalize this variable. That is, it was not possible to evaluate risk perception on the basis of expected values placed on the outcomes. (This is unlike the Exxon-Valdez case, for example, where the chance of a spill was estimated at once in every 300 years, thus making an expected value explicit).

Instead, banks varied to the extent that they acknowledged risk and minimized it appropriately. Most banks took steps to set up a risk classification system for loans, while others did not have any system for classifying loans according to risk. Limiting loan exposure to a particular class of loans was another method of acknowledging and minimizing risk undertaken by some banks and not by others.

Degree of Command and Control: This factor is borrowed from Roberts (1989, 1988, 1992). In the commercial loan departments of banks, degree of command and control is defined as the extent to which banks use formal rules and procedures in the lending process. Banks could rank either high or low in terms of degree of command and control.

Banks that are high in degree of command and control will be characterized by the existence of extensive manuals for policies and procedures. Such policies and procedures will be closely adhered to by all bank officers. Banks that are low in degree of command and control will not have extensive policy and procedures manuals.

Most banks have extensive written policy and procedure manuals, but some have (or had) no manuals at all. Also, some banks have written manuals but do not use them; instead they rely on informal rules and procedures in their day to day lending operations.

4.5 Quantitative Study

4.5.1. Quantitative Study Data: Questionnaires

The questionnaire (see exhibit 4F) was designed to capture and measure the five independent variables associated with the five hypotheses in the model developed in chapter three. The questions in the questionnaire came out of previous pilot studies done in two banks involving extensive open-ended

EXHIBIT 4F
Survey Administered to All Line Lending Officers in the Ten Banks

COMMERCIAL LENDING SURVEY

This is a survey about commercial lending practices. The survey is being conducted in 12 banks. The purpose of the survey is to understand bank lending practices from the special viewpoint of the line lending officer. Your cooperation in filling out the survey is very much appreciated.

INSTRUCTIONS:

On the following page, next to each statement, please write the number that most closely corresponds to your feelings about that statement, using the numbers from the scale at the top of the page.

Please fill in the requested information about your title, position and job responsibilities. On the last page, please make any additional comments that you have about this survey.

After completing the questionnaire, please place it in the enclosed return envelope and mail it back directly to me.

CONFIDENTIALITY: Please be assured of complete confidentiality in your responses. Each questionnaire is coded with a number at the top for my data collection purposes only. I am the only person who will have access to the completed questionnaires. The banks that participate in this survey will receive only summary information that will in no way identify any of the participating officers.

If you have any questions about this, please call me at (310) 839-6295.

Thank you very much for your cooperation.

Sincerely,

Carolyn B. Libuser
Doctoral Candidate, UCLA

Exhibit 4F (continued)

Directions: Next to each statement, please write the number that most closely matches your feeling about that statement. Use the numbers from the scale given below.

<i>Strongly disagree</i>	<i>Moderately disagree</i>	<i>Slightly disagree</i>	<i>Neutral</i>	<i>Slightly agree</i>	<i>Moderately agree</i>	<i>Strongly agree</i>	<i>Not Applicable</i>
1	2	3	4	5	6	7	X

- ___ 1. Overall, the quality of the commercial loan portfolio in this bank is very good.
- ___ 2. Overall, the quality of the commercial loan portfolio in my unit is very good.
- ___ 3. My direct superior wants to know about a potential problem loan as soon as possible.
- ___ 4. I find it easy to communicate my concerns about a problem loan to my direct superior.
- ___ 5. My direct superior does not want to hear about problem loans.
- ___ 6. Bad news about problem loans often gets lost in the layers of management here.
- ___ 7. Loan officers who make bad loans are usually punished.
- ___ 8. The bank creates an incentive for officers to cover-up or hide problem loans.
- ___ 9. I am rewarded for taking quick action on a potential problem loan.
- ___ 10. The bank makes it hard for officers to cover-up or hide problem loans.
- ___ 11. The quality of the bank's credit exam officers is high.
- ___ 12. I feel that credit exam is overly thorough in looking for loan problems.
- ___ 13. The credit examiners often miss problem loans in the portfolio.
- ___ 14. I personally know about a problem loan that has not yet been correctly identified as a problem.
- ___ 15. Credit exam generally does a good job of identifying problem loans.
- ___ 16. Compared to our competitors, our bank generally has a more aggressive approach to lending.
- ___ 17. Our bank is more concerned about loan profitability than risk.
- ___ 18. Compared to our competitors, our bank generally has a more conservative approach to lending.
- ___ 19. The risk rating system we use is accurate in assessing the risk of any given loan.
- ___ 20. Our bank has a maximum loan size that is less than our legal lending limit.
- ___ 21. In dealing with large loans, our bank prefers to share the risk by structuring a participation with other banks.
- ___ 22. If my superior finds out about a problem loan before I have told him/her, I will suffer negative consequences.

Continue →

Exhibit 4F (continued)

- 42. What is the smallest loan size that you deal with? _____
- 43. How many years of experience do you have in commercial lending? _____
- 44. What is your age? _____
- 45. What other banks have you worked in? _____

- 46. What is your *highest* level of education? (Please circle)
High School Some College College Degree
MBA Other Master's Other (explain): _____

(OPTIONAL)

- 47. Are you willing to be contacted by phone if I have further questions?
Yes _____ No _____

(OPTIONAL) If yes, Name: _____

Phone: _____ Best time: _____

COMMENTS: In the space below, please write any other comments that you have.

interviews. In addition, my own eight years of experience as both a line lending officer and credit administrator in three major banks helped me phrase the questions in ways that were likely to both measure the independent variable and to be understandable to the subjects.

A pre-test of the questionnaire was conducted on twelve credit administrators in one of the large banks. All twelve had previous experience as line lending officers in commercial lending and are now involved in the approval of small commercial loans on the retail side of the bank involved. None of them were part of the larger study using interview and questionnaire data that took place subsequently. All of the officers said that the questionnaire was understandable and easy to fill out. There were no questions or misunderstandings about the meanings of any of the questions.

The questionnaire (see exhibit 4F), was sent to the officers via the internal mail system at each bank. Borrowing from the techniques suggested by Dillman (1978), I made up the survey package in the following way. Each officer received an envelope with his/her name individually typed on the outside, also bearing the UCLA/AGSM return address. Inside was a cover letter from the President or the senior credit officer of the bank (on bank letterhead) briefly explaining the study and asking for participation. The cover letter from myself was included as the first page of the questionnaire. The cover letter ensured confidentiality and noted that the questionnaires were numbered so that I could identify them by bank. A telephone number where I

could be reached for questions was included. Following Dillman's suggestions I signed each cover letter by hand in blue ink. The return envelope was preprinted and addressed to the "UCLA RESEARCH GROUP, Commercial Lending Survey". A post office box was used for the address. (For copies of all the materials in the questionnaire packet, see exhibit 4F, 4G, 4H & 4I).

A total of 721 questionnaires were mailed out. Of those, 547 were returned, for a total response rate of 76 percent. The mean response rate from the banks was 71 percent. The highest response rate was 100 percent, and the lowest response rate was 60 percent. Exhibit 4J shows the number of questionnaires mailed out in each bank and the corresponding number of responses.

After the questionnaires were collected, they were coded and all of the information was loaded into SAS. Following that, a factor analysis was run (using a varimax rotation) on the data to see if the five factors that I thought I was "testing" for in the questionnaire would in fact emerge. (Appendix B shows the questionnaire items arranged by category as I thought they would emerge in the analysis).

As will be discussed below, the initial factor analysis was not definite, meaning that when all 37 questionnaire items were loaded into the factor analysis, a meaningful factor solution did not emerge. I subsequently re-examined the questions to select those items that seemed to be the most salient.

After a few iterations, I was able to come up with a powerful factor

EXHIBIT 4G
Mailing Envelope Containing Survey Package

UNIVERSITY OF CALIFORNIA, LOS ANGELES
THE JOHN E. ANDERSON GRADUATE SCHOOL OF MANAGEMENT AT UCLA
405 HILGARD AVENUE
LOS ANGELES, CALIFORNIA 90024-1481

Jane Doe, Loan Officer
Bank X

EXHIBIT 4H
Typical Letter from a Bank President to Participating Officers in Survey

May 12, 1993

Dear Lending Officer:

Enclosed is a survey of lending practices. This survey is part of an important study being conducted by researchers at the Anderson Graduate School of Management at UCLA. Our Bank has agreed to participate in this research because we feel that the findings may be very beneficial to us.

Please take a few minutes now to fill out the survey and mail it back in the envelope provided. It is important that everyone who receives the questionnaire fill it out and returns it to the UCLA group.

You can be assured that your responses will remain confidential. The research team will be providing our Bank only with summary information based on the responses.

If you have questions about the survey, please contact the research team directly according to the instructions on the front of the questionnaire. Thank you very much for your participation.

EXHIBIT 4I
Mailing Envelope for Questionnaire

UCLA Research Group
Commercial Lending Survey
P.O. BOX 34609
LOS ANGELES, CA 90034

Exhibit 4J -- Questionnaire Response Rate

Bank	Number of Questionnaires		Number of Questionnaires returned	Percentage Response
	Mailed Out			
A	287		209	73%
B	257		195	76
C	46		35	76
D	35		30	86
E	22		22	100
F	24		17	71
G	16		14	88
H	20		16	80
I	5		3	60
J	9		6	67
TOTAL	721		547	76%

solution based on 17 items. However, with this solution, I only had four factors instead of the original five that I hoped would emerge. That meant that my questionnaire captured only four of the five independent variables.

I suspect that the fifth factor, command and control, did not emerge because the questionnaire items were not designed correctly. Instead of focusing clearly on "rules and procedures" with five or six items, I tried to capture all of the four parts of Roberts' original command and control variable (migrating decision making, redundancy, Sr. mgmt. has big picture, and formal rules and procedures) with one or two items each. Clearly, that was a flawed design.

If I were to re-do the questionnaire, I would use formal rules and procedures to operationalize the command and control variable, since that emerged as most salient in the interview process. I would then design five or six questions around formal rules and procedures, hoping to capture the factor.

The variables captured were those relating to the degree of process auditing; the appropriateness of the reward system; the quality of operations; and the degree of risk perception. The items relating to the degree of command and control did not emerge, and that variable could not be tested in the subsequent regression analysis.

In the last step, I did a regression analysis to see if the factor values were related to bank performance as measured by the dependent variable, return on equity. The results of this analysis will be discussed in chapter six.

4.5.2 Variables: Quantitative Study

Bank Performance: In the quantitative study I also had bank performance as my dependent variable. However, I measured it differently. For the quantitative study, I used return on equity for the year ended 1992 as the measure of bank performance. Return on equity is a commonly used financial measure of performance, particularly within the banking industry. Also, it is a standardized measure and readily available, since all banks must make their financial statements public. It is important to note here that ROE is being used only as a surrogate for the real dependent variable of interest--risk mitigating or non-risk mitigating organization. Further, I feel that ROE is a good indicator of the degree of risk mitigation undertaken by an organization because it is an outcome variable. Those that are successful in mitigating risk should display higher ROE.

For the quantitative analysis, I preferred this measure since it had greater variance and range than the three category scale I used in the qualitative study. Furthermore, ROE is closely related to the regulatory category into which each bank falls since deterioration in a bank's portfolio is closely tied to earnings and profitability; the regulatory classification is also based on the bank's primary capital level (which is diluted when a bank suffers losses, and improves as a bank posts profits). Finally, I preferred to use ROE instead of the three categories from the qualitative analysis since ROE was a more precise measurement and also was continuous.

Independent Variables: In the quantitative study, I initially intended to use the same five variables based on the five hypotheses as I did in the qualitative study. The variables were measured using a questionnaire with all items using a seven point Likert scale. (A sample of the questionnaire is shown in Appendix B).

Appendix B shows which variables the questions were meant to operationalize through the construction of subscales. Each subscale consisted of a set of questions designed to operationalize one of the five independent variables arising out of the five hypotheses. The five independent variables were: degree of process auditing; appropriateness of the reward system; standard of quality; degree of risk perception; degree of command and control. Appendix C shows the correlation matrix for all of the items on the questionnaire.

As noted earlier, after running the factor analysis, only four of the factors emerged instead of five. Thus, I was able to test only hypotheses one, two, three and four. Hypothesis five was not testable because it was eliminated as a factor in the factor analysis. Exhibit 4K shows the factor loadings. Exhibit 4L shows the descriptive statistics for the factors. Note that the Cronbach's alpha for each subscale is over .50 indicating that there is acceptable reliability for each subscale.

Below, I define each of the independent variables that were used in the quantitative study. I also list the items from the questionnaire that fell into the subscale which operationalized each of the four variables that remained after the factor analysis. (Exhibit 4M shows the correlation matrix for the questionnaire items that were used in the reduced model).

Degree of Process Auditing: This variable is defined as the degree to which credit examination and credit administration are actively involved in auditing, monitoring and following up on all aspects of the commercial loan

Exhibit 4K -- Factor Analysis for Risk Factors

Ques. Num.	Process Auditing	Risk Perception	Std. of Quality	Reward System	Item Summary
Process Auditing					
Q11	0.59889				Quality of bank's credit exam officers is high
Q26	0.54843				Credit exam does good job of managing
Q15	0.52960				Credit exam does good job of id risk
Q37	0.43324				Bank-good job of controlling credit risk
Q27	-0.48192				Credit admin does not have clear picture
Q13	-0.49932				Credit exam often miss prob loans in port
Standard of Quality					
Q18		0.64085			More conservative approach to lending
Q23		0.39724			Laon committee too conservative
Q16		-0.64744			Bank more aggressive approach to lending
Risk Perception					
Q21			0.44732		Share risk by participating with other banks
Q20			0.42079		Maximum loan size is less than our legal lim
Q24			0.38865		Credit admin actively involved
Reward System					
Q32				0.47252	Rewards depend on total dollar amount
Q34				0.47298	Rewards based on quality plus quantity
Q7				0.46728	Officers who make bad loans punished
Q22				0.35478	If sup. finds out before, negative consequences will result

Exhibit 4L -- Descriptive Statistics: Risk Factors						
Variables	Mean	s.d.	1	2	3	
Process Auditing	0	0.83				
Risk Perception	0	0.78	-0.02			
Loan Quality	0	0.74	0.12**	0.04		
Reward System	0	0.72	0.11*	0.06	0.06	
* p < .05						
** p < .01						
*** p < .001						

portfolio.

The questionnaire items that were used to measure this variable are listed below:

- Q11. The quality of the bank's credit exam officers is high.
- Q13. The credit examination officers often miss problem loans in the portfolio.
- Q15. Credit exam generally does a good job of identifying problem loans.
- Q26. Credit administration does a good job of managing the bank's portfolio.
- Q27. Credit administration does not have a clear picture of the riskiness of the bank's loan portfolio.
- Q37. Overall, this bank does a good job of controlling credit risk in the portfolio.

APPROPRIATENESS OF THE REWARD SYSTEM: The reward system is determined as the payoff that an individual within a bank gets for behaving in one way or another with respect to making commercial loans. The reward system can encompass negative rewards (punishment) as well as positive rewards.

An appropriate reward system is one which rewards (or punishes) behavior that is consistent (or inconsistent) with risk mitigation. An inappropriate reward system is one which rewards (or punishes behavior) that is consistent (or inconsistent) with risk seeking.

The questionnaire items that were used to measure this variable are listed below:

- Q7. Loan officers who make bad loans are usually punished.
- Q22. If my superior finds out about a problem loan before I have told him/her, I will suffer negative consequences.
- Q32. My rewards (bonuses, promotions and/or merit increases) depend on the total dollar amount of new loans that I make.
- Q34. My rewards are based primarily on both the quality and quantity of new loans that I make each year.

Standard of Quality: This is defined as the quality of loans in each bank's

portfolio with respect to the industry standards for quality.

The questionnaire items that were used to measure this variable are listed below:

- Q16. Compared to our competitors, our bank generally has a more aggressive approach to lending.
- Q18. Compared to our competitors, our bank generally has a more conservative approach to lending.
- Q23. Credit administration is too conservative in approving new loans.

Degree of Risk Perception: Risk perception is defined as consisting of two parts (1) Whether or not there was any knowledge that risk existed at all, and (2) If there was knowledge that risk existed, the extent to which risk was acknowledged and/or minimized.

The questionnaire items that were used to measure this variable are listed below:

- Q20. Our bank has a maximum loan size that is less than our legal lending limit.
- Q21. In dealing with large loans, our bank prefers to share the risk by structuring a participation with other banks.
- Q24. Credit administration is actively involved in following problem loans in the portfolio.
- Q28. Our bank would prefer to have ten moderately sized loans with average default risk than a single large loan for the same total dollar amount and the same default risk.

4.6 Chapter Summary

This chapter describes how I used two methods, one quantitative and one qualitative, to test the hypotheses from the model constructed in chapter three. The qualitative method involved interviews with commercial lending personnel, at various levels, at each of ten banks. The quantitative method involved questionnaires designed to test for the factors identified in the model set out in

chapter three.

Given the small sample size, with respect to the organizations, $n=10$, using two methods was important. If the same results are found using both methodologies, it greatly strengthens the conclusions we can make about those results, despite the sample size.

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