Similarities and differences of credit access by Vietnamese and Chinese firms

Phuong Nu Minh Le
Hue College of Economics
Hue University, Vietnam
E-mail: lenuminhphuong@yahoo.com

Xiaoqin Wang
College of Economics
Huazhong University, China

ASTRACT

Using a World Bank Enterprise Survey 2005 in Vietnam and China, this research investigates the similarities and differences in credit access of Vietnamese and Chinese businesses. The authors found that Chinese banks evaluate loan application based on business performance while Vietnamese banks do not. The results indicate that credit quota in China creates more discrimination than the DAF program in Vietnam. Both Chinese and Vietnamese businesses get rid of trade credit in the informal market, the probability of credit access simultaneously increase in combination with the use of trade credit in both Vietnamese and Chinese businesses. The authors also found that Central North in Vietnam and Southwest in China are the two regions with relatively underdeveloped economic but have more possibility of credit access than other regions across Vietnam and China. Therefore, further research is recommended to deeply investigate the comparative advantages of these regions and the possibilities to replicate this lesson to other regions.

Keywords: SMEs, credit access, Vietnam and China.

1 Introduction

Small and medium enterprises (SMEs) have increasingly researched for economists and policy makers working on economic development and regional growth. Its importance and significance is due to the fact that SMEs employ a large number of people and create more jobs than large enterprises, inversely their contribution on productivity growth is not higher than that of large enterprises (Ayyagari et al, 2011). The SMEs provide the flexible in the variation of economy, it serves as an effective tool for solving social and economic problem in less developed countries as well as developed countries.

Berger and Udell 1998 and Galindo and Schantiarelli 2003 contend that SMEs' financing seems to be more constrained than large companies, that impede the SMEs' growth in both developing and developed countries (Beck and Demirguc-Kunt, 2005). Especially, it is difficult for SMEs to obtain loan through formal financial market due to their size and characteristic opaqueness. So informal financial markets usually make up for the financial shortfall, but this loan is characterized high interest rate and short-term.

Most enterprises in the world as well as Vietnamese and Chinese ones, face many obstacles for growth especially financial problem. The 2005 World Development Report showed that small firms finance only 30 percent of their capitals from external sources, while large firm obtain 48 percent of their capital from external finance (World Bank, 2004). There existed many barriers for SMEs' access to bank loans, such as lack of mortgages, banks' unwillingness to lend to SMEs, problematic tax payment reports, unsound business plans, and high lending rates.

Literature views give some empirical studies in Vietnam as well as in China but each research carries out different sphere of access to credit. Vietnam and China are adjacency and follow the socialist-oriented market economy. Therefore, there is not small number of researches mentioned and compared in term of politics, legal, culture, ect. Nevertheless, we could not find any research related to credit access in Vietnam and China.

In summary, the problem that SMEs in Vietnam and China face appear to be that inefficient external capital mobility have adversely affected their investment and expansion business. Therefore, the problem to be addressed in this research is to investigate the simultaneous problems what are the original rooted reasons of SMEs financing difficulties. In addition, the findings of SME in two countries will be made comparison, then give appropriate policy to release barrier of SME financing.

2 Data and descriptive analysis

2.1 Data

We have two data sets of Vietnam's and China's World Bank Enterprise Surveys in 2005. Vietnam's survey in 2005 was conducted in five regions containing 14 provinces and had 1,150 observations. The questionnaire included 12 sections: control information, general information, infrastructure and services, sales and supplies, degree of competition, land and permits, crime, finance, business government relations, labor, business environment and performance.

The China's Survey conducted in 2005 covered 12,400 enterprises around China. The questionnaire was divided into two sections: one for company managers and the other for accountants and human resource managers, thus the purpose of each section was different. The first section mentioned mostly all establishment information such as investment climate, wholesale dealers and retail clients, raw material suppliers, labor, infrastructure and services, international trade, financing; the second section deeply investigated accounting and labor.

Despite the fact that the two surveys belonged to World Bank, their contents were not similar partly due to different economic environments and purposes of research. The data set of Vietnam was more specific in terms of credit access, financial indicators and firm attributes than those of China. Therefore, we just chose the similarities of two surveys to analyse.

2.2 Descriptive statistics

Table 1 shows the ownership structure in Vietnam and China. We found that the share of state-owned enterprises including state-owned enterprises and collective owned units in China was higher than that in Vietnam, whereas the share of shareholding in Vietnam was higher than the share of joint-owned units and shareholding enterprises in China. Due to the primary stage of Vietnamese stock market at that time, the number of the businesses listed was small.

Table 1.Firm with bank loan and buying trade credit: by ownership,

		1: state owned enterprise & collective	2: limited liability, FDI company	3: Private-owned company	4: Shareholding corporations and share joint-owned units	5: Others
Distribution of sample firm by ownership						
Vietnam	No.Obs	152	418	253	319	7
	%Obs.	13.23	36.38	22.02	27.76	0.61
China	No.Obs	2645	7402	1689	650	232
	%Obs.	20.96	58.66	13.39	5.15	1.84
Firms with bank debt						
Vietnam		81	58.4	52.2	69.6	85.7
China		48.4	57.8	66.8	94.9	97.8
Buying input on credit						
Vietnam		18.3	21.1	16.1	18.8	30.0
China		27.3	32.9	26.7	11.0	30.0

For firms with bank debt, Table 1 shows the percentage of firm with bank debt of each type of ownership. In case of Vietnam, state-owned enterprises and collective have highest percentage of bank loan while the other type of ownership have a small number therefore it is insignificant to make comparison. The shareholding corporation and limited liability, FDI companies obtain 69.6 percent and 58.4 percent respectively that compared to 52.2 percent for private-owned company. So private companies have least chance to access bank loan compared with

other companies. Firms with bank debt in Vietnamis quite different compared with situation in China, Chinese state owned enterprise and collective have lowest bank loan rate. Shareholding corporations and share joint-owned units have relatively high bank loan rate in both countries.

Cull and Xu 2007 research who supply trade credit, inversely our data told who receive more trade credit in China. So the data of table 1 shows the difference with the results of Cull and Xu 2007. Firms who receive a minimum of credit are shareholding corporations and share joint-owned units. These businesses may have more alternative tools to mobilize capital than the other types of firms so trade credit is not sufficient and important to their businesses. Cull and Xu 2007 conclude that SOEs supply more trade credit due to the favour of financial institutions, so we can assume that they may not receive any more trade credit from supply. Our assumption is inappropriate with the data in Table 1, SOEs and collectives receive at a medium rate in comparison with other firms. The group of companies are of limited liability, FDI companies and other forms of ownership get rid of trade credit in the informal financial market. This results are not similar with one of the research of Brandt and Li (2003) which stated that private sector seeks more trade credit in their corporate finance during the period 1994-1997 because the financial sector are unfavored with them. Private sector in both China and Vietnam tends to be squeezed in supplier side.

The demand trade credit in Vietnam also concentrate on limited liability, FDI and other forms of ownership. Especially, private owned companies in Vietnam demand a small part in the overall. Go to 2012 researches informal trade credit in Vietnam affects businesses and the growth in the garment industry and concludes that social network could be very useful to release constraints of asymmetric information between sellers and clients despite clear understanding of cost and time. This result may explain partly why the private businesses obtain the least favour from the supplier.

Trade credit volume in Vietnam and China accounts for nearly 20 percent and 30 percent respectively that supplement the shortage of capital in formal financial market. The data confirms that trade credit volume in Vietnam is smaller than those in China. Following the research of Cull and Xu 2007 trade credit partly originates from excess capital of SOE; Vietnam, in turn, starts from social network. Combining the literature about trade credit in Vietnam and China, it can give conclusion that trade credit in Vietnam and China is not only an important source influence business performance through which business receives and gives fund, but also a tool through which business achieves business objectives such as promoting sales.

Table 2 reveals that the percentage of clients paid before delivery is positive and significantly associated by firm size with only 5.9 percent of small businesses but 11.5 percent of large businesses. Hence, this result suggests that large businesses have stronger seller power than those of other sizes. In addition, large businesses also do not like to sell on credit because of unstable contract. Table 2 also shows that up to 31.4 percent of monthly total sales to customer are not paid on time, while only 21.1 percent for large and 27.5 percent for medium enterprises are not paid on time. Another number - percent of sale value never paid also prove the least powerful seller in the market that is characterized by high proportion of debtors. Medium firms are characterized as having lower commercial dispute solved by court than small and large firms.

Table 2 Overdue payment by size in Vietnam

Items		Small	Medium	Large
Percent of the business's sales	Pre-paid	5.9	8.0	11.5
	Paid at delivery	44.5	39.8	43.0
	Sold on credit	49.6	52.5	45.5
Percent of monthly total sales to private customer not paid on time		31.4	27.5	21.1
Percent of monthly sales never paid		4.4	2.6	1.6
+ Days to resolve an overdue payment by themselves		153	110	115
+ Days to resolve an overdue payment by a third party		149	106	106
Days to resolve an overdue payment by a third party		1.92	1.92	1.92
+ % solved by court action		14.5	1.72	21.4
+ Months taking court case		24	14.0	6.4
+ Effectiveness of court decision		1.6	1.3	1.3
+Months of enforcement of court judgement		0	6.8	7.2

The relationship with wholesale dealers and retail clients is the source of short-term capital and maintenance of stable development in operation. Table 3 shows that nearly 80 percent of relationship between business and wholesale dealer lasts more than 3 years. Only 0.03 percent of this relationship lasts less than 1 year. This number also indicates that the starter of business and finding client in China is also difficult. With long term and stable relationship, up to 13.4 percent of firms do not need to sign contract, which implicitly exist many risks for businesses and then many commercial disputes. So, the average number of commercial dispute between business and client is 3.2. Due to the characteristic of Chinese society, more than half of disputes are solved by negotiation and discussion that can benefit both sides in terms of time and cost.

Table 3 Relationship with wholesale dealer and retail clients in China

Number of years of cooperation between company and major clients	
<1 year	0.03
1-2 years	5.35
2-3 years	16.21
3-4 years	16.33
4-6 years	17.59
6-10 years	26.62
>10 year	17.86
Company signing contracts with client (%)	
Yes	86.6
No	13.4
Times of commercial disputes occurring between company and clients: 3.2	

Table 4 classifies businesses using credit by size of business. The results show that the big business uses more credit to buy input than the small one. This trend is similar for both Vietnam and China. Ordinarily, small businesses have higher level of trade credit in their balance than large businesses (Chittenden and Bragg, 1997). Shiraishi and Yano 2010 researched trade credit in China in the early 1990s and concluded that large businesses or SOEs have more access to loan from financial institution and capital market than private or small and medium enterprises do, so SMEs depend more on trade credit. The different results between two periods may derive from change in economic environment and policies.

Table 4 Buy input on credit and proportion of bank loan by size

	Small	Medium	Large	All firms
Buy input on credit				
Vietnam	11.8	16.6	22.5	19.1
China	26.9	24.9	37.7	29.5
Loan from bank or financial institutions				
Vietnam	38.8	58.8	71.2	63.3
China	51.3	53.4	52.6	59.7

Vietnamese small businesses have the smallest percentage - 38.8 - with bank loan, while medium and large businesses increase bank loan access by size (Table 4). However, small, medium and large businesses in China have similar rate partly because medium and large businesses have more lending technologies for access and Chinese small businesses are many times bigger than Vietnamese small businesses. Large businesses are inclined to use other types of lending instead of bank loan.

Table 5 reports the evaluation in terms of collateral and interest rate. Generally, businesses in two countries tend to have big differences. 19.9 percent of Vietnamese respondents relied on collateral requirements which were very severe obstacles, but it appeared that only 4.38 percent of Chinese respondents considered them very severe obstacles. These results imply that Chinese businesses have more lending technologies to facilitate credit than Vietnamese ones, although land is not an instrument of collateral because land use right belongs to the legacy of public and collective ownership of land. Interest rate considering the second determinant of credit access is also highly severe in Vietnam but is less serious than collateral.

Table 5 Evaluation level of obstacles

	Vietnam	China
Access to finance – collateral (%)		
No obstacle	30.27	34.28
Minor obstacle	13.82	21.10
Moderate obstacle	18.55	19.65
Major obstacle	17.45	20.60
Very severe obstacle	19.91	4.38
Cost of financing – interest rate (%)		
No obstacle	38.78	39.68
Minor obstacle	18.63	24.93
Moderate obstacle	21.29	21.35
Major obstacle	15.68	12.60
Very severe obstacle	5.61	1.45

3 Econometric analysis

3.1 Research questions

Apart from macroeconomic factors, firm and financial characteristics are frequently mentioned in many researches about firm bank financing. Due to the limitation of survey information, each research uses different variables to represent a specific factor, so each research gives differentiated conclusions. Firm characteristics including age, ownership, export activity, and favour term of credit are factors which are used to evaluate a firm's strength and potential characteristics that indirectly affect firm bank financing.

In general, previous studies reveal that firm characteristics are an important factor that influences capital structure, R&D, performance. Small firms are expected to have more credit constraints than larger firms (Petersen and Rajan, 2002) because small firms lack borrowing history and have insufficient asset for collateral. However, some researches did not find the significant relation of firm characteristics and other characteristics such as no relation with capital structure decisions of public-listed firms in developed countries and non-listed firms in China in researches of Li et al (2009). Though firm characteristics are heterogeneously correlated with capital structure, we decided to put it into our model to check. Berger and Udell 1995 believe that older firms

credit access easier than younger firms because they have been released asymmetric information problems with lender by improvements in the firm's public reputation. Firm age in years is frequently used to control for the fact that older firms may have more experiences of applying for loans and have long relationship with banks, therefore have more probabilities to get bank loan. So we propose the following hypothesis:

H1. Firm age is more likely to contribute to the success of obtaining bank loan.

Like Vietnam, China is highly characterized by relationship- based lending. Allen et al 2005 affirmed that "China has one of the highest levels of social trust", so small and private firms get benefit from relationship lending. Relationship based lending does not only support for less favourable objects, but also surmount weakness and shortcoming in financial system. Banks might prefer to lend state-owned enterprises and private enterprises with political and registered connection than private ones because banks have more information or relationship with these firms. Especially, if firms have political connection with government or bank, bank loan may be not too difficult. So political connection lending is considered a special case of relationship lending. Empirical studies found that local and central SOEs receive preferential treatment based on political or social, or tax – motivated factor from state bank (Brandt and Li, 2003; Li et al, 2009). Various ownership structure firms use different range of financial products. Firms with external shareholder are more likely to approach more sources of fund because external shareholders can play a bridge between firm and financial market and institutions. Niskanen 2010 concludes that an increase in managerial ownership decreases debt ratio while increases collateral requirements.

H2. Firms which are state-owned and political related are more likely to access credit.

Next, we examine whether the effect of export on the probability of getting credit. Firms without export activities have fewer lending technologies to get bank loan than firms with export activities. Normally, exporters are characterized with high productivity, large size, experienced business and have audited financial statements, so exporters have more advantages to convey quality and build up reputation to overcome the information opacity surrounding their activities. Therefore, we expect that export might be less likely to suffer the requirements of banks for getting bank loan. We, thereby, attempt to propose the research hypothesis.

H3. Firms with export have propensity to acquire bank loan.

One of the purposes of government credit schemes, credit constraints are partly released for specific sector or specific characteristics of firms. In contrast with the purpose of the schemes, Beck et al 2003 conclude that countries with high government intervention in banking sector result firms' higher financing obstacles and lower probability of receiving bank finance. Not all allocative resources are distributed to the right objects, so there are situations where some financially unconstrained firms receive financial support. Therefore, credit subsidy program can be only efficient if it supplies to financially constrained firms. Vietnamese businesses are supported with credit from Development Assistant Funds, whilst Chinese businesses are granted with quota. We could not know the magnitude in influence of these credit schemes on the credit rationing, so we need to check the following hypothesis:

H4: Businesses receiving government's support credit increase the propensity of bank finance.

Another factor that affects firm's credit history and thus creates variation in further capital demand is evaluating possibility of supply guarantee. Guarantee or collateral is the most important factors affecting the likelihood of credit access. Firms with sufficient collateral to pledge may reduce the problem of adverse selection faced by bank when lending (Deesomsak et al, 2004). Not all businesses have collaterals that satisfy lenders' requirements; especially land is often acceptable in Vietnamese credit market. When firms consider collateral a severe problem, this means difficulties to satisfy bank requirements. On the other hand, collateral is not often a decisive factor of loan appraisal (Epstein and Graham, 1991). Guiso 1998 who researches the relation between high-tech firms and credit rationing, finds that the probability of denied credit do not depend on the amount of collaterals. Borrower uses high collateralizable assets instead of feasible project including strategic and financial justification. This means that the project implies high risk. So, we propose the following hypothesis to check:

H5. Firms highly determined by collaterals are less likely to access credit.

Trade debt may attenuate the adverse effects of informational asymmetries in less developed capital market (Cook, 1999). There are some possibilities that firms purchase raw materials on credit. Firstly, firms have bargaining powers to obtain credit from supplier cheaper than bank loan and easier to get (Garcia-Teruel and Martinez-Solano, 2010). Secondly, firms appropriate capital's suppliers for their working capital by delaying payment as substitution for bank loan (Biais and Gollier, 1997). Cull et al 2006 conclude that bank credit influencing trade credit is at low magnitude and should not be an important part for China's growth. Another

research analogy concludes that there is no significant relationship between bank loan and trade credit supply in China (Fabbri and Klapper, 2011). McMillan and Woodruff 1999 also find that there is no relationship between offering trade credit to customers and receiving bank loan, though firms receive more trade credit if they are the recipients of a bank loan. Other empirical research in Russia - Cook 1999 concludes that firms having trade credit have higher possibility of getting bank loan. Therefore, we propose the following hypothesis to check the relation.

H6. Firms with trade credit will have high propensity of obtaining bank loan.

This variable is measured by the ratio of total sale to total cost that refers to firm's performance and efficiency. This ratio is also attributable to average inventory, which means that an increasing number indicates higher efficient in the use of resources; a decreasing number shows potential cash flow because of high inventory value. Firms with high total sale to total cost ratio may have too much profit so firms do not need to apply for loan compared with other firms with low ratio. On the other hand, higher efficient firms have lower probability of bank loan rejection. Based on this argument, we hypothesize to test the magnitude on firms in Vietnam and China.

H7. The higher ratio of total sale to total cost has lower probability of access to bank loans.

According to POT theory, firms' managers prefer to use internal financing than external funds. Many empirical researches affirm a negatively relationship between total debt ratio and profitability. Highly profitable firms are less likely to borrow more. However, this relationship is not true in empirical studies such as: the negative relationship is only significant for short term, not for long term (Degryse, et al, (2012), Sogorb-Mira (2005)); Nguyen and Ramachandran 2006 find no significant link between profitability and leverage in Vietnamese SMEs. Due to the spurious relation between profitability and debt, we need to understand the relation between profitability and probability of access bank loan, although we are sure that highly profitable firms are less likely to be rejected by banks. On the contrary, firms with profit less than zero are unlikely to be accepted by banks due to the fact that they display a shortage of capital. So, the next hypothesis is proposed.

H8: Firms with gains have higher probability of access bank loan than firms with loss.

Percentage of the net profit used for reinvestment is a proxy of firm growth opportunities. Based on Pecking Order Theory, businesses have a preferred hierarchy for financing decisions; firms prefer to use internal financing than external funds. If internal financing is exhausted, SME manager will choose debt that does not change ownership, short term rather than long-term debt because of no restrictive covenants. On the contrary, Cull and Xu 2005 applied research in the context of China 2002. They concluded that profit reinvestment is positively associated with access to bank loan. Moreover, access to finance is more constrained in reinvestment patterns of small firms than large ones.

H9. The higher the profit reinvested, the more likely the business is to access bank loan.

Sources of capital invested to new fixed assets can be included with internal and external funds. The investment in new fixed assets by firms with bank loan seemed more significant than those by firms without bank loan. However, when internal funds are exhausted, external funds will be required, because external funds are always costly. Iannariello et al 2007 find that small and medium in Thailand have had relatively less to formal financing invested in new investment. Conversely, small businesses are characterized by low capital availability so they cannot generate their own funds to undertake much needed investment, whereby they need external fund. In essence, firms having new fixed asset in the previous period show a greater likelihood of borrowing to purchase at this time. Accordingly, the following hypothesis is proposed:

H10. Firms investing on new fixed assets are more likely to access bank loan.

After controlling endogenous variables including firm and financial characteristics, another exogenous factor that affects firm's propensity to access credit is the characteristic of the region. These disparities in regional institutional development matter for firms' likelihood of access to credit. The Vietnamese legal framework lacks transparency and has many inconsistencies; thereby application policy may be interpreted in various ways by different regional authorities (ANU and CIEM, 2002). Le 2012 finds that the region which is relatively undeveloped are more likely to favour small businesses than those of other sizes compared with other regions in Vietnam.

Similarity, firms in better developed regions in China are found to be associated with lower likelihood of employing long-term debt. This suggests gradual application of economic criteria in their lending decision (Li et al, 2009). In five different regions in China, there is a significant change in their investment environment, which means that the overall institutional and policy environment affects the competitiveness and growth of company (Ayyagari et al, 2010). Dollar et al (2004) point out that Eastern and Coastal Areas (Yangtze and Pearl River Deltas) are more developed, whereas inland cities of West and Northeast seem to have worse investment climates. Cities in Central region tend to be in the middle of the investment climate. The data shows the amount of Bank Financing as follows: Southwest (26 percent), Coastal (23 percent), Northwest (14 percent),which means the financing pattern seems to be correlated with the quality of investment climate. Nguyen et al (2012) conclude that the well management in provincial public governance has lower level of corruption. To understand the extent of disparity of the two countries we use two data sets of World Bank at the same year, 2005. It is expected that there might be wide differences across propensity of access bank loan within the same country. So our final hypothesis thus is:

H11. Regions in Vietnamare more likely to be more greatly discriminated than those in China in terms of access to credit.

3.2 Analytical method and measurement variables

Logit models reveal what variables are significant and insignificant in affecting firms' financing. Simultaneously, we applied comparative analysis to compare access to credit between firms of Vietnam and China. Table 6 gives definitions of dependent and independent variables.

Table 6 Definitions of variables

Variables	Symbol	Definition
Dependent variable	LOAN	1 if having a loan, 0 if not
Firm characteristics	AGE	Firm age (years)
	OWNER	1: state owned enterprise and collective 2: limited liability, FDI company 3: Private-owned company 4: Shareholding corporations and share joint-owned units 5: others
	EXPORT	1 if product directly export, 0 otherwise
	FATERM	0: no favourable term or loan quota 1: have favourable term or loan quota
Financial characteristics	GUARAN	Evaluate access to finance by guarantee 0: no obstacle; 1: minor obstacle; 2: moderate obstacle; 3: major obstacle; 4: verysevere obstacle
	RAWMAT	0: no account payable; 1: purchase raw materials on credit from supplier (have account payable)
	SALECOST	Ratio of sales to cost
	PROLOSS	0: profit equal or less than 0 1: profit greater than 0
	PROFITIN	Net profit invested establishment
	NFIXASS	New fixed asset
Region in VietNam	REGION1	Red River Delta
	REGION2	Central North
	REGION3	Mekong River Delta
	REGION4	Southern Central Costal
	REGION5	South East
Region in China	REGION1	North
	REGION2	Northeast
	REGION3	East
	REGION4	Central
	REGION5	South
	REGION6	Southwest
	REGION7	Northwest

Table 7 reports the results of regression analysis for 11 hypotheses, there are the similarities and differences in determinants of access to credit. The odds of businesses' years of operation in the two countries are nearly similar and show that there are quite few differences between firms with bank loan and firms without bank loan. For a unit to increase in age; the odds will change by a factor of 1.003 and 1.015 for Vietnam and China respectively. However, age is significantly related to Chinese firms' credit access at 5 percent level, but is insignificantly regarding Vietnamese ones. So hypothesis 1 is supported to China and is insignificant to Vietnam. Moreover, figure1 also indicates positive relationship between age and possibility of getting loan when age increases from 0 to 120 in both countries and negative relationship when age of firms is over 120 in China. This means that firms with age over 120 have retained earnings and various alternative sources of funding that may be cheaper than bank financing.

Table 7 Result of logistic estimation – Probability of obtaining bank loan

Independent Variables	Viet Nam			China		
	Odds ratio	Z	P>|z|	Odds ratio	Z	P>|z|
AGE	1.003	0.44	0.663	1.015	6.26	0.000
OWNER						
2	0.376	-2.75	0.006	1.073	0.78	0.435
3	0.279	-3.44	0.001	1.381	3.01	0.003
4	0.478	-2.22	0.026	1.583	4.15	0.000
5	1.562	0.39	0.697	1.806	2.34	0.019
GUARAN	1.054	0.96	0.335	1.473	14.63	0.000
RAWMAT	1.175	0.98	0.327	1.510	6.45	0.000
FATERM	1.473	1.27	0.205	11.946	28.46	0.000
EXPORT	1.478	2.18	0.029	1.682	8.71	0.000
SALECOST	1.395	0.99	0.322	0.678	-3.94	0.000
PROLOSS	2.016	2.03	0.043	1.457	1.55	0.122
PROFITIN				1.006	8.09	0.000
NFIXASS	1.000	2.40	0.016			
REGION						
2	3.619	3.70	0.000	0.881	-0.95	0.341
3	0.731	-1.56	0.120	1.528	4.35	0.000
4	0.249	-4.76	0.000	1.065	0.61	0.542
5	2.334	3.16	0.002	0.675	-3.36	0.001
6				1.845	4.97	0.000
7				1.086	0.55	0.585
Number of obs	865			8018		
Pseudo R^2	0.131			0.23		
Prob> chi2	0.000			0.000		

The odds ratios of OWNER reveal the big difference in ordinal possibility of access bank loan between Vietnam and China. To understand clear predicted probability of each type of ownership and region, we see table 8 which calculates the variables at their means. Compared to Vietnam, China is less likely to prefer stated-owned enterprises and collective than other types of businesses. So H2 is only supported in the case of Vietnam. Two types of ownership – limited liability, FDI and private-owned - have relatively less bank loan access than other ownerships. In addition, there is not a big gap in different ownership types in China, while there is a wide gap in Vietnam.

The disparities of bank loan access of each region in Vietnam are also wider than China. The data of table 8 shows that the most Vietnamese unconstrained and constrained regions to access bank loan are Central North (REGION2) and Southern Central Costal (REGION4) respectively. Especially, the possibility of obtaining bank loan of Central North is more than double compared with that of Southern Central Costal. Interestingly, the Central North has lowest economic growth in five regions (Luong&Fforde, 1996), which is unprecedented result. Otherwise, Red River Delta (REGION1) and SOUTHEAST (REGION5), which are two central economic regions, have relatively high probability of bank loan access. The results are not surprising that undeveloped regions are associated with high probability of bank loan access. This is paralleled with the results of Freeman et al (2007). They find that geographically, SMEs in Thainguyen and Laocai provide a better assessment of the improvement in the financial environment than other SMEs in Hanoi. Otherwise, SMEs, especially private SMEs in Hanoi, receive high discrimination against large enterprises and SOEs, but the other regions such as Thainguyen and Laocai have lower discrimination. For example, 36.4 percent of firms in Hanoi and 24.4 percent of those in Thainguyen were not able to apply for bank loan. SMEs in Hanoi found themselves faced with more obstacles than those in Thainguyen. This result is correspondent to findings of Le's (2012) previous research

Similar to Vietnam, there are some regions which have low economic growth but have high possibility of access capital or vice versa in China (Table 8). Southwest (REGION6) including Chongqing, Sichuan, Guizhou, Yuannan and Xizang which is one of the regions with low economic growth (Huang et al, 2003) but with highest probability of bank loan access. On the contrary, the South (REGION5) and Northeast (REGION2) with high economic growth

(Luong&Fforde, 1996) have lowest possibility of bank loan access. That means regional economic development seems not a key in directly influencing firm financing. Regional credit subsidy scheme tends to play an important role in influencing credit supply that creates the disparity of regional credit assessment. Thus, there may be room for further research, especially in Central North (Vietnam) and Southwest (China). In regard of the variation in probability of access bank loan of each region, China has less inequality than Vietnam, which is consistent to H11.

Table 8 The predicting probability at means of ownership and region

	Vietnam	China
Owner		
1	0.8499	0.5363
2	0.6807	0.6165
3	0.6128	0.6287
4	0.7302	0.6820
5	0.8984	0.6806
Region		
1	0.7009	0.5699
2	0.8945	0.4937
3	0.6314	0.6880
4	0.3690	0.5906
5	0.8454	0.4715
6		0.7132
7		0.5490

Next, the odd ratios of EXPORT are significant at 5 percent in Vietnam and 1 percent in China and larger than one in two models, which confirms the effect of export on the probability of bank loan access in both Vietnam and China. However, the data in table 8 and figure 1 reveal that Chinese banks use export activities as a high weighted factor; export activities could not strongly influence the Vietnamese banks' decisions of loan appraisal. Combining with conclusion of ownership variable, it seems that Chinese bank less favour state-owned firms and pay attention more to current business activities for credit appraisal than Vietnamese banks. Although the evaluation criteria of Chinese banks are more dependent on business performance than those of Vietnamese banks, this situation is not a bright picture in the research of Podpiera (2006). He stated that it was impossible to determine criteria to determine lending decision.

The magnitude of influence on Vietnamese government subsidy credit is less vast than Chinese ones. This is affirmed by the odds of China 8 times higher than those of Vietnam. Obviously, the result supports H4. China's credit support program has a wide range and large scale. Although credit quota was gradually lifted from 1990 but specified credit is still relatively large in China. Specified credit not only exists in SOCBs but also in joint-equity commercial banks and city commercial banks. Due to credit quota being greater than business's demand, some businesses take advantage of 25 percent of the credit quota (World Bank Survey, 2005). That, in turn, leads to the redistribution of credit. Therefore, it is sure whose receive credit quota; the probability of credit access is obvious. In conclusion, credit quota makes a big discrimination between firms with bank loan and firms without bank loan in China.

DAF aims to provide credit to SOEs and private sector, but big barrier of DAF gives small businesses fewer opportunities to access credit. It can be retold: (1) stringent requirements of lending standards; (2) few information dissemination; (3) interest rate of loan in terms of USD currency is less than one in terms of VND. Because of these limitations, that is not easy to acquire loans and satisfies the businesses' capital requirement, so DAF does not create too many differential benefits for beneficiaries.

The judgements of Chinese businesses about collateral determining their operation are significant in explaining the status of bank loan that supports H5, while this relation is insignificant in Vietnam. Even businesses that judge 'no obstacle' and 'minor obstacle' have low probability of bank loan access. However, because these businesses are not on hunger capital, the probability of obtaining bank loan is so low at present. Combining with descriptive analysis, financial obstacles of Vietnamese firms face more severe constraints on collateral than Chinese ones, which implies that probability of credit access is not wholly from collaterals but from other decisive factors.

The odd ratios of RAWMAT in both China and Vietnam are larger than one; however, this variable is only significant in the case of China. This implies that with other things equal, firms purchasing raw material by credit have higher probability of bank loan access. Consistent with previous studies (Cook, 1999; McMillan and Woodruff, 1999), the results of models confirm firstly, firms receive more trade credit if they have a bank loan; secondly, trade credit significantly influences the odds of getting bank loan. Therefore, the results are partly consistent with H6. Provision of trade credit to customers' accounts for nearly 30 percent in China and less than 20 percent in Vietnam. McMillan and Woodruff (1999) conclude that Vietnamese firms have not more choices to shift to alternative suppliers who can offer credit. Demirgus-Kunt and Maksimovic (2001) conclude that trade credit is more common in countries with poorer legal systems. Although China does not lack formal financial system compared with Vietnam, the trade credit in China is more prevalent than that in Vietnam. This suggests that Vietnamese firms have less bargaining power than Chinese firms partly because the number of suppliers is relative small and Chinese society put the truth on the first position on business relation.

The magnitude and significance of odd ratios of sale to cost in China and Vietnam are not similar. This result of China model is supportive of H7.However, this relation in Vietnam is insignificant and the odd ratio is less than one. While figure 1 shows the positive relation between SALECOST and probability of loan in Vietnam, this relation in China is not simple. Generally, as SALECOST increases, the probability of bank loan access decreases, however some parts of this curve show positive relationship, especially when SALECOST of less than one demands bank loan more urgently. The relationship between access to credit and the ratio of sale to cost in figure 1 is somewhat simple in the case of Vietnam. This suggests that Vietnamese businesses satisfied bank's requirements consecutively to get bank loan even if good storage's operation earns high profit. Therefore, it is possible to say that the capital demand of Vietnamese businesses for operation and investment is high.

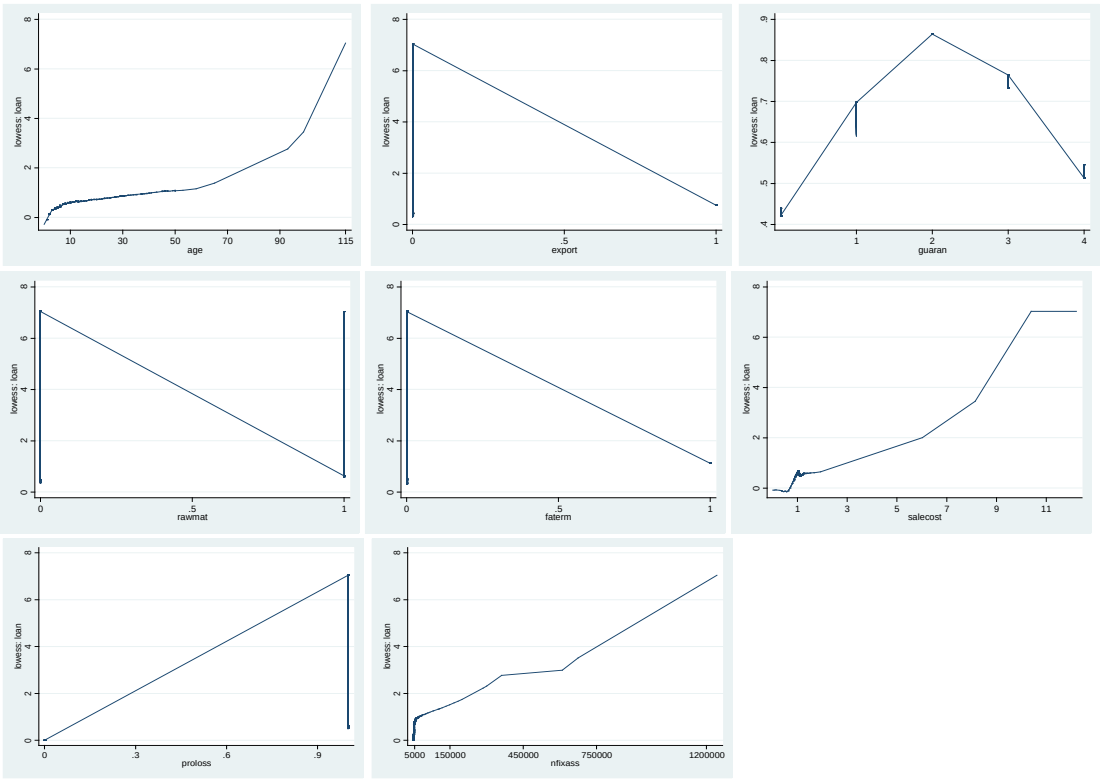
Figure 1 shows the relationship between access bank loans and the ratio of sale to cost highly fluctuates and is not linear. The relationship can be divided into three stages: when the ratio of sale to cost is less than one, the business increases possibility of access bank loan; then the ratio increases from 1 to 4.5 the trend of access bank loan declines; and after that the ratio is over 4.5, business demands more bank loan. In conclusion, Chinese businesses are cautious about getting bank loan. They firstly take full advantage of retained earnings, then access bank loan.

By profit or loss variable, the meaning of profitability and ratio of sale to cost express the business operation, however the PROLOSS is in the form of dummy and there are not any correlation between two variables. Consistent with H8, the probability of getting bank loan depends on the operating result and this relation is only true in Vietnam. This implies that, other things equal, the more profitable firms have higher propensity to get bank loan, as expected. This relation partly strengthens the explanation related to SALECOST and bank loan. Contrary to the Vietnamese businesses' demand of bank financing, the magnitude of Chinese businesses' capital demand is relatively low and less significant. Despite the difference in demand, figure 1 shows that the trend of two models is nearly similar.

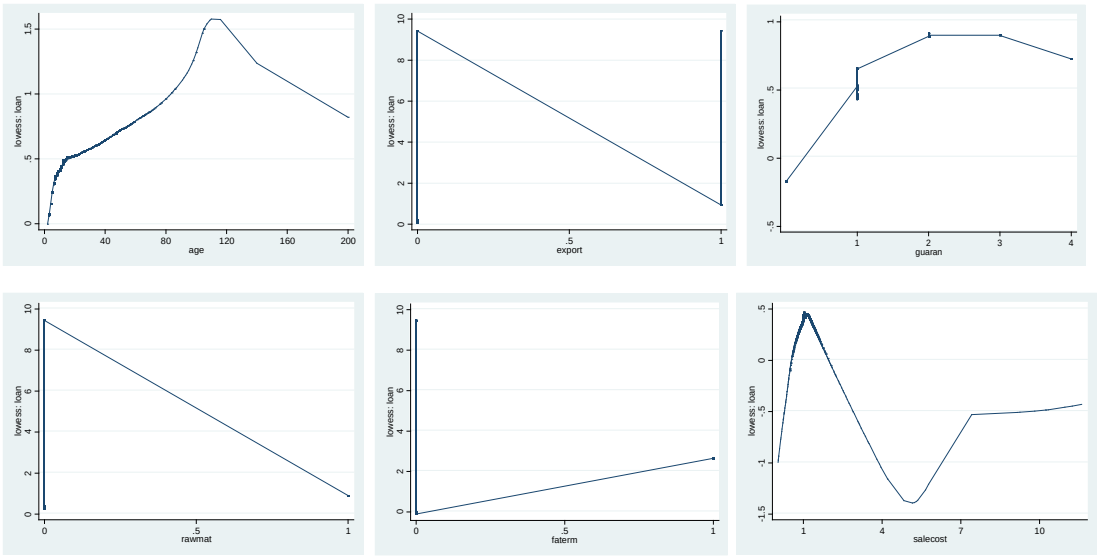
The two variables PROFITIN and NFIXASS, which present the status of firms' new investment and need of external capital, should be used one for analysis because of correlation. To test the significance of these two variables, PROFITIN should be in China model; NFIXASS should be in Vietnam model. Percentage of the net profit used for reinvestment (PROFITIN) in China model is consistent with the research of Cull and Xu (2005), it can be explained that the higher profit invested to new investment support the success of obtaining bank loan that can be seen in the figure 1. In addition, the odd ratios are nearly one, meaning that PROFITIN influence on firms with bank loan or firms without bank loan is not different. This result is compatible with H9, but profit invested in new investment is not weightedas constituting factor for credit access. Consistent with H10, the overall pattern of NFIXASS in Vietnam model is similar to one of PROFITIN in China model which is approved by the positive line in figure 1 and the odd ratio equal to one.

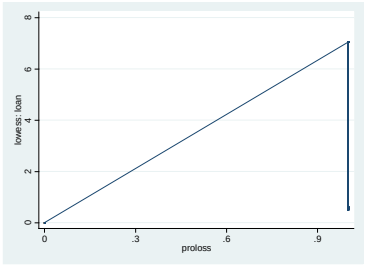
Figure 1Independent variables in two models

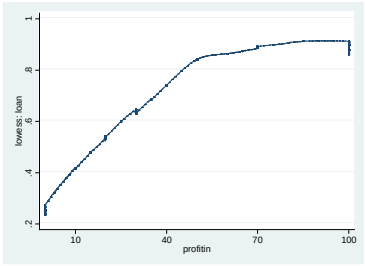
Vietnam



China







2.3 Comparison and conclusion

Age affecting firms with bank loan or firms without bank loan in two models is not much different in terms of value. But age is significantly explained in the Chinese model. Vietnamese banks are more favorable to SOEs than Chinese banks. In particular, Chinese SOEs and collectives have lower loan rate than other ownership groups.

Central North in Vietnam showed a more positive assessment in terms of improvements in the financing environment than other regions across Vietnam. Meanwhile the Southwest including Chongqing, Cichuan, Guizhou, Genir and Xizang in China where favorable conditions are created to access bank loan, is relatively underdeveloped in economy. The results suggest that the local advantage could be very large in the region with efficient government intervention and legal institution support to promotion programs.

By the influence of export on the probability of obtaining bank loan, this variable has a positive and significant impact. The effect of export activities on Chinese banks is higher than that on the Vietnamese banks. Associated with ownership, Chinese banks seem to be oriented to the performance criteria on the basis of lending decision. Nevertheless, the context is not a bright picture in the study of Podpiera (2006) on the standard criteria of lending decision. By collateral, Chinese businesses are less restricted in collateral to access bank loan than Vietnamese ones.

China's credit quota program which was too big in terms of scope and level generated major benefits for businesses having credit quota. Conversely, businesses without credit quota have extremely low possibility of bank loan access, and they may get a loan in the form of capital redistribution. Conversely, DAF program in Vietnam was too strict in lending requirements and did not bring too big benefits for beneficiaries, so this program did not create big differences between groups having favored term and group not having favored term. The difference of businesses with favored term and businesses without favored term leads to varied structural financing. Businesses with favored term use less internal funds or retained earnings, equity or sales of trade, family and friends, and of course increase financing from state budget.

Although China is not weak in financial institutions, trade credit is still more common in China as well as Vietnam. To solve the raising capital problem, businesses find suppliers capable of providing trade credit. According to the descriptive analysis, large businesses increasingly use trade credit; these issues are true in the case of China and Vietnam. These results are in contrast to studies before 1980s by Shiraihi and Yano (2007) which indicated that SOEs are easy to access bank credit so they are less motivated to use trade credit, while private businesses are eager to find suppliers that offer trade credit. Enterprises with the type of ownership as limited liability, FDI and other forms of ownership get rid of trade credit in informal financial market in both Vietnam and China. Especially, the private sector in Vietnam only uses trade credit as a relative small share in the total. The econometric model indicates that firms having trade credit are associated with high probability of access bank loan in China, while the relationship is not significant in Vietnam.

According to the conclusion of Cull and Xu (2007) trade credit in China comes from surplus capital of SOEs. Unlike China, trade credit in Vietnam is initiated by social networks. The benefits of trade credit must mention two aspects: (1) the demand side – to create short-term funds without going through the formal financial market characterized as cost and time consuming; (2) the supply side – a tool to achieve business goals as sales promotion.

In the case of Vietnam, the higher ratio of sale to cost is associated with the higher probability of access bank loans. But the relation is against POT theory, businesses will take advantage of retained earnings at first, then obtain bank loan. Inversely, the relationship is not simply linear in China that implicitly explains that Chinese

businesses seem to be cautious in problem of getting bank loan. The econometric model indicates that businesses with operating profit enhance the capacity of access to credit, which is true both in Vietnam and in China. However, the demand of bank loan in China is not as high as in Vietnam. High profit invested to new investment and net fixed asset is associated with the success of obtaining bank loan in China and Vietnam respectively.

The characteristics of firms with bank loan and firms without bank loan can be derived as following. In the case of Vietnam, firms with bank loan are characterized by state-owned enterprises and some other types of ownership, buying materials on credit from suppliers or have account payable, receiving favored terms of credit, having export activities, high ratio of sales to cost and profit; the other variables less insignificant in getting credit are age, evaluation obstacles of guarantee, investment in new fixed asset. In the case of China, firms with bank loan are characterized by private-owned company, shareholding corporations and share joint-owned units, evaluation obstacles of guarantee, buying materials on credit from suppliers or have account payable, receiving favored terms of credit, having export activity; the other variables less insignificant in getting credit are age, profit and net profit invested in fixed assets.

REFERENCES

Allen. F, Qian. J,Qian. M, 2005.Law, finance, and economic growth in China. Journal of Financial Economics, 77: 57-116.

ANU (Australian National University, Asia Pacific School of Economics and Management), CIEM (Central Institute for Economic Management), 2002.Private Enterprise Development in Vietnam. International Finance Corporation (IFC), Washington, DC.

Ayyagari.M, Demirguc-Kunt. A, Maksimovic.V, 2011.Small vs Young Firms across the World: Contribution to Employment, Job Creation, and Growth, Work Bank – Policy research working paper 5631.

Berger, A.N,Udell, G.F, 1995. Relationship lending and lines of credit in small firm finance. Journal of business, 68: 351-382.

Beck.T, Demirguc-Kunt, Levine. R, 2003.Bank supervision and corporate finance. NBER Working Paper Series, Working Paper 9620, http://www.nber.org/papers/w9620.

Beck.T,Demirguc-Kunt.A, 2005. Small and Medium –Size Enterprises: Overcoming Growth Constraints, http:// worldbank.org/DEC/.../WBRO-SME-final.pdf.

Biais. B,Gollier. C, 1997. Trade credit and credit rationing. Review of financial studies, X: 903-937.

Brandt. L, Li. H, 2003. Bank discrimination in transition economies: Ideology, information or incentives?. Journal of Comparative Economics, 31: 387–413.

Chittenden. F, Bragg. R, 1997. Trade credit, Cash-flow and SMEs in UK, Germany and France. International Small Business, 16: 22-35.

Cook.D. L, 1999. Trade credit and bank finance: Financing small firms in Russia. Journal of Business Venturing, 14: 493-518.

Cull. R,Xu. L.C, 2003. “Who Gets Credit? The Behavior of Bureaucrats and State Banks in Allocating Credit to Chinese State-Owned Enterprises.” Journal of Development Economics, 71(Suppl2): 533-559.

Cull. R, Davis. L.E, Lamoreaux.N.R and Rosenthal.J-L, 2006.Historical financing of small and medium size enterprises. Journal of Banking & Finance, 30: 3017-3042.

Cull. R and Xu.L.C, 2005.Institutions, ownership and finance: the determinants of profit reinvestment among Chinese firms, Journal of Financial Economics, 77: 117-146.

Deesomsak. R, Paudyal. K,Pescetto. G, 2004.The determinants of capital structure: evidence from the Asia Pacific region. Journal of Multinational Financial Management.14: 387-405.

Demirguc-Kunt.A,Maksirnovic.V, 2001, Firms as Financial Intermediaries: Evidence from Trade Credit Data, World Bank Working Paper.

Degryse. H, Goeij. P,Kappert. P, 2012.The impact of firm and industry characteristics on small firms' capital structure, Small Business Economics, 38: 431-447.

Dollar, D., Wang. S,Xu. L. C, Shi.A, 2004.Improving City Competitiveness through the Investment Climate: Ranking 23 Chinese Cities. World Bank Working Paper Series.

Epstein. J, Graham. F, 1991.The role of Collateral in Small Business Lending. Office of Investment, Bureau for Private Enterprise, U.S. Agency for International Development.

Fabbri. D,Klapper. L.F, 2011.Trade Credit and the Supply Chain.2009 Financial Intermediation Research Society (FIRS) Conference on Banking, Corporate Finance and Intermediation in Prague.

Freeman. N.J, Le.B. N, 2007. SME Finance in Vietnam: Reviewing Past Progress and Scoping Future Developments, Working Draft of Technical Report. 12th. May 2007, United Nations Industrial Development Organization.

Iannariello.M.P, Morsy.H, Terada-Hagiwara.A, 2007. Role of debt maturity on firms' fixed assets during sudden stop episodes: evidence from Thailand. X(2): 309-335.

Garcia-Teruel.P. J, Martinez-Solano.P, 2007. Short-term debt in Spanish SMEs, International Small Business Journal, 25(Suppl6): 579-602.

Goto. K, Natsuda. K,Thoburn. J, 2011. Meeting the challenge of China: the Vietnamese garment industry in the post MFA era. Global Networks, 11(Suppl3): 355-379.

Guiso.L, 1998.High-tech firms and credit rationing. Journal of Economic Behavior & Organization, 35: 39-59.

Huang. J, Zhang. L, Li. Q, Qiu. H, Center for Chinese Agricultural Policy, 2003. National and regional economic development scenarios for China's food economy projections in the early 21st century, Working Paper 1.3: Regional development pace and structure.

Le.N.M.P, 2012. What determine the access to credit by SMEs? A case study in Vietnam. Journal of Management Research, 4(Suppl4): 90-115.

Li. D, Lu. Y, 2009. Does Trade Credit Help? Evidence from China, 2008 Far Eastern and South Aisa Meeting of the Econometric Society (FEMES).

Luong. H.V, Fforde. A, 1996. Regional development in Vietnam: Local dynamics, market forces and state policies, Eastern Asia Policy Papers, 13.

McMillan, J, Woodruff. C, 1999.Interfirm Relationships and Informal Credit in Vietnam. Quarterly Journal of Economics, 114(Suppl4): 1285-1320.

Niskanen. M,Niskanen. J, 2010.Small Business Borrowing and the Owner-Manager Agency Costs: Evidence on Finish Data. Journal of Small Business Management, 48(Suppl1): 16-31.

Nguyen. D, Diaz-Rainey.I,Gregoriou. A, 2012. Financial development and the determinants of capital structure in Vietnam. Social Science Network, http://ssrn.com/abstract=2014834.

Nguyen, T.D.K, Ramachandran. N, 2006.Capital structure in small and medium sized enterprises: The case of Vietnam. ASEAN Economic Bulletin, 23(Suppl2): 192-211.

Petersen.M.A,Rajan.R.G, 2002. Does distance still matter? The information revolution in small business lending, J. Finance, 57: 2533–2570.

Podpiera.R, 2006.Progress in China's Banking Sector Reform: Has Bank Behavior Changed? IMF Working Paper, WP/06/71.

Shiraishi. M, Yano. G, 2010.Trade credit in China in early 1990s, Economic Change Restructuring, 43: 221-251.

Sogorb-Mira.F, 2005. How SME uniqueness: Affects capital structure: Evidence from a 1994-1998 Spanish Data Panel. Small Business Economics.25: 447-457.

World Bank, 2004. World development report 2005: A better Investment for Everyone. New York: Oxford University Press.