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Tackling Small and Medium-Sized Enterprises (SMEs) Financing in China

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China's small and medium enterprises (SMEs) have contributed to growth and created millions of jobs. However, SMEs are frequently perceived as facing financing difficulties. This paper illustrates that (1) financing difficulties are more acute in smaller cities; (2) spreads between SMEs and large enterprises appear higher in part due to implicit fees and charges by banks and higher credit risks for SMEs; and (3) greater financial penetration in small cities could reduce the financing cost. These findings could help formulate policies to support SME financing. Strengthening financial inclusion with safeguards, particularly in small cities, could bring significant gains. Measures to build a sound financial infrastructure would improve credit to SMEs, including unified credit registry and extending eligible collaterals. Broadening sources of finance by taking advantage of technology—provided with adequate supervision—and addressing implicit guarantees could help SME financing.

Key Words: China; Small and medium-sized enterprises; SME financing; Credit registry.
JEL Classification Numbers: G2, G3, E4.

1. INTRODUCTION

Small and medium enterprises (SMEs) have grown markedly and contributed to growth and employment in China.[1] Micro, small, and medium-sized enterprises comprise 94 percent of all business entities and accounted for 60 percent of GDP in 2014.[2] These SMEs have cre-

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[1]As discussed in next section, there is no harmonized definition of SMEs in China, as in other economies. Based on the classification and common uses, the definition of SMEs in China appears closer to micro- and small-sized enterprises (xiaowei qiye) in other economies. As a result, cross-country comparison may be difficult, possibly underestimating financing difficulties of SMEs in China.

[2]Data from National Bureau of Statistics (NBS) and State Administration for Industry and Commerce (SAIC).

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ated jobs for about 70 percent of urban employment, contributing partly to the resilient labor market despite growth slowdown in recent years. SMEs also contribute to the dynamism in the economy, a key to sustain growth and enhance innovation and vital to the ongoing economic transition in China.

But SMEs in China often face obstacles, including in financing. Surveys show that most SMEs found access to finance as one of their largest challenges, higher than in many other countries. Other challenges include taxes and unfriendly business environment. As a result, SMEs tend to rely on internal financing. Although credit growth to SMEs has outpaced average loan growth and their access to finance has improved under government measures, SMEs still face tight borrowing standards such as requirements of collateral and guarantees at twice the loan amount on average. Part of the financing difficulties reflects the underlying risk profile of SMEs. Non-performing loans for SMEs are often much higher than average at about 4-5 percent. Banks therefore may be less willing to extend credit to SMEs unless at a much higher interest rate. Interest rates for SMEs remain elevated, partly due to fees and surcharges, with the average spreads at about 4 percentage points higher than large firms.

While other studies also find similar financing obstacles for SMEs, this paper shows important regional differences in China. After controlling for firm characteristics and industries, challenges facing SMEs in smaller cities are more acute. There is also some evidence suggesting that an overall increase of credit to GDP may not necessarily help SME financing because credits are often allocated toward large state-owned enterprises and banks often consider SME loans as more risky. The likelihood of SMEs access to bank credit also depends on overall credit conditions and financial developments such as bank penetration ratio.

Government measures have been in place to support SME financing and the empirical results in the paper will help refine the policy design. Improving SME financing with better access and lower cost is policy priorities. Measures have been in place for tax exemptions for SMEs and encouraging banks to extend loans to SMEs. At the same time, the government has taken steps to promote diverse sources of financing, such as equity and bond financing, as well as, internet finance in light of technological advancement. These empirical results can help better reorient policy measures to take into account of regional differences and apply market-based measures to encourage SME financing.

Better financial inclusion for SMEs with adequate supervision and safeguards will help transition towards more inclusive and sustainable growth. Cross-country analysis shows that financial inclusion raises economic growth for emerging economies and goes hand in hand with financial depth (Sahay et. al. 2015). But that development would need to be matched with adequate supervision. Efforts are best made when there is a market failure rather than through directed bank credit. In that regard, market measures to establish unified credit registry and strengthen resolution framework would allow better assessment of credit risks for SMEs.

The paper is organized as follows. Section 2 illustrates the recent developments and financial challenges facing SMEs in China based on various firm-level surveys. Section 3 summarizes the government measures to support SME financing and the progress. Section 4 illustrates empirical results based on panel regressions on factors contributing to SME financing problems. Section 5 explains some policy implications and Section VI concludes.

2. RECENT DEVELOPMENTS IN SMES IN CHINA

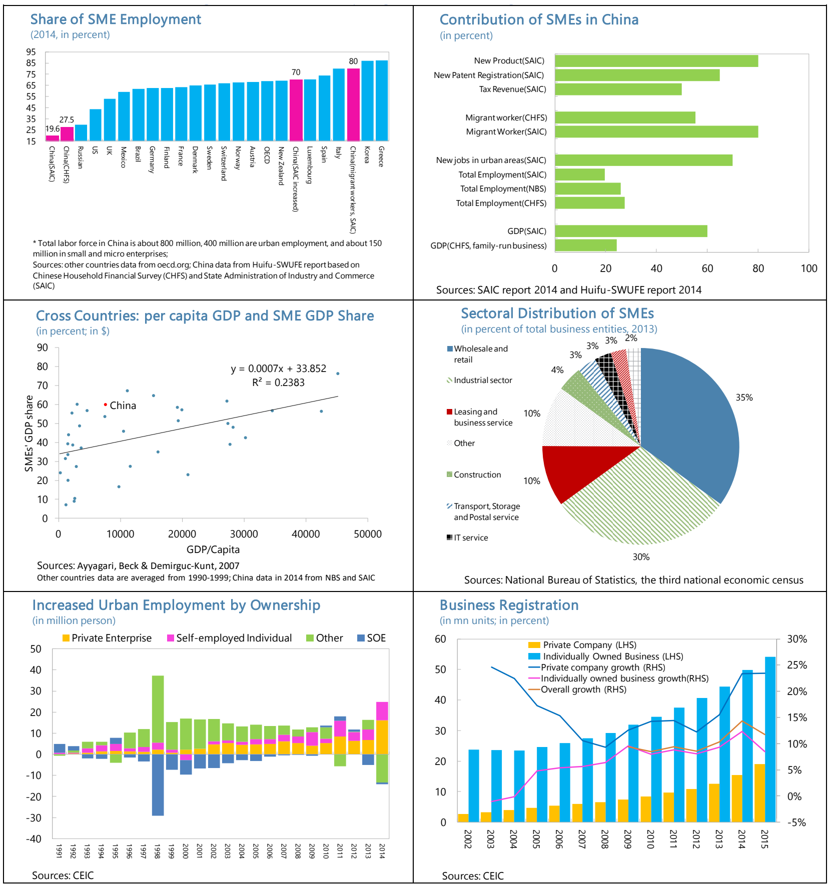
SMEs have increasingly contributed toward growth and employment in the economy. By some measures, they now account for 80 percent of total employment and have contributed to near 60 percent to GDP output and more than half of business tax (OECD 2015). Majority of SMEs are in the services sector.[3] SMEs also contribute about two-thirds of new patents and more than 80 percent of new products (Figure 1). The rapid growth of SMEs has helped generate jobs for layoffs during previous round of state-owned enterprises reforms and contributed to urbanization when mass rural labor force searched for jobs in urban cities. Private enterprises increased from just 90,000 in 1989 to 16.5 million in mid-2015, while individually-owned enterprises increased by more than 4 times between 1989 and 2015, up 94 percent of all business entities, according to the National Bureau of Statistics. The rapid expansion has in part been driven by the economic transformation toward a more market-oriented economy.

The definition of SMEs varies across economies widely depending on the reporting statistics source. Even within the same economy, it is common that the SME definition is different depending on policy perspectives on hand. Common criteria include the number of employees, total assets, sales, and/or investment levels. Often there is an upper and lower bound on employment for micro, small, medium-sized enterprises in the definition across economies (see Appendix). For instance, the World Bank Enterprise Survey (WBES) defines a SME as a firm with a threshold of 100 employees, while the OECD, in its latest release defines SMEs as firms with less than 250 employees.

[3]According to the 2013 national survey by the National Bureau of Statistics, about 55 percent of SMEs are in services sector, with majority in wholesale and retail, and leasing and commercial services. About 30 percent of SMEs are in industrial sector.

There is no harmonized definition of SMEs in China, as in other economies. In China, SMEs refer to micro-, small-, and medium-sized enterprises, with the definition varies across industries (see Appendix). Based on the classification, the definition of SMEs tends to be biased against the micro- and small-sized enterprises (MSEs). Because of the large population in China, many of Chinese SMEs would be categorized as large enterprises in other countries, making consistent global comparison difficult. This may result an overestimation of lending to SMEs and underestimating the financing difficulties SMEs may face.

FIG. 1. SMEs Playing an Increasing Role in China



SMEs are fundamental in generating dynamism in the economy, as the growth of new business creation surged to 10.5 percent on average each year, most of them are in SMEs. The expansion of SMEs, just as the development of private sector enterprises in China, has been contributing significantly to growth and employment. A vibrant and efficient private sector will be key to sustain growth and enhance innovation. The reform agenda also noted healthy development of SMEs is a core element to foster economic growth and employment, and would promote China's transition toward a more inclusive and balanced growth.

As in other economies, SMEs in China also face many challenges, including financing. About 20 percent of surveyed enterprises in China found access to finance as their biggest challenges, much higher than most other regions. The use of credit among SMEs in China is low relative to other economies. For instance, the share of micro and small enterprise loan was 20-25 percent of enterprise loans in 2015. The limited financing sources often imply access to external financing is generally more costly and requires tangible collaterals (Beck et al. 2006).[4] Financing obstacles generally decline as countries have higher per-capita GDP. But China seems facing higher financing obstacles for SMEs at the current level of per-capita GDP, possibly related to the underdeveloped financial system in China (Figure 2).

Besides financing difficulties, SMEs also face challenges in taxes and business environment. SMEs also face other key challenges including high tax rates, intense competition, and administrative barriers (Figure 2). In China, over 16 percent of SMEs in the survey data consider high tax as an obstacle, while most do not consider infrastructure access such as electricity and transportation as major obstacles compared with other countries.

Part of the financing difficulties reflects the underlying risk profile of SMEs. SMEs are often subject to a higher exit rates, particularly at the early start-up stage. Nonperforming loans for SMEs are high at about 4-5 percent relative to 2 percent for the banking system. Banks therefore are less willing to extend credit to SMEs or charge higher interest rate to cover for the higher credit risks.

Financing obstacles vary across SMEs in different regions in China. Firms in large cities (Tier 1) tend to have better financial access than those in other smaller cities (Tiers 2, 3 and 4), controlling for industry and size (Figure 2).[5] For instance, about 20-25 percent of surveyed SMEs consider access to finance as their largest obstacles, almost double the level

[4]Although the government has initiated new platforms, equity financing through the stock market is not fully accessible, while bond financing for SMEs has remained small relative to the size of the financial system.

[5]Chinese cities are generally grouped into four categories: tier 1 cities include Beijing, Shanghai, Guangzhou and Shenzhen; tier 2 cities include Beihai, Changchun, Changsha, Chengdu, Chongqing, Dalian, Fuzhou, Guiyang, Haikou, Hangzhou, Harbin, Hefei, Hohhot, Jinan, Kunming, Lanzhou, Nanchang, Nanjing, Nanning, Ningbo, Qingdao,

of those SMEs operating in large cities. Other studies on SME financing has primarily focused on cross-country comparison without much discussion across regions in a country, partly because of relatively free movement of capital and similar financing conditions in a country. Given the vast size of China and fragmented financial access across regions, analyzing SME financing would need to take account for regional differences.

Due to the obstacles in access to finance, SMEs rely heavily on internal finance. SMEs instead rely heavily on internal finance (near 90 percent) for working capital and fixed asset investment, much larger than other emerging economies (Figure 2). At the same time, less than 20 percent of SMEs in China have access to bank loans, significantly lower than other regions, according to WBES database. SMEs in China appear to face more restricted access to external financing sources. Even though credit-to-GDP ratio is high in the aggregate, bank credit is heavily tilted towards large SOEs and local government financing vehicles due to widespread implicit guarantees in the financial system.

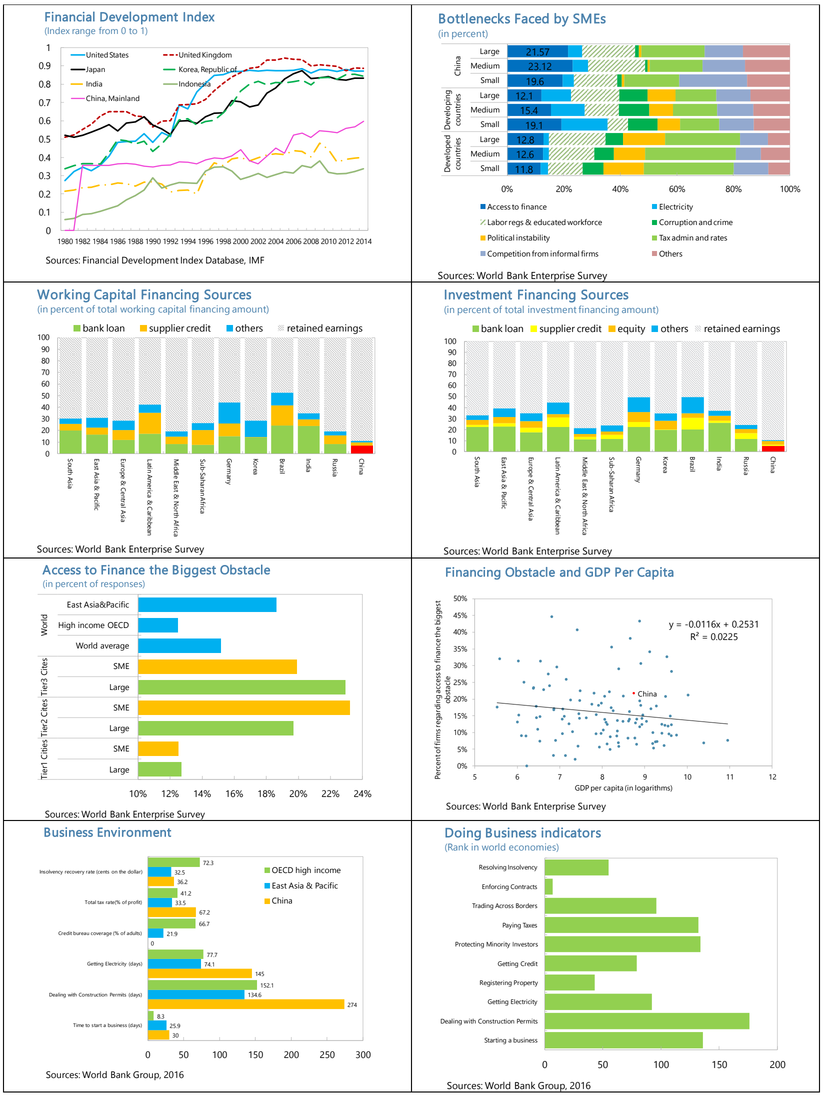
Although SMEs rely largely on their retained earnings, bank credit remains the largest source of external financing.[6] Bank credit to micro- and small-sized enterprises has grown by an average of 15 percent annually but the share of bank credit to SMEs accounts for about 30 percent (Figure 3). Lending to private small enterprises grew from RMB 4 trillion to about 7 trillion between 2010 and 2013, while loans to micro-enterprises rose from RMB 500 billion to 662 billion between 2012 and 2013. The fast growth in SME credit was partly driven by broad policy incentives to encourage state-owned banks to extend credit to SMEs. Bank credit is often in short term of 1 year or less, shorter than the typical horizon for fixed asset investment. Survey results also suggest demand for loans is higher for SMEs than large enterprises, although the overall trend is declining as the economy slows down. Large state-owned banks provide over one-third of bank credit to SMEs, while over 40 percent of bank credit to SMEs are financed by smaller city and rural commercial banks at the local level. Most of bank credit to small enterprises went to real estate and manufacturing sector.

The difficulties of bank access between large enterprises and SMEs are more pronounced in smaller cities. Survey results suggest that the gap on whether a firm applies for and receives bank loans is larger

Sanya, Shenyang, Shijiazhuang, Suzhou, Taiyuan, Tianjin, Urumqi, Wenzhou, Wuhan, Wuxi, Xiamen, Xi'an, Yinchuan, and Zhengzhou; other small and medium cities are grouped into tier 3 or 4 cities.

[6]At the same time, other sources of financing, such as factoring, leasing, and supply chain trade finance also represent an important share of SME finance but account for smaller share relative to bank credit. See Asian Development Bank and Organization of Economic Cooperation and Development (2013).

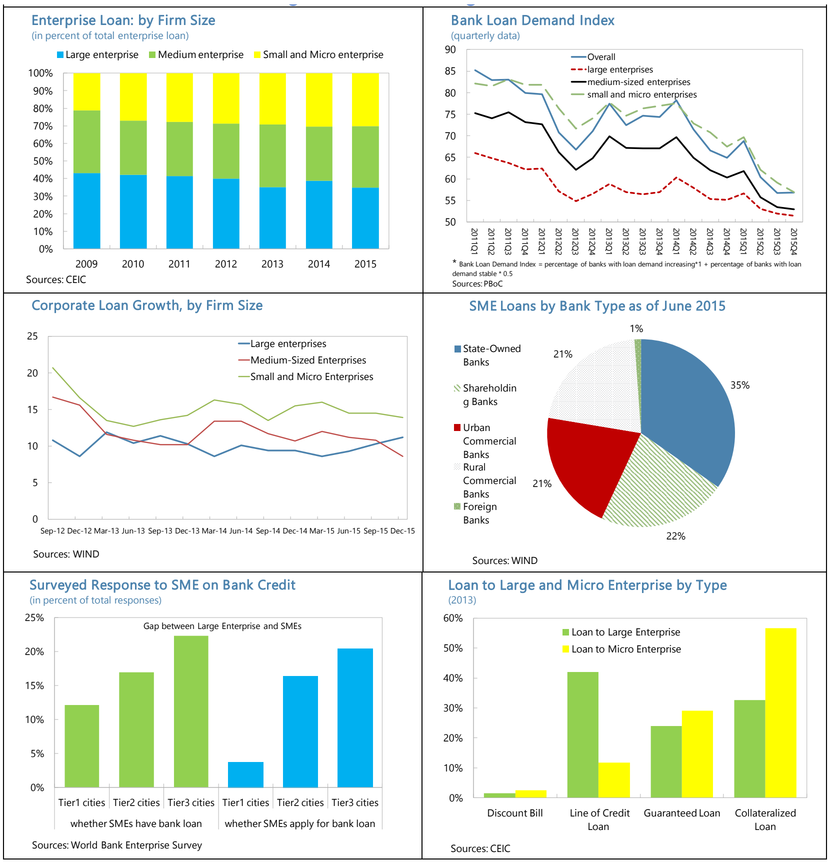
FIG. 2. SME Financing Challenges across Economies



between large enterprises and SMEs in tier 2 and 3 cities by about 20 percentage points, while the gap is only about 5-10 percentage points in large cities.

Access to bank credit for SMEs is improving but they still face tight lending standards. Data from the household survey show

FIG. 3. SME Lending in China



that over 40 percent of private SMEs did not apply for bank loans when in need of money (Huifu-SWUFE, 2014). They consider that complex application, high interest rate, and insufficient credit are key reasons of not applying for bank loans. SMEs choose a particular bank either because of limited alternatives or out of convenience rather than market factors, which may result in credit misallocation. Near one-third of SME entrepreneurs perceive bank loans as the most expensive sources of finance. At the surface, the rejection rate of 20 percent for bank loans is not particularly high for SMEs relative to some OECD countries. But because the typical loan size for SMEs are much smaller, banks often find the lending procedures, such as assessing credit risk, to be more costly and difficult, particularly without sufficient proof of cash flows and credit history, when compared to large enterprises.

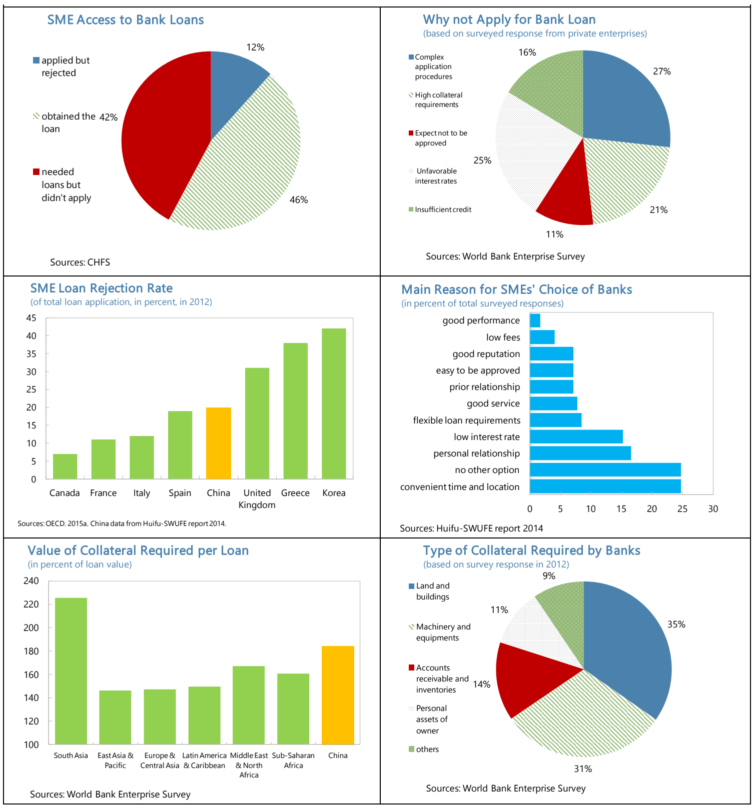
High collateral requirement is also a barrier for access to bank credit (Figure 4). Banks rely heavily on collateral and guarantees as they find difficult to access credit risks. Near 40 percent of SMEs find the lack of collateral as a reason not to obtain bank credit. It is partly due to the high collateral requirements for bank credit among SMEs in China relative to other countries. For instance, typical bank credit requires 190 percent of collateral value, higher than an average of 140-160 in other countries, except in India. Banks rely heavily on collateral and other guarantees as the assessment of credit risk is often hampered by insufficient credit information. About three-quarters of lending to SMEs in China require collateral, according to WBES. SMEs often have less access to credit lines or overdraft facilities. In terms of the type of collateral, banks often require fixed and tangible assets (e.g., land, buildings, and machinery and equipment), while only 14 percent of banks use account receivables and inventories as loan collateral for SMEs.

Borrowing rate for SME loans has remained high despite some easing of financing cost recently. Near a third of the SMEs found bank loans to be costly. About 60 percent of SMEs had borrowing cost of 5?10 percent, while the rest had over 10 percent (Ba 2013). Since mid 2014, the central bank has cut benchmark interest rates and required reserve ratio, with now the one-year benchmark rate at 4.35 percent (Figure 5). However, interest rate cuts tend to benefit large enterprises more than proportionately than SMEs, with the SME borrowing rate remained elevated at 6 percent in 2015. Lending to SMEs has also become more risky as the economy slows down, as nonperforming loans have risen to near 2 percent in mid-2016. Banks therefore have turned more cautious in extending credit to SMEs.

Spread between large and small enterprises in China appears to be higher than other emerging economies. Across the world, typical interest rates are higher for SME loans than large enterprises due to higher credit risk on average and asymmetric information. But in China, the effective spread between large and small-sized enterprises tend to be higher at about 4 percent, partly because of additional fees and surcharges. For instance, SMEs were charged about 3.7 percent of the total book value of loans as extra loan fees on average (World Bank 2013). In addition to interest payment, banks often attach requirements when extending credit to SMEs, such as requiring a certain fraction of loans to be put in deposits or wealth management products, making the total cost of financing higher than the explicit interest rate.

Access to capital markets for SMEs has remained difficult. Financing through capital markets accounts for a tiny share of all SME fi-

FIG. 4. Challenges of Bank Financing for SMEs in China

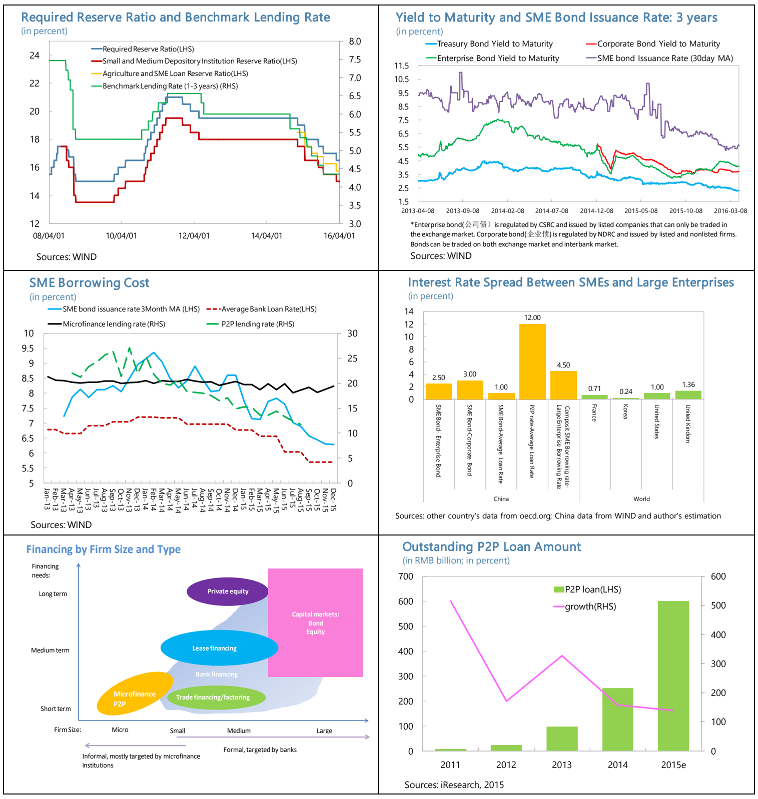


nances, with equity and bond financing for about 1 percent of SME loans. Capital markets in China are not well developed relative to its GDP size, and tend to favor large and state-owned enterprises.[7]

As bank credit is costly and difficult to obtain, SMEs have increasingly turned to informal lending. SMEs have increasingly resorted to informal lending such as interpersonal lending from friends and relatives, and credit by micro-credit institutions. Near one-quarter of micro enterprises borrow from friends and relatives, and 7 percent of small enterprises do. Informal lending is an important source of credit for small firms (Figure 6). These informal forms of lending such as, peer-to-peer P2P lending, tend to be more expensive than bank credit but can provide short-term

[7]The SME Board of Shenzhen Stock Exchange, a Venture Board, and another National Equities Exchange and Qutoations (NEEQ) provide venues for equity financing for SMEs or new startups.

FIG. 5. SME Financing Costs in China



financing with less onerous requirements. For instance, the annualized interest rate of informal private lending and micro credit companies is about 18 percent, almost three times bank loan interest rates (estimated from WIND database). Even the interest rate of P2P lending has fallen since mid-2014, the typical lending rate stayed at about 12 percent, much higher than bank lending.

The rapid expansion of internet finance provides alternative sources of finances for SMEs. This benefits SMEs to access new funding sources at lower financing cost. Online profile or transactions can also serve as information to assess credit risks, thereby reducing monitoring cost. For instance, total peer-to-peer (P2P) lending has grown strongly in China, albeit from a low base and has scaled backed recently.[8] The total

[8]Despite strong growth, the overall size was less than RMB ? trillion, small relative to the online wealth management products and overall financial system. The total

number of P2P platforms has doubled since early 2014, with an increasing number of platforms affiliated with traditional financial institutions. Rapid growth in P2P finance is partly driven by financial innovation and limited regulation. Some P2P platforms grew rapidly against the background of an unregulated environment and possibly got involved at the margin of frauds and illegal activity.

3. GOVERNMENT POLICIES TO SUPPORT SME FINANCING

The government has taken measures to promote financial access for SMEs. These include fiscal subsidies, tax cuts, moral and regulatory suasion, and indirect government intervention through state-owned financial institutions (Table 1).

Key priorities will be to strengthen financial access for SMEs. Over the years, the government has initiated measures to broaden financial access for SMEs and promote diverse sources of financing, including through capital markets. Eligibility for collaterals was gradually expanded. Specifically,

- The government also promotes capital market (bond and equity) financing for SMEs. Collective bonds, jointly issued by three or more SMEs, can be issued in the interbank markets, although the take-up has remained fairly small. Reforms are underway to ease the equity finance for SMEs, but the pace may become more gradual in light of heightened volatility in equity markets last year.
- Large commercial banks also have specific SME financing departments to facilitate SME financing. Some restrictions were lifted to encourage banks to deepen branch penetration to inner regions. New private bank licenses were approved to offer better financial inclusion for SMEs. Regulatory authorities also relaxed the risk weights applied for SME loans less than RMB 5 million and bond issuance of SMEs was not constrained by loan-to-deposit ratios.[9]
- Collateral was broadened to include account receivables, inventory, intellectual properties, and the property rights of rural land.

Policy priorities have also centered on reducing financing cost for SMEs. The central bank has set lower required reserve requirements

outstanding loan amount was about RMB 350 billion by end-October, about half of the oustanding amount of online WMPs. There are about 2? million P2P investors in China, a ten-fold increase since 2014. Growth of P2P platforms has scaled back recently, after a strong growth over the last two years. The growth rate has recently slowed down to 4 percent y/y in light of tighter regulation and more fraudulent cases were revealed.

[9] Banks also applied simplified write-off procedures for SME loans and had greater tolerance on SME nonperforming loans.

for qualified banks that support SME and agricultural lending. Moreover, the State council prohibited charging unreasonable charges and fees on SME financing and exempted some administrative fees in 2013. Subsidies from fiscal authorities were used in micro-credit programs to reduce lending rates. Direct state lending to SMEs through policy banks or indirect credit guarantees have been relatively small in scale, relative to the size of SME lending.[10]

Fiscal measures were also applied to promote SME financing. In September 2015, the State Council had plans to establish a national SME fund of RMB 60 billion (about US$ 9.4 billion) to strengthen SME developments at local levels. The fund would mitigate challenges of SME financing and promote entrepreneurship in China. At the same time, fiscal subsidies through temporary tax concession or other budgetary support, are actively used to promote SME financing. For instance, some taxes and fees were exempted for SMEs in recent years. The government is committed to further reduce administrative barriers for market entry, for instance, business registration was made simpler for SME entrepreneurs.

The government has also promoted financial innovation as alternative sources of finance to SMEs. The central bank has issued guidelines to facilitate SME financing and foster financial innovations. Technological advancement also made alternative finance-such as factoring, bill discounting, trade finance-more accessible to SMEs.[11] The shift towards informal finances while may provide greater financial access to SMEs, they also bring financial risks. Better regulation and supervision is necessary to contain the risks from the shadow banking sector.

Progress was mixed in efforts to facilitate SME financing. Overall fiscal support on SME finance remained fragmented and piecemeal. Fiscal subsidies were often not competition-neutral for all financial institutions (World Bank 2013). But information to fully evaluate various program results is limited. Measures tend to focus on policy inputs (e.g., how much is the support) rather than results and outcomes.

[10]Direct loans to SMEs by China Development Bank, a policy bank, were about 7 percent of total SME loans as of end 2013.

[11]For example, some commercial banks offer credit products "Tax Financing" for SMEs, which is a lending program based on based on the tax payment records of SMEs, verified by the local tax bureau. The tax financing offer SMEs some credit loans on average three times of the average tax payment, subject to a limit of RMB 2 million. In general, the interest cost is lower than traditional personal credit by banks.

TABLE 1.

Selected Government Measures to Support SME Financing

Date	Agencies	Key measures	Document Title
2002	National People's Congress	• Legislature to improve the business environment and promote SME developments in China.	Legislation on Promotion of SMEs
2008	Ministry of Finance (MOF)	• Establish an SME fund to support qualified projects of less than RMB 3 million.	SME Development Fund
2009	National Development Reform Commission (NDRC)	• Measures to support SMEs through increased public procurement from SMEs, better legal protections, financial access from banks, expand eligible collaterals to include movable assets, account receivables, equity shares, and intellectual properties.	Regulation 2009 No. 36
2010	State Administration of Taxation (SAT)	• Partial exemptions on business operation tax for SMEs.	Notice on Pilot Programs for Preferential Tax Treatment Business Tax for SMEs
2010	Ministry of Finance and Ministry of Industry and Information Technology (MIIT)	• Provide subsidies and inject capital for eligible (re)guarantees companies.	Provisional Administrative Measures for SME Credit Guarantee Funds
2011	Ministry of Finance (MOF)	• Provide tax exemptions for SMEs, including management, registration, and other fees.	Notice of SMEs' Exemptions on Administrative Fees
2011	Ministry of Finance (MOF)	• 50 percent income tax exemption for SMEs which taxable income is less than 60 thousand Yuan and the preferential income tax rate is 20%	Notice on preferential taxies of SMEs
2012	National Development Reform Commission (NDRC)	• Establish special fund to support SME development and provide discounted public loans to SMEs.	Measures to Implement Special SME Funds
2014	People's Bank of China (PBC)	• Provide a quota of RMB 50 billion to support SME lending.	Notice to Support SME Lending by Financial Institutions
2014	Ministry of Finance (MOF) and State Administration of Taxation (SAT)	• Cut business tax for SMEs to 20 percent; 10 percent tax rate for SMEs with taxable income less than RMB 0.1 million.	Notice on the Preferential Tax Cut for SMEs
2014	China Banking Regulatory Commission (CBRC)	• Develop private equity markets for SMEs and expand the enterprise bond to include SMEs.	Notice to Improve SME Loan Services
2014	The State Council	• Provide capital support and tax cut to SMEs; establish entrepreneurial database for information sharing among SMEs.	State Council 2014 Document No. 52
2015	China Banking Regulatory Commission (CBRC)	• Encourage banks to expand coverage and reduce fees for SMEs and optimize their credit structure through more SME lending.	Directives to Support Financial Services to SMEs
2015	State Council	• Establish an SME fund (RMB 60 billion) to support emerging industries and SME startups, partly financed by central budget.	State Council Directives
2015	People's Bank of China	• Cut required reserve requirement for banks for 5 times, particularly those that support SME and agricultural lending. Cumulative cut was more than 3 percentage points.	Various announcement by PBC
2015	People's Bank of China (PBC), jointly with other ministries	• Introduce regulation on internet finance to strengthen supervision on informal lending.	Measures on Strengthening Regulations on Internet Finance
2016	People's Bank of China (PBC), jointly with other ministries	• Allow property rights (operation and ownership rights) of rural land to be used for collaterals and mortgage lending for rural resdients.	Measures to provide mortgage loans to rural residents and rural land rights as collateral.

Sources: Documents from various agencies of the People's Republic of China.

4. EMPIRICAL STUDY

The empirical study looks at what type of corporate tend to face financing constraints. Earlier studies find that SMEs in manufacturing sector face more financing obstacles than those in service sector (Beck et al 2005, 2006). Small and young firms also tend to face more severe financing difficulties (Aiyargri et al. 2007, 2010 and 2011). Financing constraints tend to slow growth down more so in countries without a developed financial and legal system. Empirical results will help identify factors that contribute to SMEs' financing obstacles, controlling for city-level differences. The analysis contributes to the existing literature on SMEs in China by including both firm-level and city-level data to explore geographical differences, which could shed insights for designing SME financing policies.

4.1. Data sample

The empirical study also uses firm-level data from World Bank Enterprise Surveys (WBES) that include 126,705 firms across over hundred countries globally since 1996. For China, the WBES contain over 2,800 enterprises across 25 cities and 12 provinces. The survey contains firm-level response on the sources and the severity of obstacles facing the firms, including macroeconomic conditions, financing, infrastructure, tax and legal system. The summary statistics of the data sample are in Tables 2 and 3.

TABLE 2.

Summary Statistics of Key Variables

Variable	Obs.	Mean	Standard deviation	Data level
Firm's are (in number of years)	2626	12.7	7.9	firm
Sales revenue (in million RMB)	2613	162.0	1330.0	firm
per-capite GDP (in RMB)	25	64290.8	85262.5	city
Government expenditure as percent of GDP	25	10.5	15.6	city
Outstanding loan as percent of GDP	25	140.4	290.6	city
Share of micro-credit loans to GDP (in percent)	25	6.8	31.0	city
Employment share of private enterprises (in percent)	12	57.0	58.2	province
Bank branch penetration (number of bank branches per 10,000 population)	12	1.5	1.4	province

Sources: World Bank Enterprise Survey, CEIC, and WIND.

In the WBES, a small enterprise is defined as one with less than 20 employees, a medium-sized enterprise with 20-99 employees, and large enterprises more than 100. In that regard, the small and medium-sized enterprise in the survey is more related to the definition of micro- and small-sized enterprise in China. More than 70 percent of firms in the survey are classified as small and medium, while 92 percent of all firms are privately-owned. Near two-thirds of the surveyed firms are in manufacturing. The average firm age is about 13 years. Macroeconomic data at the city level come from the CEIC China Premium Data and WIND databases.[12] Overall, about 30 percent of firms had taken out bank loans, and 17 percent of these firms used the bank loans to finance investment, while 25 percent used them to finance working capital. But only a small fraction of working capital or investment was financed with bank loans—7 percent and 5 percent respectively—significantly lower than other countries.

4.2. Empirical Model

The empirical model analyzes the contributing factors affecting the access to finance across enterprises. The first regression specification uses a probit model to analyze the factors affecting whether an SME can access to bank credit, and if not, whether high cost is the main reason. And the second specification considers to what extent those factors affecting the amount of bank credit extended to SMEs.

• First, a probit model is used to analyze factors that affect firms' access to finance. Explanatory variables control for firms' characteristics, such as firms' age, size, industry, and ownership type. Geographical disparity is also controlled through city dummy variables, and other city-level macroeconomic variables such as GDP per capita, credit conditions, and financial development. The regression model is shown as below:

$$\begin{aligned} Y_i = \; & \alpha + \beta X_i + \gamma_1 \text{lngdppc} + \gamma_2 \text{govtexp} + \gamma_3 \text{bankpc} \\ & + \gamma_4 \text{credit condition} + \gamma_5 \text{micro credit finance} \\ & + \gamma_6 \text{private employ} + \gamma_7 \text{tier dummy} + \theta \text{Small} * \text{bankpc} + \varepsilon_i \quad (1) \end{aligned}$$

where Y_i denotes whether firm i has access to a bank loan or whether firm i didn't apply for bank loan because of high cost; X_i is a vector of variables on firm characteristics, including firm age, annual sales, ownership type, industry, and firm size; lngdppc is GDP per capita in natural logarithm in the city in lags; govtexp is the share of fiscal spending as a share of city total GDP in lags; bankpc refers to the number of bank branches per 10,000 people at provincial level, which is a proxy of bank penetration and financial access; micro-credit refers to the outstanding loan balance of micro-finance companies as a share of GDP in the province, which serves as a proxy for informal lending; private dev refers to the share of private employment to total employment, a proxy to measure the extent of private

[12] The CEIC China Premium Database (http://www.ceicdata.com/zh-hans/countries/china) and the WIND database (http://d.wind.com.cn/en/edb.html).

TABLE 3.

Summary Statistics of World Bank Enterprise Survey

(in percent of total sample of firms unless otherwise stated)

	Firm size		
	Small enterprises (employees less than or equal to 20)	Medium enterprise (employees between 21 and 100)	Large enterprises (employees more than 100)
Firm characteristics			
Percent of enterprises that:			
has female owners	60.80	60.75	60.44
are privately-owned	91.46	86.81	83.60
involve in export activity	6.85	14.68	23.20
are in manufacturing sector	44.57	73.53	73.80
has external audit on financial statements	65.85	69.38	79.32
Firm's average age (in number of years)	11.14	12.44	14.54
Firm financing			
Percent of enterprises that:			
applied for loans year	16.28	28.72	36.89
take out loans	19.39	32.05	42.20
use bank loans to finance investment	10.67	17.89	21.87
use bank loans to finance working capital	16.29	26.25	36.65
Share of working capital financed with bank loans (in percent)	4.71	6.85	9.80
Share of investment financed with bank loans (in percent)	3.16	5.46	6.10
Main reason for not applying for loan:			
Why not apply for loans:			
application procedures too complex	12.84	12.02	8.83
unfavorable interest rate	5.35	11.49	11.22
high collateral requirment	9.05	8.88	6.70
insufficient size and maturity	11.93	5.49	3.68
expect not to be approved	7.20	4.04	2.35

Sources: World Bank Enterprise Survey.

sector development; credit refers to the share of loan outstanding to GDP, which measures the overall conditions; dummy variables for city-tiers are included to control for tier 1 and 2 city characteristics relative to the tier 3 cities in China.

• The second specification is similar except with the dependent variable will be the amount of bank credit to the enterprises. The regression specification is:

$$\begin{aligned} L_i \;=\; & \alpha + \beta X_i + \gamma_1 \text{lngdppc} + \gamma_2 \text{govtexp} + \gamma_3 \text{bankpc} \\ & + \gamma_4 \text{micro credit finance} + \gamma_5 \text{micro credit finance} \\ & + \gamma_6 \text{private employ} + \gamma_7 \text{tier dummy} + \theta \text{Small} * \text{bankpc} + \varepsilon_i \quad (2) \end{aligned}$$

where L_i represents the percentage of investment or working capital is financed through bank loans in firm i. An interaction term between banking system and access to finance is introduced. If the coefficient θ is positive and statistically significant, it could imply that a more developed banking system would benefit more toward SMEs.

4.3. Empirical results

The empirical results show that SMEs tend to have less access to bank credit and face more financing obstacles relative to large enterprises, after controlling for firm characteristics. In particular, the probability of getting bank credit would reduce by 10 percentage points for SMEs relative to large enterprises, ceteris paribus (Table 4); and a one percent increase in sales would improve the firm's probability of getting a bank loan by 6-7 percentage points. Moreover, SMEs in a more market-oriented city, measured by less government spending as percentage of GDP, tend to face less financial constraints. For each percentage point of fiscal spending to GDP, the likelihood of the SME accessing bank financing would raise by 5 percentage points or more. It is likely because higher government intervention (proxied by public investment spending) likely distorts credit allocation and possibly crowds out bank credit to SMEs.

Financial market development and overall credit conditions also affect the likelihood of SMEs obtaining a bank loan. For example, an increase of bank penetration would improve the likelihood of SMEs in getting bank credit. A more developed private sector, measured by the share of employment of private enterprises, enhances SMEs' access to bank credit. A one percentage point increase in the private employment share raises about 1.6 percentage point increase in firms' use of bank loans in all city tiers, and the coefficient for tier 3 cities is about 2.8 percentage points when we control bank types. In contrast, a more intensified competitive business environment among SOEs tends to make access to bank credit more difficult.

Across city-tiers, SMEs in smaller-tier cities have less access to bank credit than those in tier-1 cities. As the interaction term ? is positive and statistically significant, better financial inclusion would improve SMEs to access bank loans more so in smaller cities and SMEs benefit more than large enterprises from a more developed banking system. For example, being in tier 3 cities reduces a firm's access to bank credit by

15 percentage points, which is a huge decrease. The empirical results also illustrate that credit misallocation tends to be more severe in small tier 3 cities because the increase of bank credit to GDP ratio has largely been met with an increase in bank loans in tiers 1 and 2 cities but not in tier 3 cities. A one percentage increase in bank credit to GDP ratio actually lowers SMEs' access to credit by 0.94 percentage points in tier 3 cities, indicating that increased bank credit are mostly absorbed by large state enterprises rather than private SMEs. Controlling for bank penetration of different ownership, more state owned banks is negatively correlated with SMEs' credit access.[13] Moreover, since SMEs are more constrained in small cities, empirical results show that financial inclusion benefits SMEs more so in smaller cities.

Private firms report higher financing costs compared with SOEs of the same size. They are less likely to apply for bank loans with higher cost by about 6-7 percentage points. More developed private sector and financial infrastructure tend to reduce SME financing cost, particularly in small cities. For example, a one percentage increase in private employment share in general raises the likelihood of apply for a bank loan by 1 percentage point, and higher for small cities at about 2.3 percentage points.

Bank financing for investment and working capital in tier 3 cities is lower than tier 1 cities by 8.5 percentage points and 2.7 percentage points respectively. The effect on bank penetration on use of bank credit is much more significant in tier 3 cities than in large cities. For example, a unit increase in bank penetration can raise 0.4-0.5 percentage point on bank financing. Joint-stock banks and rural city banks are main providers of SME loans in small cities. (Tables 5 and 6).

Raising the financial inclusion of SMEs in small cities to the level in large cities would significantly improve SME financing. If the level of financial inclusion, measured by bank penetration, in the lowest five provinces (Anhui, Henan, Hebei, Hubei, Shandong) can improve to the level as in Beijing, then the firms' access to bank credit can improve by 10 percentage points, holding other factors constant. Firms' annual sales growth and reinvestment rate will also improve accordingly[14].

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[13] A unit increase in city bank branches per million population increases SMEs' loan access by 0.1 percentage point in tier 3 cities. The regression used for growth projection is: $G_i = \alpha + \beta X_i + \gamma_1 \text{Loan dummy} + \gamma_2 \text{lngdppc} + \gamma_3 \text{govtexp} + \gamma_4 \text{bankpc} + \gamma_5 \text{micro credit finance} + \gamma_6 \text{micro credit finance} + \gamma_7 \text{private employ} + \gamma_8 \text{tier dummy} + \theta \text{Small} * \text{bankpc} + \varepsilon_i$. here G_i is the sales growth in percent for firm i. For reinvestment rate estimation,

[14] The regression used for growth projection is: $G_i = \alpha + \beta X_i + \gamma_1 \text{Loan dummy} + \gamma_2 \text{lngdppc} + \gamma_3 \text{govtexp} + \gamma_4 \text{bankpc} + \gamma_5 \text{micro credit finance} + \gamma_6 \text{micro credit finance} + \gamma_7 \text{private employ} + \gamma_8 \text{tier dummy} + \theta \text{Small} * \text{bankpc} + \varepsilon_i$. here G_i is the sales growth in percent for firm i. For reinvestment rate estimation,

TABLE 4.

Empirical Results on Investment Internal Financing-World

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Percent of investment financed internally					
fia	0.0242					
	(5.701)					
SMEfia	-4.923^{***}					
	(1.910)					
fid		-3.599				
		(17.08)				
SMEfid		-10.29^{***}				
		(2.943)				
fie			5.706			
			(7.324)			
SMEfie			-5.776			
			(4.108)			
fma				-2.392		
				(5.588)		
SMEfma				1.185		
				(2.157)		
fmd					-19.88^{***}	
					(7.303)	
SMEfmd					-3.499	
					(2.374)	
fme						-0.454
						(5.277)
SMEfme						0.819
						(1.505)
lnGDPpc	-25.52^{***}	-25.90^{***}	-26.04^{***}	-21.24^{***}	-23.59^{***}	-16.29^{**}
	(5.799)	(5.770)	(5.971)	(6.828)	(5.833)	(6.926)
Observations	48,146	48,172	48,172	38,785	47,128	39,626
Pseudo R2	0.0120	0.0121	0.0120	0.0112	0.0120	0.0109
Year FE	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES

Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Sources: World Bank Enterprise Survey, Financial Development Index Database, authors' estimates

TABLE 5.

Empirical Results on Access to Loans-China

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Whether have loans	Overall	Tier 2	Tier 3	Tier 3	Overall	Tier 2	Tier 3
Exporter	0.061**	0.00931	0.101**	0.106**	0.0625**	0.0111	0.122***
	(0.0292)	(0.0453)	(0.0463)	(0.0459)	(0.0292)	(0.0454)	(0.0472)
lnsales	0.0560***	0.0622***	0.0741***	0.0753***	0.0568***	0.0618***	0.0837***
	(0.0068)	(0.0092)	(0.0118)	(0.0118)	(0.0068)	(0.0092)	(0.0123)
External Audit	0.133***	0.154***	0.152***	0.153***	0.137***	0.157***	0.141***
	(0.0202)	(0.0288)	(0.0315)	(0.0313)	(0.0201)	(0.0288)	(0.0326)
Government expenditure/GDP	−0.0257***	−0.0631***	−0.0638***	−0.0641***	−0.0396***	−0.0629***	−0.150***
(govtexp)	(0.0064)	(0.0226)	(0.0176)	(0.0174)	(0.0074)	(0.0227)	(0.0235)
Private employment share	0.0165***	0.000459	0.00387	0.00451	0.0107***	−0.00292	0.0281***
(private employ)	(0.0021)	(0.0040)	(0.0045)	(0.0045)	(0.0026)	(0.0044)	(0.0064)
Micro loan/GDP	−0.0137	−0.0755**	−0.00227	−0.00159	−0.0283	−0.0968**	0.182***
(micro credit finance)	(0.0173)	(0.0359)	(0.0224)	(0.0223)	(0.0177)	(0.0376)	(0.0391)
Loan/GDP	−0.000913*	0.00151*	−0.00944***	−0.00950***	0.000392	0.00281***	−0.00602***
(credit condition)	(0.0005)	(0.0008)	(0.0018)	(0.0018)	(0.0006)	(0.0010)	(0.0018)
Tier2 dummy	0.0182				−0.0336		
	(0.0509)				(0.0520)		
Tier3 dummy	−0.149***				−0.0927*		
	(0.0481)				(0.0514)		
Small*bank per 10th				0.334**			
(Small*bankpc)				(0.1410)			
State owned bank					0.704***	0.382*	−1.461*
					(0.1280)	(0.2170)	(0.7680)
non State owned bank					0.122*	−0.154*	2.990***
					(0.0652)	(0.0909)	(0.3060)
bank branche per 10th	0.274***	−0.0188	2.711***	2.591***			
(bankpc)	(0.0502)	(0.0576)	(0.3050)	(0.3070)			
Observations	2,574	1,029	1,183	1,183	2,574	1,029	1,183
Pseudo R2	0.1785	0.1942	0.3184	0.3222	0.1827	0.1973	0.3416

Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Source: World Bank Enterprise Survey, authors' estimates

TABLE 6.

Empirical Results on Financing Costs-China

Didn't apply for bank loans due to high cost	(1) Overall	(2) Tier 2	(3) Tier 3	(4) Tier 3	(5) Overall	(6) Tier 2	(7) Tier 3
Private firm	0.0750^{***}	0.0629^{*}	0.0745^{**}	0.0687^{**}	0.0740^{***}	0.0639^{*}	0.0586
	(0.0221)	(0.0367)	(0.0346)	(0.0349)	(0.0220)	(0.0367)	(0.0378)
Government expenditure/GDP	-0.0205^{***}	-0.0233	-0.0653^{***}	-0.0683^{***}	-0.0330^{***}	-0.0234	-0.019
(govtexp)	(0.0069)	(0.0269)	(0.0198)	(0.0200)	(0.0083)	(0.0274)	(0.0240)
Private employment share	-0.0101^{***}	-0.00822^{*}	-0.0137^{***}	-0.0138^{***}	-0.0157^{***}	-0.0111^{*}	-0.0233^{***}
(private employ)	(0.0019)	(0.0049)	(0.0037)	(0.0037)	(0.0028)	(0.0057)	(0.0048)
Bank branches per 10th	0.0764	0.255^{***}	-0.203	-0.128			
(bankpc)	(0.0476)	(0.0687)	(0.3130)	(0.3130)			
Micro loan/GDP	0.145^{***}	0.281^{***}	0.151^{***}	0.155^{***}	0.135^{***}	0.248^{***}	0.0583
(micro credit finance)	(0.0148)	(0.0379)	(0.0212)	(0.0214)	(0.0151)	(0.0510)	(0.0358)
Loan/GDP	0.00103^{**}	-0.000367	0.00366^{*}	0.00386^{**}	0.00231^{***}	0.000862	0.00255
(credit condition)	(0.0005)	(0.0009)	(0.0019)	(0.0019)	(0.0007)	(0.0016)	(0.0020)
Tier2 dummy	-0.214^{***}				-0.262^{***}		
	(0.0393)				(0.0418)		
Tier3 dummy	-0.178^{***}				-0.135^{***}		
	(0.0431)				(0.0462)		
Small*bank per 10th				-0.536^{**}			
(Small*bankpc)				(0.2540)			
State owned bank					0.398^{***}	0.503^{*}	1.593^{**}
					(0.1270)	(0.2750)	(0.6550)
non State owned bank					-0.0386	0.127	-0.463
					(0.0630)	(0.1500)	(0.3300)
Observations	1,832	725	839	839	1,832	725	839
Pseudo R2	0.1054	0.1462	0.1176	0.1243	0.1097	0.1474	0.1298

Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: World Bank Enterprise Survey, authors' estimates

TABLE 7.

Empirical Results on Amount of Bank Financing-China

	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Variables	Investment				Working Capital			
	Overall	Tier 2	Tier 3	Tier 3	Overall	Tier 2	Tier 3	Tier 3
lnsales	1.026^{***}	1.056^{***}	1.250^{***}	1.283^{***}	1.719^{***}	1.761^{***}	1.678^{***}	1.874^{***}
	(0.2760)	(0.3560)	(0.4310)	(0.4290)	(0.1980)	(0.2870)	(0.3140)	(0.3130)
External Audit	3.045^{***}	2.600^{**}	3.302^{**}	3.280^{**}	4.359^{***}	4.121^{***}	4.601^{***}	4.238^{***}
	(0.9470)	(1.2760)	(1.3880)	(1.3830)	(0.6600)	(1.0330)	(1.0040)	(0.9940)
Government expenditure/GDP	-1.149^{***}	-2.612^{***}	-0.573	-1.927^{**}	-0.237	-2.120^{***}	-0.478	-2.459^{***}
(govtexp)	(0.2810)	(0.8320)	(0.6730)	(0.8650)	(0.1960)	(0.7130)	(0.4950)	(0.6140)
Private employment share	0.144^{*}	-0.0328	-0.146	0.244	0.431^{***}	0.0438	0.0276	0.599^{***}
(private employ)	(0.0811)	(0.1400)	(0.1740)	(0.2340)	(0.0591)	(0.1240)	(0.1300)	(0.1670)
Bank branches per 10th	6.555^{***}	4.758^{**}	40.28^{***}		5.411^{***}	0.502	51.05^{***}	
(bankpc)	(2.2730)	(2.3790)	(12.1400)		(1.4220)	(1.7540)	(7.8360)	
Micro loan/GDP	0.0583	-2.624^{**}	0.0954	3.272^{**}	-0.53	-4.085^{***}	-0.332	4.177^{***}
(micro credit finance)	(0.7390)	(1.2910)	(0.9520)	(1.5970)	(0.5100)	(1.0630)	(0.6390)	(1.0560)
Loan/GDP	-0.00111	0.402	-0.121^{*}	-0.0771	-0.0300^{*}	0.0425^{*}	-0.167^{***}	-0.126^{***}
(credit condition)	(0.0232)	(0.0285)	(0.0722)	(0.0741)	(0.0157)	(0.0241)	(0.0474)	(0.0475)
Tier2 dummy	-7.104^{***}				2.214			
	(2.2700)				(1.5400)			
Tier3 dummy	-8.522^{***}				-2.744^{*}			
	(2.3620)				(1.5180)			
State owned bank				-28.67				-42.10^{**}
				(30.3900)				(19.1200)
non State owned bank				47.51^{***}				65.29^{***}
				(12.4400)				(8.1920)
Observations	1,301	513	624	624	2,521	1,020	1,152	1,152
R-squared	0.076	0.131	0.088	0.097	0.131	0.176	0.192	0.211

Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Source: World Bank Enterprise Survey, authors' estimates

5. POLICY IMPLICATIONS

Improving SME financing will bring greater financial inclusiveness that contributes to rebalancing growth. The strategy would aim to further reduce financing cost and grant better financial access for SMEs. SMEs typically face financing challenges as in other countries. Financial inclusion raises economic growth for emerging economies and goes hand in hand with financial depth (Sahay et al. 2015). But that development would need to be matched with adequate supervision.

Government policies should focus on creating an enabling environment for SMEs to compete on even-playing field. Policies should rely more on markets to play a 'decisive role' in allocation of resources, including credit allocation. Interventions sometimes create distortions such as preferential access of finance for large state enterprises at the expense of SMEs. Measures to lower financing cost to SMEs, while with good intentions, may also generate distortions with various subsidies and guarantees. Experience from OECD economies suggests that costly government support measures should gradually be phased out to allow efficient credit allocations.

Empirical results suggest further financial inclusion can focus more on mid- and small-tier cities when financing difficulties for SMEs are more acute. International comparison shows that China's financial access and depth of financial institutions are the main problems for the underdeveloped financial system. (Figure 6) Gains from expanding financial access for small and micro enterprises in tier 2 and 3 cities appear to generate most returns given those SMEs face higher difficulties compared to those in big cities. Over time, China can enrich the financing channels for SMEs.

Over time, measures to establish a sound financial infrastructure would improve credit intermediation to SMEs. These include:

• Data collection and dissemination. Proper assessment of credit would require timely and availability of data on SME finances. Given diverse definitions of SMEs across agencies, data on SME financing are sometimes difficult to compare to be able to assess the financing challenges facing SMEs. The "Big-Data" initiatives of using rich database from extensive transactions and profiles of many households and SMEs could help financial institutions better assess credit risks.

• Credit registry. Progress is made in credit registry, such as eight credit rating licenses were issued in 2015 as efforts to improve financial infrastructure on rating SMEs (Tsinghua 2014 and Figure 10). However, assessing SME credit risks remains challenging due to limited information and untimely disclosures. Registry registration remains fragmented without a nationwide unified registration and verification system. The coverage and depth of information are still low relative to other countries, with less than 20 percent of SMEs have credit records (World Bank 2013), suggesting large room and urgency to significantly upgrade the registry system (Love 2003).[15] Public credit registry collects data from nonfinancial sources and does not have thresholds for SME size or loan amount. The dissemination is also only restricted for subscribed financial institutions for limited use. Over time, transitioning toward greater value-added services, such as credit

[15]Individuals listed in this public credit registry with information on their borrowing history were only 361 million, about 30 percent of adult population, less than other advanced or emerging economies.

scoring and ratings for SMEs, will promote better assessment of credit risks among SMEs.

• Eligible collaterals. Market practices for fixed-asset collateral and personal guarantees in lending tend to limit risk-based financing (Figure 6). While these are common practices across countries, it is more prevalent in China given its larger reliance on bank finance. Claims with personal guarantees are not easily transferable under legal provisions. Expanding the eligible collaterals would improve SME financing. Measures can limit the risks of double assignment of claims (from same collaterals) through greater use of electronic registration. Although movable assets can serve as collateral by regulation, a unified secured transaction framework has not been established.[16] As a result, registration of moveable assets remains difficult, which often involves multiple agencies that are not vertically integrated across administrative levels. Recent measures to allow rural land property rights (operation and ownership rights) to be used for collaterals for bank lending are steps towards facilitating financial access of rural residents.[17]

• Legal framework. Insolvency framework may be an impediment on SME financing. In China, out-of-court restructuring is cumbersome and the cost of insolvency is high in China, with the average cost of resolving insolvency accounting for 22 percent of enterprises assets, according to World Bank's Ease of Doing Business Indicators. Such high cost has deterred banks from extending credit to SMEs at the beginning. Moreover, the Enterprise Bankruptcy Law in China has temporary protection for investors but also carry shortcomings when the law is applied, making the business environment for SMEs more difficult. China could adjust current restrictions on shareholding capped at 15 percent that city-level banks' capital need to be owned by another bank. Over time it should build a multi-level banking system to satisfy the emerging SME financing needs.

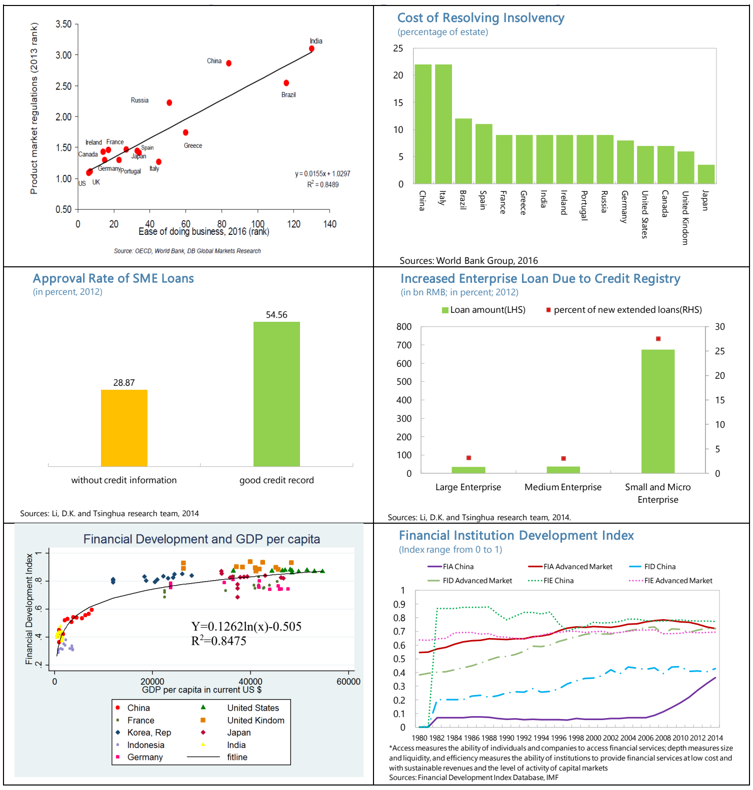
Broadening sources of finance will also benefit SMEs. Capital market developments will broaden more financing choices for corporate, including SMEs. These would include equity financing through initial public offerings, and risk-based financing such as venture capital and private equity. The rapid development of internet finance and securitization, provided

[16]PBC has also established an electronic registry for pledges of receivables after the legislation was approved to allow account receivables and movable assets to be used as collateral.

[17]The government recently introduced measures to allow mortgage lending and allow rural land rights (contract land operation rights and ownership rights) as collaterals for rural residents. Banks have the discretion to set the interest rates and lending size based on the collateral value. These can promote rural financial innovation by lower financing cost and widening the financial access for rural households and SMEs, which help them to integrate with the formal financial system. The measures also encourage specialization and improve agricultural productivity.

with sufficient supervision, can also be alternative sources for financing for SMEs. Entrepreneurs can borrow directly online with few restrictions or barriers. Current support to SMEs can be redirected from guaranteed lending or lower financing cost toward more risk-based lending such as through startups. These could improve long-term returns and help channel funds toward SME investment, eventually lifting growth.

FIG. 6. Policies to Improve SME Financing



Strengthening supervision and regulation for innovative financial intermediation is necessary to prevent systemic risks. Technological advancement has made new financing sources, such as internet finance and peer-to-peer lending, available for many SMEs. While internet finance has the potentials to widen financial access and financing costs for SMEs, it is often less regulated and supervised, with grey areas that sometimes are not properly regulated. For instance, the rapid surge and bust and the increasing number of online frauds in P2P lending suggest that there is room to further strengthen supervision to avoid systemic risk originated from internet finance based on the regulations introduced in 2015.[18] At the same time, deepening financial education may help SME entrepreneurs to better apply for finance without exposing to too much risk.

A holistic approach to address widespread implicit guarantees would help intermediate credit to more productive uses. At the moment, state-owned enterprises enjoy preferential access to finance at the expense of SMEs due to widespread implicit guarantees. Financing cost for those state-owned enterprises appear lower than market cost, leading to an excessive buildup of corporate leverage while SMEs face credit constraints. Greater tolerance of defaults, particularly those nonviable state-owned enterprises, will allow financial institutions and investors to better assess credit risks on lending. This would help banks price credits according to risk-adjusted returns, which would narrow the interest differential between large enterprises and SMEs. Financial access for SMEs to credit will improve.

Other complementary reforms can also improve SME financing. Further reforms to reduce administrative and entry barriers would allow more dynamic SMEs with greater entries and exits. At the same time, state-owned enterprise reform to level the playing field and opening up for competition in services sector.

6. CONCLUSIONS

SMEs have increasingly contributed to growth and employment. However, they face financing obstacles in general that impede their developments. The obstacles include limited access to bank finance, high financing cost, and tight lending standards. Borrowing rate for SME loans has remained high despite some easing of financing cost recently. At the same time, spreads over interest cost of large enterprises tend to be larger than other emerging countries after considering fees and surcharges.

The government placed priorities in polices to support SME financing. Measures include tax exemptions, incentivizing banks to increase lending to SMEs, and encouraging risk-based capital and entrepreneurship. Government policies could focus on creating an enabling environment for SMEs to prosper and compete on even playing fields.

This paper provides new evidence of financing impediments of SMEs across regions. It contributes to the extensive studies by ex-

[18]As of February 2016, there are about 2500 P2P platforms but more than half may be problematic (add sources). Since late 2015, there are increasing number of online frauds in P2P platforms, up 8 percent in number of incidents and 1.5 times of the fraud amount per investors from 2014.

amining the contributing factors on SME's access to finance, including the likelihood of obtaining bank credit and the size of credit relative to working capital or investment needs. In particular, it highlights the new and important findings of regional disparities across SME financing. Evidence from enterprise surveys SMEs in smaller cities are more constrained in accessing bank loans from branches of state-owned banks. This implies narrowing the gap of financial inclusion between regions will bring significant gains At the same time, more developed private sector tends to improve SMEs' access to finance and at a lower cost. Better financial inclusion also enhances access and reduces cost of finance, with more significant (both statistically and economically) impact on smaller cities.

These findings could help formulate policies to support SME financing. Strengthening financial inclusion would contribute to rebalancing growth in the economic transition. Efforts could focus on smaller cities where financial access is more constrained. Over time, measures to establish a sound financial infrastructure would improve credit intermediation to SMEs, including data collection and credit registry to assess credit risks of SMEs, extending eligible collaterals, improving legal framework to expedite restructuring. At the same time, broadening sources of finance by taking advantage of technology, provided with adequate supervision and regulation, could also meet financing needs of SMEs. Further reforms to address implicit guarantees and reduce administrative and entry barriers would allow more dynamic SMEs with greater entries and exits.

APPENDIX

World Bank Enterprise Surveys (WBES)

The enterprise survey is conducted at the firm level by the World Bank since 1996 that covers various enterprises in emerging economies and developed countries. The survey contains data for over 130,000 firms in 135 countries, covering twelve topics including infrastructure, crime, macroeconomic policies, corruption, legal system deficiencies, and financing. The data of surveyed firms in each country span across sectors, industries, ownership types, and firm size.

The most recent database on Chinese enterprises was available for 2012. The data sample contains about 2,700 private enterprises and 100 state-owned enterprises in 25 cities or 12 provinces in China. The data has wide coverage and provide a basis for global comparison but also has limitations. First, the survey does not fully cover financial performance of the enterprises (e.g., return on assets and equity), making it difficult to analyze the effect of financing on firm performance. Moreover, the sample of surveyed Chinese firms tends to be concentrated in the coastal areas, while firms in the inner and western regions may be underrepresented. As a result, the financing difficulties reflected in the empirical results may be understated given firms in the coastal area have better financial access.

TABLE 1.

Definition of SMEs for Selected Advanced Economies

Country	Enterprise size 1/		
	Micro	Small	Medium
United States	1-9	10-99	100-499
United Kingdom	1-9	10-49	50-249
Japan			299
France	1-9	10-49	50-249
Canada		1-99	100-499
Italy	1-9	10-49	50-249
Germany			499

Source:OECD
1/ In terms of number of employees.

TABLE 2.

Classification of SMEs in China, by Industries

Induetry	**Size**	**Revenue (in RMS million)**	**Total Assets (in RMS million)**	**Employees**
Agriculture	Medium	5-200		
	Small	0.5-5		
	Micro	< 0.5		
Manufacturing	Medium	20-400		300-1000
	Small	3-20		20-299
	Micro	< 3		< 20
Construction	Medium	60-800	50-800	
	Small	3-60	3-50	
	Micro	< 3	< 3	
Wholesale	Medium	50-400		20-200
	Small	10-50		5-19
	Micro	< 10		< 5
Retail sales	Medium	50-200		50-300
	Small	10-50		5-19
	Micro	< 1		< 10
Transportation	Medium	30-300		300-1000
	Small	2-30		20-299
	Micro	< 2		< 20

Induetry	Size	Revenue	Total Assets	Employees
		(in RMS million)		
Storage	Medium	10-300		100-200
	Small	1-10		20-99
	Micro	< 1		< 20
Postal	Medium	20-300		300-1000
	Small	20-Jan		20-299
	Micro	< 1		< 20
Hotols	Medium	20-100		100-300
	Small	1-20		10-99
	Micro	< 1		< 10
Restaurants	Medium	20-100		100-300
	Small	1-20		20-99
	Micro	< 1		< 20
Information transmission	Medium	10-1000		100-2000
	Small	1-10		Oct-99
	Micro	< 1		< 10
Software	Medium	10-100		100-300
	Small	0.5-10		10-99
	Micro	< 0.5		< 10
Real estate	Medium	10-2000	50-100	
	Small	1-10	20-50	
	Micro	< 1	< 20	
Property management	Medium	10-50		300-1000
	Small	5-10		100-299
	Micro	< 5		< 100
Leasing	Medium		80-1200	100-300
	Small		1-80	10-99
	Micro		< 1	< 10
Other	Medium			100-300
	Small			10-99
	Micro			< 10

Source: Ministry of Industry and Information Technology (MITI), National Bureau of Statistics (NBS). National Development and Reform Commission (NDRC), and Ministry of Finance jointly announced the classification standards for SMEs in June 2011.

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