Title	Connected Lending: Thailand before the Financial Crisis
Author(s)	Charumilind, Chutatong; Kali, Raja; Wiwattanakantang, Yupana
Citation	
Issue Date	2003-07
Type	Technical Report
Text Version	publisher
URL	http://hdl.handle.net/10086/13924
Right	

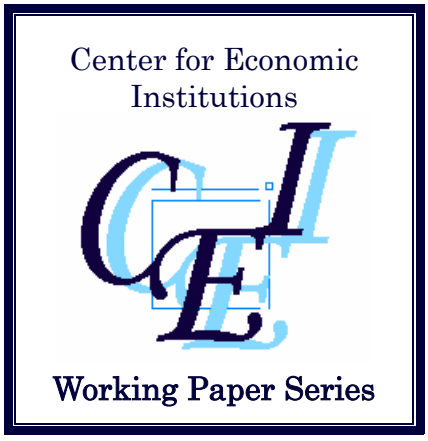
Center for Economic Institutions

Working Paper Series

CEI Working Paper Series, No. 2003-19

Connected Lending:
Thailand before the Financial Crisis

Chutatong Charumilind
Raja Kali
Yupana Wiwattanakantang



Institute of Economic Research
Hitotsubashi University
2-1 Naka, Kunitachi, Tokyo, 186-8603 JAPAN
Tel: +81-42-580-8405
Fax: +81-42-580-8333
e-mail: cei-info@ier.hit-u.ac.jp

Connected Lending: Thailand before the Financial Crisis

Chutatong Charumilind
Cornell University

Raja Kali
University of Arkansas

Yupana Wiwattanakantang*
Hitotsubashi University

July 2003

We thank Iwan J Azis, Charlie Charoenwong, Joseph P.H. Fan, Masaharu Hanazaki, Tomas Jandik, Veerawat Kanchanakul, Katsuyuki Kubo, Tim Kruse, Randall Morck, Andreas Savva, Toshiyuki Souma, Sheridan Titman, T.J. Wong, Yishay Yafeh, an anonymous referee, and audiences at University of Arkansas, Cornell University, Institute of Economic Research of Hitotsubashi University, Nanyang Technological University, Institute of Southeast Asian Studies (Singapore), Research Institute of Capital Formation of the Development Bank of Japan, the 2nd Asian Corporate Governance Conference in Seoul, the 2001 APFA Conference in Bangkok, the 2001 Accounting Theory and Practice Conference in Taiwan, the 29th Annual Meeting of the European Finance Association in Germany, and the 2002 FMA Conference in Texas for helpful comments and suggestions. We also thank Stijn Claessens for providing the ownership data that is used to compare with ours, and Piruna Polsiri and Prapaporn Nilsuwankosit for their help with the data. An early version of this paper was circulated under the title "Crony Lending: Thailand before the Financial Crisis."

* Corresponding author. Center for Economic Institutions, Institute of Economic Research, Hitotsubashi University 2-1 Naka, Kunitachi, Tokyo 186-8603, JAPAN. Tel No.: +81-42-580-8374. Fax No.: +81-42-580-8333. Email: <yupana@ier.hit-u.ac.jp>

Connected Lending: Thailand before the Financial Crisis

Abstract

The allocation of credit by banks and financial institutions on 'soft' terms to friends and relatives rather than on the basis of 'hard' market criteria in the years leading up to the East Asian crisis of 1997-98 has been widely noted. Using a detailed dataset on Thai firms prior to the crisis period we examine whether business connections were in fact a good predictor of preferential access to long term bank credit. We find that firms with connections to banks and politicians had greater access to long-term debt than firms without such ties. Connected firms need much less collateral to obtain long term loans than those without connections. Such firms obtain more long term loans, and appear to use less short term loans. We do not find support for the existence of connections between banks and firms serving to reduce asymmetric information problems. Our results thus lend support to the hypothesis that the presence of connections was the most important factor determining access to long term bank debt prior to the financial crisis and are consistent with recent research implicating weak corporate governance in the extent and severity of the crisis.

JEL Classification: G30, G32

Keywords: Agency Costs, Capital Structure, Corporate Governance, Crony Capital, Debt Maturity, East Asian Financial Crisis, Thailand.

1 Introduction

The East Asian Crisis of 1997-98 has brought into sharp focus the distinctions between the relationship-based economic and financial system prevalent in many emerging economies and the arms-length, market-driven system that mainly characterizes the developed economies of Western Europe and North America. A number of recent studies on contracting in emerging and transition economies (McMillan and Woodruff (1999) and Johnson et al. (2002)) find that the reliance on relationships in these economies stems from inadequacies in formal institutions, such as the legal system, that make arms-length contracting unreliable. If formal mechanisms of governance are deficient, informal mechanisms, such as the embedding of economic and financial transactions in a network of social relationships can be viewed as an endogenous response (Greif (1993)).

But an emphasis on connections often goes hand-in-hand with a disregard for more objective approaches to decision making, implying a greater risk of agency problems. Corporate governance can thus be a problem in economies with poor institutions (Shleifer and Vishny (1997)). A number of recent papers have demonstrated the importance of corporate governance in emerging markets (La Porta et al. (1997 and 1998) and Johnson et al. (2000)). In the context of the East Asian crisis, Johnson et al. (2000a) show that country specific measures of corporate governance perform better than standard macroeconomic measures at explaining the extent of currency depreciation and stock market decline of emerging markets during the crisis. Mitton (2002) shows that corporate governance also explains cross-firm differences in performance within countries during the crisis. Baek et al. (2003) also find similar evidence on Korea. Weak corporate governance practices in East Asia thus arguably made countries more vulnerable to the crisis and exacerbated the crisis once it began.

In this paper we pursue this line of inquiry further by examining how actual business connections determined access to bank credit in a prominent emerging economy, Thailand. The allocation of credit by banks and financial institutions on 'soft' terms to friends and relatives - often termed cronyism - rather than on the basis of 'hard' market criteria in the years leading up to the crisis has been widely noted (Krugman (1998), Corsetti et al. (1998a), Pomerleano (1998)). But while the importance of such connections have been anecdotally accepted as an endemic feature of emerging economies, empirical work linking close ties to preferential finance

is scant[1]. The goal of this paper is to examine whether business connections are in fact a good predictor of preferential access to long term credit using a detailed dataset on Thai firms prior to the crisis period.

Standard theory suggests that in countries with poor corporate governance and inadequate bankruptcy laws, banks ought to avoid lending long term. With a short-term loan contract, banks gain a degree of control and can maintain a stronger bargaining position when renewing the loan contracts (Diamond (1991b) and Rajan (1992)). Also, shorter maturities limit the period over which an opportunistic firm can exploit its creditors without defaulting. In the worse case, with short term debt, banks can pull their capital out at any indication of trouble (Diamond and Rajan (2001)). However, firms might be able to access long term loans, which is valuable in countries where the supply of funds is scarce, simply because they have established strong ties with banks. Bank owners have incentives to provide such loans as they expect to receive other private benefits. Examples of these benefits include the opportunities to maintain other transactions with their debtors that are beneficial to themselves and their privately owned companies. Poor banking supervision as well as bank bail out policies facilitate lending via connections.

Our empirical methodology, which we describe in section 4, attempts to examine whether firms with connections have easier access to long term debt than firms without such ties. We use a number of measures, such as affiliation to one of the 20, 30, and 60 largest Thai business groups, and board linkages between banks and firms as proxies for 'connections'. We find that these connections are by far the most important factor explaining access to long term debt. Surprisingly, we find that a host of standard firm characteristics that the current literature on firm financing suggests should be important in explaining easier access to debt play a much less significant role. Firms with connections need much less collateral to borrow long term than those without connections. Such firms obtain more long term loans, and appear to use less short term loans. We also examine whether the existence of connections between banks and firms could be attributed to a desire to reduce moral hazard (monitoring) or adverse selection (private information), and do not find support for these explanations. Our results thus lend support to the hypothesis that the presence of connections was the most important factor determining access to long term bank debt prior to the financial crisis. We also examine whether connected firms were less vulnerable to the crisis of 1997 because they were able to obtain more long term

[1]We discuss some of the recent related work below.

loans, were less levered and were consequently less credit constrained immediately following the crisis. We find some evidence for this. Section 5 discusses these results in more detail.

Our paper fits into the new and growing literature that examines the impact of connections on firm performance. The paper closest to our approach is La Porta et al. (2003). They examine the benefits of related lending using a newly assembled dataset on Mexico. They find that related lending is present in 20% of commercial loans and that it takes place on more favorable terms than arms-length lending. They also find that related loans are more likely to default, and when they do, have significantly lower recovery rates than unrelated loans. It is noteworthy that our results for a different emerging market, Thailand, are essentially consistent with theirs.

Similar issues are also examined by Laeven (2001) using a dataset on bank-firm relationships in Russia. Russian banks can make loans to firms that own substantial equity stakes in the bank. His notion of connectedness is thus in terms of equity stakes and different from the approach we take here. In fact, lending to insiders in Thailand is proscribed by the Commercial Banking and Finance Company Law. However, in line with our study, he also finds evidence of connections in lending practices.

It is important to note that our study differs from these papers in a number of substantive ways. First, we construct explicit measures based on membership to politically connected business groups and firm-bank board interlinkage that we feel capture the essence of connections. Second, since our study focuses on an economy that is in the shadow of the East Asian crisis of 1997-98, we examine the link between connections and debt maturity. As borrowing practices have been implicated in precipitating the crisis, our study could be considered valuable in terms of forensic financial evidence toward understanding the crisis (Johnson et al. (2000a)).

Recent papers by Fisman (2001) and Johnson and Mitton (2003) also examine the role of political connections on firm performance in the context of emerging economies. Fisman (2001) estimates the value of political connections in Indonesia by looking at how stock prices moved when former President Suharto's health was reported to change. Johnson and Mitton (2003) examine the impact of connections in Malaysia by looking at the fall in the market value of connected firms in the wake of the Asian financial crisis and the subsequent reinstatement of capital controls that differentially benefited firms with connections. Both papers find significant evidence for the value of connections.

Nor is the phenomenon restricted to emerging markets. Morck et al. (2000) show that

established, well-connected firms in Canada (as measured by family inheritance of control) are less efficient and had negative abnormal stock returns when the 1998 Canada-U.S. free trade agreement reduced barriers to foreign capital.

The rest of the paper is structured as follows. The next section describes our data sources and sample characteristics. Section 3 provides an overview of the characteristics of firms in our sample and the institutional background of the Thai banking system. Section 4 describes our empirical methodology. Section 5 discusses our empirical results on connections and corporate financing. Section 6 provides robustness tests. Section 7 concludes.

2 Data Sources and Sample Characteristics

Our empirical strategy is geared toward investigating whether connections to financial intermediaries affect the likelihood of access to preferential sources of long term loans. Our sample contains data on 270 non-financial companies listed in the Stock Exchange of Thailand in 1996. This sample accounts for 97.08 percent of the market value of all non-financial firms. Firms that were excluded are those with insufficient financial data. In general, companies in the sample are not just small or start-up companies. The average number of years since a firm was set up is 21.02 years. The sample includes both large companies and smaller size companies. The book value of total assets varies from a maximum of 179,785 million Baht (7191.40 million USD) to a minimum of 325.82 million Baht (13.03 million USD), with mean and median values of 7,140.71 million Baht (285.63 million USD) and 2,428.76 million Baht (97.15 million USD), respectively.

Based on Manager Information Services (1996)[2], 22 companies in our sample appear in the 100 largest companies in Thailand in 1994. About 35.56 percent of companies in the sample are among the largest 500 companies in Thailand. Approximately 77.78 percent of our sample or 210 companies are in the top 2000 companies.

The data were manually collected from multiple sources. The main sources of data are the FM 56-1 and the ISIM CD roms, which contains detailed company information required for public disclosure by the Stock Exchange of Thailand. More precisely, this database provides data for individual consolidated companies including financial data, equity ownership, the board of

[2]Management Information Service (1996b) lists the 2000 largest companies in Thailand in 1994. The ranking includes both publicly traded and private companies. This source of information is used because there is no similar information available for 1996, and it is the closest data available to 1996. The rankings based on 1994 data probably do not provide exact information for the companies in our sample. Nevertheless, the rankings do help to understand the characteristics of companies in our sample.

directors, affiliated companies, and family relationships of major shareholders and management. The FM 56-1 is in Thai and available at the library of the Stock Exchange of Thailand as well as its website. The ISIM CD roms are also available at the Stock Exchange of Thailand.

We construct a unique database of ownership structure that enables us to trace ultimate ownership. Previous research investigating ownership structure of East Asian firms namely, Claessens et al. (2000 and 2002), Mitton (2002), Lemmon and Lins (2003), and Lins (2003) typically employs data sources that include shareholders with holdings of at least 5 percent. Our database, however, is more comprehensive in that it provides the information on shareholders with holding of at least 0.5 percent. Moreover, with our database, we are able to trace the ultimate owners of all privately owned companies that are the (domestic corporate) shareholders of firms in our focus as well as family relationships between the major shareholders beyond their surnames. More specifically, we also used various books both written in English (Suehiro (1989) and Johnstone et al. (2002)) and in Thai (Pipatseritham (1981), Pornkulwat (1996), and Sappaiboon (2000 and 2001)) in order to search for and trace the family relationships. With this information, we are able to obtain the family trees for the top 150 largest family groups. In addition, we have used the Business On Line (BOL) database published by the BusinessOnLine Co., Ltd. to trace the ownership of private companies that are not disclosed in the FM 56-1. The BOL databank includes major information of all registered companies in Thailand that is reported annually to the Ministry of Commerce.

3 Institutional Background

This section provides a brief overview of the characteristics of Thai firms and the banking system prior to the 1997 financial crisis with a view toward highlighting the prevalence of connections between banks and firms and some of the problems that could be associated with such relationships. Section 3.1 describes the ownership and governance structures of Thai firms. Section 3.2 is an outline of the historical development of the Thai banking system. Section 3.3 provides background on the interlinkage between connections, poor corporate governance and bank crises.

3.1 The Thai Firms

Table 1 shows the ownership and governance structure of firms in our sample of 270 firms[3]. The ownership calculation methodology is consistent with previous literature namely La Porta et al. (1999), Claessens et al. (2000), and Faccio and Lang (2002). The only difference is the definition of controlling shareholder used here. Instead of the commonly used 20 percent cut-off ownership level, we use the 25 percent cut-off when defining the controlling shareholder here. The choice of this cut-off is due to the Thai legal framework. Under Thai law, to have the voting power to veto important corporate decisions, one needs to hold at least 75 percent of the shares. Conversely, a shareholder with more than 25 percent stakes can effectively control a firm because then no other single shareholder would own enough voting rights to have the absolute power over the firm to challenge him. (see Khantavit et al. (2003) for the discussion on this issue).

For comparability, we also provide similar measures of ownership and governance variables taken from Khantavit et al. (2003) whose sample include all listed firms in the Stock Exchange of Thailand in 1996. Our results are quite similar to those of Khantavit et al. (2003). Specifically, ownership is relatively concentrated. The mean cash flow and voting rights held by the largest blockholder of firms in our sample are about 39.58 percent and 42.68 percent, respectively. A blockholder is defined as a group of persons with the same family name, their close relatives as well as companies that are owned and controlled by the same ultimate owner. This is consistent with the findings of Claessens et al. (2000) that the ownership of Thai firms is the most concentrated among the nine countries in East Asia.

In about 79.63 percent of the firms in our sample, the largest blockholder is a controlling shareholder who holds at least 25 percent of the voting rights. Families predominate among types of controlling shareholders. About 53.71 percent of the firms are controlled by a single family. The second largest group is foreign investors who control about 13.33 percent of the firms. Interestingly, our results indicate that about 10.37 percent of the firms are controlled by multiple controlling shareholders. These controlling shareholders do not simply control the firms but are often involved in management as officers and directors. This occurs in about two-third of the firms. In contrast, management that is not from the controlling shareholder family holds relatively small stakes of the firms. On average, executive and non executive directors own about 1.75 percent and 3.24 percent of the shares, respectively.

[3]For more detail discussion see Wiwattanakantang (2001b) and Khantavit et al. (2003)

In contrast to many emerging economies, complicated ownership structures such as cross-shareholdings and pyramids are not commonly used by the controlling shareholders to control the firms. Accordingly, the ratio of cash flow and voting rights is only 0.93, indicating that the degree of the separation between ownership and control is small.

Due to differences in the sample firms[4] and the definitions of controlling shareholder, our results are not directly comparable to those of Claessens et al. (2000) shown in Column (3). Therefore, in order to facilitate comparability, we match their data with ours firm-by-firm and exclude financial firms that are in their sample. The results based on the database of Claessens et al. (2000) and ours are shown in Column (4) and (5), respectively. The samples in the Column (4) and (5) are based on 108 non financial firms. The ownership cut-off used to define the controlling shareholder is 25 percent.

In general, the results are similar in that the ownership is relatively concentrated, and families dominate other types of controlling shareholders. However, the ownership variables based on the database of Claessens et al. (2000) are lower than our calculations. For example, calculations based on our database show that the mean cash flow and voting rights of the largest shareholder are 40.35 and 42.52, respectively. The results based on the database of Claessens et al. (2000) show that the mean cash flow and voting rights of the largest shareholder are only 36.87 and 38.96, respectively. When using the 25 percent cut-off to define the controlling shareholder, we find that about 79.6 percent of the firms have at least one controlling shareholder, while the results based on the database of Claessens et al. (2000) show that about 85.2 of the firms fall into this category. In addition, we find about 25.9 percent of the firms use pyramids, while the results based on the database of Claessens et al. (2000) indicate only about 6.5 percent of these firms.

We believe that the results based on the database of Claessens et al. (2000) underestimate the ownership of Thai firms and are probably attributable to the following reasons. First, Claessens et al. (2000) employ data sources that include shareholders with shareholdings of at least 5 percent, while our database includes those with shareholdings of at least 0.5 percent. Second, we are able to trace ultimate ownership of privately held firms that are in the middle of the chain of the control. We find that on average, the shares of about 27 percent of the firms in our full sample are held via privately owned companies. Without tracing the ownership of

[4]The sample of Claessens et al. (2000) includes both financial and non financial firms, while ours do not include non financial firms. In addition, while the number of firms in our sample includes about 76.7 percent of non-financial listed firms, their sample covers only 36.78 percent of all listed companies.

these private companies, one would underestimate the actual cash-flow and control rights held by the controlling shareholders. We also question their results regarding the number of firms that are controlled by widely held firms. More precisely, while they find about 15.7 percent of the firms are held by widely held firms, we find no such firms. Firms might have been classified as widely held simply because Claessens et al. (2000) could not trace their ultimate ownership. Third, Claessens et al. (2000) trace family relationships based only on family names, while we are able to include the in-laws as well.

[Insert Table 1 Here]

3.2 The Thai Banking System

As of 1996, the Thai financial system consisted of 29 commercial banks (14 of which were branches of foreign banks); 91 finance companies; and 12 credit foncier companies; 7 specialized state-owned banks; 15 insurance companies; 880 private provident funds; and 8 mutual fund management companies. Total assets of the system amounted to the equivalent of 190 percent of GDP. Commercial banks alone accounted for 64 percent of the total assets, while finance companies accounted for 20 percent of the total assets, and state-owned specialized banks accounted for a further 10 percent. Domestic banks were by far more important than foreign banks. For example, loans made by domestic commercial banks account for about 103.9 percent of GDP as of the end of 1997 (in which the data is available), while those of foreign banks were only about 22 percent of GDP.

Fifteen domestic commercial banks and 52 finance companies were listed in the Stock Exchange of Thailand, most of which were owned or controlled by family-based business groups. Specifically, Anuchitworawong et al. (2003) show that out of the 15 banks, 13 banks were controlled either by a single family or multiple families. The two remaining banks were state owned. Similarly, families controlled 80 percent of finance companies. Interestingly, the largest blockholder held large stakes even though the Thai Commercial Bank Act B.E. 2505 limits a person's holding at no more than 5 and 10 percent of the outstanding shares of a commercial bank and finance companies, respectively. This happened even though the controlling family did not violate the law. Anuchitworawong et al. (2003) find that the structure of shareholdings were arranged to be complicated in such a way that the control was via many (both private and public) companies. Each of these companies held the number of shares that were allowed

by the law. Thus on the surface, all the banks and finance companies appear as widely held. Anuchitworawong et al. (2003), however, show that the average (median) shareholdings by the largest blockholder of banks and finance companies are 23.23 (25.15) percent and 29.77 (28.42) percent, respectively.

Most Thai banks were founded by overseas Chinese during 1930-1950 with the purpose of channeling funding to their own businesses (Bualek (2000)). Out of 20 commercial banks that were established during this period, 14 banks were founded by overseas Chinese families [5]. The remaining six banks were founded by the Crown Property Bureau[6]. As of 1996, the founding families retained control over these six banks. Several bank failures, mergers and acquisitions occurred over the past four decades and as a result some founding families have lost control over their banks and new families have taken their place.

Finance and securities companies were first established in 1969. The number of finance companies grew rapidly during the 1970s from 17 in 1971 to 118 in 1979, when foreign and local banks set up such companies to avoid the moratorium on new banking licenses imposed by the Thai cabinet in mid 1970s, and to avoid the maximum interest rate and credit controls imposed on commercial banks. By the end of 1987, 26 out of the 93 finance companies were affiliated with privately held Thai commercial banks, and a further 12 were affiliated with the state owned Krung Thai Bank.

The top four family owned banks in 1996 were the Bangkok Bank, the Thai Farmers Bank, the Siam Commercial Bank, and the Bank of Ayudhaya, that were controlled by Sophonpanich, Crown Property Bureau, Lamsam, and Rattanarak, respectively. These four banks accounted for about 54.44 percent of total assets of all commercial banks[7]. These four families also controlled 15 finance companies that accounted for about 33.09 percent of all finance companies. In part because of regulations and in part because of marriage ties between the controlling families, the Thai financial system exhibited an increasingly oligopolistic structure over a long

[5]These families are the Cholvicharn and Phenchart (Union Bank of Bangkok, 1949), Euachukiarti and Kantamanond (Bank of Asia, 1939), Euawatanaskul (Bangkok Metropolitan Bank, 1950), Kanchanapat (Siam City Bank, 1941), First Bangkok City Bank, 1960), Lamsam (Thai Farmers Bank, 1945), Nandhabivat (Laemthong Bank, 1948), Rattanarak (Bank of Ayudhya, 1945), Sophonpanich (Bangkok Bank, 1944), Tarnvanichkul (Asia Trust Bank, 1965), Tejapaibul (Bank of Asia, 1939, Bangkok Metropolitan Bank, 1950, and First Bangkok City Bank, 1960), and Wang Lee (Nakornthon Bank, 1933).

[6]The Crown Property Bureau is the founder of the following banks: Siam Commercial Bank (1906), Siam City Bank (1941), Krung Thai Bank (1966), Thai Dhanu Bank (1949), Nokornthon Bank (1933), and Thai Farmers Bank (1945).

[7]Note that the top three largest banks in 1996 were the Bangkok Bank, the Thai Farmers Bank, and the government-owned Krung Thai Bank. These top three banks accounted for about 49.70 percent of total assets of commercial banks.

period of time until the financial crisis.

The big banks owner families expanded their banking businesses and established virtual control not only over other financial institutions but also a wide array of economic activities since the 1970s. For example, the Sophonpanich family not only owned the Bangkok Bank, but also owned 5 finance companies, 6 insurance companies, and had large interests in rice trading, rice milling, warehousing, textiles, vehicle assembly, restaurants, real estate, cement, tin, soft drinks, iron and steel, and plastics (Hewison (1989)). In addition, these families also had substantial influence over other corporations through lending. The expansion of ownership and control over the banking industry as well as other sectors by the big banking and industrial families could be considered a unique characteristic of Thai capitalism.

3.3 Connections, Corporate Governance, and the Banking Crises

Extensive anecdotal evidence suggests that these influential families maintained banks and finance companies as off-shoots of their businesses. Consequently, local Thai banks appeared to extend loans based on personal ties and collateral but not on the basis of expected future cash-flow. On several instances these mis-allocated loans bankrupted the banks because the loans were concentrated among only a few well connected influential families who eventually defaulted. For example, Thanapornpun (1999) describes how in 1986 the Krung Thai bank allocated a large amount of loans to the Srikrungwattana group, Pol Rengprasertwit, and Sura Chansrichawala families on preferential terms.

One of the most notorious cases concerns the lending practices of the Bangkok Bank of Commerce (BBC), a medium sized bank, during the first half of the 1990s. The bank allegedly granted a very large amount of loans to firms that were affiliated to Rajan Pillai, Rages Sakdina, Adnan Khashoggi and Suchat Thanchareon, who were close friends of the bank's president and major shareholder, Krirk-kiat Jalichandra. The bank collapsed in 1996 and the president was not only dismissed but also charged by the Thai Economic Crime Suppression Division for embezzling USD 66.3 million from the bank and extending huge loans beyond his authority. The BBC could be considered the first bank to succumb to problems arising from poor lending practices, a pattern that other financial institutions eventually displayed and which developed into the 1997 banking crisis[8].

[8] An examination of issues related to expropriation of minority shareholders is beyond the scope of this paper, but Johnson et al. (2000) is a relevant reference here.

Poor bank supervision and examination has also been hand-in-glove with the prevalence of connections. The Bank of Thailand (BOT) has punished neither financial institutions nor executives for lending to risky projects that led to non-performing loans. These issues are acknowledged in the Nukul Commission Report[9]. According to the report on the BBC issue, the BOT failed to detect that the problems with non performing loans since 1991 were serious and needed to be solved urgently. Hence, the BOT did not take appropriate actions which should have included replacing the incumbent management of the bank and reducing its capital. The BOT recognized the BBC problem when it was too late and there was a run on bank deposits in 1996.

4 Empirical Methods

Previous studies document that close ties to banks benefit firms in several ways. For example, Weinstein and Yafeh (1998) find that Japanese manufacturing firms that have strong relationships with their main banks tended to use more capital than independent firms in the same industry when their operating cash flow declined during the period 1977-86. In many emerging economies, close ties to banks also provide opportunities for firms to obtain economic rents created by various regulations to promote some specific industries. For example, in Thailand banks were required to provide loans at lower than the market rate to the agribusiness industry in the 1980s. Anecdotal evidence exists of firms with close ties to banks receiving most of these loans. In Korea until the end of the 1980s, banks were required by the government to lend to large family-owned business groups (*Chaebols*) at low interest rates. Lee et al. (2000) find that *Chaebol* affiliated firms are in fact more levered than stand alone firms.

In this paper, we argue that strong connections with banks and finance companies provide firms preferential access to long term loans. To test this argument, we use the standard corporate finance model of the determinants of debt maturity following Barclay and Smith (1995), Stohs and Mauer (1996) and Demirgüç-Kunt and Maksimovic (1999). Specifically, we estimate a measure of long term loans as a function of measures of connection and control variables. As a proxy for long term loans, we use the ratio of long term borrowings from banks and finance

[9]This report was prepared for the government in 1998, and was published in English and Thai. The objective was to identify the causes of economic and mis-management and corruption in the Bank of Thailand. It provides recommendations to improve the efficiency of the financial system and reforms of the BOT. The chairman of the commission was Nukul Prachuabmoh, a former governor of the BOT. Other members include several of the country's leading economists and lawyers.

companies to total debt. Total debt includes short term and long term debt from banks and other financial intermediaries, long term debt that is due in the current period, and debentures.

4.1 Connections with Banks

We define a firm as having "close connections" to banks when the firm is owned by the country's richest families. In other words, we believe that the country's richest families that own business empires are well connected to bankers. (Hereafter we use the word 'bank' as an abbreviation for financial institutions. It includes both banks and finance companies.) In addition, as several authors have also noted (Khanna (2000), Bongini et al. (2001), Chui et al. (2001), and Fisman (2001)) in emerging market contexts, a country's rich families are known to be strongly connected not only to financial institutions but also the power structure. Thailand certainly is not an exception.

For the "connected families" to be a good indicator of the strong connections with banks, the proxy for the "connected families" should include the most wealthy and well known families. Similar to many emerging economies, identifying the richest families in Thailand is not straightforward because there is no official record on the ranking of business groups. The ranking could be perfectly done if all the firms were listed in the stock exchange. Unfortunately, this is not the case in many emerging economies including Thailand. Thus only a rough estimation can be done. Specifically, to rank the wealth, we employ the business group ranking done by Suehiro (2000). This ranking focuses on firms that appear in the largest thousand firms in 1994 published by the Advanced Research Group. To obtain the size of a group, he sums up sales of all firms in the same group. The information on affiliated firms is obtained from the Ministry of Commerce and Tara Siam Business Information (1996).

Based on this information, we define "connected families" to be the owners of the 20, 30, and 60 largest business groups that are shown in Table 2. We use three levels of wealth to measure the strength of the connections. The size of the top 60 business groups, measured by sales, ranges from 122, 039 million Baht to 6,241 million Baht (see Suehiro (2000)).

As shown by the family names, business groups proxy the close ties that the controlling families have with banks. In fact, a number of these families, for example the Crown Property Bureau, Lamsam, Rattanarak, Sophonpanich, Taechaphibun, and Wang Lee, did own and control banks, finance and insurance companies until the financial crisis hit in 1997 (see Anuchitworawong et al. (2003)). Some of the connected families are connected to the owners of

banks by marriage. For example, members of the Sophonpanich which has been the largest shareholder of the largest bank in Thailand, the Bangkok Bank, married to the Leesawattrakun and Srifuangfung families. The Lamsam family which has been the largest shareholder of the Thai Farmer Bank, the third largest bank as of the end of 1996, is also tied to the Wang Lee, the Yip In Tsoi, and the Chutrakul by marriage for more than one generation.

We define firms as connected to these connected families if any of these families own at least a 10 percent stake in the firms [10]. Our results show that 22.22 percent, 26.30 percent and 32.96 percent of firms in our sample are affiliated to the top 20, 30 and 60 connected families (see Table 3). About 11.48 percent of the sample are those in which the controlling shareholders are the major shareholders of banks and finance companies.

[Insert Table 2 Here]

4.2 Control Variables

Previous studies suggest that since it is difficult to monitor firms due to a high degree of information asymmetry between insiders and outsiders, investors are likely to depend more on short term loans (Barclay and Smith (1995), Houston and James (1996), and Stohs and Mauer (1996)). Diamond (1991a) argues that low quality firms that have insufficient cash flows have no choice but to resort to short term debt. These firms are discouraged from using long term debt because they have low credit ratings, and hence bear higher interest costs. As low rated firms are not able to participate in the directly placed long-term debt market, they end up borrowing short term from banks and finance companies.

Following the literature, we include five variables to control for firm specific characteristics. First, we include the natural logarithm of assets (*Log (assets)*) as a measure of firm size. Size might be positively associated with reputation as well as the level of the firm specific information that is disclosed to public (Diamond (1991b)). Also, larger firms are likely to be more diversified and hence have less chance of going into financial distress than smaller firms. Accordingly, firm size is likely to be positively correlated with the level of long term debt.

Second, we include the ratio of the market to the book value of total assets (*M-B ratio*) as a proxy for future investment opportunities. The market value of assets is defined as the book

[10] According to the Thai corporate law, with this level of shareholdings, a shareholder can control the firm in the following manner. He has the right to submit a motion to the court for the company's liquidation if, (i.) management fails to act in accordance with the provisions relating to payments of stock issuance and transferring of ownership, (ii.) the number of shareholders is less than 15, and (iii.) the company is in financial distress and has no possibility of recovering (see Stock Exchange of Thailand (1997) and Wiwattanakantang (2001b)).

value of assets less the book value of equity plus the market value of equity. The literature on debt maturity suggests that firms with high growth prospects are susceptible to both under as well as over investment problems. Short term debt might mitigate these problems since the debt contract comes up for negotiation before completion of the projects. Hence the creditors can monitor the operation and investment decisions of the firms. Thus we predict a negative relation between growth opportunities and long term debt.

Third, we also include the ratio of net fixed assets to total assets (*Fixed asset ratio*) in the model to capture the effect of collateral on the use of long term loans. The fixed asset ratio can also be used to control for the maturity matching effect on financial structure. Stohs and Mauer (1996) and Demirgüç-Kunt and Maksimovic (1999) argue that firms are more likely to choose debt maturity in order to match the maturity of borrowing with the maturity of their assets. Therefore, firms tend to need more long term funding to finance their investment in fixed assets.

Fourth, we include the standard deviation of the percentage changes in sales over the period 1991-1995 *S.D. (sales 1992-95*) to control for the volatility of earning. The volatility of earning is positively related to the level of the asymmetric information problem the firm faces when trying to acquire long term loans. We expect that higher risk firms are likely to have difficulty obtaining long term debt.

Finally, we include a measure of leverage defined as the ratio of total liabilities to total assets to control for the probability of being in financial distress. Firms with high probability of default are likely to have a greater likelihood of financial troubles. These high default risk firms are likely to be have difficulty obtaining long term debt since creditors would require high interest rates for bearing the long term credit risk.

To capture the variation in borrowing decisions due to industry characteristics, we include 21 dummy variables representing firms in the 21 industries that are classified by the Stock Exchange of Thailand. The remaining industry is the agribusiness industry.

5 Empirical Evidence: Connections and Corporate Financing

5.1 Univariate Analysis

We begin our analysis by comparing the pattern of financing structure and firms characteristics between firms with and without bank connections. Table 3 compares mean values of a set of

variables of firms that are connected to the most wealthy families and those that are not. As hypothesized, connected firms tend to have relatively more long term loans. Connected firms appear to use less short term loans relative to non connected firms, however. Specifically, while the mean ratio of long term loans to total assets for firms affiliated to the most wealthy families is about 15 percent, those of non connected firms is about 12 percent. Similarly, while the mean ratio of long term loans to total debt for connected firm ranges between 34-36 percent, that of non connected firms is only about 26 percent. The differences are significant at the conventional levels.

When considering the overall debt level, connected firms turn out to be similar to non connected firms. But interestingly, when we limit the rich level to the top 20 and 30, connected firms appear to have significantly less overall debt when compared to non connected firms. The differences in both mean and median values are strong significant at the 5 percent level.

We investigate further by testing whether differences in the use of long term loans between connected and non connected firms are attributable to the differences in the firm characteristics factors. When compared to non-connected firms, connected firms are significantly larger measured by assets and sales. Firm connected to the top 30 and 60 families have significantly higher growth ratios compared to non connected firms. However, connected and non-connected firms do not appear to be different in terms of profitability, tangible assets, and financial risk level (as measured by the ratio of total liabilities to total assets). This preliminary investigation provides some support for our conjecture that close relationships with financial institutions do matter in facilitating more long term lending. In the next section, we investigate this issue in more detail using multivariate analysis.

[Insert Table 3 here]

5.2 Connections and Long Term Loans

We first analyze whether firms affiliated to the richest families which are postulated as having close ties to banks obtain relatively more long term loans. Table 4 contains the *OLS* regression results. All regressions include industry effects. In Specification (1) and (2), we present the regression results for firms that are affiliated to the 60 most wealthy families, which is indicated by a dummy variable *Connected firms*. Specifically, the dummy variable is one if the firm is owned by the 60 families documented in Section 4.1. The results in Specification (1) in which

no firm characteristic factors are included strongly supports the univariate tests. The estimated coefficient on *Connected firms* is positive and strongly significant at the 1 percent level. The magnitude of the coefficient indicates that firms affiliated to the top 60 most wealthy families have, on average, a higher ratio of long term debt to total debt of 9.2 percent. The results hold when all the control variables are included (Specification (2)). The estimated coefficient on *Connected firms* shows that these connected firms on average have 6.1 percent more long term debt than non connected firms. Hence, the empirical evidence strongly supports our hypothesis that close personal ties provide greater access to long term borrowing from banks and finance companies.

To test whether the level of wealth affects the results, we redefine the dummy *Connected firms*. In Specification (3)-(4), *Connected firms* represent firms that belong to the top 30 most wealthy families. In Specification (5)-(6), *Connected firms* represent firms that belong to the top 20 most wealthy families. In all these four regressions, the estimated coefficients on *Connected firms* are strongly significant at the 1 percent level. The results are consistent with the previous findings that connected firms use more long term loans. In addition, the results indicate that the levels of wealth of the major shareholders are positively related to the long term loans ratio. Specifically, the long term loan ratio of firms belonging to the top 30 most wealthy families are 10.5 percent higher than non connected firms. When the benchmark is raised to the top 20 richest families, the estimated coefficient on *Connected firms* is slightly higher to be 10.7 implying that connected firms use 10.7 percent more long term loans than non connected firms.

Regarding the effects of firm characteristics on the choices of long term borrowing, in general the results support the hypothesis that firms with high agency costs are likely to use less long term bank debt. But, somewhat surprisingly, the coefficient estimates associated with only two firm characteristics factors are significant. The coefficients on firm size and the fixed asset ratio are consistently significant at the 1 percent level in all models. These results indicate that firm size and type of assets do matter in extending debt maturity. Large firms have more access to long term loans probably because they have smaller information asymmetries or are more diversified. The results also suggest that firms may use their tangible assets as collateral to support long term loans.

However, besides size and tangible assets, other firm characteristics that are usually found to be empirically important determinants of debt maturity structure in more developed economies such as the U.S. do not appear to have any significant effect on long term borrowing of Thai

firms. The lack of significance of other variables in our regressions implies that institutional and structural frameworks matter in determining debt maturity structure.

The results of the fitness test are satisfactory. F-statistics indicate that all these regressions are significant at the 1 percent level. The values of adjusted R-squared range from 0.27 to 0.38 suggest that our models provide a good explanatory power of the debt maturity structure of Thai firms.

[Insert Table 4 Here]

5.3 How Do Connections Work?

We extend the analysis to investigate how the relationships work to enable firms to raise more long term loans. More precisely, we analyze whether the relationships overwhelm the effects of firm characteristics on the decisions of long term loans. For example, the debt maturity literature suggests that firms should match the maturity structures of their assets and financing, hence firms with less fixed assets should be associated with less long term loans. However, the fixed asset effect on the choices of long term loans might be attenuated or disappear if firms have strong connections with banks. In this section, we attempt to shed light on these issues.

To test this issue, we need to simultaneously incorporate connection and firm characteristic variables. We re-estimate the regressions including the interaction terms between firm-bank connection variables and firm characteristics. The coefficient on a given interaction term measures how the relation between the choice of long term debt and the relevant firm characteristic differs for firms with and without close connections. If the connections overwhelm the effects of firm characteristics on the decisions of long term loans, then the estimated coefficient on an interaction variable for a firm characteristic should be opposite in sign from the non-interaction term.

The results of the regression are presented in Table 5. In columns (1), (2), and (3), the firm characteristics are interacted with the dummy variables, *Connected firms*, which represent firms belonging to the top 60, 30 and 20 richest families, respectively. Only the estimated coefficients on the interaction terms between the fixed asset ratio and the dummy variable, *connected firms* are statistically significant. While the coefficients on the fixed asset ratio are positive and consistently significant at the 1 percent level in all regressions, the estimated coefficients on the interaction terms between the fixed asset ratio and the dummy variable, *Connected firms*, turn

out to be significantly negative in all regressions at the 1 percent level. This evidence suggests the relatively more importance of collateral for long term financing in non connected firms. In contrast, connected firms appear to use much less collateral when borrowing long term. For example, in Specification (1), for non connected firms, the economic effect of fixed assets on long term borrowing are a dramatic 43.6 percent, the fixed assets effects in firms belonging to the top 60 richest families are only 3.86 percent.

However, these results could also suggest a different interpretation along the following lines. The negative coefficient on the interaction term implies that when compared to non connected firms, connected firms appear to match the maturity of their debt to assets to a lesser degree. Regardless of how the results are interpreted, these findings provide stronger support for the connected lending hypothesis.

[Insert Table 5 Here]

5.4 Further Results: Connections and Total Debt

In this Section, we test whether the connections have any effects on the use of total debt. For the robustness check, we run the regressions with and without control variables that capture firm characteristics. The choices of firm characteristic variables are based on the capital structure literature e.g., Rajan and Zingales (1995) and Booth et al. (2001). Specifically, we include 5 firm characteristic variables namely the logarithm of assets, the market to the book value of total assets, the fixed asset ratio, the standard deviation of the percentage changes in sales over the period 1991-1995, and the ratio of EBIT to total assets to control for the effects of size, investment opportunities, tangibility, business risk, and profitability, respectively.

The regression results are shown in Table 6. The adjusted R-squared range varies from 19.4 percent to 21 percent in the models before the firm characteristic variables are not included and rises to 44.4 percent to 46 percent with the control variables.

The estimated coefficients on all the three connection variables representing firms belonging to the top 60, 30, and 20 richest families turn out to be negative in all the models. The estimated coefficients on the connection variables are strongly significant in almost all the models except in Specification (1) in which the connection variable representing firms belonging to the top 60 richest families is included and there is no control variable. The results indicate that connected firms use less total debt. Interestingly, the magnitude of the coefficients on the connection

variables suggest that the wealth of the firms' major shareholders is negatively related to the total debt ratio. The richer the major shareholders of the firms are, the less the firms are levered. Statistically, while firm affiliated to the 60 richest families have, on average, a lower debt/asset ratio of 5.9 percent when compared to non connected firms, affiliations to the 20 and 30 richest families have, on average, lower debt/asset ratios of 8.5 percent and 8.6 percent, respectively.

Our results indicate that by having connections with banks, firms can get more long term loans, and appear to use less short term loans (see also Table 3). The fall in total debt ratios indicate that the substitution of short term debt for long term debt is less than one.

Our findings do not support the view often made by many studies in the financial crisis literature that crony relationship is associated with a higher leverage ratio. Apparently, this is not the case for listed firms in Thailand. In fact, Lee et al. (2000) also document similar results that firms affiliated to the top five largest chaebols do not have higher debt/asset ratios than non chaebol firms during 1989-1997.

[Insert Table 6 Here]

5.5 Are Connected Firms less Vulnerable to the Financial Crisis?

In this Section, we investigate the impact of financial crisis that hit Thailand in July 1997 on firms connected to the rich. More precisely, we test whether connected firms were less vulnerable to the adverse economic shocks because connected firms could obtain more long term loans and were less levered. By being more dependent on long term loans and hence having higher capacity to secure external finance, connected firms should be less financial constrained during the financial crisis when the country experienced severe credit crunch. In contrast, non connected firms that used more short term loans might suffer more from the economic shock because they might have been in trouble finding alternative sources of funding. In fact, Bae et al. (2002) find a sharp decline in performance of firms in Korea that could not switch to new lenders after the crisis hit. In addition, Opler and Titman (1994) and Baek et al. (2002) find that highly levered firms experience large drop in firm's value during the period of economic downturn.

Following the literature (e.g., Mitton (2002) and Lemmon and Lins (2003)), we focus on the period immediately after the financial crisis, the end of 1997, in order to isolate other factors

that might affect the degree of vulnerability and hence correctly capture the connection effects. We measure the degree of vulnerability by using two measures: the interest coverage ratio and the ratio of earnings before taxes to total assets (EBT/assets). The interest coverage ratio is commonly used to define financial distress (e.g., Asquith et al. (1994) and Andrade and Kaplan (1998)) and is defined as the ratio of interest expenses to earnings before interest and taxes. The results are shown in Table 7. We report the median values because the interest coverage ratios include extreme values. Because some of the firms in the 1996 sample were delisted in 1997, we end up having less firms in the 1997 sample.

The results indicate that connected firms appeared to be relatively less vulnerable to the crisis. The median coverage ratios for the firms connected to the top 60, 30 and 20 richest families are 1.47, 1.54, and 1.63, respectively, implying that these firms still had some slack after paying the interest expenses. In contrast, the median coverage ratios for non connected firms which range between 1.04 to 1.15 are lower than those of connected firms. The differences in the median values are statistical significant only for firms that belong to the top 20 and 30 families, however.

Next, we count the number of firms in each group that have an interest coverage ratio less than one, indicating that the business is having difficulties generating the cash necessary to pay its interest obligations. Statistically, connected firms experience financial distress less often than non connected firms. For example, while about 38.57 percent of firms connected to the top 30 families were having financial difficulties, about 47.96 percent of non connected firms are in the same boat.

For the robustness, we use an alternative measure of performance, the ratio of earnings before taxes to total assets (EBT/assets). Similarly, we find that connected firms have significant higher profitability after paying interest expenses. Further, we run regressions of the performance variable (EBT/assets) on the connected firm dummy variable and control for the industry effects. In addition, we include two firm characteristic variables to control for the effects of firm size and leverage. The results are shown in Table 8. When firm characteristic variables are not included, estimated coefficients on the dummy variables, *Connected firms*, are strongly significantly in all the models indicating that connected firms had higher net profit when compared to non connected firms. However when the firm characteristic variables are not included, only the coefficient on the dummy variable, *Connected firms*, that represent firms connected to the top 20 families turns out to be statistically significant at the 5 percent level.

The magnitude of the coefficient indicates that firms connected to the top 20 families had, on average, a higher EBT/assets of 4 percent over the period immediately after being hit by the crisis.

Overall the results indicate that firms affiliated to the rich in particular the top 20 most richest families are less vulnerable to the 1997 crisis. Our analysis is consistent with the findings of Johnson et al. (2002), Mitton (2002), Lemmon and Lins (2003), and Baek et al. (2003). The focuses are slightly different , however. While they investigate the effects of corporate governance namely disclosure quality, ownership structure, and corporate diversification on the stock price performance of firms during the crisis, our analysis focuses on the effects of connections.

[Insert Table 7 Here]

[Insert Table 8 Here]

6 Robustness Tests: Connections via the Board of Directors

As an extension on our findings, we examine the effects of the connections with banks via the board of directors on long term borrowing. We define the board connections in a similar manner to Kroszner and Strahan (2001a). Specifically, a firm has connections with the bank board when at least one member of the firm's board also serves on the boards of banks and finance companies. Out of 270 firms in the sample, 186 firms or 68.89 percent of the sample have at least one incidence of the board connection with those of banks. On average, these firms have connections with 1.79 banks, and the median number of banks that the firms connected with is two.

We investigate further in order to examine the close relationships with banks that are effected through board representation at different management levels. Our focus is on two management levels, namely executives and non executives. An executive is defined as someone who holds one of the following positions: chairman, honorary chairman, vice-chairman, president, vice-president, CEO or managing director, vice-CEO and vice managing director. Non-executives are other directors of the board.

Our results reveal that the board connection appears to be most frequent at the non-executive level, which accounts for about 36.30 percent of the firms. In 13 firms which accounts for 4.81 percent of our sample, the firm's board is connected with those of banks at the executives level. Finally, in about 28.15 percent of the firms, the board connections are via both

the executive and non executive levels. We expect that top managers who are at the same time serving at the boards of banks are likely to make it easier for their companies to get long term loans.

6.1 Board Connections and Financing

In this Section, we examine the effects of the board connections on corporate financing using similar methodology as in Section 5. First, we explore how the board connections affect long term lending. Table 9 shows the results of a univariate analysis comparing the financing structure and firm characteristics between firms that are connected to banks through the board of directors and those that are not. Similar to the previous findings, firms with the board connections appear to use significantly more long term loans but less short term loans compared to non connected firms. The leverage ratio, however, measured by the ratio of total debt/total assets for both connected and non connected firms are not significantly different.

Regarding firm characteristics, firms with the board connections appear to be significantly larger than connected firms based on both the mean and median values of total assets and sales. Connected firms do not appear to be more profitable, but seem to be not more risky and have less tangible assets compared to non connected firms. Specifically, when considering the mean values, connected firms appear to have higher risk measured by the standard deviation of sales over 1991-95 compared to non connected firms. When considering the median values, connected firms appear to have higher fixed asset ratio compared to non connected firms.

Regressions relating the effects of board connections on long term loans are shown in Table 10. Industry dummies capturing the industry effects are included in all regressions. Specification (1) and (2) focus on the effect of the presence of any board connections between firms and banks. The ratio of number of positions on the board that are connected with banks to board size (*Board connections/board size*) captures this effect. In Specification (1), only the industry effects are included. In Specification (2), we include all the firm characteristics variables described in Section 4.2. The results are consistent with our hypothesis and the previous findings that connected firms appear to be able to obtain more long term loans. The estimated coefficients on *Board connections/board size* are positive as expected and strongly significant. The size of the coefficient is 0.42 for the model (2) when firm characteristics are controlled indicates that a 10 percent difference in board connection is associated with a 42 percent increase in the long term debt ratio.

We separate the board connections into three categories: Connections at the executive, non executive and both executive, non executive levels. The results in specification (3) show that preferential access to long term loans to firms appears only when firms have strong board connections with banks meaning that the connections have to be through both the executive and non executive levels. The coefficient on the connection variable is significant at the 1 percent level. The magnitude of the coefficient is 0.107 indicating that firms with this type of board connections, on average, an additional more long term debt of 10.7 percent.

Next, we investigate further whether the positive relationship between board connections and the ratio of long term loans remains if we exclude firms that share common ultimate owners with banks. By excluding firms where their controlling shareholders own banks and finance companies, we are able to separate the effects of the connections from the effects of the bank ownership. We repeat the regressions in Specification (1), (2), and (3) but exclude 36 firms in which the major shareholders own financial institutions. We only report some of the results here in Specification (4). Other regressions are also consistent with the previous findings.

To understand whether board connections affect the long term lending practices via firm characteristics, we ran regressions using similar methodology in Table 5. None of the estimated coefficients on the interaction terms between the board connection variables and the firm characteristics appears to be statistically significant, however.

Further, we examine the effects of the board connections on the total debt ratio. The regression results relating the ratio of total debt to total assets are shown in Table 11. When firm characteristic variables are not included, none of the estimated coefficients on the board connection variables is statistically significant. However, when we control for the firm characteristics, the coefficient on the board connection variable, *Board connections/board size*, turns out to be negative and significant at the 5 percent level. The results indicate that firms with board connections have significantly lower debt/asset ratios. In addition, the results also show that firms that have board connections with banks both at the executive and non executive levels have, on average, a lower debt/asset ratio of 7.1 percent than firms with no board connection with banks.

Finally, it should be noted that the causality could also run from long term debt level to board connections. More precisely, the positive relationship between the board connection variables and long term debt level could indicate that the board connections are the outcome of long term lending. Because we lack time series data on the board structure, we could

not perform systematic tests to disentangle endogeneity and causality issues in order to draw inferences about whether the board connections affect long term lending.

[Insert Table 9 Here]

[Insert Table 10 Here]

[Insert Table 11 Here]

6.2 The Determinants of Board Connections

To test the robustness of our findings, we also investigate factors that determine the allocation of board connections. This is in order to determine whether the presence of board connections is a response to asymmetric information problems or is due to crony relationship or personal connections. If such connections affect the establishment of the board connections with banks, then our board connection variable is indeed a good proxy for the crony or personal relationship.

Kroszner and Strahan (2001b) argue that the board connections might generate conflicts of interests between creditors and borrowing firms especially when the firms are facing financial difficulties. The basic statement of this view is that when firms experience financial distress, either bankers who are sitting on the firms' boards or directors of the borrowing firms who are sitting on the banks' boards tend to act on behalf of the firms. They are likely to put pressure on banks to provide more loans to the firm. Since loans to troubled firms have a high probability of default, these lending practices may in turn bankrupt the banks. Hence, banks are less likely to have connections with unstable firms and more likely to establish connections with firms for whom the potential for default is low. These firms are larger firms, with more tangible assets, are more stable in term of profitability, and have less leverage.

In contrast, the information view provides the opposite prediction. The firm-bank relationship literature suggests that banks can learn a substantial amount of information about their firm-customers via board representation. Besides, by sitting in a firm's board, banks might be able to closely monitor the behavior of firm management and may even influence decisions made by the management. Since banks have such a wide access to private information about the firms, the information asymmetries as well as the moral hazard problem might be mitigated. Hence, this information view suggests that the benefits of board connections from both the firm and bank point of views depends on the potential information asymmetries and the agency

costs of debt financing between the firms and banks. Consistent with this view, firms that have high agency costs and are difficult to monitor should have connections with banks. That is, smaller firms, firms with a lower proportion of tangible assets and less stable firms with stable profitability and higher fractions of leverage ratio are expected to be more likely to have the board connections with banks.

The connection or crony view, however, leads to a different prediction. If the banking system is protected by implicit guarantees that provide insurance for banks from going bankrupt, the conflicts of interests between banks and borrowing firms might be softened. Fully recognizing that the government bears the costs of any financial distress, banks may build board connections with firms that are owned by their families and friends. In the extreme case, the connections might be established irrespective of firm characteristic factors. In other words, the connection view suggests that the connections might overwhelm the effect of firm characteristics.

To explore this issue systematically, we follow the methodology used by Kroszner and Strahan (2001a and 2001b). We use a probit model in which the dependent variable is one if the firm has at least one person on its board serving on a bank's board or if the firm has a banker on its board. The probit regression results on the determinants of the incidence of the board connections are shown in Table 12. In Specification (1), we test how board connections vary with firm characteristics. The firm characteristics are the same set of variables described in Section 4. The reported results are the marginal effects of a one unit change from the mean of each independent variable on the probability of having a board connection with banks.

Our results are partially in line with those of Kroszner and Strahan (2001a and 2001b). Similar to the US banks, Thai banks also have the connections with larger firms. However, unlike the US, asset tangibility, growth and sale volatility are not related to the probability of having board connections. In addition, the connections are more prevalent for less indebted firms. Overall, these results somewhat support the conflict of interest argument and reject the information view.

Next, we investigate whether the existence of connections as well as ownership of banks contributes to the incidence of board connections. In Specification (2), we include two dummies representing firms that are owned by the two groups of the influential families: *Influential families with bank* and *Influential families without bank*. The estimated coefficients of these two dummy variables are strongly significant at the one percent level. The results show that connections are most prevalent among connected firms affiliated to these two groups of influential

families. Further investigation on the data reveals that out of 65 firms that belong to the influential families that do not own banks, only 6 firms do not have a board connection. Firms that belong to the influential families who also own banks, however, are always connected to the boards of banks. In most of the cases, the persons who serve on the boards of banks and firms are the firms' controlling shareholders and their families.

Interestingly, once we control for the effects of connections by including the two proxies of influential families, the incidence of board connections is hardly related to firm characteristics. Except the measure for firm's size, none of the estimated coefficients on the rest of the firm characteristics turn out to be statistically distinguishable from zero. These results are consistent with the connection view, and do not appear to support the information view.

We investigate further to check whether the effects of firm characteristics on the likelihood of having the board connections is attenuated for the case of connected firms. To absolutely distinguish the ownership effect from the connection effect, we examine firms that are affiliated to the influential families that do not own banks. We interact the variable *Influential families without bank* with the five firm characteristics. The results in Specification (3) show that when banks build a connection with non connected firms, banks appear to have board connections with larger firms. In contrast, banks seem to pay less attention to firm's size when they establish a connection with the connected firms. Banks appear to have connections with firms that are owned by influential families even if they are smaller.

To test the robustness of this findings, we drop 31 firms that are owned by the influential families that own banks from our sample and re-estimate the probit model. Our results remain the same (Specification (4) and (5)). In an unreported regression, we ran a test that controls for the size of the board. The regression was done by using the Tobit model, in which the dependent variable is the ratio of the number of persons from a firm's board who are serving on the boards of banks divided by the number of persons in the firm's board. Again, our results are robust in term of signs, statistical significance and magnitudes.

[Insert Table 12 Here]

6.3 Connected lending and Non-Performing Loans

One might argue that banks have incentives to provide more long term financing to firms that banks have close personal connections or board ties to because these connections help limit

information asymmetry and moral hazard problems. Connected lending should therefore be valuable both to the firms and banks. But, as noted in La Porta et al. (2003), if lending to friends whom the banks know well improves information flows, then such lending should end up having lower or no default rates, or at worst have high recovery rates. Unfortunately, due to data unavailability, we are not able to directly provide a systematic analysis of this issue. But we believe that the evidence on the massive amount of non performing loans carried by banks and finance companies, and which subsequently bankrupted a number of them is inconsistent with the information view and arguably supports the connected lending view.

Panel A of Table 13 shows the proportion of non performing loans (NPLs) to outstanding loans over 1997-2000. NPL is defined as a loan that has stopped payment on principal and interest for at least 3 months. The laxity in lending practices is demonstrated by the extremely high levels of NPLs. The peak of the bad loan problem was in 1998 when the average ratio of NPL to outstanding loans held by banks and finance companies reached 45.02 percent and 70.16 percent, respectively. It is widely believed, however, that the official NPL figures tend to understate the real extent of the problem. For example, while NPLs disclosed by Krung Thai Bank, the second largest state owned bank, are 59 percent of outstanding loans, the figure that was estimated by Pricewaterhouse Coopers who audited the bank is 84 percent (Bangkok Post, November 9, 1999).

The bad loan problem has been an important contributory factor to the banking crisis that started in 1997. As a consequence of this crisis a number of financial institutions became insolvent. Panel B provides the number of financial institutions from 1996-2001. The government suspended 58 finance companies in August 1997, 12 finance companies and six commercial banks in 1998, and one commercial banks and one finance company in 1999. Consolidations including mergers reduced the number of local commercial banks from 15 at the end of 1996 to 13 by 2001. In sum, out of 14 domestic banks as of 1996, three were closed down, two were taken over by the government and three became foreign owned banks. As for finance companies, out of 91 companies as of 1996, 71 were closed down.

[Insert Table 13 Here]

7 Conclusion

We have found that for Thai firms, the presence of close ties with banks and politicians was associated with preferential access to long term debt prior to the Asian Crisis of 1997-98. Furthermore, standard firm characteristics that the corporate finance literature suggests should play a role, pale into insignificance in the presence of these connections. These findings are consistent with the recent literature that implicates weak corporate governance in the extent and severity of the crisis.

We believe our focus on corporate debt in Thailand is especially appropriate for examining the role of connections in lending practices. Thailand was the first casualty of the crisis, experiencing the first wave of serious speculative attacks on its currency in July of 1997 followed by a sharp decline in its stock market, after which South Korea, Malaysia, Indonesia and the Philippines were affected. Attempts to reconstruct the circumstances leading up to the crisis (such as Corsetti et al. (1998a), Corsetti et al. (1998b), and Pomerleano (1998)) argue this was not surprising since Thailand was the country with the shakiest macro-economic fundamentals toward the end of 1996. Among the manifestations of weakness were large external deficits, increasing short-term foreign indebtedness and the fragile conditions of banks due to an accumulation of bad loans. While Thailand provides perhaps the best laboratory for the testing of the connections hypothesis in the shadow of the crisis, we are inclined to believe similar results might be found in many other emerging economies.

References

Andrade, Gregor, and Steven N. Kaplan, 1998, How costly is financial (not economic) distress? Evidence from highly leveraged transactions that became distressed, *Journal of Finance* 53, 1443–1494.2

Anuchitworawong, Chaiyasit, Toshiyuki Souma, and Yupana Wiwattanakantang, 2003, Did family controlled banks prevail after the East Asian financial crisis? evidence from Thailand, Working paper 2003-6, Center for Economic Institutions, Institute of Economic Research, Hitotsubashi University, Tokyo, Japan.

Asquith, Paul, Robert Gertner, and David S. Scharfstein, 1994, Anatomy of financial distress: An examination of junk-bond issuers, *Quarterly Journal of Economics* 109, 625–658.

Bae, Kee-Hong, Jun-Koo Kang, and Jin-Mo Kim, 2002, Tunneling or value added? evidence from mergers by korean business groups, *Journal of Finance* 57, 2695–2741.

Baek, Jae-Seang, Jun-Koo Kang, and Syung-Suh Park, 2002, Economic shock, business group, and determinants of firm value and restructuring: Evidence from the Korean financial crisis, mimeo.

Baek, Jae-Seang, Jun-Koo Kang, and Syung-Suh Park, 2003, Corporate governance and firm value: Evidence from the Korean financial crisis, *Journal of Financial Economics* , forthcoming.

Barclay, Michael J., and Clifford W. Smith, 1995, The maturity structure of corporate debt, *Journal of Finance* 40, 609–631.

Bongini, Paola, Stijn Claessens, and Giovanni Ferri, 2001, The political economy of distress in East Asian financial institutions, *Journal of Financial Services Research* 19, 5–25.

Booth, Laurence, Varouj Aivazian, Asli Demirgüç-Kunt, and Vojislav Maksimovic, 2001, Capital structures in developing countries, *Journal of Finance* 56, 87–130.

Bualek, Pannee, 2000, *Major Shareholders of Thai Banks during 1932-1973* (Siam Publisher, Bangkok, Thailand), second edition, in Thai.

Chui, Andy, Sheridan Titman, and K.C. John Wei, 2001, Corporate groups, financial liberalization and growth: The case of Indonesia, in *Financial Structure and Economic Growth: A cross-country comparison of banks, markets, and development*, Demirgüç-Kunt, Asli, and Ross Levine, eds. (The MIT Press, Cambridge, MA), 377–410.

Claessens, Stijn, Simeon Djankov, Joseph Fan, and Larry H.P. Lang, 2002, Disentangling the incentive and entrenchment effects of large shareholdings, *Journal of Finance* 57, 2741–2772.

Claessens, Stijn, Simeon Djankov, and Larry H.P. Lang, 2000, The separation of ownership and control in East Asian corporations, *Journal of Financial Economics* 58, 81–112.

Corsetti, Giancarlo, Paolo Pesenti, and Nouriel Roubini, 1998a, What caused the asian currency and financial crisis? Part I: A macroeconomic overview, Working paper 6833, National Bureau of Economic Research, Cambridge, MA.

Corsetti, Giancarlo, Paolo Pesenti, and Nouriel Roubini, 1998b, What caused the Asian currency and financial crisis? Part II: The policy debate, Working paper 6834, National Bureau of Economic Research, Cambridge, MA.

Demirgüç-Kunt, Asli, and Vojislav Maksimovic, 1999, Institutions, financial markets, and the firm debt maturity, *Journal of Financial Economics* 54, 295–336.

Diamond, Douglas W., 1991a, Debt maturity and liquidity risk, *Quarterly Journal of Economics* 106, 709–737.

Diamond, Douglas W., 1991b, Monitoring and reputation: The choice between bank loans and directly placed debt, *Journal of Political Economy* 99, 689–721.

Diamond, Douglas W., and Raghuram G. Rajan, 2001, Banks, short term debt and financial crises: Theroy, policy implications and applications, *Carnegie-Rochester Conference Series on Public Policy* 54, 37–71.

Faccio, Mara, and Larry H.P. Lang, 2002, The umtimate ownership of Western European corporations, *Journal of Financial Economics* 65, 365–395.

Fisman, Raymond, 2001, Estimating the value of political connections, *American Economic Review* 91, 1095–1102.

Greif, Avner, 1993, Contract enforceability and economic institutions in early trade: The maghribi traders coalition, *American Economic Review* 83, 525–48.

Hewison, Kevin, 1989, *Bankers and bureaucrats: Capital and the Role of the State in Thailand* (Yale Center for International and Area Studies, New Haven, CT).

Houston, Joel, and Christopher James, 1996, Bank information monopolies and the mix of private and oublic debt claims, *Journal of Finance* 51, 1863–1889.

Johnson, Simon, Peter Boone, Alasdair Breach, and Eric Friedman, 2000a, Corporate governance in the Asian financial crisis, *Journal of Financial Economics* 58, 141–186.

Johnson, Simon, John McMillan, and Christopher Woodruff, 2002, Courts and relational contracts, *Journal of Law, Economics and Organization* 18, 221–277.

Johnson, Simon, and Todd Mitton, 2003, Cronyism and capital controls: Evidence from Malaysia, *Journal of Financial Economics* 67, 351–382.

Johnson, Simon, Rafael La Porta, Florencio Lopez de Silanes, and Andrei Shleifer, 2000, Tunnelling, american Economic Review Papers & Proceedings.

Johnstone, W., D. Neilsen, and A. Henderson, 2002, *Thai Business Groups 2001: A Unique Guide to Who Owns What* (The Brooker Group Plc, Bangkok, Thailand).

Khanna, Tarun, 2000, Business groups and social welfare in emerging markets: Existing evidence and unanswered questions, *European Economic Review* 44, 748–761.

Khantavit, Anya, Piruna Polsiri, and Yupana Wiwattanakantang, 2003, Did families lose or gain control? Thai firms after the East Asian financial crisis, in *Designing Financial Systems in East Asia and Japan: Toward a Twenty-First Century Paradigm*, Fan, Joseph P.H., Masaharu Hanazaki, and Juro Teranishi, eds. (Routledge, New York).

Kroszner, Randall S., and Philip E. Strahan, 2001a, Bankers on boards: Monitoring, conflicts of interest and lender liability, *Journal of Financial Economics* 62, 415–452.

Kroszner, Randall S., and Philip E. Strahan, 2001b, Throwing good money after bad? Board connnections and conflicts in bank lending, Working paper 8694, National Bureau of Economic Research, Cambridge, MA.

Krugman, Paul, 1998, What happened to Asia?, memio.

La Porta, Rafael, Florencio Lopez de Silanes, and Guillermo Zamarripa, 2003, Related lending, *Quarterly Journal of Economics* 118, 231–268.

La Porta, Rafael, Florencil Lopez-De-Silanes, and Andrei Shleifer, 1999, Corporate ownership around the world, *Journal of Finance* 54, 471–517.

La Porta, Rafael, Florencio Lopez-de Silanes, Andrei Shleifer, and Robert W. Vishny, 1997, Legal determinants of external finance, *Journal of Finance* 52, 1131–1150.

La Porta, Rafael, Florencio Lopez-De-Silanes, Andrei Shleifer, and Robert W. Vishny, 1998, Law and finance, *Journal of Political Economy* 106, 1113–1155.

Laeven, Luc, 2001, Insider lending and bank ownership: The case of Russia, *Journal of Comparative Economics* 29, 207–229.

Lee, Jong-Wha, Yound Soo Lee, and Byung-Sun Lee, 2000, The determination of corporate debt in Korea, *Asian Economic Journal* 14, 333–356.

Lemmon, Mike, and Karl V. Lins, 2003, Ownership structure, corporate governance, and firm value: Evidence from the east asian financial crisis, *Journal of Finance* 58, forthcoming.

Lins, Karl V., 2003, Equity ownership and firm value in emerging markets, *Journal of Financial and Quantitative Analysis* 38, 159–184.

Manager Information Services, 1996, *Listed Companies Hand Book 1996* (Eastern Printing, Bangkok, Thailand).

McMillan, John, and Christopher Woodruff, 1999, Interfirm relationships and informal credit in Vietnam, *Quarterly Journal of Economics* 114, 1285–1320.

Mitton, Todd, 2002, A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis, *Journal of Financial Economics* 64, 215–241.

Morck, Randall, David A. Strangeland, and Bernard Yeung, 2000, Inherited wealth, corporate control and economic growth: The Canadian disease?, in *Concentrated Corporate Ownership*, Morck, Randall, ed. (The University of Chicago Press, Chicago, IL), 319–369.

Nation Multimedia Group, 1999, The Nation, various issues.

Nukul, Prochuabmoh, 1998, *Analysis and Evaluation of Facts behind Thailand's Economic Crisis* (Nation Multimedia Group, Bangkok, Thailand).

Opler, Tim, and Sheridan Titman, 1994, Financial distress and corporate performance, *Journal of Finance* 49, 1015–1040.

Pipatseritham, Krekiet, 1981, *The Analysis of the Ownership Structure of Thai Conglomerates* (Thammasat University Press, Bangkok, Thailand), in Thai.

Pomerleano, Michael, 1998, The East Asia crisis and corporate finances: The untold micro story, World Bank Policy Research Working Paper, Washington, D.C.

Pornkulwat, Suppaluk, 1996, *The development of business strategies of overseas Chinese: A case study of two families*, Master's thesis, Thammasat University, in Thai.

Promrat, Siriporn, ed., 1996, *Thailand Company Information 1993-94* (Advanced Research Group, Bangkok, Thailand).

Rajan, Raghuram G., 1992, Insiders and outsiders: The choice between relationship and arms-length debt, *Journal of Finance* 47, 1367–1400.

Rajan, Raghuram G., and Luigi Zingales, 1995, What do we know about capital structure? Some evidence from international data, *Journal of Finance* 50, 1421–1460.

Sappaiboon, Thanawat, 2000, *The Fifty-five Most Well-Known Families: Version 1* (Nation Multimedia Group, Bangkok, Thailand), in Thai.

Sappaiboon, Thanawat, 2001, *The Fifty-five Most Well-Known Families: Version 2* (Nation Multimedia Group, Bangkok, Thailand), in Thai.

Shleifer, Andrei, and Robert W. Vishny, 1997, A survey of corporate governance, *Journal of Finance* 52, 737–783.

Stock Exchange of Thailand, 1997, *The Stock Market in Thailand 1997*.

Stohs, Mark H., and David C. Mauer, 1996, The determinants of corporate debt maturity structure, *Journal of Business* 69, 279–312.

Suehiro, Akira, 1989, *Capital Accumulation in Thailand: 1855-1985* (Yuki kikaku, Tokyo, Japan).

Suehiro, Akira, 2000, The data and analysis of Thai large corporatations: State owned companies, multinational companies and business groups, Mimeo, Institute of Social Science, University of Tokyo, in Japanese.

Thanapornpun, Rangsun, 1999, *Financial Crisis and Financial Sector in the Thai Economy*, volume second (Kopfai Publishing Project, Bangkok, Thailand), in Thai.

Weinstein, David, and Yishay Yafeh, 1998, Costs of a bank-centered financial system, *Journal of Finance* 53, 635–671.

Wiwattanakantang, Yupana, 2001a, Controlling shareholders and corporate value: Evidence from Thailand, *Pacific-Basin Finance Journal* 9, 323–362.

Wiwattanakantang, Yupana, 2001b, The equity ownership structure of Thai firms, Working paper, Center for Economic Institutions, Institute of Economic Research, Hitotsubashi University, Tokyo, Japan.

Table 1: Ownership and Governance Structure of Thai Firms

This table presents ownership and governance structure of Thai firms based on our sample and previous studies. Our sample (I) includes 270 non-financial firms were listed in the Stock Exchange of Thailand (SET) in 1996. The database of Khantavit et al. (2003) includes all non-financial firms were listed in the SET in 1996. The results in Claessens et al. (I) (2000) are based on the dataset of Claessens et al. (2000) but excluding financial firms. The firms in *Our sample (II)* are exactly the same ase in Claessens (I) et al. (2000). The results are calculated based on our database. LB is the largest blockholders. Blockholders are persons who have the same family name, their close relatives as well as firms that are owned and controlled by them. Cash flow rights leverage is the ratio of cash flow rights to voting rights. % stands for percentage. CS is controlling shareholder who owns at least 20% or 25% of the shares. In Claessens et al. (2000), however, CS is defined as a shareholder with at least 20% shareholdings. CS alone is when there exists no other shareholder with shareholdings of at least 10%. SF and MF are single and multiple families, respectively. MCS is when the firm has multiple controlling shareholders. WHFF and WHNF are widely held financial and non financial firms, respectively. FI is foreign investors. Pyramid is when a firm is controlled via other public firms. EXEC and non EXEC are top executives and non executives, respectively.

	Our sample (I)	Khantavit et al. (2003)	Claessens et al. (2000)	Claessens et al. (I) (2000)	Our sample (II)
I. Whole sample: No of firms	270	352	167	108	108
Mean LB cash flow rights	39.58	39.23	32.84	36.87	40.35
Mean LB voting rights	42.68	42.07	35.25	38.96	42.52
Mean LB cash flow rights leverage	0.93	0.93	0.94	0.95	0.94
% of firms with CS (25% cut-off)	79.63	78.69	n.a.	85.2	79.6
% of firms with CS (20% cut-off)	89.63	88.35	96.05	95.4	90.7
CS alone	60.74	57.95	40.10	10.19	58.33
II. Firms with CS (25% cut-off)					
% of firms controlled by SF (A)	53.71	51.14	n.a.	n.a.	42.6
% of firms controlled by MF (B)	5.56	5.97	n.a.	n.a.	7.4
A + B	59.27	57.11	61.60	58.33	50.00
% of firms controlled by MCS	4.81	5.68	n.a.	n.a.	7.4
% of firms controlled by state	1.85	2.27	8	7.4	5.6
% of firms contolled by WHFF	0.37	0.57	0	3.7	0.0
% of firms controlled by WHF	0	0	15.3	15.7	0.0
% of firms controlled by FI	13.33	13.07	0	0	16.7
% of firms with pyramids	20	23.47	12.7	6.5	25.9
% of firms with CS as EXEC	78.7	68.95	67.5	43.5	52.8
% of firms with CS as non EXEC	76.4	65.7	n.a.		
Mean CS cash flow rights	45.55	44.66	n.a.	40.21	47.85
Mean CS voting rights	48.74	47.75	n.a.	42.35	50.76
Mean CS cash flow rights leverage	0.93	0.931	n.a.	0.96	0.95
Mean EXEC ownership (non CS)	1.75	2.26	n.a.		
Mean non EXEC ownership (non CS)	3.24	3.18	n.a.		

Table 2: Connected Families

This table shows the top 60 most wealthy families in Thailand. The ranking is based on the business group ranking of by Suehiro (2000). The size of each group is calculated by summing up sales of all firms in the same group that appear in in the largest thousand firms in 1994.

Rank	Group	Owner (Family name)	Rank	Group	Owner (Family name)
1	Siam Cement	Crown Property Bureau	31	Laemthong	Khanathanawanit
2	Bangkok Bank	Sophonpanich	32	The Mall	Umput
3	CP	Chiarawanon	33	Ocean Insurance	Assakun
4	Thai Farmer Bank	Lamsam	34	Sarasin	Sarasin
5	Siam	Pornprapha	35	Asia	Uachukiat
6	Boon Rawd Brewery	Piromphakdi	36	Wanglee	Wanglee, Poon Phol
7	TCC	Siriwattanapakdi	37	UCOM	Bencharongkun
8	Saha	Chokwattana	38	Sukree	Pothirattanangkul
9	Thonburi Phanich	Wiriyaphan	39	Betagro	Taepaisitphongse
10	Sittipol	Lee-issaranukun	40	Kamol Sukosol	Sukosol
11	Ayutthaya	Ratanarak	41	Sino-Thai	Charnwirakul
12	Metro	Laohathai	42	Yontrakit	Lee-nutaphong
13	Osotsapa	Osathanukhro	43	Metro Mechinery	Buraphachaisri
14	Srifuengfung	Srifuengfung	44	Unicord	Konutakiat
15	Central	Chirathiwat	45	P Charoen Pan	Sirimongkonkasem
16	TPI	Liaophairat	46	Kan Yong	Phothiworakun
17	Ital-Thai	Kannasut	47	Srithai	Loetsumitkun
18	Saha-Union	Darakanon	48	Suraphon	Suraphon
19	Taechaphaibun	Taechaphaibun	49	Siam Steel	Kunanantakul
20	Shinnawatra	Shinnawatra	50	NTS	Horungruang
21	Sahaviriya	Wiriyaphraphaikit	51	Capital Rice	Wanitchakwong
22	Siam Steel Pipe	Leesawattrakun	52	Siam Chemical	Ratanarat
23	SP International	Phornprapha	53	Thai Fisheries	
24	Soon Hua Seng	Damnoencharnwanit	54	Chinteik Brothers	Nganthawi
25	Land and House	Assawaphokhin	55	Sirithepthai	Trichakraphop
26	Yip In Tsoi	Yip In Tsoi, Chutrakul	56	Thai Rung Ruang	Assadathorn
27	Thai Life Insurance	Chaiyawan	57	Mitr Phol	Wongkusonkit
28	Thai Summit	Jungrungruenkit	58	Krisda Mahanakorn	Krisdathanon
29	Bangkok Land	Kanchanapat	59	Dusit Thani	Piyaoui
30	Thai Union	Charnsiri	60	Rattanapaitoon	Rattakun

Table 3: Financing and Firm Characteristics: Connected Families

This table presents mean values for a set of firm characteristics, as measured in 1996. *Top 60*, *Top 30*, and *Top 20* refer to firms that are affiliations of the top 60, top 30, and top 20 most wealthy families. *NC* refers to firms that are not connected to those families. *S-T loans* is short term borrowing from banks and finance companies. *L-T loans* is long term borrowing from banks and finance companies. *S-T portion of L-T loans* is long term debt that is due in this period. *Total debt* is the summation of *S-T loans*, *L-T loans*, *S-T portion of L-T loans* and debentures. *EBIT/total assets* and *EBIT/sales* are the ratio of earnings before interest and taxes to total assets and sales, respectively. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D.(sales)* is the S.D. of the percentage changes in sales over the period 1991-1995. *Sale growth* is the average annual growth in sales over the period 1992-96. *Age* is the number of years since incorporation. Total assets and sales are in billion Baht. Mean differences are tested using the t-test. *, **, *** indicate statistically significant difference when compared with firms connected to most wealthy families the at the 10, 5 and 1 percent levels, respectively.

	Top 60	NC	Top 30	NC	Top 20	NC
Financing Structure						
Total liabilities/total assets	0.562	0.542	0.550	0.548	0.547	0.549
Total debt/total assets	0.390	0.414	0.365	0.421**	0.360	0.420**
S-T loans/total assets	0.179	0.242***	0.159	0.243***	0.156	0.239***
S-T portion of L-T loans/total assets	0.041	0.036	0.036	0.038	0.037	0.038
Debentures/Total assets	0.024	0.023	0.019	0.025	0.016	0.025
L-T loans/Total assets	0.146	0.114*	0.152	0.115**	0.150	0.118*
Trade credits/total assets	0.086	0.065**	0.093	0.065***	0.097	0.065***
Debt maturity structure						
S-T loans/total debt	0.510	0.622***	0.501	0.615**	0.493	0.612***
S-T portion of L-T loans/total debt	0.104	0.080*	0.098	0.085	0.104	0.083
Debentures/total debt	0.047	0.042	0.040	0.045	0.037	0.045
L-T Loans /Total debt	0.339	0.256**	0.361	0.256***	0.366	0.260***
Firm characteristics						
Total assets	13.300	4.090***	14.50	4.53***	15.20	4.839***
Sales	6.404	2.12***	7.124	2.25***	7.819	2.307***
EBIT/total assets	0.084	0.072	0.084	0.073	0.095	0.070*
EBIT/sales	0.143	0.125	0.143	0.127	0.153	0.125
M-B ratio	1.158	1.183	1.208	1.163	1.244	1.155
Fixed asset ratio	0.409	0.424	0.400	0.426	0.412	0.421
Cash/total assets	0.017	0.027**	0.015	0.026**	0.015	0.026*
Liquid asset ratio	0.433	0.458	0.419	0.461	0.417	0.459
Sale growth (1992-96)	0.351	0.246*	0.356	0.253*	0.337	0.265
S.D. (salea 1991-95)	0.480	0.343***	0.472	0.358	0.422	0.378
Age	23.618	19.740*	24.634	19.729**	25.900	19.624**
No. of firms	89	181	71	199	60	210

Table 4: The Effects of Connections on Long Term Loans

The regression is based on a sample of 270 publicly traded firms in 1996. The dependent variable is long-term loans divided by total debt. *Connected firms* indicates if the firm is owned by one of the top 60, 30, and 20 most wealthy families. *Log (assets)* is the logarithm of the book values of total assets. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D. (sales 91-95)* is the S.D. of the percentage changes in sales over the period 1991-1995. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. t statistics are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

	Top 60		Top 30		Top 20	
Independent Variable	(1)	(2)	(3)	(4)	(5)	(6)
Connected firms	0.092***	0.061*	0.130 ***	0.105 ***	0.145 ***	0.107 **
	(2.65)	(1.78)	(3.48)	(2.78)	(3.48)	(2.49)
Log (assets)		0.066 ***		0.061 ***		0.062 ***
		(4.55)		(4.16)		(4.23)
M-B ratio		0.000		-0.003		-0.006
		-(0.02)		-(0.14)		-(0.26)
Fixed asset ratio		0.289 ***		0.300 ***		0.284 ***
		(2.69)		(2.86)		(2.62)
Total liabilities/assets		0.027		0.048		0.046
		(0.28)		(0.50)		(0.48)
S.D. (sales 1991-95)		-0.021		-0.022		-0.019
		-(1.09)		-(1.21)		-(1.08)
Intercept	0.185 ***	-0.872	0.185	-0.824	0.183 ***	-0.822 ***
	(4.260)	-(4.22)	(4.44) ***	-(3.95)	(4.39)	-(3.96)
F-statistic	4.48	7.52	4.84	8.08	4.78	8.06
Prob (F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00
Adjusted R-squared	0.271	0.371	0.286	0.384	0.288	0.381
N	270	270		270	270	270

Table 5: Connection and Long Term Debt

The regression is based on a sample of 270 publicly traded firms in 1996. The dependent variable is long-term loans divided by total debt. *Connected firms* indicates if the firm is owned by one of the top 60, 30, and 20 richest families. *Log (assets* is the logarithm of the book values of total assets. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D. (sales 91-95)* is the S.D. of the percentage changes in sales over the period 1991-1995. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. Robust standard errors are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Independent Variable	Top 60	Top 30	Top 20
	(1)	(2)	(3)
Connect firms * Log (assets)	-0.002	0.015	0.030
	-(0.08)	(0.49)	(0.79)
Connect firms * M-B ratio	0.030	0.039	0.003
	(0.50)	(0.61)	(0.72)
Connected firms * Fixed asset ratio	-0.397 ***	-0.333 ***	-0.027 ***
	-(2.62)	-(1.92)	-(2.23)
Connected firms * Total liabilities/assets	0.059	0.225	0.021
	(0.26)	(0.95)	(1.20)
Connected firms * S.D. (sales 1991-95)	0.020	0.031	0.030
	(0.50)	(0.78)	(0.70)
Connected firms	0.182	-0.179	-0.434
	(0.45)	-(0.42)	-(0.92)
Log (assets)	0.071 ***	0.056 ***	0.051 ***
	(3.58)	(2.71)	(2.69)
M-B ratio	-0.006	-0.009	-0.014
	-(0.25)	-(0.41)	-(0.60)
Fixed asset ratio	0.436 ***	0.379 ***	0.365 ***
	(3.83)	(3.57)	(3.22)
Total liabilities/assets	0.023	0.023	0.026
	(0.23)	(0.23)	(0.27)
S.D. (sales 1991-95)	-0.038	-0.043 **	-0.043 **
	-(1.27)	-(2.04)	-(2.45)
Intercept	-0.999 ***	-0.761 ***	-0.692 **
	-(3.51)	-(2.59)	-(2.53)
F-statistic	7.11	6.9	7.36
Prob (F-statistic)	0.00	0.00	0.00
Adjusted R-squared	0.395	0.407	0.418
N	270	270	270

Table 6: Regression: Connections and Total Debt

The regression is based on a sample of 270 publicly traded firms in 1996. The dependent variable is total debt divided by total assets. *Connected firms* indicates if the firm is owned by one of the top 60, 30, and 20 richest families. *Log (assets)* is the logarithm of the book values of total assets. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D. (sales 91-95)* is the S.D. of the percentage changes in sales over the period 1991-1995. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. t statistics are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

	Top 60		Top 30		Top 20	
Independent Variable	(1)	(2)	(3)	(4)	(5)	(6)
Connected firms	-0.034	-0.059 ***	-0.055 **	-0.086 ***	-0.058 **	-0.085 ***
	-(1.46)	-(2.71)	-(2.19)	-(3.69)	-(2.07)	-(3.23)
Log (asset)		0.085 ***		0.087 ***		0.087 ***
		(9.81)		(10.13)		(10.01)
M-B ratio		-0.023		-0.020		-0.019
		-(1.45)		-(1.26)		-(1.18)
Fixed asset ratio		-0.034		-0.043		-0.028
		-(0.64)		-(0.84)		-(0.55)
S.D. (sales 1991-95)		-0.028 ***		-0.028 ***		-0.030 ***
		-(3.05)		-(2.75)		-(3.17)
EBIT/total assets		-0.460 ***		-0.471 ***		-0.447 ***
		-(4.79)		-(5.04)		-(4.57)
Intercept		-0.638 ***		-0.664 ***		-0.663 ***
		-(4.83)		-(5.09)		-(5.03)
F-statistic	4.78	9.42	5.05	9.48	4.68	9.55
Prob (F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00
Adjusted R-squared	0.200	0.444	0.207	0.458	0.2061	0.452
N	270	270	270	270	270	270

Table 7: Connections and The Impact of the Financial Crisis

This table presents median values of the *Coverage ratio* and *EBT/total assets*, as measured in 1997. *Coverage ratio* is defined as the ratio of interest expenses to earnings before interest and taxes. *EBT/total assets* is the ratio of earnings before taxes to total assets. *Top 60*, *Top 30*, and *Top 20* refer to firms that are affiliations of the top 60, top 30, and top 20 most wealthy families. *NC* refers to firms that are not connected to those families. Median differences are tested using the Wilcoxon signed rank test. *, **, *** indicate statistically significant difference when compared with firms connected to most wealthy families at the 10, 5 and 1 percent levels, respectively.

	Top 60	NC	Top 30	NC	Top 20	NC
Coverage ratio (COV)	1.47	1.15	1.54	1.09 **	1.63	1.04 **
Percentage of firms with COV < 1	40.23	48.04	38.57	47.96	35.59	48.31
EBT/assets (%)	1.55	0.28 *	1.86	0.26 **	2.19	0.24 **
No. of firms	87	179	70	196	59	207

Table 8: Performance Connected Firms after the Financial Crisis

The regression is based on a sample of 267 publicly traded firms in 1997. The dependent variable is the ratio of earnings before taxes to total assets. *Connected firms* indicates if the firm is owned by one of the top 60, 30, and 20 richest families. *Log (assets)* is the logarithm of the book values of total assets. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. *t*-statistics are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

	Top 60		Top 30		Top 20	
Independent Variable	(1)	(2)	(3)	(4)	(5)	(6)
Connected firms	0.042 **	0.017	0.043 **	0.011	0.070 ***	0.040 **
	(2.19)	(1.00)	(2.06)	(0.62)	(3.36)	(2.21)
Log (assets)		0.022 **		0.022 **		0.020 **
		(2.220)		(2.250)		(2.020)
Total liabilities/total assets		-0.158 **		-0.158 **		-0.156 **
		-(2.220)		-(2.220)		-(2.200)
Intercept		-0.012		-0.014		-0.003
		-(0.160)		-(0.180)		-(0.040)
F-statistic	1.68	1.680	1.58	1.600	1.870	1.990
Prob (F-statistic)	0.03	0.028	0.05	0.043	0.010	0.00
Adjusted R-squared	0.0778	0.298	0.077	0.297	0.09	0.304
N	267	267	267	267	267	267

Table 9: Financial and Firm Characteristics: Board Connections

This table presents mean and median values for a set of firm characteristics, as measured in 1996. The data includes 187 firms that have at least one board member has a seat on the board of a bank, and 83 firms that have no such connection. *S-T loans* is short term borrowing from banks and finance companies. *L-T loans* is long term borrowing from banks and finance companies. *S-T portion of L-T debt* is long term debt that is due in this period. *Total debt* is the summation of *S-T loans*, *L-T loans*, *S-T portion of L-T loans* and debentures. *EBIT/total assets* and *EBIT/sales* are the ratio of earnings before interest and taxes to total assets and sales, respectively. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D.(sales)* is the S.D. of the percentage changes in sales over the period 1991-1995. *Sale growth* is the average annual growth in sales over the period 1992-96. *Age* is the number of years since incorporation. Total assets and sales are in million Baht. Mean and median differences are tested using the t-test and the Wilcoxon signed rank test, respectively. *, **, *** indicate statistically significant difference when compared with connected firms at the 10, 5 and 1 percent levels, respectively.

	Mean		Median	
	Connect	Not connect	Connect	Not connect
Financial characteristics				
Total liabilities/total assets	0.554	0.536	0.580	0.563
Total debt/total assets	0.405	0.409	0.433	0.428
S-T loans/total assets	0.201	0.266***	0.167	0.262***
S-T portion of L-T loans/total assets	0.039	0.033	0.025	0.018*
Debentures/Total assets	0.027	0.015	0.000	0.000
L-T loans/Total assets	0.138	0.095**	0.106	0.061**
Trade credits/total assets	0.071	0.074	0.045	0.056
Debt maturity structure				
S-T loans/total debt	0.544	0.677***	0.578	0.760***
S-T portion of L-T loans/total debt	0.095	0.071*	0.067	0.043**
Debentures/total debt	0.048	0.032	0.000	0.000
L-T loans/Total debt	0.312	0.22**	0.28	0.41**
Firm characteristics				
Total assets	9,192.3	2,517.8***	3,381.8	1,512.7***
Sales	4,261.6	1,886.7**	1,758.7	1,209.3***
EBIT/total assets	0.046	0.036	0.042	0.048
EBIT/sales	0.048	0.037	0.070	0.062
M-B ratio	1.190	1.140	0.973	0.977
Fixed asset ratio	0.406	0.449	0.367	0.422*
Cash/total assets	0.021	0.029*	0.009	0.017***
Liquid asset ratio	0.443	0.466	0.456	0.462
Sale growth	0.305	0.226	0.162	0.166
S.D. (sales 1991-95)	0.434	0.284*	0.175	0.152
Age	21.107	20.819	17	17

Table 10: Board Connection Regression

The regression is based on a sample of 270 publicly traded firms in 1996. The dependent variable is long-term loans divided by total debt. *Board connections* is the number of persons on the firm board that are also sitting on the board of banks. *Bankers as executives* and *Bankers as non executives* are dummy variables, taking the value of 1 if there exits at least one member from the board of banks acting as top executive and non executive of the firm, respectively. *At both levels* indicates the case when the board connections are from both levels. *Log (assets)* is the logarithm of the book values of total assets. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D. (sales 92-95)* is the S.D. of the percentage changes in sales over the period 1991-1995. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. textitt-statistics are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Independent Variable	(1)	(2)	(3)	(4)
Board connections/Board size	0.422 ***	0.215 **		0.293 ***
	(4.450)	(0.109)		(0.118)
At executive level			-0.006	
			(0.077)	
At non executive level			0.032	
			(0.034)	
At both levels			0.107 ***	
			(0.041)	
Log (assets)		0.059 ***	0.050 ***	0.058 ***
		(0.015)	(0.016)	(0.018)
M-B ratio		-0.005	-0.002	0.008
		(0.024)	(0.024)	(0.024)
Fixed asset ratio		0.266 **	0.304 ***	0.240 **
		(0.114)	(0.108)	(0.126)
Total liabilities/assets		0.022	0.047	-0.017
		(0.094)	(0.098)	(0.095)
S.D. (sales 1991-95)		-0.016	-0.019	-0.021
		(0.020)	(0.022)	(0.019)
Intercept		-0.763 ***	-0.677 ***	-0.724 ***
		(0.217)	(0.222)	(0.268)
F-statistic	6.09	7.13	6.90	7.940
Prob (F-statistic)	0.00	0.00	0.00	0.00
Adjusted R-squared	0.284	0.351	0.362	0.365
N	270	270	270	234

Table 11: The Effects of Board Connections on Total Debt Ratio

The regression is based on a sample of 270 publicly traded firms in 1996. The dependent variable is total debt divided by total assets. *Board connections* is the number of persons on the firm board that are also sitting on the board of banks. *Bankers as executives* and *Bankers as non executives* are dummy variables, taking the value of 1 if there exits at least one member from the board of banks acting as top executive and non executive of the firm, respectively. *At both levels* indicates the case when the board connections are from both levels. *Log (assets)* is the logarithm of the book values of total assets. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *S.D. (sales 92-95)* is the S.D. of the percentage changes in sales over the period 1991-1995. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. *t*-statistics are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Independent Variable	(1)	(2)	(3)	(4)
Board connections/Board size	-0.015	-0.180 **		
	-(0.17)	-(2.36)		
At executive level			0.010	-0.015
			(0.24)	-(0.43)
At non executive level			-0.007	-0.027
			-(0.240)	-(1.140)
At both levels			0.008	-0.071 ***
			(0.25)	-(2.63)
Log (assets)		0.086 ***		0.090 ***
		(10.08)		(10.50)
M-B ratio		-0.021		-0.023
		-(1.38)		-(1.47)
Fixed asset ratio		-0.017		-0.046
		-(0.32)		-(0.87)
S.D. (sales 1991-95)		-0.033 ***		-0.029 ***
		-(3.34)		-(3.02)
EBIT/total assets		-0.476 ***		-0.477 ***
		-(4.84)		-(4.90)
Intercept	0.498	-0.661 ***	0.497 ***	-0.690 ***
	(15.19)	-(5.05)	(13.32)	-(5.34)
F-statistic	4.41	9.6	4.17	9.54
Prob (F-statistic)	0.00	0.00	0.00	0.00
Adjusted R-squared	0.194	0.439	0.195	0.444
N	270	270	270	270

Table 12: The Determinants of Board Connections

The estimation method is Probit. The coefficients presented are the marginal effects of a one unit change from the mean of each independent variable on the probability of having a board connection with banks. The independent variable is one if the firm has at least one member from the board of banks acting as director or top executive of the firm, has at least one person on its board sitting on those of banks in 1996, and zero otherwise. Mean of the dependent variable is 0.69. *M-B ratio* is the ratio of the market to the book values of total assets. *Fixed asset ratio* is the ratio of net fixed assets to total assets. *Connected families with banks* indicates if the the firm belongs to one of the top 60 richest families and its major shareholder also owns at least one bank or finance company. *Connected families without banks* indicates if the firm belongs to one of the top 60 richest families and its major shareholder does not own any bank or finance company. *S.D. (sales 91-95)* is the S.D. of the percentage changes in sales over the period 1991-1995. The regression method is the *OLS*. Each specification includes a set of 21 industry dummies but the results are suppressed. Robust standard errors are shown in parentheses. *, **, *** indicate significance at the 10, 5 and 1 percent levels, respectively.

Independent Variable	(1)	(2)	(3)	(4)	(5)
Log (assets)	0.163 ***	0.134 ***	0.170 ***	0.134 ***	0.172 ***
	(0.036)	(0.036)	(0.051)	(0.042)	(0.058)
M-B ratio	0.024	0.035	0.026	0.040	0.047
	(0.051)	(0.049)	(0.045)	(0.055)	(0.052)
Fixed asset ratio	-0.130	-0.126	-0.022	-0.126	-0.028
	(0.168)	(0.167)	(0.147)	(0.189)	(0.171)
Total liabilities/assets	-0.367 *	-0.280	-0.416 **	-0.267	-0.368 *
	(0.212)	(0.206)	(0.206)	(0.235)	(0.227)
S.D. (sales 1991-95)	0.049	0.043	0.022	0.062	0.024
	(0.062)	(0.068)	(0.062)	(0.081)	(0.077)
Connected families without banks		0.266 ***	0.988 ***	0.318 ***	0.996 ***
		(0.053)	(0.030)	(0.065)	(0.012)
Connected families with banks		0.277 ***			
		(0.043)			
Connected families * Log (assets)			-0.238 ***		-0.238 ***
			(0.079)		(0.087)
Connected families * M-B ratio			-0.052		-0.075
			(0.110)		(0.122)
Connected families * Fixed asset ratio			-0.156		-0.116
			(0.341)		(0.382)
Connected families * Total liabilities/assets			0.516		0.390
			(0.504)		(0.550)
Connected families * S.D. (sales 1991-95)			0.996		1.004
			(0.463)		(0.519)
Prob > Chi-squared	0.00	0.00	0.00	0.00	0.00
Pseudo R squared	0.150	0.22	0.22	0.19	0.23
N	270	270	270	234	234

Table 13: The Thai Financial System

The information of this table is obtained from the Bank of Thailand. Panel A presents non performing loans held by each category of financial institutions. Panel B presents the number of financial institutions over the period of 1996-2001. Non performing loans and the number of financial institutions are measured at the end of each year. Non performing loan is a loan that has stopped payment on principal and interest for at least 3 months. Financial institutions are classified by the ownership following the definition of the Bank of Thailand. They include both publicly and non publicly traded financial institutions.

Panel A: Non performing loans

Financial Institution	1997	1998	1999	2000
1. Total commercial banks	19.77	45.02	38.57	17.70
1.1 Private banks (domestic)	19.36	40.48	30.59	18.00
1.2 State owned Banks	29.33	62.45	62.84	21.63
1.3 Foreign banks	1.87	9.81	9.94	6.60
2. Finance companies	33.28	70.16	49.22	24.48

Panel B: Number of financial institutions during 1996-2000

Financial Institution	1996	1997	1998	1999	2000	2001
Domestic private banks	14	14	9	9	9	9
State owned banks	1	1	4	4	4	4
Foreign banks	14	14	13	20	20	17
Finance companies	91	35	36	21	20	20
Total	120	64	62	54	53	50