Pacific-Basin Finance Journal 39 (2016) 16–27

Contents lists available at ScienceDirect

Pacific-Basin Finance Journal

journal homepage: www.elsevier.com/locate/pacfin

# Credit Expansion, Corporate Finance and Overinvestment: Recent Evidence from China☆

Jianfu Shen [a], Michael Firth [b,*], Winnie P.H. Poon [b]

[a] *Department of Economics and Finance & Research Institute for Business, Hang Seng Management College, Hang Shin Link, Siu Lek Yuen, Shatin, Hong Kong*
[b] *Department of Finance and Insurance, Lingnan University, 8 Castle Peak Road, Tuen Mun, Hong Kong*

ARTICLE INFO

*Article history:*
Received 14 August 2015
Received in revised form 16 May 2016
Accepted 21 May 2016
Available online 26 May 2016

*JEL Classification:*
G21
G32
G38

*Keywords:*
Bank loan supply
corporate investment
corporate leverage
loan financing
net equity issuance

ABSTRACT

This paper examines the impacts of a recent credit expansion event on corporate policies in China. During the credit boom in 2009 and 2010, the large and state-owned firms increased leverage ratios by 2.89% and 1.68% (on a quarterly basis) more than their matched firms. State-owned firms had higher increases in loan financing and corporate investment than their matched firms due to government intervention and better access to the credit market. Small and non-state-owned firms had no significant change in loan financing but undertook less net equity issuance than did the matched firms during this stimulated boom. These findings shed significant light on the effects of bank lending segmentation on capital structure and corporate investment decisions in response to macroeconomic shocks in China.


## 1. Introduction

This paper examines the impacts of a recent credit expansion event on corporate policies in China. Monetary policy and bank loan supply are frequently used to stimulate economic growth in emerging countries. A recent phenomenon is the significant credit growth since 2008 in large emerging markets like India, China, Turkey, and Brazil (Onaran, 2013). In China, the supply of bank loans substantially increased in 2009 and 2010 following the adoption of an expansionary monetary policy. The consequences of bank loan supply shock on corporate financing policies and investment across different groups of firms in China have not been emphasized in the literature.

We discuss three aspects of the impacts related to the credit expansion event in China: the changes of leverage and loan financing, the substitutions between loan financing and equity financing, and the changes in the level of corporate investment. The finance literature argues that market frictions and the external credit supply influence a firm's capital structure and corporate

☆ The authors are very grateful to the Editor, Jun-Koo Kang and an anonymous referee for their useful comments and valuable suggestions to improve the quality of this paper. The authors would also like to thank Dorla A. Evans, Zhihong Chen and the participants at the 2015 Journal of Law, Finance, and Accounting (JLFA) International Conference for their valuable comments and helpful suggestions. This paper was previously titled "Bank loan supply and corporate capital structure: Recent evidence from China".
* Corresponding author.
*E-mail addresses:* jeffshen@hsmc.edu.hk (J. Shen), mafirth@LN.edu.hk (M. Firth), winpoon@LN.EDU.HK (W.P.H. Poon).

http://dx.doi.org/10.1016/j.pacfin.2016.05.004
0927-538X/© 2016 Published by Elsevier B.V.

investment decisions. Firms with access to the public bond market, bank loan ratings, and traded Credit Default Swaps (CDS) are found to be associated with higher leverage than the firms without such access, loan ratings and CDS trading (Faulkender and Petersen, 2006; Sufi, 2009; Saretto and Tookes, 2013). The exogenous shocks on the supply of capital have varying impacts on capital structure and investment, which depend on firms' abilities to raise capital (Leary, 2009; Almeida et al., 2011; Erel et al., 2012) and the substitution among different forms of external financing (Kashyap et al., 1993; Becker and Ivashina, 2014). We explore the three issues in the context of China, where the capital market is dominated by the banking system[1].

In China, firms that have a greater ability to access the credit market are large firms and state-owned enterprises/firms (SOEs), as they receive preferential treatment from the banks (the major banks are state-owned)[2]. These firms have the advantage of easier access to bank loans. Small and non-state-owned (non-SOE) firms have a reduced or impaired access to bank loans. We expect that positive bank lending shocks will generate more impacts on firms with the ability to obtain loans (large and state-owned firms in this study) than firms with impaired access to loans (small firms and non-SOEs).

To investigate the impacts of credit expansion in 2009 and 2010, we compare the changes of corporate financing and investment before and during the credit boom in large firms, state-owned firms, small firms and non-state-owned firms (four treatment groups) with the changes of their matched firms (control groups) respectively, following the methods used by Almeida et al. (2011) and Kahle and Stulz (2013). If the differences in changes between the treatment groups of firms and their matching firms are significant, we can argue that the credit expansion significantly influenced the corporate behaviors of these treatment groups.

The findings in this paper can be summarized as follows. First, we find that large firms and SOEs increased leverage ratios by 2.68% and 1.89% (on a quarterly basis) more than the matching firms during the boom period. Leverage ratios decreased more in small firms and non-SOEs than in the matching firms. State-owned firms are found to receive more bank loans (by approximately 2.28% on a quarterly basis) than matching firms. The changes of loan financing are not significantly different from control groups in large firms, small firms and non-state-owned firms. Second, there is no evidence indicating that there are substitutions between loan financing and equity financing in China. The equity financing decreases in all four treatment groups (large, state-owned, small and non-state-owned firms) and the net equity issuance of small firms and non-state-owned firms decreased more than the matching firms during the boom period. State-owned firms did not use less equity financing than the matching firms even though they received more bank loans than matching firms. Third, the growth rate of corporate investment in net fixed asset increased significantly during the credit boom in state-owned firms. The SOEs with high state ownership increased corporate investment growth by 3.98% (on a quarterly basis) more than their matching firms. This finding suggests that SOEs overinvest during credit expansion as the government wants to stimulate the economy by capital spending and therefore order SOEs to invest more.

This paper is the first to explore how credit expansion impacts corporate financing and investment in the world's largest emerging market. We find that a bank lending supply shock plays an important role in the corporate policies of firms in China. Corporate financing and investment of SOEs are very sensitive to the changes in bank loans as they rely on this source of capital. Our paper also has important policy implications for China's monetary policy, banking reform and government intervention in SOEs' investment. First, our empirical findings support the claims highlighted in the recent report on China's banking system from the U.S. Congressional Research Service that China's banks give preferential treatment in lending to selected companies, usually large, state-owned and historically-served firms (Martin, 2012). China's stimulus program from late 2008 to the end of 2010 lent more support to these companies than to small- and medium-sized firms, despite the government's avowed intent to help small- and medium-sized firms. Second, SOEs receive more loans from state-controlled banks and invest more to help achieve the objective of the Chinese government, e.g., boosting the GDP growth. We find that the increase of investment only occurs in SOEs rather than in large firms, which is consistent with overinvestment due to the government intervention (Chen et al., 2013; Deng et al., 2015).

The paper is structured as follows. The next section presents a brief review of the relevant literature and provides a background on corporate financing and loan supply in China. The third section presents the data, variables, and empirical strategy. Empirical results and associated discussions are presented in Section 4. The final section concludes the paper.

## 2. Background on Corporate Financing in China and a Brief Literature Review

### 2.1. Credit Expansion and Bank Loan Supply in China

To mitigate the shocks from the global financial crisis, China adopted both an expansionary fiscal policy and monetary policy to stimulate economic growth at the end of 2008. The central government shifted its monetary policy to a *moderately loose* level, followed by several instruments to boost bank loan supply[3] between the end of 2008 and 2010. The growth of bank loans and money supply can be easily observed from macroeconomic data. Fig. 1 shows that the money supply (M2) and bank credit

[1] The banking system in China is often the sole and most important external financing source for companies, as non-bank financings are relatively rare due to the immature capital market. Equity issues (as well as bond issues) are subject to strict quotas set by the regulator, the China Securities Regulatory Commission (the CSRC), and in some years the quota is zero thus closing down the Initial Public Offering (IPO) market and even the market for secondary offerings.

[2] The banking system is controlled by the government and is used as a policy tool for addressing national and social priorities. Furthermore, access to credit may be determined by political considerations and connections rather than determined on a commercial basis (Firth et al., 2008).

[3] The details of instruments can be found in China Monetary Report Quarter Four, 2008.