

An Empirical Analysis of the Effects of Market Response to
Bank Loan Announcements in the Hong Kong Stock Market

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This study will validate several key results from previous studies of bank loan announcement effects by using the data from Hong Kong market following the 1997 Asian crisis. Banks are believed to play a unique role in financial market which could effectively reduce the problem of information asymmetry and moral hazard. Banks could access borrowers' inside information which is not available to other participants. Thus bank loan announcements convey valuable information to the market, and market response of the stock price should be positive. However, because of the significant reform in both financial market and information market, the valuation of bank loan announcement conveyed need to be reconsidered. This study investigates whether banks are still "unique" in the financial market or whether they are like middlemen between borrowers and investors. Data used in this study is collected from the Hong Kong Stock Exchange Index, and a standard event study with the market model is applied in the research to conduct the empirical analysis.

The results suggest bank loan announcements are associated with significantly higher positive abnormal returns than non-bank loan announcements. Based on the market model of event study, market response is found to be significantly positive for loan syndication, short maturity loan and borrower's debt ratio, and negatively related to

firm size and loan size. Bank loans with refinancing and capital expenditure and no specific purpose have significantly higher positive abnormal returns, and borrowers with property and industrial industry type have more significant positive abnormal returns compared to other industry type. The findings also suggest the Hong Kong stock market is efficient in both strong and semi-strong form for bank loan announcements. A strong evidence of information leakage problem is found for non-bank loan announcements. The results are generally consistent with the existing literature.

Key Words: bank loan announcements, abnormal returns, information asymmetry, syndication, loan size, loan maturity, loan purpose, firm size, industry type, debt ratio, market efficiency.

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

One of the reasons for financial intermediaries' existence is information asymmetries. According to Campbell and Kracaw (1980), the importance of financial intermediation is information transmission, which could reduce the information asymmetry and increase the market efficiency. As discussed by Diamond (1984), financial intermediaries could be very efficient in evaluating and monitoring borrowers. During the process of information transmission, the bank is believed and proved to be able to provide unique services in the production of information. Thus bank loan announcements should convey useful information to the market.

According to Leland and Pyle (1977), the intrinsic value of financial intermediaries is their ability to solve information asymmetry and moral hazard problems. It is believed that informational asymmetries are particularly pronounced in financial markets. Borrowers typically know their wealth and risk better than lenders and entrepreneurs possess "inside information about their own projects for which they seek financing". (p. 371) Campbell and Kracaw (1980) also stated the importance of financial intermediation in information production, which could reduce the information asymmetry and increase the market efficiency.

Leland and Pyle (1977) suggested that a better understanding of the borrower's characteristics could benefit the lender but moral hazard prevents the direct transfer of information between the two participants. It is not realistic to expect the borrower to be perfectly honest on their reports because of the possible substantial rewards for the exaggerated good information. In addition, identifying "borrower's true characteristics by outside parties may be costly or near impossible." (p. 371)

As discussed by Diamond (1984), financial intermediaries could be very efficient in evaluating and monitoring the borrowers, and it could solve the information asymmetry and moral hazard problem as well. During the process of information transmission, the bank is believed and proven to be able to provide unique services in the production of information and solving the moral hazard problem. Thus bank loan announcements should convey useful information to the market.

During the information transmission process, the bank is believed and proved to be able to provide unique services in the production of information and resolving the moral hazard problem. There are a large amount of theoretical and empirical studies discussing the issue of whether banks are "special" (see Fama, 1985; James, 1987). Most of the earlier studies test the "uniqueness" of bank loans by examining the hypothesis that market response to bank loan announcements is different from publicly traded debt and non-bank loan announcements. The existing literature generally confirmed the result from Fama (1985) and James (1987) and suggested

banks are more efficient in information gathering and monitoring borrowers. Therefore, banks have comparative advantages in information production and transmission. Bank loan announcements should convey valuable information to the market about the borrower's financial situation, and the market should positively respond to bank loan announcements (Fama, 1985; James, 1987; Lummer and McConnell, 1989; Billett, Flannery and Garfinkel, 1995; Wansley, Elayan and Collins, 1992). Aintablian and Roberts (2000) reported that bank lending is different from non-bank lending (public debt and non-bank private placements) since banks could provide unique monitoring services, and bank loan announcements are associated with positive abnormal returns significantly higher than private placements and public debt.

James and Smith (2000) revisited the issue and questioned the unique role of banks. The authors found that banks are still "special" in providing "commitment based financing to corporations". On the other hand, research from Billett et al. (2006) and Fields et al. (2006) both questioned the "special" role of banks and found the market response to bank loan announcements has diminished since the findings by James (1987). Fields et al. (2006) suggested the diminishing market reaction to bank loan announcement is consistent with the dramatic change in both financial market and information market.

Apart from comparing the market response to bank loan announcements, publicly traded debt and non-bank loan announcements have been employed to examine the uniqueness of banks. Several studies have also examined how the factors, such as borrower characteristics, lender characteristics, and loan characteristics could influence the market reaction to loan announcements (Lummer and McConnell, 1989; Preece and Mullineaux, 1996; Slovin, Johnson, and Glascock, 1992). In addition, the information content of bank loan announcements is also generated under different banking systems compared to most of the studies in the U.S., Canada, and the U.K. banking system (Aintablian and Roberts, 2000; Armitage, 1995a).

Recent research by Boscaljon and Ho (2005) investigated the information content of bank loan announcements of Asian firms prior to and after the 1997 Asian crisis. Boscaljon and Ho (2005) particularly examined the changes in the borrower-lender relationship and found lender quality is the most important factor that could influence the information content of bank loan announcements.

This research will extend the study of Boscaljon and Ho (2005) and test the effect of market response to bank loan announcement in the Hong Kong banking market after the 1997 Asian crisis. In addition, market efficiency can be tested by analysing the market response to new publicly-known information. Therefore, by testing the speed and the extent of market response to bank loan announcements, the market efficiency can be tested in the Hong Kong banking market.

1.2 Background

The Hong Kong banking industry is developed under a free market system. As reported by the Hong Kong Trade Development Council, Hong Kong has one of the highest concentrations of banking institutions in the world. Hong Kong is the third largest international banking centre and the second largest loan syndication centre in Asia.

Regulation in the banking industry is considered moderate in Hong Kong. The banking system in Hong Kong is characterized as a 3-tier system, which includes three types of banking institutions, namely licensed banks, restricted licence banks, and deposit-taking companies. Only licensed banks and restricted licence banks can be called banks and deposit-taking companies are authorized to take deposits from the general public. Table 1.1 shows the number of reported institutions in Hong Kong as of April 2008.

Table 1.1 Number of Reported Institutions in Hong Kong

Type of Reported Financial Institutions	Number of Reported Institutions
Licensed Banks	143
Restricted License Banks	31
Deposit-taking Companies	29
Representative Offices of Foreign Banks	76

Sources: Monthly Statistical Bulletin, Hong Kong Monetary Authority; Quarterly Report of Employment, Vacancies & Payroll Statistics, Census & Statistics Department. April 2008.

Boscaljon and Ho (2005) investigated the information content of bank loan announcements on Hong Kong corporations listed in the Hong Kong stock market.

The authors suggested the Hong Kong banking system is quite healthy with major local competitors, middle-market banks and small retail banks. In addition, the Hong Kong banking system is the one with least political influence compared to the banking systems in Korea, Taiwan, and Thailand.

The Hong Kong stock market is one of the largest emerging stock markets in the world. In addition, it is the second largest stock market in Asia. The first formal security market was established in 1891, named Association of Stockbrokers in Hong Kong, which changed to the Hong Kong Stock Exchange (HKSE) a few decades later. The second exchange was opened in 1921, known as the Hong Kong Stockbrokers' Association. These two exchange markets merged in 1947 under the name of Hong Kong Stock Exchange (HKSE). The HKSE further merged with four other national exchanges at the end of the 20th century. Finally, the HKSE together with Hong Kong Futures Exchange Ltd., which was established in 1976, and the Hong Kong Securities Clearing Company Ltd., which incorporated in 1989, merged to form a unified company Hong Kong Exchanges and Clearing Limited (HKEx) in 2000. Under the listing rule of HKEx, after February 15th, 2002, all the listed companies need to submit an electronic copy of the announcement to the HKEx database.

1.3 Motivations

There are few empirical studies done to investigate the market response to bank loan announcement in the Asian market. As the third largest international banking centre

and the second largest loan syndication centre in Asia, the Hong Kong financial market provides an opportunity for testing the robustness of the conclusions from prior studies on bank loan announcements which are conducted almost exclusively in the U.S. market. The results of this study will identify whether banks are still “special” in the financial market, and whether loans from non-bank financial institutions are close substitutes to bank loans. Moreover, by extending the study of Boscaljon and Ho (2005), we could test whether the factors such as lender, borrower, and loan characteristics influence the market reaction after the 1997 Asian financial crisis.

We also test the market efficiency of the Hong Kong stock market by analysing the extent and speed of the market response to bank loan announcements. Market efficiency hypothesis was firstly formulated by Fama (1970). As security price is set by the market, an efficient market would indicate that the security price could be set efficiently and correctly to its fair value. On the other hand, if the market is not efficient, the price of the security would be overvalued or undervalued. Since prices determine how resources would be distributed among market participants, efficient markets could allocate resources fairly and efficiently. Cheuk, Fan, and So (2005) suggested that market efficiency and transparency are low in most emerging markets. The authors found Hong Kong insiders are able to earn abnormal profits from both buying and selling activities. In addition, these abnormal profits depend significantly on firm-specific and transaction-specific factors. Small firms are found to generate the

largest abnormal profits. Clasessens et al. (2000) also reported that 60% of Hong Kong firms are group-affiliated, and 60% of the Hong Kong firms are family controlled. Thus our study investigates the market response to bank loan announcements and tests the market efficiency.

1.4 Research Objectives

The literature generally suggests that banks are “special” in the financial market, and have comparative advantages in information gathering and providing monitoring services to borrowers (Fama, 1985; James, 1987; Aintablian and Roberts, 2000; James and Smith, 2000). For example, James (1987) suggested market response to loan announcements is only positive for bank loan announcement, and negative for both non-bank loan announcement and public debt. Aintablian and Roberts (2000) also confirmed bank loan announcements are associated with significant positive abnormal returns in the market. However, based on the study from Fields et al. (2006), considering the dramatic changes in both information markets and financial markets, the “uniqueness” role of bank needs to be reconsidered. Three research objectives and questions are generated based on existing literature. The research objectives include:

Research Objective One examines the market efficiency of the Hong Kong Stock Market by investigating the market response to loan announcements.

Research Objective Two tests whether banks are still “special” in the financial market by comparing the market response to bank loan announcements and non-bank loan announcements.

Research Objective Three examines how factors, such as loan syndication, loan purpose, loan maturity, debt ratio, firm size and borrower’s industry type influence the market response to bank loan announcements.

1.5 Outline of Thesis

This thesis consists five chapters. Chapter One provides the overall background information and the objectives to the research questions. Chapter Two reviews the relevant literature on market response to bank loan announcements. Chapter Three discusses the data and research methodology of this study. The empirical findings and results are discussed in Chapter Four. Chapter Five outlines the results implications, research limitations, recommendation of future studies, and conclusions for the study.

CHAPTER TWO

LITERATURE REVIEW

This chapter reviews the studies relevant to market response to bank loan announcements. Section 2.1 reviews the relevant studies based on lenders' characteristics, which could influence the market response to bank loan announcements. Section 2.2 reviews the borrowers' characteristics, and studies on loan characteristics are reviewed in Section 2.3. All these three aspects are empirically and theoretically examined and are hypothesized to influence the market response to bank loan announcements.

2.1 Lender Characteristics:

2.1.1 Role of bank loans

There are many studies examined the distinction of financial intermediaries among bank loans, private placements and public debt. Most of the studies identified the uniqueness of the role of bank loans.

As with any other business relation, Leland and Pyle (1977) suggested that a bank relationship involves information asymmetry and moral hazard problem. The bank-borrower relationship enables them to obtain information not available to other providers of funds. The Bank loan contract could also control the borrower's risk-taking propensity, especially in the form of collateral.

Fama (1985) also discussed the special role of banks. The author compared the CD from bank to other high-grade commercial paper and found there was no significant difference for the yields. Since the CD is subject to reserve requirement, the same yield between CD and commercial paper means the tax is not borne by the CD holders but by the borrowers. Therefore, Fama concluded that there must be a reason or something special about the bank, which makes the borrowers willing to borrow from the bank with a higher rate than other financial institutions.

Fama (1985) developed an argument about inside and outside debts. The author defined bank loan and private placement as inside debts, which are the contracts that the debt holder could access the information that is not publicly available for the organization. Outside debt on the other hand is a contract where the debt holder could only rely on the information publicly available.

Fama (1985) stated that a bank is “special” due to its comparative advantages in gathering information and monitoring debt contracts compared with other financial institutions. The author concluded there are two comparative advantages for bank loans. One is the relatively lower costs for monitoring firms, and the other is the convenience of accessing firms’ private information. The author also argued that small firms relied more on bank monitoring compared to large firms because of the lower costs.

James (1987) argued that reserve requirement tax could be partially offset by the Federal Deposit Insurance Corporation (FDIC) in the form of deposit insurance. The author argued that if the reserve tax of CD increases, the yield of CDs should increase relative to commercial paper or banker's acceptances if the depositors of CD pay the tax. The result showed there is no significant difference for the yield in CD when the reserve requirement tax changed, and this supported Fama's argument that the reserve requirement tax is borne by the bank borrowers.

In order to test the uniqueness of bank loans, James (1987) provided a testable hypothesis to compare the stock price response among the publicly announced bank credit agreements, private placement and publicly placed debt. As defined in Fama (1985), bank loan and private placement are inside debt, and public debt is outside debt. Therefore, a non-negative stock price return is expected for bank loans and private placements, and a non-positive stock price return is expected for publicly placed debt. In James' finding, there is a non-negative stock price return for bank loans and non-positive stock price return for publicly placed debt which supports Fama's argument. However, James (1987) reported a non-negative stock price return for private placement. This result is similar to Mikkelsen and Partch's (1986) finding, which is inconsistent with Fama's inside debt argument. Therefore, the inside argument could not completely explain the market reaction to bank loan announcement (Brumm, 1996).

Lummer and McConnell (1989) expanded the research from James (1987) and Mikkelson and Partch (1986) and made a distinction between new bank loans and loan renewals. Their result also suggested a positive stock price response to the bank loan announcements.

Best and Zhang (1993) re-examined the role of bank loans by looking at not only information production from the bank's perspective, but also from the financial analysts' perspective, who is capable in evaluating and monitoring the borrowers' behaviour. The analysts could gather and monitor information, and thus their services could be considered as a substitute for banks' services. The authors argued that the function of the financial analysts did influence banks' decisions on where to put their best evaluating and monitoring efforts. Banks would put more monitoring and investigating efforts on the borrower if the financial indicator of the borrower noisy and unclear. This result is consistent with the Slovin et al.'s (1992) finding.

Slovin et al. (1992) discussed whether the share price responses to bank loan announcements differ between small firms and large firms. Since small firms have a relatively short history, less reputation and the problem of moral hazard, therefore adverse selection for small firms is more significant. Slovin et al. (1992) suggested banks should investigate more on small firms for monitoring and evaluating. On the other hand, large firms are considered to be well monitored and have good reputations,

therefore the banks have relatively less comparative advantage on evaluating and monitoring financial decisions of large firms.

Based on the researches in the U.S. stock market, Aintablian and Roberts (2000) applied a study to the Canadian banking market and the results showed there are significantly higher positive abnormal returns for bank loan announcements than private placements and loan syndications. The result is consistent with the hypothesis that banks have a comparative advantage over other lenders and again confirmed the unique role of bank loans even under a different banking system.

Andre, Mathieu, and Zhang (2001) investigated the stock market reaction to bank loan announcements in the Canadian market before and after the introduction of the 1988-capital adequacy requirements. The authors found a significantly positive market reaction to the bank credit agreements prior to the introduction of the 1988-capital adequacy. Andre et al. (2001) concluded that the introduction of new policy reduced the information content of lines of credit significantly; however, the informativeness of term loans was not affected.

Dahiya, Puri and Saunders (2003) on the other hand tested the information content of the announcement of a sale of a borrower's loan by the lending bank. Dahiya et al. (2003) suggested that when lenders sell a bank loan to the secondary market, they convey the information to the market that they are not satisfied with the borrowers'

situation. Traders also believed that banks know some information which they do not know. This argument confirmed the uniqueness of bank loans suggested by James (1987), and the hypothesis from Campbell and Kracaw (1980), Diamond (1984), and Fama (1985), which demonstrated that banks are insiders to the borrowers' information production, evaluation, and monitoring.

Fields et al. (2006) revisited the study from Petersen and Rajan (2002), and suggested that the borrowers' information is able to verify at a much lower cost due to the changes in the information market. The authors also questioned the validity of the information content conveyed by bank loans due to the recent changes in financial markets. Tracy and Carey (2000) reported an increase in complex internal credit rating systems used by large banks, and Schuermann (2004) reported the development of sophisticated internal risk management systems in the banking system due to the changes in the capital standards under the Basel II agreements. Based on these financial reforms, Fields et al. (2006) suggested that the value of certification provided by bank loans could be reduced, thus lessening the market reaction to the loan announcements.

Fields et al. (2006) examined whether the stock market's positive response to bank loan announcements still exists from the period of 1980 to 2003. Their results showed that the reaction to bank loan announcements on average has diminished to the point of insignificance following the period tested by James (1987). The authors explained

that the results are consistent with the structural changes in financial markets, (such as various forms of information technology, changes in banking environment, and lending relationship) which should reduce the value conveyed by bank loans.

A surprising result was found by Bailey, Huang, and Yang (2008) in the study of stock market response to bank loan announcement in the Chinese stock market from 1999 to 2004. Under a different banking industry from previous studies, the Chinese banking is dominated by state-owned banks, which leads to an uncompetitive banking environment. In addition, because of the state-owned domination, Chinese banks are required to help the government to ensure social and political stability. Bailey et al. (2008) found that the large amount of non-performing loans in the Chinese banks is due to the special responsibility of the Chinese banks where poorly performing state-owned enterprises are the heaviest borrowers. Moreover, since the Chinese stock market is relatively small, several limitations on the public security market and corporate bond are not trusted due to the poor state of law and regulation. The Chinese firms no matter healthy or distressed could only rely on retained earnings and bank loans for financing. With these situations, Bailey et al. (2008) reported that bank loan announcements in China no longer send positive but negative signals about the borrowers' prospects.

More detailed comparison among the empirical results of studies on stock price response to bank and non-bank loan announcements are represented in Appendix 1.

2.1.2 Lender monitoring

Banks' monitoring is very important since it is the heart of banks' speciality (Aintablian, McGraw, and Roberts, 2007). Diamond (1991) first generated a model to test when a debt contract will be monitored by lenders, and analysed the special role of monitoring to alleviate moral hazard. The author explained that monitoring has two main functions: monitoring the borrowers' project true risk to assure reasonable risk projects are taken; and providing incentives for borrowers to choose safe projects under bank's monitoring. Diamond further argued that monitoring is only valuable when there is a moral hazard problem.

Lee and Sharpe (2006) investigated the relationship between the borrowing firms' abnormal returns to loan announcements and the monitoring ability of lending banks. The authors argued that the monitoring services of loans provided by the bank could sufficiently reduce the information asymmetry. There are many theoretical papers that support this view and showed positive abnormal returns associated with bank loan announcements to lender characteristics, including monitoring ability and reputation. However, bank's monitoring ability was treated as homogenous in those literature which is actually not true. For example, Lee and Sharpe (2006) assumed if a bank loan is unique and bank monitoring ability is not homogenous, banks with better monitoring ability should add more value to their borrowers. The authors used a new proxy for bank's monitoring ability which is developed from Coleman, Esho, and Sharpe (2004).

The authors argued that credit rating could reflect not only monitoring ability but also the banks' risk, reputation and risk preference. Billett et al. (1995) used bank's credit rating as the measurement of bank's monitoring ability, whereas Lee and Sharpe (2006) used the quality and quantity of the services provided by bank employees as the measurement. They found a significant loan announcement returns over the 1995-1999 periods and a strong positive relationship between monitoring ability and the borrowing firms' abnormal returns. Their result is consistent with the original hypothesis that banks' better monitoring ability should add more value to the borrowers.

Aintablian et al. (2007) stated that although the proxy method for monitoring ability works well in Coleman et al. (2004) and Lee and Sharpe's (2006) studies, the results still remain a joint test of their hypothesis and the accuracy of their proxies. Therefore, Aintablian et al. (2007) generated an alternative test for bank's monitoring ability. The authors tested the bank's monitoring effectiveness by focusing on an important subset of loans extended to environmentally risky borrowers instead of analysing a large sample of banks, like Coleman et al. (2004) and Lee and Sharpe (2006). During the loan decision making process, the bank should monitor loan applications from the borrowers who have potential environmental risk. The final loan announcement should signal to the market that the borrower passed the test and was not subject to high environmental risk. In other words, firms with high environmental risk may choose not to apply for a bank loan. In addition, following the loan, the borrower

would subject itself to the bank's monitoring, and provide private environmental information to the bank.

Aintablian et al. (2007) suggested that although the information is not public, the borrower could also signal to outside investors that it is in a good environmental condition with the monitoring from the bank. This argument confirmed that the bank's lending signals the borrower's creditworthiness to outside investors and adds value to the borrowers. The result is consistent with Coleman et al. (2004) and Lee and Sharpe's (2006) findings, and provides further evidence on the uniqueness of bank loans by demonstrating the superior monitoring ability of banks to borrowers exposed to environmental liability.

2.1.3 Lender reputation

Chemmanur and Fulghieri (1994) modelled bank's reputation acquisition by assuming that the ability to acquire reputation differed from other bond holders. This assumption is different to most of the previous studies, which assumed that the bank is special because of the unique role in monitoring borrowers. The authors argued that banks with greater reputation should be able to convey more information than less reputable banks. In addition, reputable banks are able to provide borrowers with financial flexibility to renegotiate the loan in the event of financial distress. Chemmanur and Fulghieri (1994) discovered that firms are happy to pay a higher

interest rate on loans from reputable banks in exchange for financial flexibility in the case of financial distress.

Billett et al. (1995) pointed out that lender reputation is an important factor which could influence the market response to loan announcement. Billett et al. (1995) argued since private and public securities are not perfect substitute for firms, lender identity must affect the abnormal returns from firms. The authors stated that the borrower could enjoy a higher quality evaluating service and more accurate monitoring from high credit rating lenders. The results indicated that borrowers' abnormal returns increased as the lenders' credit quality increased.

Hand, Holthausen, and Leftwich (1992) also concluded that lenders make decisions about writing a loan based on the private information from the borrower, and the decision is a valuable indicator of the borrower's true risk. Credit rating lenders could convey valuable information in the process of accessing the private information from the borrower and evaluating publicly available information. In addition, better monitoring ability of the lender could assure the investment and spending decision better and further enhance the borrower's value. This is also consistent with Fama (1985).

Boscaljon and Ho (2005) tested the information content of bank loan announcements in Asian corporate firms during periods of economic uncertainty. The authors

concluded that the quality of the lender was an important factor in determining the role of bank loans and higher quality lenders played an increasing role in conveying information to the market. In addition, lender quality is increasingly an important role especially in economic uncertainty such as the 1997 Asian financial crisis.

2.2 Borrower Characteristics

Apart from analysing the lender's identity, many studies also investigated the borrower's characteristics to further test the difference of market response to bank loan announcement.

2.2.1 Firm size

Fama (1985) stated contracting costs for a bank loan is lower than outside debt like public securities for small organisations and individuals. Fama explained that it is cheaper to give one agent (bank) direct access to private information and decision process than providing variety of information publicly available for outside debt of small organization or individuals. Diamond (1989) also suggested that small firms receive greater benefits from bank screening services compared to larger firms.

Atiase (1985) argued information production for the purpose of pricing equity and the precision of security prices are increasing function with firm capitalization. The author hypothesises that small firms, which have relatively less information available should have a significant change for stock price in response to public announcement.

Consistent with Atiase's hypothesis, Arbel, Carvell, and Strebel (1983) found security analysts contributed most attention on relatively large firms.

Slovin et al. (1992) tested the difference in stock price response to bank loan announcements between small and large firms. Slovin et al. argued if large firms are well monitored, the banks have no advantage in external financing process relative to public securities markets. Thus, share price response to bank loan announcement should be greater for small firms than large firms. They found a significant positive stock price response to both favourable loan renewals and initial credit agreements but no significant effect on large firms' values for either type of bank loan agreements. The authors explained that larger firms face less moral hazard and adverse selection problems, therefore bank lending burden less information processing and monitoring. As a result, the market treats loans for large firms as closely allied to publicly traded debt securities. However, for small firms, moral hazard and adverse selection problems are more severe because of less history, less information produced and low reputation. The screening and monitoring services provided by financial intermediaries (especially banks) should be more valuable for small firms. Consistent with Fama (1985), Diamond (1991), and Atiase's (1985) argument, Slovin et al. (1992) concluded monitoring services associated with private information structure of bank loans have a greater value for small firms than large firms.

Wansley et al. (1992) and Aintablian and Roberts (2000) reported that small firms receive greater benefit from banks' monitoring services, which also confirmed the finding by Slovin et al. (1992). James and Wier (1999) reported that firms involved in private placements and bank loans are significantly smaller in size compared to the firms using public traded debt.

Andre et al. (2001) also found market reaction for credit agreements was more significant for small firms than large firms. Fields et al. (2006) suggested that loan announcement abnormal returns are smaller for larger firms, which shows that there is more value for renewal announcements for small firms.

2.2.2 Borrower's credit rating (reputation)

Diamond (1991) presented a theory called "life cycle" effect under the condition that moral hazard is sufficiently widespread. The theory suggested that firms build a reputation from borrowing bank loans repeatedly and use it to access the bond market under favourable terms. The borrower credit record used by bank monitoring could also be used to predict future actions when not monitored by banks. Diamond (1991) argued that the firm's reputation effect is very important during the process of bank monitoring.

Diamond (1991) found firms with high or low credit rating rely less on bank loans with monitoring services, and middle rated firms rely more on bank loans. The author

explained that high credit rating firms have low cost of capital, and these firms would maintain the high credit rating to retain this source of higher present value of future profits. High rating firms would maintain a good bank relation only as an insurance against possible future reputation loss. In addition, better reputation indicates that adverse selection is less severe, therefore, Diamond (1991) suggested that high rating firms, which could access securities markets better and have less financial contracting problems and do not need monitoring. Rajan (1992) also reported that costs and benefits of having an ex-post lender such as banks were relatively small for high rating firms, and there was no difference between bank debt and public debt for these firms.

For middle rating firms, Diamond (1991) argued that “these firms’ ratings are too low to guarantee reputation effects, which could eliminate moral hazard problems but high enough to warrant monitoring to eliminate moral hazard.” (p. 716) The author reported that monitoring does not provide incentives and does not worth its costs for low rated firms, since low rated borrowers have less to lose if they reveal bad news. James and Wier (1999) and Aintablian and Roberts (2000) also reported similar results as Diamond (1991).

Chemmanur and Fulghieri (1994) and Preece and Mullineaux (1996) suggested that firms with lower reputation could benefit more from more flexible financial services provided by bank loans. Rajan and Winton (1995) and Mazumdar and Yan (1997)

also reported that lower rated firms benefit more from bank loans in the form of collateral and covenants.

2.2.3 Financial distress

Chemmanur and Fulghieri (1994) used a model to test the choice between bank loan and publicly traded debt for firms with consideration of the possibility of debt renegotiation in times of financial distress. The authors found that firms in financial distress preferred bank loans with a higher interest rate, and firms with lower probability in financial distress preferred publicly traded debt, because they could avoid competing with high risk firms in bank loans and are able to borrow at a lower equilibrium interest rate.

Bolton and Freixas (2000) suggested firms choose bank loans in the period of financial distress because banks are more flexible and better in evaluating and monitoring, and the authors found that in equilibrium, riskier firms preferred bank loans which is consistent with Chemmanur and Fulghieri (1994) findings. This also confirmed the findings of Gilson, John, and Lang (1990) which showed that firms in financial distress preferred restructuring their bank debts rather than filing for bankruptcy.

Besides the choice between publicly traded debt and bank loans for firms in financial distress, Aintablian and Robert (2000) also investigated the stock price response to bank loan announcements for the firms in financial distress. Aintablian and Roberts

(2000) categorised "restructuring" as a sub-sample, which consider firms in financial distress, and found firms in financial distress have a stronger stock price response to bank loan announcements.

Hadlock and James (2002) also suggested that firms under high uncertainty in their asset values preferred bank loans. The authors concluded the stock price run-ups for the firms that are with high stock return volatility and undervalued, and confirmed the presence of information benefit of bank loans.

2.3 Loan Characteristics

When investigating the market reaction to bank loan announcements, one should also consider the impact of loan characteristics. Relevant studies on loan type (new or renewal), loan maturity (long or short), loan syndication (syndicated or non-syndicated), loan purpose (general corporate purposes, refinancing, capital expenditure, or non-stated), loan size (large or small), covenants and collateral will be reviewed in this section.

2.3.1 Loan type

Fama (1985) developed the inside and outside debt theory which suggested bank loan is inside debt. Based on Fama's bank uniqueness argument, Lummer and McConnell (1989) distinguished new bank loans and loan renewals, where renewals are further categorized as favourable renewals and unfavourable renewals. By assuming the bank has an information advantage, Lummer and McConnell (1989) suggested that

extension or renewals of existing loan agreement announcements should have larger share price reactions than new loan agreements. Consistent with Fama's (1985) argument, bank loan review and renewal procedures are important to convey information to the capital market. Lummer and McConnell (1989) found significantly positive excess stock returns for favourable renewals, and negative for unfavourable renewals. The stock price response for new loans is not significantly different from zero. The results identified that banks do not have comparative information advantage for new loan agreement. Banks are able to gain information advantage in the process of accessing private information after the new loan agreement. Thus Lummer and McConnell (1989) suggested bank loan announcements could only convey information to the market after the establishment of an ongoing relationship, which is reflected in the loan renewal.

For the unfavourable loan renewals (including loan reductions and cancellations), if the unfavourable is announced by the bank, the stock price response is more negative, and if it is announced by borrower, there is no significant stock price response. Lummer and McConnell (1989) explained that the actions from the banks about the debts could signal the information, but not the action of the borrowers. Lummer and McConnell's (1989) hypothesis is confirmed by Preece and Mullineaux (1994).

Best and Zhang (1993) also adopted Lummer and McConnell's category on loans, considering financial analysts' predictions as an alternative information production to banks. The authors' result showed insignificant excess returns for new loans, and

significantly positive excess returns of 1.24% for revised loans. Favourably revised loans produce a significant positive abnormal return of 0.75% and unfavourably revised agreements produce a significant negative excess return of -1.82%. These results confirmed Lummer and McConnell's findings that there is no information advantages when banks issue new loan agreements.

Slovin et al. (1992) examined share price responses to bank loan announcements to test whether there are systematic differences between large and small firms. Following Lummer and McConnell (1989), Slovin et al. (1992) also divided bank loans into initials and renewals agreements. For small firms, the authors found renewal agreements had a significantly positive share price response of 2.58% which is consistent with Lummer and McConnell's (1989) findings. However, Slovin, et al. (1992) found initial agreements also generate significantly positive excess returns of 1.50%. For large firms, there are no significant excess returns for both loan initiations and renewals, which are 0.37% and 0.57% respectively. Slovin et al. (1992) reported that their results are consistent with Fama (1985) and Diamond's (1984) view that monitoring services associated with private information impact small firms more than larger firms.

Billett et al. (1995) also followed Lummer and McConnell's definition of new and renewal loans and reported positive significant abnormal returns for both new and renewal loans and cannot statistically distinguish them.

Based on the classification of bank loan announcement from Lummer and McConnell (1989) and Best and Zhang (1993), Aintablian and Roberts (2000) further added debt restructuring as a sub-sample, and divided bank loans into new loans, renewals, and restructuring. The authors further categorized new loans into new loans with new banks, new loans with the same bank, and new loans with unknown banks. Renewals included favourable, unfavourable, and mixed, and restructurings were subdivided into loans with prior negative news about the borrowing firm, and with no prior negative news.

The authors' results are mostly consistent with Lummer and McConnell's (1989) studies except for new loans. The result for new loans with the same bank is significantly positive, and insignificant for new loans with new bank and with unknown banks. The results for three types of renewals are not distinguishable. Average excess returns for favourable renewals are 1.73% and -2.48% for unfavourable renewals which is also insignificant. For mixed renewals, the average excess return is 1.78% and is statistically significant at the 0.1 level of significance. The average abnormal return for restructuring with no prior negative news restructurings is 2.90%, and is statistically significant at the 0.05 level of significance. Restructuring with prior negative news has 3.89% for average abnormal return and is

statistically significant at the 0.01 level of significance. These results confirmed the hypothesis that the market effect is stronger when the borrower is in financial distress.

In contrast, Best and Zhang (1993) and Billett et al. (1995) revisited the issue and found different results compared to Lummer and McConnell's (1989) findings. Both studies reported a statistically significant difference in the market reaction to initials and renewals in controlling the differences between the other borrowers and lenders' characteristics.

Boscaljon and Ho (2005) followed Lummer and McConnell's classification for loans and found the mean excess returns between loan initials and renewals were not significantly different. Their results failed to confirm Fama's (1985) renewal hypothesis. However, their results on the different type of renewals are consistent with Lummer and McConnell's argument.

2.3.2 Maturity

James (1987) argued that bank loans are mostly short maturity compared with private placement or public debt, and emphasizes shorter maturities lead to more frequent renewals which could enhance banks' monitoring ability. Rajan (1992) also generated a similar argument. James (1987) concluded the importance of maturity from three aspects. First, short term debt contains less risk compare to long term debt and there is a positive relation between the time to maturity of the debt and the elasticity of the

value of the bond by holding market value of debt constant (Merton, 1974, Ho and Singer, 1982). Second, according to Flannery (1986), firms' choices of maturity could signal the market about the firms' management assessment of earnings prospects, and firms' that believe the assets are undervalued prefer a short term debt to reveal the true prospects. Third, according to Easterbrook (1984), "monitoring costs will be lower if firms are frequently in the market for new capital". The results from James (1987) however are not consistent with his hypothesis, and the difference in average returns is not statistically significant.

James and Wier (1999) found a more negative effect on the market reaction for longer maturities which confirmed James (1987) and Rajan's (1992) arguments. More recently, a study from Aintablian and Roberts (2000) also reported a positive effect of short term maturity to the excess returns.

2.3.3 Syndication

Preece and Mullineaux (1996) investigated the impact of loan syndication on the market response to loan announcements. The authors formulated a contractual flexibility hypothesis that as the number of lenders increases (syndication increases), the contracting costs will increase and the value of capacity to renegotiate (contractual flexibility) should decline. The capacity to renegotiate is considered as a value of the capacity of the firms to utilize the financial situation. Therefore, Preece and Mullineaux (1996) argued that there should be a negative relationship between the

borrowing firm's abnormal returns and the syndicate size. Their results are consistent with the hypothesis, which show a more positive reaction to the announcements with only one lender than multiple lenders.

Rajan (1992) and Houston and James (1996) considered information monopoly in the single lender borrowing relation. Borrowing from a single bank lender may cause an information monopoly and high controlling power, which is associated with serious hold-out problems. They both report that multiple lenders or higher syndications could reduce hold-out problems and enhance the contractual flexibility, which should lead to a positive relationship between the borrowers' excess returns and syndicate size.

Detragiache, Garella, and Guiso (2000) argued that multiple bank lenders may involve significantly higher transaction costs and screening and monitoring costs. Debt renegotiation is also more complex when more lenders are involved. Recent studies from Andre et al. (2001) confirmed Preece and Mullineaux's (1996) argument, and market reaction is stronger from a single bank than from multiple banks.

2.3.4 Purpose

James (1987) tested the excess returns for bank loan announcements by loan purposes and categorized the loan purposes into "repay debt", "capital expenditure", "general corporate purpose", "repay bank loans", and "no purpose given". Slovin et al. (1992) also investigated this issue considering "future acquisitions." Both James (1987) and

Slovin et al. (1992) did not find statistically significant results for the above categories except for the loans with general corporate purposes.

Boscaljon and Ho (2005), however, considered restructuring as an additional category and showed statistically positive results for capital expenditures, no specific purpose and repayment. In contrast, the authors did not find statistically significant results for general corporate purposes, which is not consistent with earlier findings.

2.3.5 Loan size

Slovin et al. (1992) tested how the relative size of the debt (ratio of the dollar value of the credit agreement to the market value of the common equity) of the borrower could affect the market response to loan announcements and the result is not statistically significant.

Krishnaswami, Spindt, and Subramaniam (1999) reported that firms with smaller sized debt rely more on private debt than public debt, and confirmed mis-match of debt size could convey adverse information to the market. However, Aintablian and Roberts (2000) reported that smaller excess returns are associated with larger loans.

2.3.6 Covenants

Rajan and Winton (1995) investigated the effectiveness of covenants by comparing short-term bank loans and long-term bank loans with covenants. The authors defined

covenants as clauses in a loan contract that require the borrower to take or refrain from various actions. Rajan and Winton (1995) argued that short-term bank loans are more flexible and controllable and give the lenders liquidation flexibility. Banks are free to act and recall the loans. However, since other stakeholders could free ride on the benefit of banks' monitoring on the borrowers, banks have less incentive to acquire and use additional information. As a result, banks may not monitor short-term loans even when it is socially beneficial.

Long-term debt with covenants is more preferable, if the covenants are based on the information that is costly to the public. Long-term debt with covenant limits the bank's ability to monitor the borrowers and the banks are allowed to act only when the covenants are violated. However, long-term debt with covenants could increase the bank's incentive to monitor by decreasing the bank's payoff.

Rajan and Winton (1995) also reported that covenants on private debt are more detailed and restrictive than public debt. James and Smith (2000) and Park (2000) both confirmed this argument and reported bank always generate more strict covenants.

Park (2000) reported that covenants could ensure monitoring and control for firms by the lenders. Since covenants enable lenders to act and punish borrowers when the

covenant is violated, monitoring could reduce the adverse selection and moral hazard problem from borrowers (Smith and Warner, 1979).

Gorton and Kahn (2000) on the other hand, confirmed the unique characteristics of bank loans in the aspect of liquidating the loan at any time in the form of tight covenants.

2.3.7 Collateral

Collateral is some specific assets pledged as security for a loan. It is collectively believed that collateralization could be very effective in solving the problems of asymmetric information and moral hazard, and lessen related monitoring issues. Boot, Thakor, and Udell (1991) reported that banks use collateral to reduce moral hazard problems when lenders are able to take unobservable ex post actions that affect project payoffs. Rajan and Winton (1995) also confirmed that collateral is important for solving information asymmetry, moral hazard, and monitoring issues. Rajan and Winton (1995) argued that collateral increases banks' incentive to monitor since the information collected by banks is more useful to them than to other parties when loans are collateralized or contracted with covenants.

James and Smith (2000) argued that banks could monitor better by securing a loan in the form of collateralization, which could lead to a better payoff for the borrowers.

This could eventually increase the incentive of monitoring for banks, which is consistent with Rajan and Winton's (1995) argument.

Chakraborty and Hu (2006) also suggested that collateralization could reduce informational asymmetry and moral hazard problems. In addition, the authors also reported the need for collateral to decrease as the duration of the bank-borrower relationship increases. Boot and Thakor (1994) reported similar results and explained that a longer term bank-borrower relationship enables the banks to efficiently evaluate the borrower over time and reduces the use of collateral. Chakraborty and Hu (2006) also found a negative relationship between the firm's age and the incidence of collateral. The authors explained that since older firms have longer track records and less information problems than younger firms, they are less likely to pledge collateral.

Rajan and Winton (1995) also indicated that pledged collateral conveys negative information to the market since offering assets as collateral could reduce the firms' operational flexibility especially during financial distress. The authors argued that firms may not want to offer collateral in the loan contract because the market may take collateral as a sign the firms are in financial difficulty.

James and Smith (2000) distinguished bank loans and other private placements in collateralization and found bank loans are more secured. The results from Carey, Post,

and Sharpe's (1998) study showed that finance companies make secured loans more frequently and monitor the collateral more closely than banks.

2.4 Conclusion

This chapter reviews the previous studies relevant to market response to bank loan announcements. Factors that influence the market response to bank loan announcements can be varied. Lender characteristics, borrower characteristics, and loan characteristics are all evidenced to have attributed to the abnormal returns for bank loan announcements. A different banking environment is also evidenced to be able to affect market response to bank loan announcements. Studies on the UK market indicate a smaller response to loan announcements, Canadian studies show a consistent result as the U.S. cases. However, studies on the China market reveal opposite results to all previous studies due to its special politically controlled banking industry. In conclusion, based on previous studies and theories, banks are believed to play unique roles in the financial markets, which could effectively reduce the problem of information asymmetry and moral hazard. Banks could access borrowers' inside information which is not available to other participants. Thus bank loan announcements convey valuable information to the market, and market response to the stock price should be positive.

CHAPTER THREE

3. RESEARCH METHODOLOGY AND DATA COLLECTION

This chapter discusses the research methodology and data used in this study. The research questions are discussed in Section 3.1. Section 3.2 describes the data sources and collection methods. Statistical tests for the research questions are described in Section 3.3 to 3.5. Section 3.6 concludes this chapter.

3.1 Research Question

The objective of this research is to investigate the effect of market response to bank loan announcement in the Hong Kong banking industry. The study examines how the share prices react to bank loan announcements in the Hong Kong banking industry.

The whole sample of loan announcements are divided into different categories, such as lender identity (bank loan or non-bank loan), firm size (large or small), loan syndication (syndicated or non-syndicated), loan purpose (general corporate purposes, repay debt/capital expenditure mixed, no specific purpose or other purpose), loan size (large or small), loan type (new or renewal), and loan maturity (less, equal, or longer than 3 years).

Research Question One examines the market efficiency of the Hong Kong Stock Market by investigating the market response to loan announcements. Based on previous studies, two forms of tests are used to examine the market of efficiency,

strong-form and semi-strong form (Finnerty, 1976; Wong, 2002). Strong-form market efficiency tests whether inside traders earn abnormal profits from the information not publicly available. Semi-strong form market efficiency tests whether non-insiders earn abnormal profits from the information publicly available. Wong, Cheung, and Wu (2000) tested the market efficiency of the Hong Kong stock market and report the market is not efficient in the strong form for small sized firms, but is efficient in both strong and semi-strong form for medium and large size firms.

Based on Finnerty (1976), Wong et al. (2000) and Wong (2002), if there is an information leakage for the announcement, which will cause an abnormal price and volume movement in the pre-event period, and insiders could earn abnormal profits from the insider trading activities, then the market is not efficient in the strong-form. If non-insiders could not earn abnormal profit during the event period, the market is efficient in the semi-strong form.

Research Question Two examines whether the bank is still “special” in the financial market. This includes testing the uniqueness of banks in financial markets by comparing the abnormal returns between bank loan announcements and non-bank loan announcements, where non-bank loans include loans from financial institutions. Most previous studies suggested that banks deliver “special” monitoring services which are not available from non-bank intermediaries. The general results suggested that banks can access private information about the borrower not available to other

market participants which enhance banks' screening and monitoring ability as unique. On the other hand, Fields et al. (2006) reported that the reaction to bank loan announcements on average has diminished to the point of insignificance following the period tested by James (1987), and the authors' results are consistent with the structural changes in the financial markets, which should reduce the value conveyed by bank loans.

Therefore, based on previous studies, the role of a bank is tested by comparing the abnormal returns between bank loan announcements and non-bank loan announcements. If the abnormal return for bank loan announcements is relatively more significant than the abnormal returns for non-bank loan announcements, it indicates that a bank plays a "unique" role in the financial market.

Research Question Three examines how factors, such as loan syndication, loan purpose, loan maturity, debt ratio, firm size, and borrower's industry type influence the market response to bank loan announcements. Previous studies suggested that borrower and loan characteristics can influence the market response to bank loan announcement (see James, 1987; Lummer and McConnell, 1989; Mikkelsen and Partch, 1986; Slovin et al., 1992; and Aintablian and Roberts, 2000). In order to investigate the market response to bank loan announcements, further tests based on different borrower and loan characteristics is evaluated. This is achieved by comparing the abnormal returns among different sub-groups for each factor. Any sub-

groups with significant abnormal returns will indicate the importance of the factors that influence the market response to bank loan announcements.

3.2 Sample Data

The sample of loan announcements is obtained from the Hong Kong Stock Exchange Database. The database provides comprehensive announcements of all listed companies on the Hong Kong Stock Exchange. Besides the full text of the loan announcement, the Hong Kong Stock Exchange Database also provides the exact announcement date and time. This information provides a precise assessment of the announcement date. Market data used in this study are collected from the Data Stream Database.

Following the method employed by Billett et al. (1995), key words such as “credit agreement”, “credit extension”, “credit facility”, “credit line”, “new loan”, “bank loan”, and “term loan” are used to search the loan announcement for the period from 2002 to 2007. Initially a total of 606 announcements are obtained. According to Boscaljon and Ho (2005), any announcement which contains “contaminated information,” such as information on dividends, earnings, stock issues, debt issues, divestitures, bankruptcy filings, management changes, joint ventures, stock repurchases, and asset sales are deleted from the initial sample. Further deletion is applied if the borrower is no longer a listed company in the Hong Kong Stock Exchange in 2008, or the announcement is announced by the parent company for the

indirect/direct wholly/non-wholly owned subsidiaries. Another 24 observations are eliminated due to the incomplete daily stock return data from DataStream, and 14 more are deleted since the lenders are bank and non-bank with mixed loans. Therefore, the initial sample of 606 observations is reduced to 85 uncontaminated announcements, consisting 63 bank loan announcements and 17 non-bank loan announcements. Similar to the study by Aintablian and Roberts (2000) in the Canadian market and Boscaljon and Ho (2005) in the Hong Kong market, our sample size is much smaller than the earlier U.S. studies. This is due to the shorter time period, data availability, and the relatively smaller financial market capitalization.

Based on Lummer and McConnell's (1989) study, loans are classified into new loans and renewal loans. Renewal loans are further divided into favourable renewals and unfavorable renewals based on the context of each announcement. Loan agreements are classified as new loans if it indicates it is new or does not indicate it is renewal. Due to the short period of the study, only 11 renewal loan announcements are obtained, including 1 bank loan favourable renewal, 1 bank loan unfavourable renewal, and 9 favourable renewals for loans from non-bank financial institutions. The small number of renewal loan announcements observed in this research limited the further comparison between new loan and loan renewal. Moreover, further tests are generated based on the favourable loan announcements.

Various proxies have been used for firm size in pervious researches. For example, market capitalization is the most commonly used proxy for firm size, which is obtained by multiplying the share price by the number of outstanding shares of the firm (see Fama, 1985; Slovin et al., 1992; Armitage, 1995a; Boscaljon and Ho, 2005). Brumm (1996), however, adopted total assets as a proxy for firm size. The author explained that the market value of common stock is based on the discounted value of expected dividends throughout the life of the firm. Therefore, market expectations of the firms' future growth are used in the proxies of market capitalization. Since share price is already included as an independent variable in the research, and to avoid redundancy of independent variables caused by the market expectation factor, Brumm (1996) obtained total asset as the proxy for firm size. For this study, both proxies (market capitalization and total assets) for firm size are obtained.

Following Slovin et al.'s (1992) study, firm size is classified by using the median market value/total assets of all listed firms in the Hong Kong Stock Exchange in that relevant year. The total sample is then divided into small and large groups. Firms are defined as small if the market value/total assets is less than the median market value/total assets or large if greater than the median value. Under this classification, 48 firms are grouped as large firms and 14 are grouped as small firms by market capitalization; 50 firms are grouped as large firms and 12 are grouped as small firms by total assets.

Based on the information content of the announcement, 43 loans are classified as syndicated loans and 19 are considered as non-syndicated. However, the number of lenders for syndicated loans is not observable.

Following James (1987) and Aintablian and Roberts (2000), loan size is adjusted into relative loan size by using the dollar value of loan size divided by total assets of the firm. Loan amount valued as foreign currency are converted into Hong Kong dollars at the exchange rate of that specific day of signing the loan contract. The exchange rate is obtained from the historical exchange rates in OANDA forex trading and currency information database, which is one of the world's largest historical high frequency, filtered currency databases.

Following the small sample and large number of mixed purpose loans, loan purposes are classified into four groups: "general purpose", "refinancing and capital expenditure mixed purpose", "no purpose stated", and "other purpose". Under this classification, 8 announcements are defined as general purposes, 24 as refinancing and capital expenditure mixed purpose loan announcements, 20 as no specific purpose, and 10 of the announcements are for other purposes.

Based on Bhushan's (1989) study, a firm's industry type is an important firm characteristics and Brumm (1996) reported that industry type of borrowing firm could influence the market response to bank loan announcements. Industry types of sample

firms were collected from the PREFACE database. Firms' industry types that were not included in the PREFACE database are further obtained from the Hong Kong Stock Exchange website. Industry types include finance company, utilities, property, consolidated enterprises, industrial, hotel, and others. Industry groups are further classified into property, consolidated enterprise, industrial, and others.

Following the methodology of Ongena and Roscovan (2009), the debt ratio is obtained by using total debt divided by total assets of the borrower. The data for total debt and total assets are collected from the DataStream Database.

Loan maturity data is collected from the content of each announcement. Most of the bank loans are short term loans between 1 to 5 years. Based on the data collected, the total sample is grouped into 3 categories: less than 3 years, 3 years, and longer than 3 years.

Daily return data and daily share prices are obtained from DataStream Database, as well as the information for total assets, market value, and total debt of the borrowing firms. Data for daily market return is obtained from the DataStream Database and the proxy for the market from the DataStream value-weighted market portfolio.

Brown and Warner (1985) suggested that an equally-weighted market index could detect the abnormal performance better than the value-weighted market index.

Krueger and Johnson (1991) tested the abnormal performance for market efficiency by using both equally-weighted and value-weighted market index. The results were similar and the authors suggested the difference for the results between equally-weighted and value-weighted market index are generally robust to market surrogate selection.

3.3 Event Study

This study employs the standard event study methodology used by Mikkelson and Partch (1986), James (1987), Lummer and McConnell (1989), and Preece and Mullineaux (1996). Based on James (1987), Armitage (1995a), and Boscaljon and Ho's (2005) studies, our estimation period is 120 days starting from 130 days prior to the announcement date and ending at 10 days before the announcement date (as shown by period T_0 , T_1 in Figure 3.3.1 below). The two-day event window is employed from -1 day to the announcement date (T_1, T). The market model of event study methodology is used to test the abnormal returns from the bank loan announcements.

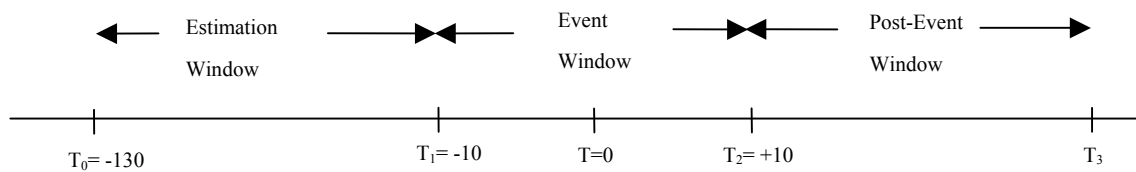


Figure 3.3.1: Event Study Timeline for loan announcement

If there is a favourable market response to the loan announcement, a positive abnormal return is expected for the borrower's stock. Abnormal return is defined as the difference between the actual return during the event window and the expected normal return (the return expected if the event did not take place) estimated over the estimation period. The expected normal return is generated by the market model of event study.

3.3.1 Estimation period

Peterson (1989) used daily returns to estimate the event study which varies from 100 to 300 days. The longer estimation period would lead to a more precise estimation for α and β . However, α and β will also become "out of date" due to the longer estimation period. Armitage (1995b) suggested an estimation period of around 100 days is usually appropriate.

Brown and Warner (1985) compared the event study using monthly stock returns and daily stock returns. The authors concluded that using daily stock return data reinforces the results of using monthly stock return data.

Based on the Brown and Warner (1985), James (1987), Armitage (1995a), and Boscaljon and Ho (2005), the daily return data is calculated for 151 trading days in this study. The estimation period is from -130 trading days to -10 trading days prior to the announcement date ($T=0$).

3.3.2 Event period

The event period in this study is 21 days, which includes 10 trading days (-10) prior to the announcement date ($t=0$) to detect any information leakage and 10 trading days (+10) after the announcement to test the price adjustment.

Most of the U.S. studies tested the period from -1 to 0, 0 or from 0 to +1 as the event window. Mikkelson and Partch (1986), James (1987), and Lummer and McConnell (1989) used the day the announcement appears in the Wall Street Journal as the event date. They assumed the announcements are made during trading hours of the previous day and reported with one-day lag. Based on this methodology, the event window they chose is days (-1,0). Following the previous studies, our event window is defined as (-1,0) to detect the market response to bank loan announcement.

On the other hand, there is a possibility of information leakage before the announcement is made. For example, James (1987) and Armitage (1995a) both considered the information leakage problem in the process of market response to bank loan announcements in the U.S. market and use a 41-trading-days event period in their research. Armitage (1995a) tested this problem by calculating cumulative average standardized abnormal returns for the period of -11 to -2. However, their results are not significant, which indicate there is little or no leakage of loan information.

Wong et al. (2000) investigated the abnormal returns associated with insider trading from 1991 to 1993 in the Hong Kong Stock market. The authors reported that the abnormal profits associated with insider trading are concentrated on small firms, and insiders for medium-sized and large firms do not earn abnormal profits. The results indicated that the Hong Kong Stock market of medium and large size firms is efficient in both strong and semi-strong form of market efficiency, and the market for small firms is only efficient in semi-strong form of market efficiency.

Wong (2002) also found the insider trading problem in the Hong Kong stock market by testing the abnormal price and volume performances associated with corporate news announcements from 1994 to 2002. The author reported little inside trading activities for Hong Kong and the U.S. stocks in the Hong Kong stock market, but a significant inside trading activities in China-affiliated firms listed in the Hong Kong stock market.

By testing the abnormal returns during the pre-announcement period, this study reveals further evidence on the inside trading activities in the Hong Kong stock market. However, since the data for the historical trading price and volume is not available, the market efficiency could only be tested in the semi-strong form.

Following James (1987) and Armitage (1995a)'s information leakage theory and methodology, according to Research Question One, the cumulative standardized

abnormal returns (CSARs) are calculated for days –10 to –2 to detect any information leakage.

3.3.3 Market model

The event study method has been frequently employed to measure the effects of economic events (such as mergers and acquisitions, earning announcements, and issue of new debts) on the value of firms (MacKinlay, 1997). The market model is one of the frequent models used in the event study. It specifies a linear ex-ante relation between the return of the firm and the return of the market portfolio. Based on Sharpe (1964) and Lintner (1965), the market model could eliminate market-wide elements of price changes. Brown and Warner (1985) also stated that “Methodology based on OLS market model and general parametric tests are well-specified under variety of conditions”. (p. 25) Therefore, the market model is used in this research to test the abnormal returns from the bank loan announcements.

The model is given as follows:

$$R_{jt} = \alpha_j + \beta_j R_{mt} + \varepsilon_{jt} \quad (1)$$

Where R_{jt} is the rate of return on security j on day t , α_j and β_j are market model parameters for firm j estimated by OLS regression, R_{mt} is the rate of return on the value-weighted market index on day t and ε_{jt} is the random error term for security j on day t . Based on Fama (1968), Beja (1972), and Fama (1973), the estimation assumes the joint distribution of the returns is stationary throughout time.

The abnormal return for firm j on day t is calculated as follows:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_j R_{mt}) \quad (2)$$

Where AR_{jt} is the abnormal return on security j on day t.

The significance test of abnormal returns is based on standardized abnormal returns (SAR_{jt}). Patell (1976) applied the standardized abnormal returns in his study. This is calculated by dividing the event period residuals by the standard deviation of the estimation period residuals corrected by the prediction error. Armitage (1995b) explained the prediction error could arise in two ways. First, the error could arise from the difference between the true regression line and the estimated regression line. Second, the errors could also arise from the difference between the true returns and the expected returns. The author suggested that standardized tests could be an accurate estimator of the standard deviation of abnormal returns. The condition of the standardized tests is that there are no cross-sectional correlations between the observations' returns.

Standardized abnormal return is calculated as follows:

$$SAR_{jt} = \frac{AR_{jt}}{S_{jt}} \quad (3)$$

Where S_{jt} is the standard error of the abnormal returns based on the prediction error adjustment.

S_{jt} is calculated as follows:

$$S_{jt} = \sqrt{V_j^2 C_{jt}} \quad (4)$$

Where V_j^2 is residual variance of firm j 's market model regression, C_{jt} is the increase in variance due to prediction outside the estimation period.

C_{jt} is calculated as follows:

$$C_{jt} = \sqrt{\left(1 + \frac{1}{T} + \frac{(R_{mt} - \overline{R_m})^2}{\sum_{i=1}^T (R_{mi} - \overline{R_m})^2}\right)} \quad (5)$$

$\overline{R_m}$ is the mean market return over the estimation period, R_{mt} is the market return during the event period, R_{mi} is the market return during the estimation period, and T is the number of days in the estimation period for firm j . T could be different among different firms.

Abnormal returns are aggregated to obtain the general market response to bank loan announcements. Abnormal returns are summed (cumulative abnormal returns) for multiple event windows to test the market efficiency, and cross securities by different groups for day (-1,0) to test the factors that could influence the market response to loan announcements. During the aggregation process, it is assumed that there is no clustering or overlapping in the event windows of the included securities. The absence of clustering or overlapping shows that the abnormal returns or the cumulative abnormal returns will be independent across securities.

The average standardized abnormal return for the portfolio is calculated as follows:

$$ASAR = \frac{1}{N} \sum_{j=1}^1 SAR_{jt} \quad (6)$$

Where N is the number of loan announcements.

ASAR for firm j on $t_1=-1$ and $t_2=0$ are summed to generate the two-day cumulative average standardized abnormal returns (CASAR) and is defined as follows:

$$CASAR_{(t_1,t_2)} = \sum_{t_1}^{t_2} ASAR_t \quad (7)$$

By assuming that individual abnormal returns are cross-sectionally independent and normally distributed, t-statistic could be tested as follows:

$$T = \sqrt{N} CASAR_t \quad (8)$$

3.4 Test of Hypotheses

Under the null hypothesis of no announcement effect, the average standardized two-day abnormal return ($ASAR_{-1,0}$) of N loan announcements is distributed $N(0, 1/\sqrt{N})$.

Ho : $CASAR_t = 0$

The sign of the $CASAR_t$ will indicate whether the abnormal return is positive or negative. The full sample is classified into sub-groups by lender identity, syndication, loan purpose, borrower's industry type, firm size, loan size, loan maturity, and debt ratio to further investigate the factors that could influence the market response to bank loan announcements.

To answer Research Question One, $CASAR_t$ for the full sample will be tested. To answer Research Question Two, $CASAR_t$ will be tested for bank loan and non-bank loan announcements respectively, using the calculated t-statistics. Similarly, $CASAR_t$ will be calculated and compared with the t-value for each subgroup (loan syndication, loan purpose, borrower's industry type, borrower's firm size, loan size, loan maturity, and debt ratio) based on the sample of bank loan announcements.

3.5 Comprehensive Tests

Based on James (1987), Slovin et al. (1992), and Boscaljo and Ho (2005), multivariate regression analysis for the bank loan announcements is employed with standardized abnormal returns (SAR) as the dependent variable. The multivariate analysis tests the relative explanatory power of each variable that may influence the market response to bank loan announcements. Potential interdependencies between the major variables could also be tested. In addition, the small sample sizes problem can be avoided by employing dummy variables.

$$\begin{aligned}
 SAR_j = & \gamma_0 + \gamma_1(Syn) + \gamma_2(RLoanSize) + \gamma_3(LoanPur_r) + \gamma_4(LoanPur_n) + \gamma_5(LoanPur_o) \\
 & + \gamma_6(LoanM) + \gamma_7(DebtR) + \gamma_8(FirmS) + \gamma_9(Industry_e) + \gamma_{10}(Industry_i) + \gamma_{11}(Industry_p) + \varepsilon_j
 \end{aligned}$$

(9)

Where SAR_j is the standardized abnormal return of firm j, Syn is the loan syndication, $RloanSize$ is the relative loan size which is the loan size divided by the market value of the firm, $LoanPur$ is loan purpose, $LoanM$ is the loan maturity, $DebtR$ is the debt

ratio of the borrower, $FirmS$ is the firm size of the borrower, $Industry$ is the borrower's industry type, and ε_j is the random error term.

Relative loan size, debt ratio, and loan maturity are continuous variables and lender identity, syndication, and firm size are dummy variables. Loan purpose and industry type are categorical variables which are defined as N-1 dummy variables (N = number of the category). $LoanPur_r$ is refinancing and capital expenditure loan purpose, $LoanPur_n$ is no specific purpose and $LoanPur_o$ is other purpose. $Industry_o$ is other types of industry, $Industry_i$ is industrial and $Industry_p$ is property.

3.6 Conclusion

This chapter first discusses the research questions followed by review of relevant literatures. Section two describes the data source that will be used in this study. The empirical equations and statistical test method for the research questions are presented in section three. This includes a discussion of the multiple regression test method.

CHAPTER FOUR

4. EMPIRICAL FINDINGS AND RESULTS DISCUSSION

This chapter reports the results and analyses of the study. Section 4.1 presents the results of the sample selection. Section 4.2 describes the characteristics of the sample firms including descriptive statistics. Following this, Section 4.3 discusses the market response to loan announcements, and the results of the research questions are discussed in Section 4.4 to 4.9. Section 4.10 summarizes the main findings of the study.

4.1 Sample Selection Results

A total of 606 loan announcements are initially obtained from the Hong Kong Stock Exchange Database from 2002 to 2007. After the elimination for the contaminated and redundant observations, a total of 80 loan announcements are obtained, consisting of 63 bank loan announcements and 17 non-bank loan announcements. Table 4.1 presents the distribution of announcements by lender identity from 2002 to 2007. As shown in Table 4.1, the number of bank loans announced is significantly larger than the number of non-bank loans announced. The number of bank loan announcements has increased significantly since 2005. The number of non-bank loan announcements remained stable from 2002 to 2005 and increased dramatically from 2006.

4.2 Descriptive Statistics

Table 4.2 presents the descriptive statistics for bank and non-bank loan announcements. Panel A contains the descriptive statistics for the full sample and Panel B presents the descriptive statistics for the sample of bank loan announcement disaggregated by lender identity, firm size and loan syndication.

Table 4.1:

Number of Loan announcement from 2002 to 2007 in Hong Kong Stock Market

	Bank loan announcement	Non-bank loan announcement
2002	2	0
2003	11	2
2004	7	2
2005	15	2
2006	15	6
2007	12	5
Total	62	17

In Panel A, the standard deviation for total assets is extremely high, which indicates the firm size varies widely among the full sample. The standard deviations for loan size and total debt category are also very high, 2.968 and 6.188 respectively. However, the standard deviation for the relative values for both loan size and total debt are quite low. This would indicate larger size loans and higher total debt are mostly with firms with larger total assets.

In Panel B, the numbers show that bank loans have relatively larger size than non-bank loans and borrowers for non-bank loans are more likely to have a higher debt ratio. The mean debt ratio for the borrowers with bank loans is 0.26 with a standard

deviation of 0.142 compared to the mean debt ratio for the borrowers with non- bank loans of 0.398 and a standard deviation of 0.246.

According to firm size, the relatively higher standard deviation indicates that firm size varies more widely for non-bank loan borrowers. The mean firm size for bank loan borrowers and non-bank loan borrowers are 8.44 billion and 10.87 billion respectively.

The results for firm size category in Panel C show that larger firms are involved in larger loans on average. The mean loan size for larger firms is 1.38 billion and 0.15 billion for small firms. The numbers also indicate the larger firms have higher debt (mean value of 2.543 for larger firms and 0.191 for smaller firms). However, when we look at the relative loan size and debt ratio, firms in different size groups are quite similar.

For the loan syndication category in Panel D, it is surprising to find that non-syndicated bank loans are large loans. This could be explained by the relatively higher standard deviation and wide range of the loan size among non-syndicated bank loans. In addition, syndicated bank loans have relatively higher total debt than non-syndicated bank loans. Firm size for syndicated bank loans is also relatively larger than for non-syndicated bank loans. By examining the debt ratio, the number is still higher for syndicated bank loans, whereas, relative loan size is quite similar for both types of loans.

Table 4.2: Descriptive Statistics

Descriptive Statistics for Loan Size, Firm Total Assets, Firm Total Debt, Firm Debt Ratio and Relative Loan Size for the Full Sample and Samples Disaggregated according to Lender identity, Firm Size and Loan Syndication

Panel A: Descriptive Data for the Full Sample

	N	Mean	S.d.	Range
<i>Loan Size (HK\$ Billion)</i>	80	1.0399	2.9683	0.0045 ~ 25.4745
<i>Total debt (HK\$ Billion)</i>	80	2.4405	6.1884	0 ~ 50.0632
<i>Total Asset (HK\$ Billion)</i>	80	8.9593	18.7607	0.0081 ~ 139.8190
<i>Debt ratio</i>	80	0.2891	0.1774	0 ~ 0.9603
<i>relative loan size</i>	80	0.1777	0.1321	0.0024 ~ 0.5541

Panel B: Non-Bank Loan vs Bank Loan

	Non-Bank Loan				Bank Loan			
	N	Mean	S.d.	Range	N	Mean	S.d.	Range
<i>Loan Size (HK\$ Billion)</i>	17	0.6608	1.3667	0.0045 ~ 5.4270	63	1.1422	3.2689	0.0094 ~ 25.4745
<i>Total debt (HK\$ Billion)</i>	17	3.7220	12.0918	0.0040 ~ 50.0632	63	2.0947	3.2393	0.000 ~ 12.6450
<i>Total asset (HK\$ Billion)</i>	17	10.8746	33.8461	0.0081 ~ 139.8190	63	8.4424	12.3111	0.2283 ~ 50.4393
<i>Debt Ratio</i>	17	0.3984	0.2464	0.0372 ~ 0.9603	63	0.2596	0.1423	0.000 ~ 0.5905
<i>Relative loan size</i>	17	0.2015	0.1461	0.0388 ~ 0.5541	63	0.1712	0.1285	0.0024 ~ 0.5513

Panel C: Large Firms vs Small Firms

	Large Firms				Small Firms			
	N	Mean	S.d.	Range	N	Mean	S.d.	Range
<i>Loan Size (HK\$ Billion)</i>	51	1.3839	3.5993	0.0094 ~ 25.4745	12	0.1539	0.0773	0.06 ~ 0.3
<i>Total debt (HK\$ Billion)</i>	51	2.543	3.454	0.000 ~ 12.645	12	0.191	0.146	0.039 ~ 0.472
<i>Total Asset (HK\$ Billion)</i>	51	10.280	13.032	0.667 ~ 50.439	12	0.632	0.243	0.228 ~ 1.020
<i>Debt ratio</i>	51	0.255	0.143	0.000 ~ 0.590	12	0.277	0.145	0.085 ~ 0.474
<i>Relative loan size</i>	51	0.152	0.118	0.002 ~ 0.510	12	0.264	0.135	0.077 ~ 0.551

Panel D: Syndicated Bank Loan vs Non-Syndicated Bank Loan

	Syndicated Bank Loan				Non-Syndicated Bank Loan			
	N	Mean	S.d.	Range	N	Mean	S.d.	Range
<i>Loan Size (HK\$ Billion)</i>	43	0.972	1.127	0.006 ~ 4.113	20	1.531	5.643	0.009 ~ 25.475
<i>Total debt (HK\$ Billion)</i>	43	2.421	3.344	0.039 ~ 12.645	20	1.394	2.961	0.000 ~ 12.304
<i>Total Asset (HK\$ Billion)</i>	43	8.999	12.096	0.389 ~ 42.473	20	7.245	12.998	0.228 ~ 50.439
<i>Debt ratio</i>	43	0.297	0.139	0.015 ~ 0.590	20	0.180	0.117	0.000 ~ 0.426
<i>Relative loan size</i>	43	0.181	0.117	0.004 ~ 0.510	20	0.156	0.150	0.002 ~ 0.551

4.3 Market Response to Bank Loan Announcement

The SARs are calculated each day during the event period across the 79 firms. Table 4.3 shows the AARs, ASARs, CASARs results and the relevant t-values. Relevant graphs refer to table 4.3.1, 4.3.2 and 4.3.3 are presented in Appendix 2, 3 and 4.

Based on the daily ASAR in Table 4.3.1, ASAR is statistically insignificant during the pre-announcement period for the full sample. However, ASAR is significantly positive on day -1, and CASAR is significantly positive on days -1 to 0.

Results shown in Table 4.3.2 describes the ASARs, CASARs and the relevant t-values for bank loan announcements. Similar to the results for the full sample, ASARs are not statistically significant during the pre-announcement period, but ASAR is statistically significant at the 0.1 level of significance on day -1 with a t-value of 1.50,

The results for the sample group of non-bank loan announcements are somewhat different. As shown in Table 4.3.3, day -8 shows significant positive ASARs during the pre-announcement period, which indicates a possibility of information leakage (Armitage, 1995a). Further tests on this problem will be discussed in the following section.

Similar to the result for the full sample and bank loan announcements, a significant positive ASAR is shown on day -1 for non-bank loan announcements. These results indicate the market reacts to loan announcements favourably, and the response takes place on day -1. A strong evidence for information leakage for non-bank loan announcement is found due to the significant ASARs occurred during the pre-announcement period.

Table 4.3.1**AARs, ASARs, CASARs, and the T-Stats for Full Sample****From Day -10 to Day+10**

Event Day T	AAR (%)	ASAR	T TEST(ASAR)	CASAR	T TEST (CASAR)
T = -10	0.27	0.0023	0.0207	0.0023	0.0207
T = -9	-0.21	-0.0303	-0.2694	-0.0280	-0.2487
T = -8	-0.15	0.1439	1.2792	0.1159	1.0304
T = -7	0.34	0.0041	0.0361	0.1200	1.0665
T = -6	0.14	-0.0227	-0.2020	0.0973	0.8645
T = -5	0.03	0.0293	0.2607	0.1266	1.1251
T = -4	0.04	0.0299	0.2662	0.1565	1.3913*
T = -3	-0.63	-0.0852	-0.7573	0.0713	0.6340
T = -2	0.53	0.0280	0.2487	0.0993	0.8827
T = -1	0.63	0.2415	2.1464**	0.3408	3.0292***
T = 0	0.53	-0.0016	-0.0144	0.3392	3.0148***
T = 1	-0.52	-0.1300	-1.1558	0.2092	1.8590*
T = 2	-0.13	-0.0677	-0.6015	0.1415	1.2575
T = 3	-0.25	-0.0492	-0.4373	0.0923	0.8202
T = 4	0.07	0.1044	0.9283	0.1967	1.7485**
T = 5	-0.59	-0.0652	-0.5798	0.1315	1.1687
T = 6	0.14	0.0184	0.1640	0.1499	1.3327*
T = 7	-0.32	-0.1906	-1.6942**	-0.0407	-0.3615
T = 8	0.61	0.1309	1.1637	0.0903	0.8022
T = 9	-0.35	-0.0363	-0.3228	0.0539	0.4795
T = 10	0.10	-0.0115	-0.1022	0.0425	0.3773

AAR: Abnormal Average Return

ASAR: Average Standardized Abnormal Return

CASAR: Cumulative Average Standardized Abnormal Return

* Significant at 10% level

** Significant at 5% level

*** Significant at 1% level

Table 4.3.2**AARs, ASARs, CASARs, and the T-Stats for Bank Loan Announcement****From Day -10 to Day+10**

Event Day T	AAR (%)	ASAR	CASAR	T TEST (ASAR)
T = -10	-0.08	-0.0609	-0.0609	-0.4793
T = -9	-0.28	-0.0261	-0.0870	-0.2057
T = -8	-0.41	0.0905	0.0035	0.7127
T = -7	0.19	-0.0833	-0.0798	-0.6559
T = -6	0.28	0.0072	-0.0726	0.0567
T = -5	0.14	0.0995	0.0269	0.7831
T = -4	0.07	0.0503	0.0772	0.3961
T = -3	-0.82	-0.1188	-0.0417	-0.9358
T = -2	0.24	0.0014	-0.0403	0.0109
T = -1	0.40	0.1911	0.1508	1.5047*
T = 0	0.58	0.0684	0.2192	0.5384
T = 1	-0.26	-0.0827	0.1365	-0.6510
T = 2	-0.08	-0.0854	0.0511	-0.6724
T = 3	-0.71	-0.1758	-0.1247	-1.3844*
T = 4	-0.27	0.0756	-0.0491	0.5956
T = 5	-0.80	-0.1012	-0.1503	-0.7968
T = 6	-0.15	-0.0421	-0.1924	-0.3318
T = 7	-0.27	-0.2496	-0.4420	-1.9656**
T = 8	0.67	0.1479	-0.2941	1.1645
T = 9	-0.58	-0.0813	-0.3754	-0.6398
T = 10	0.05	-0.0187	-0.3941	-0.1475

Table 4.3.3**AARs, ASARs, CASARs, and the T-Stats for Non-Bank Loan Announcement****From Day -10 to Day+10**

Event Day T	AAR (%)	ASAR	CASAR	T TEST(ASAR)
T = -10	1.53	0.2328	0.2328	0.9598
T = -9	0.05	-0.0456	0.1872	-0.1878
T = -8	0.82	0.3387	0.5259	1.3964*
T = -7	0.89	0.3226	0.8485	1.3303
T = -6	-0.38	-0.1319	0.7166	-0.5438
T = -5	-0.39	-0.2264	0.4902	-0.9335
T = -4	-0.05	-0.0443	0.4459	-0.1826
T = -3	0.07	0.0375	0.4834	0.1546
T = -2	1.58	0.1250	0.6084	0.5153
T = -1	1.49	0.4253	1.0337	1.7536**
T = 0	0.37	-0.2569	0.7768	-1.0592
T = 1	-1.49	-0.3028	0.4741	-1.2484
T = 2	-0.30	-0.0030	0.4710	-0.0125
T = 3	1.41	0.4126	0.8836	1.7012*
T = 4	1.33	0.2095	1.0931	0.8636
T = 5	0.17	0.0659	1.1590	0.2719
T = 6	1.22	0.2394	1.3984	0.9871
T = 7	-0.49	0.0247	1.4231	0.1016
T = 8	0.38	0.0691	1.4921	0.2847
T = 9	0.47	0.1276	1.6198	0.5261
T = 10	0.28	0.0149	1.6347	0.0616

4.4 Market Efficiency: Hong Kong Stock Market

Table 4.3.1 shows no significant abnormal return appeared during the pre-announcement for the full sample. This indicates that there is no evidence of an information leakage problem. Abnormal return occurs on the day -1 of 6.3% with a t-value of 2.14, and statistically significant at the 0.05 level of significance.

As in Table 4.3.2, the sample of bank loan announcements shows similar results to the full sample. There is no significant excess return during the pre-announcement period, which suggests no evidence of an information leakage problem for bank loan announcements. Abnormal return occurs on day -1 of 4% with a t-value of 1.5, and statistically significant at the 0.1 level of significance.

In terms of non-bank loan announcements, significant abnormal returns are found during the pre-announcement period. This indicates a strong evidence that an information leakage problem exists for non-bank loan announcements.

Table 4.4 reports the CASAR for the following event period days: -1 to 0 and -10 to -2 for the full sample, bank loan announcements and non-bank loan announcements. According to Table 4.4 Panel A, CASAR for the period -10 to -2 is not significant for the full sample and bank loan announcements. However, non-bank loan announcements with a value of 2.51 is significant at the 0.05 level of significance.

For the period -1 to 0 , both full sample and bank loan announcements have significant CASARs. The result for non-bank loan announcement is not statistically significant as shown in Table 4.4 Panel B.

Table 4.4**Panel A: CAARs, CASARs and the T-Stats for Event Days -10 to Day -2**

	CAAR (-10,-2) (%)	CASAR(-10,-2)	t Statistics
Full Sample	0.36	0.0993	0.88
Bank Loan	-0.68	-0.0403	-0.32
Non-Bank Loan	4.14	0.6084	2.51**

Panel B: CAARs, CASARs and the T-Stats for Event Days -1 to Day 0

	CAAR (-1, 0) (%)	CASAR(-1,0)	t Statistics
Full Sample	1.16	0.2399	2.14**
Bank Loan	0.97	0.2595	2.04**
Non-Bank Loan	0.18	0.1684	0.69

CAAR: Cumulative Average Abnormal Return

CASAR: Cumulative Average Standardized Abnormal Return

* Significant at 10% level

** Significant at 5% level

*** Significant at 1% level

Two forms of method are available for testing the efficiency of the market, strong form and semi-strong form. The strong form efficiency tests whether insiders could earn abnormal profits by using non-publicly available information and the semi-strong form efficiency test whether non-insiders could earn abnormal profit from the information publicly available (Wong, 2002). Based on Wong (2002) and Wong et al. (2000) studies and since the data for stock trade volume is not available in our study, we apply only the semi-strong efficiency test in our research.

As shown in Table 4.4 Panel A, for the share price movement before the announcement date, the excess abnormal returns for the period (-10,-2) is significant for non-bank loan announcements. Armitage (1995a) discussed the information leakage problem when testing the market response to bank loan announcements in the U.K. market. The author suggested if there is any information leakage, abnormal return should appear in the pre-announcement period. Based on Armitage's (1995a)

study, the significant abnormal returns in the period of (-10,-2) suggested a strong information leakage problem about the non-bank loan announcement. In terms of bank loan announcements, the CASAR is not statistically significant in the pre-announcement period, which does not indicate any information leakage problem.

Wong et al. (2000) also reported significant insider trading activities for the firms in Hong Kong stock market. The authors reported an average cumulative abnormal return of 1.85% for the period -5 to -1. In addition, Wong (2002) examined the efficiency of the Hong Kong stock market and reported strong insider-trading activities among the listed firms. The author reported that the price increases significantly around day -10 and reach almost 10% at the announcement date.

In general, there is a significant abnormal return for the period (-1, 0), and weak evidence of abnormal price movement for the period +1 to +10 for bank loan announcement. Moreover, the results did not indicate any information leakage problem for bank loan announcements. Therefore, we can conclude the market is efficient in both strong form and semi-strong form for bank loan announcements. In addition, there is also strong evidence of insider activities prior to the event date for non-bank loan announcements.

The strong form market efficiency cannot be tested because of lack of data. Furthermore, insiders who earn abnormal profits cannot be examined either. Thus, regulation on insider trading in the Hong Kong stock market for non-bank loans is necessary and could reduce the “dishonest” trading based on the non-public information.

4.5 Bank Loan V.S. Non-Bank Loan

Table 4.5 shows the results of the stock price response to loan announcements for the full sample. The average excess return for all bank loans is 0.9% and is statistically significant at the 0.05 level of significance. In addition, based on the 62 observations (one unfavourable bank loan announcement is excluded), 50% of the excess returns are positive. The average excess return for non-bank loan announcements is 1.86%, which is not statistically significant.

Consistent with Fama's (1985) inside debt argument, average excess return for bank loans is significantly positive. Fama (1985) suggested that a bank has a comparative advantage in gathering information and monitoring debt contracts compared with other financial institutions. Thus bank loan announcements should convey valuable information to the market and the market should react favourably to bank loan announcements.

Based on Fama's insider debt argument, both bank loans and non-bank loans are inside debt, and the market should react to both types of loans significantly positive. Inconsistent with Fama's inside debt argument, Mikkelson and Partch (1986) and James (1987) reported insignificant excess return to non-bank loan announcements. The authors suggested that the inside debt argument could not completely explain the market reaction to loan announcements. Consistent with Mikkelson and Partch (1986) and James (1987), average excess return for non-bank loans is found insignificant in this study. The results further confirm the unique role of banks in financial markets.

In general, the Hong Kong stock market reacts positively to bank loan announcements, but the excess return for non-bank loan announcements is insignificant, which confirms the “special” role of banks in the Hong Kong financial market.

4.6 Loan Characteristics

Panel B in Table 4.5 shows the results for two-day CASAR and AR for the sample divided by loan characteristics based on the sample of favourable bank loan announcements.

4.6.1 Loan syndication

Preece and Mullineaux (1996) investigated the impact of loan syndication on the market response to loan announcements and reported a negative relationship between the loan syndication and the market abnormal returns. Preece and Mullineaux (1996) explained that as the number of lenders increases, syndication contracting cost will increase since the value of capacity to renegotiate declines, and therefore, a non-syndicated loan is associated with positive excess returns.

Rajan (1992) and Houston and James (1996) on the other hand reported a positive relationship between loan syndication and abnormal return. They both explained that single lender may cause information monopoly which may lead to hold-out problems. Multiple lenders could reduce hold-out problems and enhance contractual flexibility. Recent research from Le (2007) examined the impact of syndicated loan announcements on the share price of the borrowing firms in the U.S. market, and reported that syndicated loans elicit positive market reaction.

Our result is consistent with the finding from Rajan (1992), Houston and James (1996), and Le (2007). A significant positive abnormal return of 1.24% is found for syndicated loan with a t-value of 2.47 and statistically significant at the 0.01 level of significance. The abnormal return for non-syndicated bank loan is 0.37% and is not statistically significant. The results indicate that Hong Kong stock market reacts positively to syndicated bank loans.

4.6.2 Loan size

Slovin et al. (1992) examined the loan size effect to the market response to bank loan announcements, but their result is insignificant. Aintablian and Roberts (2000) also tested the loan size factor and found a negative relationship between the loan size and the abnormal returns.

Our research result is consistent with Aintablian and Roberts's (2000) findings. The two-day excess return for large size loan is 1.4% with a t-value of 0.699, but not statistically significant. For small size loan, the abnormal return is 0.7% with a t-value of 1.99, and is statistically significant at the 0.05 level of significance.

Based on Cukur, Eryigit, and Duran's (2008) study, the negative relationship in our result might be because of the risk consideration. As the loan size increases, there is a higher risk involved and the market reacts negatively. Therefore, consistent with the findings of Aintablian and Roberts (2000) and Cukur et al. (2008), our result indicates that small size loan is associated with more significant abnormal returns, and there is a negative relationship between loan size and market excess returns to bank loan announcements.

Table 4.5
Cumulative Average Standardized Abnormal Return (CASAR)
for Event Day -1 to 0

Categories	N	CAAR (%)	CASAR	T-Statistics	Percent positive AR	Percent positive SAR
Panel A: Full Sample disaggregated by Lender Characteristics						
Bank Loan	62	0.90	0.259	2.043**	50.00%	50.81%
Non-Bank Loan	17	1.86	0.168	0.694	64.17%	59.50%
Panel B: Sample of Bank Loans disaggregated by loan Characteristics						
By Syndication						
Syndicated	43	1.24	0.377	2.473***	55.81%	51.10%
Non-Syndicated	19	0.37	-0.007	-0.029	36.84%	50.00%
By Loan Size (Relative Loan Size)						
Large	20	1.40	0.156	0.699	55.00%	55.00%
Small	42	0.70	0.309	1.999**	47.62%	47.62%
By Loan Purpose						
General	8	0.30	0.065	0.185	37.50%	50.00%
Refinancing and Capital Expenditure	24	1.55	0.291	1.426*	50.00%	50.00%
No Specific Purpose	20	0.70	0.433	1.936**	55.00%	55.00%
Others	10	-1.00	-0.008	-0.026	40.00%	50.00%
By Loan Maturity						
< 3 year	4	2.47	1.032	2.063*	75.00%	62.50%
3 year	18	-0.10	0.063	0.268	50.00%	47.22%
> 3 year	32	1.30	0.198	1.122	43.75%	47.54%
Panel C: Sample of Bank Loans disaggregated by Borrower Characteristics						
By Industry						
Property	7	2.10	0.789	2.086**	42.85%	57.14%
Consolidated Enterprises	14	-0.90	-0.133	-0.497	50.00%	46.43%
Industrial	33	1.50	0.320	1.836**	48.49%	51.52%
Others	8	1.20	0.235	0.665	62.50%	50.00%
By Firm Size (Total Asset)						
Large	50	0.40	0.183	1.291	46.00%	50.00%
Small	12	3.40	0.580	2.009**	66.67%	54.20%
By Firm Size (MV)						
Large	48	0.39	0.204	1.414*	45.83%	48.96%
Small	14	2.99	0.449	1.681*	64.29%	57.14%
By Debt Ratio						
High	28	2.22	0.595	3.148***	60.71%	57.14%
Low	34	-0.05	-0.017	-0.098	41.18%	45.59%

CAAR: Cumulative Average Abnormal Return

CASAR: Cumulative Average Standardized Abnormal Return

* Significant at 10% level

** Significant at 5% level

*** Significant at 1% level

4.6.3 Loan purpose

Based on James (1987) and Slovin et al.'s (1992) study, the loan purpose of the borrower is tested as a factor that may influence the market response to bank loan announcements. Based on James (1987), Slovin et al., (1992), and Boscaljon and Ho's (2005) studies and data availability, loan purpose in our study is divided into general purpose, capital expenditure and refinancing, no specific purpose, and others.

Consistent with Boscaljon and Ho's (2005) findings, the abnormal return for loans with general purpose is not statistically significant. The two-day excess return is 0.3% and t-value is 0.185. The abnormal returns for refinancing and capital expenditure group and no specific purpose are 1.55% and 0.7% with a t-value of 1.43 and 1.94, and statistically significant at the 0.1 level and the 0.05 level of significance respectively. Excess returns for other purpose category is not statistically significant.

4.6.4 Loan maturity

James (1987) concluded that short-term debt is associated with less risk compared to longer term debt, and expect greater excess return for short-term loans during the announcement period. However, James's result for loan maturity hypothesis is insignificant.

James and Wier (1999) found a negative effect on the market reaction for loan maturity. Aintablian and Roberts (2000) also reported a positive effect of shorter maturity loan to the excess returns. Our result is consistent with the loan maturity argument from James (1987), where bank loans with maturity of less than 3 years have a positive abnormal return of 2.47% with a t-value of 2.06, and statistically

significant at the 0.1 level. The abnormal returns of loans with maturity equal and longer than 3 years are not statistically significant, which failed to confirm the negative effect on market react to longer maturity loans (James and Wier, 1999; and Aintablian and Roberts, 2000).

4.7 Borrower Characteristics

Panel C in Table 4.5 shows the CASAR and AR results for the period -1 to 0 with relevant t-values for the sample divided by borrower characteristics based on favourable bank loan announcements.

4.7.1 Industry

Ongena, Smith and Michalsen (1999) suggested industry type could be a factor to influence market response to bank loan announcement. Boscaljon and Ho (2005) grouped industry types as computer, conglomerate, real estate, construction, and chemistry. The authors reported a significant positive abnormal return for computer industry and a significant negative abnormal return for construction industry.

Consistent with Cheuk et al. (2005), following the classification of PACAP database, the types of industry in our study is divided into property, consolidated enterprises, industrial, and others.

Our result shows significant positive abnormal returns in property and industrial groups. The mean excess returns are 2.1% and 1.5% with t-value of 2.086 and 1.836 respectively and are statistically significant at the 0.05 level of significance. The results for consolidated enterprises and others are not statistically significant.

4.7.2 Firm size

With regard to firm size, the two-day excess returns for small and large firms are 2.99% and 0.39% with t-values of 1.29 and 2.01 respectively. The result for small firms is statistically significant at the 0.05 level of significance and only significant at the 0.1 level for large firms (see Table 4.5 Panel C).

Our results are consistent with previous studies. For example, Slovin et al. (1992) concluded that monitoring services associated with the private information structure of bank loans have a greater value for small firms than large firms. Wansley et al. (1992) and Aintablian and Roberts (1999) confirmed that small firms receive more benefit from bank monitoring services. Slovin et al. (1992) explained that small firms have relatively more severe moral hazard and adverse selection problems. Moreover, compared to large firm, small firms have relatively shorter history, less information generated, and poor reputation. Therefore, the authors concluded the screening and monitoring services offered by a bank is more valuable for small firms. Recent research by Andre et al. (2001) also found market response to loan announcements is more significant for small firms than large firms.

Similar test is evaluated under the total asset classification for firm size. Our results are consistent with previous tests (Slovin, Johnson and Glascock, 1992; Wansley, Elayan and Collins, 1992; Aintablian and Roberts, 2000). The two-day excess returns for small firms are 3.4% with a t-value of 2.009 and statistically significant at the 0.05 level of significance. For large firms, the excess returns are 0.4% with a t-value of 1.291 but not statistically significant.

4.7.3 Debt ratio

In terms of debt ratio, the two-day excess returns for high debt ratio are 2.22% with a t-value of 3.15 and statistically significant at the 0.01 level of significance. The abnormal return for low debt ratio is -0.05% with a t-value of -0.098 and not statistically significant.

No previous study has examined the market response to bank loan announcements from the borrower's debt ratio perspective. However, Bhandari (1988) tested the relationship between DE ratio and stock expected returns by combining DE ratio with the CAPM, and reported a coefficient of 0.13% for DE ratio that is significantly positive. Bhandari (1988) explained that as the DE ratio increases, the common equity of the firm also increases, including the risk involved, therefore, a positive relationship is expected between DE ratio and stock expected returns.

Debt ratio measures the leverage of the firm, and the level of leverage is often a measurement for the risk level of the firm. Moreover, the high debt ratio indicates the total debt relative to a firm's assets is high, which means a bigger burden for the firm. In addition, interest payment for the debt would take a bigger amount in firm's cash flows. The firm would also carry more risk for the increase of interest rate. The high debt ratio then could indicate that the firm could take more advantages from the extra risk taken.

On the other hand, a low debt ratio indicates a low degree of leverage. Firm have relatively smaller burden for paying back the debt. However, low debt ratio also indicates that firm has an opportunity to use leverage as a means of responsibly

growing the business that it is not taking advantage of. Therefore, low expected excess return is expected with low debt ratio.

Consistent with the explanation from Bhandari (1988), the two-day excess returns for the higher debt ratio borrower is significantly positive, but for the lower debt ratio borrower is statistically insignificant, which confirms the significant positive relationship between debt ratio and the excess returns to bank loan announcements. Based on the results, the Hong Kong stock market reacts positively to borrowers with higher debt ratio for the bank loan announcement.

4.8 Insider Trading

As discussed in Section 4.5, there is a significant information leakage and inside trading activity before the announcement date for non-bank loan announcements. The excess return for the pre-announcement period (-10,-2) is 4.14% with a t-value of 2.51, and is statistically significant at the 0.05 level of significance (see Table 4.4 Panel A). The excess return from day -10 to day -2 is not statistically significant for bank loan announcements. Therefore, there is no evidence of information leakage problems for bank loan announcements, but strong information leakage and inside trading activity for non-bank loan announcements during the pre-announcement period (see Table 4.4 Panel A).

Wong et al. (2000) and Cheuk et al. (2005) tested the insider trading in the Hong Kong stock market and reported that abnormal price performance associated with insider trading is concentrated on smaller firms. Our result is consistent with Wong et al. (2000) and Cheuk et al.'s (2005) findings. Following Wong et al. (2000) and

Cheuk et al.'s (2005) study, our research sample is divided into two equal parts according to firm size, which is measured by market capitalization and the insider trading period is defined from days -10 to -2. Our result showed the average excess return in period -10 to -2 for small firms is 7.1% with a t-value of 2.66, and statistically significant at the 0.05 level of significance. For large firms, the abnormal return is 0.8% with a t-value of 0.83, and is not statistically significant (see Table 4.6).

Since the separation of management and ownership is rare for small firms, managers or owners are more informed about the business situation of their own firms, and insider trading which involves the director of small firms is most likely to be profitable (Cheuk et al., 2005).

Wong (2002) investigated the insider trading problem in the Hong Kong stock market and concluded very little unusual price and volume behaviour for both Hong Kong and the U.S. stocks. However, Wong's result showed a strong evidence of insider-trading activities among the Red-Chips¹ and H-Share² stocks of the China-affiliated firms listed in the Hong Kong stock market. Our result also confirms the finding from Wong (2002).

The average excess return from day -10 to -2 is 0.3% for China-affiliated firms with a t-value of 2.80, and is statistically significant at the 0.05 level of significance. For non-China-affiliated firms, the average excess return is 2.3% with a t-value of 1.31 and is not statistically significant (see Table 4.6 Panel B).

¹ "Red-Chips are stock of Hong Kong registered and listed firms in which Chinese interests control more than 35% of issued stock." (Wong, 2002; p.9)

² "H-Shares are stocks of Chinese central government-owned firms that remained incorporated in China but obtained permission from the government to list on the Hong Kong Stock Exchange." (Wong, 2002; p.10)

Table 4.6**CAARs, CASARs, and the T-Stats for Event Days -10 to Day -2****For Non-Bank Loan Announcement disaggregated by Firm Size and Firm's Location**

Categories	Number of Observation	CAAR (%)	CASAR	T-Statistics	Percent positive Abnormal Returns
Panel A: Sample disaggregated by firm size					
small firm	9	7.1	0.88	2.66**	77.78%
large firm	8	0.8	0.29	0.83	50.00%
Panel B: Sample disaggregated by firm's location					
non-China-affiliated	13	2.3	0.36	1.31	61.54%
China-affiliated	4	0.3	1.40	2.80**	75.00%

CAAR: Cumulative Average Abnormal Return

CASAR: Cumulative Average Standardized Abnormal Return

** Significant at 5% level

*** Significant at 1% level

Based on Wong (2002), severe poor disclosure, low transparency, and relation-based system problems existed for Chinese firms. Therefore, although these firms are listed in the Hong Kong stock market, since the parents of both Red-Chips and H-shares are regulated from Beijing, the Hong Kong Securities, and Futures Commission could not sufficiently regulate these firms, and the insider trading problem is more severe for China-affiliated firms listed in the Hong Kong stock market.

4.9 Regression Analysis

We estimate a multivariate regression for the 62 bank loan announcements with a two-day announcement period (-1, 0), using standardized excess return as the dependent variable. The regression analysis could validate the results from the earlier tests (see Table 4.5) in two ways. First, the problem of small sample size in the earlier tests could be avoided by employing dummy variables. Second, the joint test on all

major variables studied addresses the problem of potential interdependencies between the loan characteristic variables.

The independent variables are:

$D_1, D_2, D_3,$ and D_4 , are dummy variables representing (1) if the loan is a syndicated loan (2) the if loan is for refinancing purposes, (3) if the loan has no specific purpose, and (4) if the loan is for other purposes, or zero otherwise.

$D_5, D_6, D_7,$ and D_8 are dummy variables presenting (1) if the borrower is property industry type, (2) if the borrower is industrial industry type, (3) if the borrower is other industry type, and (4) if the borrower is large sized firm, or zero otherwise

$X_1, X_2,$ and X_3 are continuous variables. X_1 indicates the relative loan size defined as loan size divided by the market value of the firm, X_2 is loan maturity, and X_3 is the debt ratio defined as total debt divided by total asset of the firm.

The regression results are presented in Table 4.7. The first four dummy variables ($D_1, D_2, D_3,$ and D_4) test whether the loan syndication and loan purpose could affect excess returns. The coefficient for loans with refinancing purpose and no specific purpose is 1.1967 and 1.2784, with t-values of 1.933 and 2.061, respectively and both are statistically significant at the 0.05 level of significance. Our result shows that excess returns are significantly higher when the loans are for refinancing purposes and no specific purpose. This supports the finding of Boscaljon and Ho (2005) and the results tested in the earlier tests (see Section 4.7.3).

D_5 , D_6 , and D_7 show test how the borrower's industry type could influence the market response to bank loan announcement. According to Table 4.7, the coefficients for property industry and industrial industry are 1.609 and 0.931, with t-values of 2.84 and 2.32 respectively, and both are statistically significant at the 0.05 level of significance. The results indicate that the excess returns are significantly positive and higher for borrowers with "property" and "industrial" industries. After eliminating the problem of small sample size by using dummy variables, the regression results further support the finding in the previous tests, where only property industry and industrial industry have statistically significant abnormal returns (see Table 4.5).

Moreover, the significance of D_8 suggests that small firm size is associated with more excess returns. The coefficient for D_8 is -0.7322 with a t-value of -1.37, and statistically significant at the 0.1 level of significance. The significant negative coefficient further confirms the negative relationship between the borrower's firm size and excess returns. This enhances the argument by Slovin et al. (1992), Wansley et al. (1992), and Aintablian and Roberts (2000). The authors suggested that small firms have relatively higher moral hazard and adverse selection problems, lower reputation and less information produced, therefore, small firms receive more benefit from bank screening and monitoring services than large firms.

The variable $X1$ tests the relationship between loan size and the market response to bank loan announcements. The coefficient of $X1$ is -0.0006, with a t-value of -1.364, and statistically significant at the 0.1 level of significance. The significant negative coefficient of loan size suggests that a smaller size loan is associated with a larger excess return. As discussed in Section 4.7.2, a larger size loan is associated with lower

excess returns which could be explained by the risk consideration. Risk increases as the size of the loan increases, and the market respond to larger size loans negatively (Cukur et al., 2008). Our regression result is consistent with the results in earlier tests (see Section 4.7.2), where small size loan has a significant positive abnormal return. In addition, our regression result further confirms the finding of Aintablian and Roberts (2000) that larger loans are associated with smaller excess returns.

The variable X3 is debt ratio calculated using total debt divided by total assets. The coefficient is 3.366 with a t-value of 2.568, statistically significant at the 0.05 level of significance. The significant positive coefficient indicates that higher debt ratio is associated with a higher excess return. Consistent with earlier tests in Section 4.8.3, the abnormal return for borrowers with a high debt ratio is statistically significant at the 0.05 level of significance and not statistically significant for borrowers with a low debt ratio. The coefficient further confirms the positive relationship between debt ratio and excess returns. It also confirms the finding of Bhandari (1988) that DE ratio is significant and positively related to expected stock returns.

Table 4.7

**Results of Regression of Standardized Abnormal Returns on various
Standardized Dummy Variables for a Sample of 63 Bank Loans**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intercept	-1.9762	0.9371	-2.1089	0.041
Adjusted R-squared	0.1311			
D1 (1 if syndicated loan, 0 otherwise)	0.1211	0.4257	0.2845	0.7774
D2 (1 if refinancing purpose, 0 otherwise)	1.1967	0.6191	1.933**	0.06
D3 (1 if no specific purpose, 0 otherwise)	1.2784	0.6202	2.061**	0.0455
D4 (1 if other purpose, 0 otherwise)	1.0092	1.3546	0.7450	0.4604
D5 (1 if property industry type, 0 otherwise)	1.6090	0.5676	2.84**	0.007
D6 (1 if industrial industry type, 0 otherwise)	0.9310	0.4009	2.32**	0.0251
D7 (1 if other industry type, 0 otherwise)	0.3497	0.5650	0.6189	0.5393
D8 (Yearly market capitalization)	-0.7322	0.5348	-1.37*	0.1782
X1 (loan size divided by market capitalization)	-0.0006	0.0004	-1.364*	0.1799
X2	0.0349	0.1336	0.2616	0.7949
Loan Maturity				
X3 (total debt divided by total asset)	3.366	1.310686	2.568**	0.0139
R ² : 0.093				
F-statistic: 4.54				
Durbin-Watson statistics: 1.46				

* Significant at 10% level

** Significant at 5% level

*** Significant at 1% level

4.10 Conclusion

This chapter discusses the results of our study. From our results, we can conclude that the market reacts favourably to loan announcements, and the Hong Kong stock market is both strong and semi-strong form efficient for bank loan announcements. In addition, strong evidence of an information leakage problem is found for non-bank loan announcements.

We divide the full sample into bank loan announcements and non-bank loan announcements. Our result shows the excess return for bank loan announcements is more significant than non-bank loan announcement, which enhances bank's special role in screening and monitoring borrowers by accessing private information not available to other market participants.

For loan characteristics, the market reacts significantly positive to syndicated bank loans compared to non-syndicated bank loans. This confirms the finding of Rajan (1992) and Houston and James (1996), which suggests syndicated loans could reduce hold-out problems caused by information monopoly and improve the contractual flexibility. In addition, our result is also consistent with Aintablian and Roberts's (2000) findings where a larger size loan is associated with lower excess returns. Moreover, bank loans with refinancing and capital expenditure purposes and no specific purpose is found to be associated with significant positive abnormal returns. This is consistent with the results from Boscaljon and Ho (2005).

In terms of borrower characteristics, industry type of property and industrial are significant and positively associated with abnormal returns. Consistent with Slovin et

al. (1992), Wansley et al. (1992), and Aintablian and Robert's (2000) studies, small firms are found to be associated with more positive excess returns. Moreover, the market reacts positively to bank loan announcements when the borrower has a high debt ratio.

Further detailed tests are evaluated for non-bank loan announcements on the information leakage problem during the pre-announcement period. Following the studies from Wong et al. (2000) and Wong (2002), the full sample is divided by borrower size and borrower's location (China-affiliated or non-China affiliated). Our results are consistent with Wong et al. (2000) and Wong (2002), where the information leakage problem is more severe for small firms and China-affiliated firms.

Multi-regression is used in order to reduce the problem of small sample size and addresses the problem of potential interdependencies between the loan and borrower characteristic variables. The regression analysis confirms the results from the earlier tests shown in Table 4.5. Based on results of the regression (see Table 4.7), the significant variables include loan purpose, industry type, loan size, firm size, and debt ratio. This suggests that the market response to bank loan announcements could be partially explained by these variables in the Hong Kong stock market.

In general, compared to previous studies conducted in the U.S., Canadian, and the U.K. market, the overall results of our study confirm previous findings under a different banking system and environment in the Hong Kong market.

CHAPTER FIVE

5. SUMMARY AND CONCLUSIONS

This chapter summarizes the findings of study on the market response to bank loan announcement in Hong Kong stock market. Section 5.1 describes an overview of the study. Section 5.2 discusses the results and relevant implications of the study. Conclusion of this study is reported in Section 5.3 and limitation of the research is discussed in Section 5.4. The final section, Section 5.5 states some recommendations for future research.

5.1 Overview of This Study

The role of bank loans, non-bank loans, and public debt are discussed in many studies in the U.S. financial market. For example, Fama (1985) developed an inside and outside debt argument suggesting that bank loans are “special” compared to other types of corporate finance, since banks have comparative advantages in information gathering and monitoring services. James (1987) extended Fama’s study and generated a testable implication to compare share price movement among bank loan announcements, non-bank loan announcements, and public debt announcements. The author confirmed Fama’s (1985) argument that a bank is “special”.

Based on Fama’s (1985) and James’s (1987) studies, further investigation on the information content of bank loan announcements are based on disaggregating the bank loans into sub-groups based on borrower characteristics, lender characteristics, and loan characteristics. Results from previous studies (see Lummer and McConnell, 1989; Rajan, 1992; Slovin et al., 1992; Chemmanur and Fulghieri, 1994; James and

Smith, 2000) showed that borrower, lender, and loan characteristics influence the market response to bank loan announcements.

In addition, a different banking environment is also evidenced to be a factor to influence the market response to bank loan announcements. For example, Armitage's (1995a) study on the U.K. stock market showed less responsive to loan announcement compared to the U.S. studies. Aintablian and Roberts's (2000) study on the Canadian capital market showed similar results to the U.S. cases, and studies on China's market reported opposite results to previous studies due to its special politically controlled banking industry.

Based on previous theories generated by Fama (1985) and the studies from Mikkelson and Partch (1986), James (1987), and Lummer and McConnell (1989), banks are believed to play unique roles in the financial markets, which could effectively reduce the information asymmetry problem and moral hazard. Banks could access borrowers' inside information which is not available to other participants, and provide effective monitoring and evaluating services. Thus bank loan announcements convey valuable information to the market, and market response to the bank loan announcements favourably.

This study examines how the share prices react to bank loan announcements in the Hong Kong banking industry. Three research objectives are generated for this study. Research Objective One is to examine the market efficiency of the Hong Kong stock market by investigating the market response to loan announcements. Research Objective Two examines whether a bank is still "special" in the financial market. This

includes testing the uniqueness of banks in financial markets by comparing the abnormal returns between bank loan announcements and non-bank loan announcements, where non-bank loans include loans from other financial institutions. Research Objective Three examines how factors, such as loan syndication, loan purpose, loan maturity, debt ratio, firm size, and borrower's industry type influence the market response to bank loan announcements.

A sample of firms receiving loans was collected by searching the HKEx Database for the period 2002 through 2007. Loans are classified into bank loans and non-bank loans. Further classification is generated based on loan syndication, loan purpose, loan size, loan maturity, borrower firm size, and borrower debt ratio. Market model of standard event study is applied in this study to detect the abnormal returns to the loan announcements. Abnormal returns are further standardized and aggregated across firms. A t-test is generated based on the standardized abnormal returns. In order to reduce the problem of small sample size and potential interdependencies between the loan and borrower characteristics, further multivariate regression analysis for bank loan announcements is employed with standardized abnormal returns as the dependent variable, and each loan and borrower characteristic as an independent variable. Relative explanatory power of each loan and borrower characteristic is tested in the multivariate regression analysis.

5.2 Results and Implications

5.2.1 Results for research objective one and implications

Our results on market response to loan announcements show no evidence of an information leakage problem for bank loan announcements, and no continuous

abnormal return during the post-event period. In addition, the abnormal return only occurred during the two-day event window. Therefore, our results suggest that the Hong Kong stock market is efficient in both strong and semi-strong form for bank loan announcements.

On the other hand, we find strong evidence of an information leakage problem for non-bank loan announcements in the Hong Kong stock market. The abnormal returns occur as early as eight days before the announcement date. Since the data for stock trade price and volume is not available during the pre-announcement period, based on the Wong et al.'s (2000) study, the strong form of market efficiency is not testable in our research. In addition, the semi-strong form of market efficiency is not testable for non-bank loan announcements since there is no significant abnormal return during the two-day event window.

Based on Wong et al.'s (2000) and Wong's (2002) studies, further tests are performed on the information leakage problem on non-bank financial institutions. The full sample of non-bank loan announcements is divided by borrowers' firm size and borrowers' firm location (China-affiliated firms and non-China-affiliated firms). Our results indicate the information leakage problem is more severe for small firms and China-affiliated firms, which is consistent with Wong et al. (2000), Wong (2002), and Cheuk et al.'s (2005) findings.

Two main laws on insider trading are available in Hong Kong - Securities (Disclosure of Interest) Ordinance (SDIO), and the Securities (Insider Dealing) Ordinance. Both have introduced on September 1st, 1991. The purpose of this legislation is to ensure

that no one is allowed to earn a profit from trading firms' securities by using undisclosed private information about the firm. Although insider trading is legally constrained by regulation, the regulatory system seems imperfect. Insider trading activities are still rampant, and researches from Wong et al. (2000), Wong (2002) and Cheuk et al. (2005) conducted tests on the borrower side for the information leakage. However, due to the strong evidence of the information leakage problem in non-bank loan announcements, we suppose that there is also a possibility that the information was leaked from the lender's (non-bank financial institution) side. Since non-bank financial institutions are less regulated than banks, more regulation on non-bank financial institutions is necessary.

5.2.2 Results for research objective two and implications

We test the special role of banks in the Hong Kong financial market by comparing the difference between the market response to bank loan announcements and non-bank loan announcements. Our results suggest that the Hong Kong market response to bank loan announcements is statistically positively significant at the 0.05 level of significance, whereas, the abnormal return for non-bank loan announcements is not statistically significant. The result further confirms the unique role of banks in the Hong Kong financial market subject to small sample size.

In addition, the results also indicate that a strong information leakage problem exists for non-bank loan announcements, and the abnormal return to non-bank loan announcements appeared during the pre-announcement period rather than during the two-day event window period. The information leakage problem might bias the test results of bank's uniqueness. Based on the non-bank loan announcements result

during the pre-announcement period, the market reacts to non-bank loan announcements positively significant at the 0.05 level of significance. Assuming the problem of information leakage for non-bank loan announcements is eliminated, the market response to non-bank loan announcement would only appear during the two-day event window, but not during the pre-announcement period. If the abnormal return during the two-day event window is statistically significant with the elimination of the information leakage problem, the difference in market response to bank and non-bank loan announcements needs to be reconsidered. If the market response to bank loan announcements is still more significant than non-bank loan announcements, the “special” role of banks in the Hong Kong financial market is confirmed. However, if the market response to non-bank loan announcements is more significant than bank loan announcements, banks are no longer “special” in the Hong Kong financial market.

5.2.3 Results for research objective three and implications

Research Objective Three examine factors, such as loan syndication, loan purpose, loan maturity, debt ratio, firm size, and borrower’s industry type that influence the market response to bank loan announcements. The results indicate that market response to bank loan announcements are positively related to loan syndication, debt ratio, and negatively related to firm size and loan size. These results are consistent with the findings from Rajan (1992), James and Wier (1999), Aintablian and Roberts (2000), and Slovin et al. (1992). The multiple regression analysis confirms that the market response to bank loan announcements in the Hong Kong stock market could be partially explained by loan purpose, loan maturity, debt ratio, firm size, and borrower’s industry type. Consistent with James (1987), Bhandari (1988), Aintablian

and Roberts (2000), Slovin et al. (1992), and Ongena et al.'s (1999) findings, loan purpose, loan maturity, borrower's debt ratio, firm size, and borrower's industry type could be important factors influencing market response to bank loan announcements.

However, based on the low R^2 value from our multi-regression model, it seems that there are other variables which could also influence market response to bank loan announcements. For example, loan type (new loan or renewal loan), lender reputation, and borrower reputation are not included in our study which could potentially influence the market response to bank loan announcements.

Based on the literature, a favourable renewal bank loan announcement is believed to influence abnormal returns more than a new bank loan announcement. Lummer and McConnell (1989) suggested banks are able to gain an information advantage in the process of accessing private information after the new loan agreement, and could convey information to the market after the establishment of an ongoing relationship, which is reflected in the loan renewal. Chemmanur and Fulghieri (1994) reported that banks with greater reputation are able to convey more information than less reputable banks since reputable banks could provide borrowers with financial flexibility to renegotiate the loan in the event of financial distress.

In terms of borrower reputation, Rajan (1992) identified the costs and benefits of having an ex-post lender such as banks are relatively small for high rating firms, and there is no difference between bank debt and public debt for these firms. In addition, based on the studies from Rajan and Winton (1995) and Mazumdar and Yan (1997),

firms with lower reputation benefit more from bank loans in the form of collateral and covenants.

Due to the unavailability of data, these potential variables which could also influence the market response to bank loan announcements could not be tested and are not included in this research.

5.3 Conclusion

In conclusion, the results demonstrate that the Hong Kong market response to bank loan announcements is positively significant, but insignificant for non-bank loan announcements. The results confirm the findings from previous studies (James, 1987; Mikkelsen and Partch, 1986; and Aintablian and Roberts, 2000), which suggested banks are “special” in financial markets based on the comparative advantages in screening and monitoring borrowers by accessing borrowers’ private information not available to other market participants. A bank could assess the financial background of the borrower and convey this information to the market by granting a loan to the individual. The information conveyed to the market is reflected by the market response to the bank loan announcement. The result suggests a bank could improve the information transmission and reduce the information asymmetry problem.

Our results also indicate that the Hong Kong stock market is efficient in both strong form and semi-strong form for bank loan announcements. For non-bank loan announcements, there is strong evidence of an information leakage problem. In addition, market response to bank loan announcements could be partially explained by loan maturity, loan purpose, loan size, borrower’s firm size, borrower’s debt ratio, and

borrower's industry type. The results demonstrate that the Hong Kong market response to bank loan announcements is positively related to loan syndication, short maturity loan, refinancing and capital expenditure purpose bank loan, no specific purpose bank loan, borrower's debt ratio, borrowers with property industrial type and borrowers with property industry type. The market in bank loan announcements reacts negatively to borrowers' firm size, loan maturity, and loan size. These results are generally consistent with existing literature (see James, 1987; Mikkelson and Partch, 1986; Rajan, 1992; Slovin et al., 1992; Aintablian and Roberts, 2000; Boscaljon and Ho, 2005). Compared to previous studies conducted in the U.S, Canadian, and the U.K. market, the results show that findings under a different banking system and environment are robust for the Hong Kong market.

5.4 Limitations

There are certain limitations in this study. First, the only data source used in this research is the Hong Kong Exchange Database (HKEx Database). This limits the number of loan announcements obtained for our study. In addition, the requirement for announcement submission of soft copy is only mandatory for all listed companies after 15 February 2002 for HKEx Database, and this limits our research period, which is from May 1st 2002 to Dec 31st 2007. Based on the relatively short testing period, the number of renewal loan announcements obtained is quite small. This limits the test of Fama's (1985) renewal hypothesis, which compared the market response between new bank loan announcement and renewal bank loan announcements.

Small sample size is another limitation in our study. The initial number of loan announcements obtained is 606. However, further deletion to select "clean" loan

announcements results in 63 bank loan announcements and 17 non-bank loan announcements as the final research sample. The small sample size is consistent with the relatively smaller market capitalisation in the Hong Kong stock market compared to the U.S. market. The sample size could be increased by expanding the research period and using multiple data sources, however, both of these two solutions are limited in the Hong Kong Exchange Database.

Another limitation is the lack of data for the pre-announcement period. Our results indicate there is a strong information leakage problem for non-bank loan announcements. Based on the studies from Wong et al. (2000) and Wong (2002), in order to test whether insiders could earn profits based on the information not publicly available during the pre-announcement period, data of stock trade price and stock trade volume are needed. Since the data for stock trade price and volume are not available, we could not test the strong-form of market efficiency for non-bank loan announcements.

5.5 Recommendations for Future Research

Based on the limitations above, multiple data source and longer research period could be applied to improve the sample size and the number of loan announcement included for each testable category. In addition, future research could also test other possible explanatory variables not included in our study, such as loan type, borrower reputation, lender reputation, loan structure, whether borrower is in financial distress, and the covenants and collateral embedded in the loans. As discussed in Chapter Two, these variables can influence the market response to bank loan announcement.

Furthermore, both results of this study and previous research (Wong et al., 2000; Wong, 2002; and Cheuk et al., 2005) reveal an information leakage problem exists in the Hong Kong stock market. Further researches could generate a detailed test on the information leakage problem for non-bank loan announcements. One could also employ the strong form test of market efficiency for non-bank loan announcements by testing whether insiders could earn abnormal profits based on the information not publicly available.

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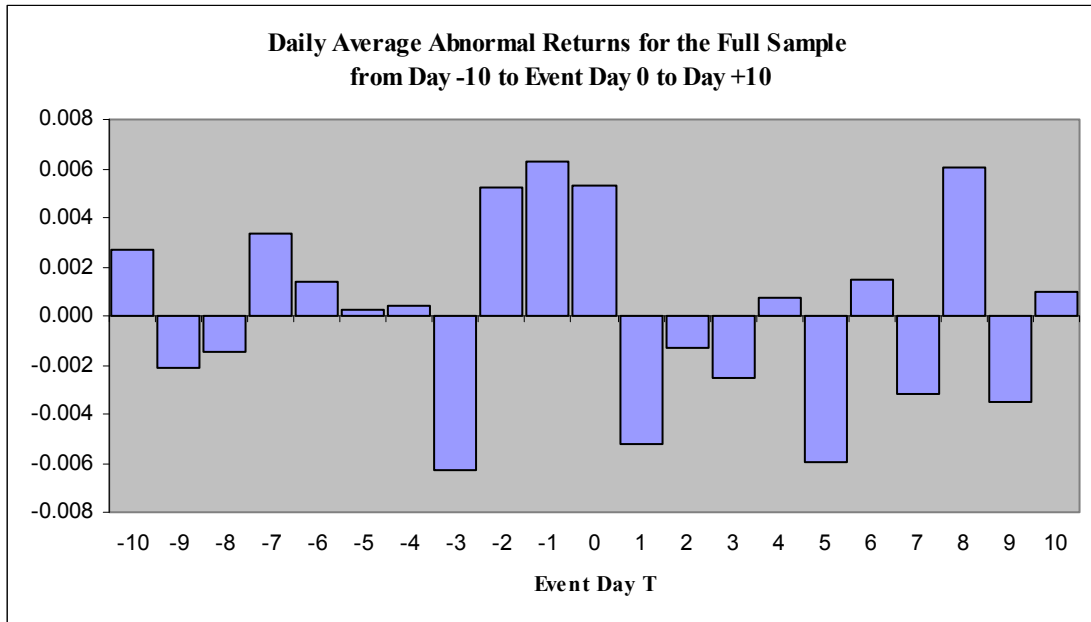
Appendix 1

Empirical Results of Studies on Stock price response (Abnormal Returns) to Bank Loan Announcements and Non-Bank Loan Announcements

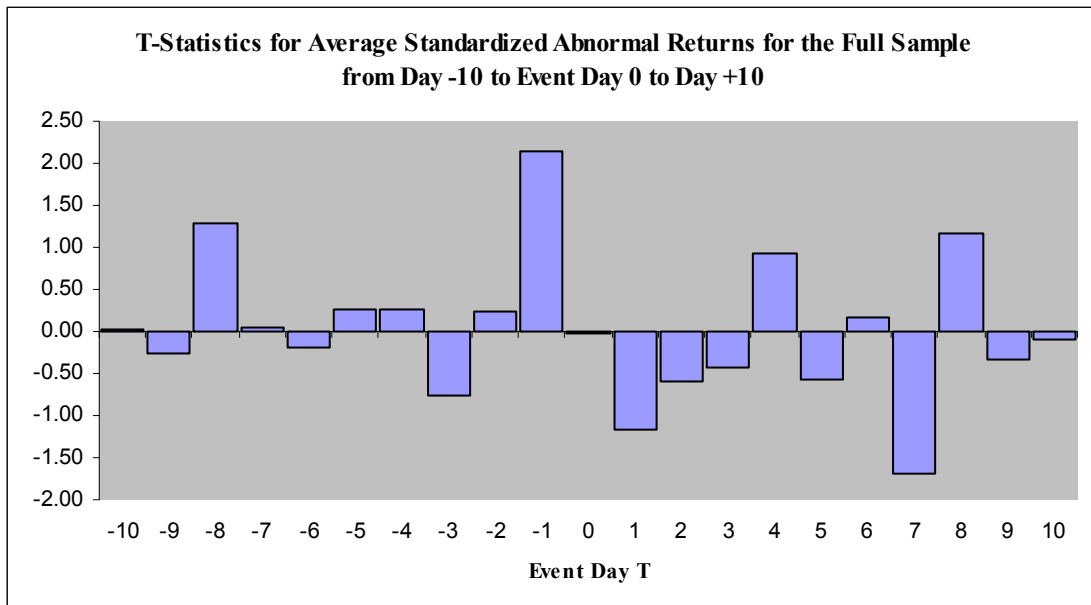
Studies	Non-Bank Loan Announcements AR% (T-stat) (Sample Size)	Bank Loan Announcements AR% (T-stat) (Sample Size)
Mikkelson and Partch (1986)		0.89% (2.58)* (155)
James (1987)		1.93% (3.96)** (80)
Lummer and McConnell (1989)		0.61% (2.69)*** (728)
Slovin, Johnson, and Glascock (1992)		1.31% (5.08)*** (273)
Best and Zhang (1993)		0.32% (2.31)** (491)
Preece and Mullineaux (1994)	1.84% (4.25)*** (36)	0.79% (3.77)*** (387)
McDonald (1994)		0.64% (1.99)** (250)
Billett, Flannery, and Garfinkel (1995)	1.08% (1.58) ^{NS} (41)	0.63% (3.63)*** (540)
Thakor (1996)		0.02% (6.63)*** (161)
James and Wier (1999)	-0.90% (NR) ^{NS} (37)	2.00% (NR)* (80)
Aintablian and Roberts (2000)		1.22% (5.62)*** (122)
Andre, Mathieu and Zhang (2001)		2.27% (2.68)*** (122)
Boscaljon and Ho (2005)		1.63% (3.94)*** (44)
Fields, Fraser, Berry and Byers (2006)		0.46% (NR***) (1,111)
Kim Song Le (2007)		0.28% (2.58)** (2061)
Bailey, Huang, and Yang (2008)		-0.39% (-2.34)** (285)
Ongena and Roscovan (2009)		0.53% (NR)*** (985)

* Significant at 10% level
 ** Significant at 5% level
 *** Significant at 1% level
 NR Not Reported
 NS Not Significant

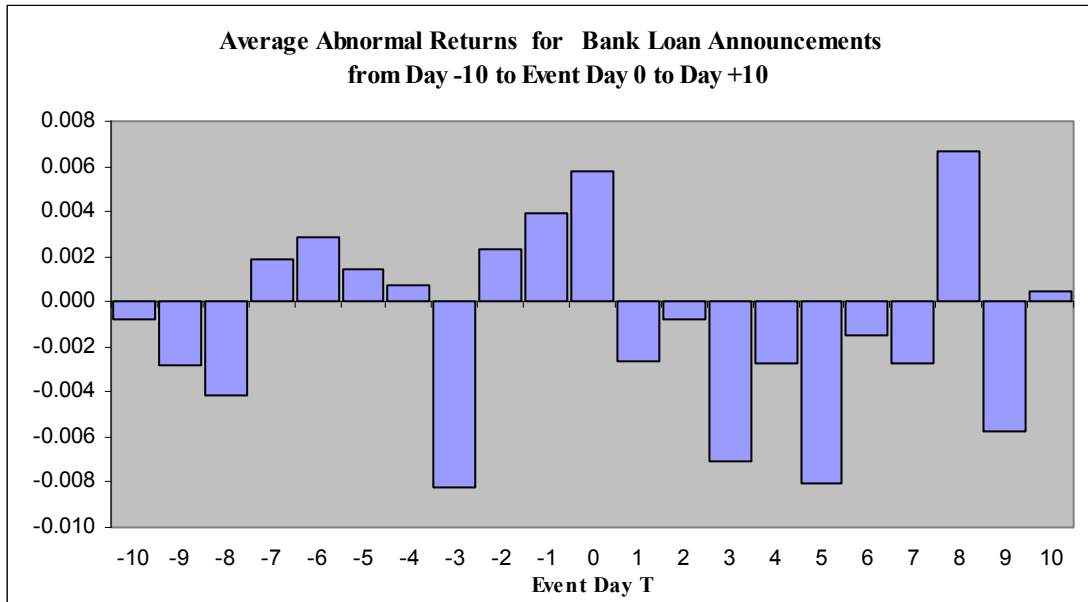
Appendix 2.1



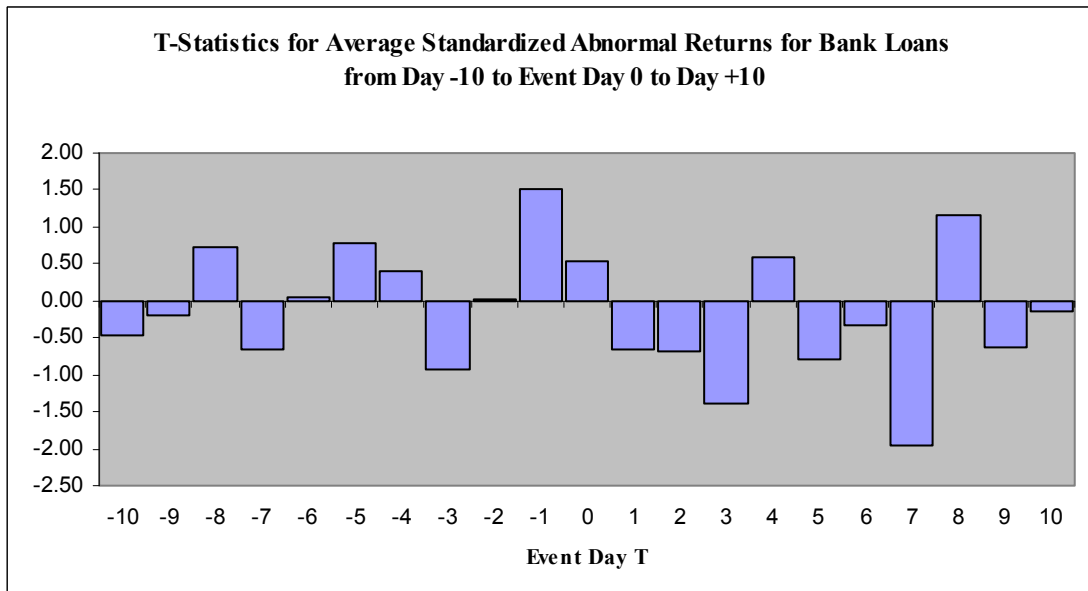
Appendix 2.2



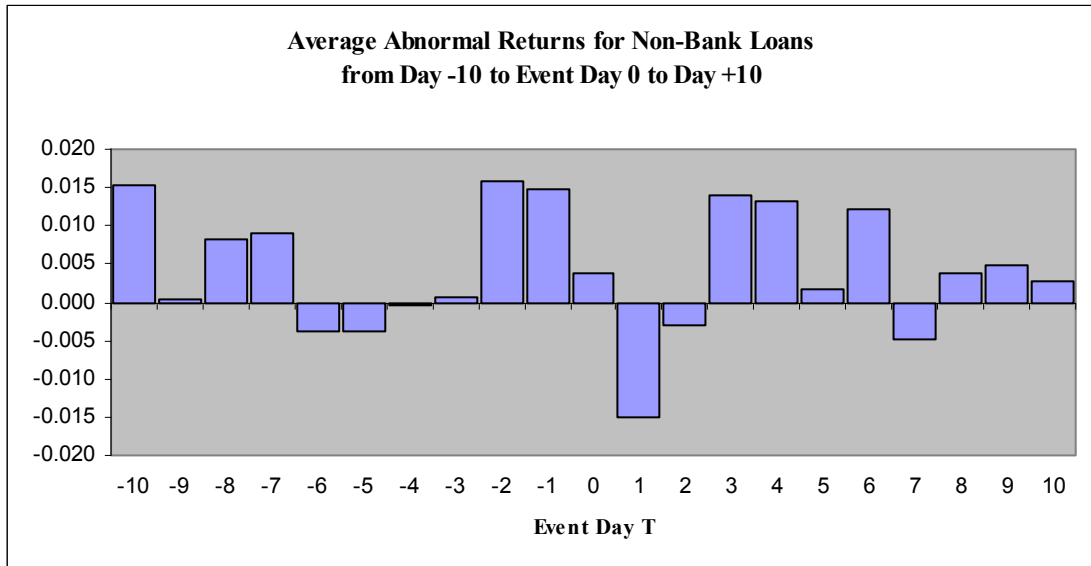
Appendix 3.1



Appendix 3.2



Appendix 4.1



Appendix 4.2

