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Structured Microfinance in China

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In this paper we discuss the potential for commercial microfinance in China. Particular emphasis is put on securitization of microloans and on structured microfinance in a China context. Three particular factors that we believe could support a strong growth in Chinese structured microfinance are (i) the lack of currency risk, (ii) the scale advantages and (iii) the massive potential interest from traditional, domestic as well as international, financial firms. On the policy side, structured microfinance could be an important tool for fighting unemployment in China. It could also be used to circumvent corruption or government bureaucracy in the microlending process.

Keywords: commercial microfinance; structured finance; securitization; China

JEL classification codes: G10, G21, O16, R51

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Abstract. In this paper we discuss the potential for commercial microfinance in China. Particular emphasis is put on securitization of microloans and on structured microfinance in a China context. Three particular factors that we believe could support a strong growth in Chinese structured microfinance are (i) the lack of currency risk, (ii) the scale advantages and (iii) the massive potential interest from traditional, domestic as well as international, financial firms. On the policy side, structured microfinance could be an important tool for fighting unemployment in China. It could also be used to circumvent corruption or government bureaucracy in the microlending process.

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1. Introduction

The economical development in China has been remarkably fast over the last decades. According to a study by the Chinese Academy of Social Sciences as many as 250 million Chinese can now be considered middle class (Zhigang (2004))¹ and more than 300,000 Chinese have assets worth more than \$1 million according to Merrill Lynch & Co. (Roberts and Balfour (2006)). Most of this economic progress has been experienced in urban areas. Rural China, however, is still very poor and around 800 million rural Chinese have a living standard that barely has improved since the Chinese reforms started in 1978. Of these, as many as 60 million (mostly farmers) live on less than \$1 a day and reforms to meet these, the very poor, and their needs are expected (GlobalEnvision (2003)).

The financial development has also largely been an urban phenomena and large rural areas as well as smaller urban centers still lack all but the most basic financial services. While the underdeveloped Chinese debt- and equity-markets and the banks' heavy state-sector focus in allocating funding (two-thirds of Chinese bank credit goes to the state sector (Aziz and Duenwald (2002))) are country-wide problems, the problem of an underdeveloped financial sector is further aggravated in rural areas where it has been estimated that close to 75 % of the population has no access to financial services whatsoever (PlaNetFinance (2004)). As a consequence of this many great ideas are not exploited. Furthermore, it is well known that China currently experiences an explosion of unemployment, with an estimated 100-150 million surplus rural workers across the country (Knowledge@Wharton (2006a), CIA (2006)). Now, if one assumes that a substantial part of this pool of un- or under-employed could be self-employed if they just had the means to jump on investment opportunities they come across, then the lending (of small amounts) to these people for productive activities has the possibility to significantly help reducing unemployment.

The activity of providing financial services to poor entrepreneurs, farmers or traders is sometimes called microfinance. Microfinance is quite similar to traditional finance, but intended for the poor instead of the middle-class or the wealthy; i.e., microfinance is the supply of ordinary financial services such as credit, savings accounts and insurance to the poor and low-income population. Microfinance has been around since the early 1970s and it is called "micro" since the handled amounts normally are very small, typically lying in the \$100-\$1000 range. The microfinance services are provided by specialized "micro-banks", or microfinance institutions (MFIs), whose primary role is to support the building of an "inclusive financial system" where the entrepreneurial spirit of the poor is let out of the bottle (UNCDF (2006)). The demand

¹ The academy classifies families with assets valued from 150,000 (US\$18,137) to 300,000 yuan (US\$36,275) as middle class.

for these services is enormous; the total annual demand for microcredit, for instance, is estimated to \$50 billion (DeSchrevel (2005)) with a growth rate of 15%-30% a year (Wine (2005a)). Furthermore, despite reaching close to 100 million clients (Silverman (2006)), the MFIs only meet around 4% of the worldwide demand according to *The World Bank* (Wardle (2005)). Today, most of the MFIs operate on a non-commercial basis with money provided by donations and development aid. This is changing, however, with a growing share of the microfinance industry, in Asia and elsewhere, taking a commercial approach (Charitonenko, Campion and Fernando (2004), Economist (2005)). Building on the platform established by the not-for-profit organizations it is possible that profit-oriented microfinance institutions, i.e. commercial microfinance, can provide the vast funds needed to meet the demand.

In Asia, where a large share of the world's poor people live, China is the only major country where microfinance (in its traditional shape) is still largely insignificant. To be blamed for the retarded state of the Chinese microfinance industry are factors such as the long history of subsidized rural financing programs, interest rate caps² (Duval and Goodwin-Groen (2004)) as well as the lack of a legal environment and policies to encourage commercial financial institutions to enter the stage (Knowledge@Wharton (2006b)). A largely inadequate Chinese regulatory environment for microfinance is also likely to disencourage commercial initiatives. There are, however, signs that the Chinese government is about to accept (commercial) microfinance as an important development tool, and it has officially recognized microfinance as an effective tool to combat poverty (GlobalEnvision (2003)). The government has also started reforming the large rural credit cooperative (RCC) sector.³ The reform program, which started in eight provinces in 2003, focuses on issues such as the RCCs debt quality, ownership structure and corporate governance quality and the initial reform was successful enough to allow a full-scale implementation in 21 provinces in 2004 (ADB (2004), PlaNetFinance (2005)). Furthermore, recent interest rate cap relaxations is a promising signal that, together with other policy changes, might stimulate commercial microlending in China (ADB (2004)). The ideologic change is partly a consequence of China's WTO entry, where it has committed itself to open up its financial sector to international competition, and this makes it more likely that more changes in the same direction are to come. The changes are encouraging signals for the many micro-entrepreneurs in

² There are, however, MFIs such as the *Funding the Poor Cooperative* that have got special permission to charge interest rates that exceed the cap (Duval and Goodwin-Groen (2004)).

³ The rural credit cooperatives are the most important providers of credit to rural households in China. The RCCs were established some fifty years ago and, today, there are close to 35000 RCCs all over China. The RCCs account for about 85% of all agricultural loans in China. The financial performance of the RCCs is typically weak (the RCCs average non-performing loan ratio is 44% and half of the RCCs make losses), which has lead to the current reform program with its aim of fundamentally restructuring the RCCs (PlaNetFinance (2005)).

China lacking funding, and the reforms, if successful, might turn out to change the Chinese MFI landscape significantly.

In this paper the potential for commercial microfinance in China is discussed. We are taking quite an optimistic view and put particular focus on securitization and other more complex structuring techniques and the promise such approaches hold for microfinance in China in the medium- to long-term view. We draw on the more general discussion in Byström (2006) on structured microfinance and the aim is to highlight the link between the poor (rural) micro-entrepreneur and the (urban) Chinese capital market and how a greater acknowledgement of this link could speed up the development of commercial microfinance in China. Now and in the years to come. Among other obvious motivations for such a commercialization of microlending in China, a particularly important point is to help meeting the increasing threat of mass-unemployment in China. Furthermore, by creating a direct link between the borrower and the lender, securitization techniques could also help bypass possible corruption as well as unnecessary middleman costs borne by the microentrepreneur (both within and external to the microfinance sector).

The paper is divided into three parts. The first part briefly describes important international capital markets tools such as securitization, structured finance and collateralized debt obligations (CDOs). The current development of a market for securitization and structured finance in China is also discussed. The second part discusses the scope for commercial microcredit and the important steps in the direction of microcredit securitization etc. that have been observed, in China and elsewhere. Finally, the third part looks at how microfinance securitization and structuring could facilitate the provision of sufficient funding to small but profitable microinvestments. Arguments backing the hypothesis that structured microfinance is particularly promising in China are also presented.

2. Securitization and Structured Finance

In a loan securitization the lender sells of its loans to a third party and thereby reduces its credit risk exposure at the same time as it frees up capital for further lending (and further securitization). The lender essentially turns into a middle-hand with revenues more or less unrelated to the credit cycle. As far back as in 1970, the US mortgage institute Ginnie Mae was the first to securitize assets. While Ginnie Mae securitized mortgages, followers have since securitized a range of different underlying assets such as car- and credit card loans. All securitizations have two characteristics in common, however; (i) the pooling of a large number of assets (loans, bonds etc.) that are used as collateral for asset-backed securities issued by

the originating firm, and, (ii) the de-coupling of the credit risk of the pool of assets from the credit risk of the originator. The de-coupling is usually done by transferring the underlying assets to a stand-alone special purpose vehicle (SPV) that is legally separated from the originator (Mitchell (2004)). The SPV then issues securities backed by the underlying assets.

Straightforward securitizations like these are sometimes combined with some kind of credit enhancement. Two typical examples of such credit enhancement are (partial) credit guarantees and asset tranching. In this paper this is our definition of structured finance.⁴

A credit guarantee is a full or partial guarantee to compensate the investor against default losses in the underlying pool backing the securitization. While the full guarantee covers the entire exposure, the partial guarantee only covers losses up to a guaranteed amount. The institution granting (selling) the guarantee is often a highly rated (AAA) government or international organization and the credit enhancing properties of the guarantee helps the borrower/originator in various ways such as diversifying the sources of funding, extending the maturity of the loan and obtaining financing in preferred currencies (IFC (2006)).

In a trashed securitization, in turn, the SPV splits the cash flows generated by the pool of assets into several "classes" of securities with different risks and expected returns. These securities, also called tranches, are typically constructed to have different seniority in the sense that "junior" tranches (the most junior is called the "equity" tranche) absorb all credit losses (caused by defaults in the pool) up to a certain point before the more "senior" tranches start to suffer credit losses (in between the junior and the senior tranches one often finds intermediate, or "mezzanine", tranches with characteristics that are neither treasury bond-like nor equity-like). This loss-structure is often described as the "water fall" structure of a trashed securitization. The senior tranches are consequently protected, or insulated, from the first defaults in the underlying asset pool. Moreover, the range of different tranches attract a range of different investors. Typically, less informed investors buy the senior tranches, perhaps as an alternative to other low-risk investments like treasury bonds, while more informed investors buy the more risky junior tranches. To summarize; from the tranching follows that:

- (i) the senior tranches get a higher creditworthiness than the average asset in the underlying pool
- (ii) all but the most junior (equity) tranche can be rated despite the assets in the pool being unrated

⁴ Sometimes one can see other definitions of *structured finance*, for instance the construction of assets with a combination of equity and debt characteristics, or, more generally, different ways of raising money in "non-standard" ways.

(iii) by joining forces, a few well-informed investors can attract large numbers of less informed investors to invest in a pool of assets that they would otherwise not be prepared to, or allowed to, invest in.

Lately, one of the fastest growing segments of structured finance has been the collateralized debt obligation (CDO) market. CDOs are tranches of securitizations such as those described above but with the following typical characteristics of the underlying pool of assets; the pool is typically fairly small (often containing less than 100 assets), the assets are typically fairly heterogeneous (perhaps coming from many countries, sectors or asset classes), and the assets are often quite innovative (perhaps other asset-backed securities, credit default swaps, or other CDO tranches). All three characteristics separate CDOs from traditional securitizations/structured finance deals and create unique modelling, trading and management approaches.⁵

2.1. Securitization and Structured Finance in China

In Asia as a whole, asset securitization is an area that has grown significantly in recent years. The phenomena has been particularly prevalent in Japan and Korea, but asset-backed securities have also been issued in other Asian countries such as Hong Kong and Thailand. In China, however, the securitization market is still, if not non-existent, pretty much underdeveloped (Gyntelberg and Remolona (2006)).

The potential for a Chinese securitization market is enormous, though. In just a couple of years time, the securitization market in China might even be larger than the US market. The total financial assets held on the balance sheets of the Chinese banks amount to \$3.8 trillion (July 2005) and a securitization market would enable Chinese banks to diversify risk and raise capital more efficiently (Wang (2006)).

For a significant Chinese securitization market to develop it is necessary to have laws and regulations in place. Now, similar to how the Asian crisis of 1997-1998 spurred the implementation of securitization laws and regulations across Asia⁶ the uncertain credit situation in China of today has helped triggering the development of Chinese regulations enabling securitization (Zhang (2005)). While the Chinese authorities recognized the importance of securitization and structured finance more generally already back in 1998 (Chang, Zhou and Marshall (2006)) it was not until very recently, in 2005, that actual securitizations were seen in China (Gyntelberg and Remolona (2006)). These securitizations were the immediate results of a joint decree in April 2004 by the People's Bank of China and the China Banking Regulatory Commission that created a framework for asset securitization by financial institutions (Chang, Zhou and Marshall (2006)),

⁵ The name collateralized debt obligation is a collective name for collateralized bond obligations (where the underlying assets are bonds), collateralized loan obligation (where the underlying assets are loans) and so on.

⁶ The crisis gave rise to large amounts of non-performing loans in many Asian countries' banking systems, and the authorities recognized that the loans potentially could be spun off using securitization techniques.

Gyntelberg and Remolona (2006)). One of the (two) 2005 securitizations was arranged as a collateralized loan obligation (CLO) and was launched by China Development Bank (Chang, Zhou and Marshall (2006)). Being the first Chinese CDO it represents an important step towards a Chinese CDO market, and it is likely that it will be followed by more CDO issuances. Other, more recent, developments in the Chinese structured finance market is the issue by Shanghai Pudong Development Bank of an asset-backed security (ABS) on the interbank market and the issue by Wanda Group together with Macquarie Bank of China's first cross-border commercial mortgage-backed security (CMBS) (AFXNews (2007)).

The future of the Chinese securitization market is of course uncertain. On one hand, there are some factors supporting the development of a Chinese market for securitization and structured finance. First, both securitizations and structured finance deals could benefit from ongoing reforms in China's financial sector that will lead to a deeper and broader domestic bond market. This, together with the fact that the Chinese bond market, in absolute terms, already is one of the largest bond markets in Asia could strengthen the bond market's ability to support a sizable Chinese structured finance market. Second, the pace of development in fields such as credit risk management and Basel II compliancy also lends support to an eventual rise in structured finance in China. On the other hand, however, the very same factors could also be seen as challenges to the development of a structured finance market in China. First, while major reforms of the financial sector are ongoing there are still inefficient regulations in place and this could limit the growth of structured finance in China. For instance, it is still not specified which institutions will be allowed to participate in securitizations. It is also unclear at this point which assets can be included in a securitization deal (Deacons (2005)). In addition, to enable an efficient framework for asset securitization, Chinese laws should be liberalized when it comes to corporations creating SPVs and issuing debt securities. It is also necessary for the Chinese bankruptcy law to state criteria to ensure bankruptcy remoteness of the assets in the SPV. Without clear guidance on bankruptcy remoteness, securitization would not gain market confidence. It is also critical to ensure that the assets that are being securitized have been fully transferred (true sale) to the SPV (Wang (2006)). Moreover, while deep and broad from a local perspective, China's bond (and equity) markets still lack breadth and depth compared to more mature markets.⁷ A domestic credit benchmark is also lacking. Finally, while the gap to the rest of the world might be narrowing, one has to acknowledge that institution-building and technical skills/know-how still lag that of more mature markets. All these factors could challenge a quick rise of a wider Chinese structured finance market.

⁷ The capitalization of China's bond market is only 30% of China's GDP while the corresponding figures for the US, Japanese and Korean bond markets are, 164%, 183% and 81%, respectively (Chang, Zhou and Marshall (2006)).

3. Commercial Microfinance

While most of today's microfinance institutions operate on a non-profit basis there are signs of an increasing number of commercially oriented MFIs being established (Meehan (2004), Mehta (2004)). While some of these commercial MFIs started out as profit-oriented businesses many have their roots in not-for-profit organizations that slowly have been transformed into regular businesses.

Seen from the investor's point of view, several factors lie behind the drive for commercialization of microfinance: (i) the potential size of the market, (ii) the potential for high profit margins, (iii) the establishment of an asset class that is close to uncorrelated with other asset classes and (iv) a potential for businesses to do well (financially) by doing good (socially). To start with, there are around 500 million micro-entrepreneurs (Cheng (2005)) in the world today. There are also close to three billion people without access to proper financial services (CGAP (2006b)). It is therefore not surprising that commercial banks slowly have started to acknowledge this largely untapped source of income. Furthermore, the fact that money lenders in the informal sector can charge daily rates as high as 20% on their loans⁸ together with the fact that repayment rates on ordinary microloans lie in the range of 95%-99%⁹ also attracts the interest of the banking industry (CGAP (2002b)). In addition, it is not very likely that the default rates of the micro-entrepreneurs are correlated with the rest of the world economy, and this "insulation" of the microfinance world from the traditional "macrofinance" world serve as a natural hedge for a typical mainstream investor. Finally, lending small sums of money to poor women in the poorest corners of the developing world is arguably still widely seen as a benevolent activity and this fact on its own could be a further motivation for (profit-maximizing) financial firms to consider venturing into the world of microfinance.

While the view of microcredit as an asset class on its own is not without its problems¹⁰ the microfinance community has acknowledged many of the attractive features of microfinance mentioned above and has taken steps towards a fully commercialized microfinance arena. First, by recognizing the need for economies of scale and the efficiency gains this could lead to, some MFIs have started to organize themselves as

⁸ An example is the so called "5/6 loan" in the Philippines, where you borrow five pesos in the morning and pay back six pesos in the evening (CGAP (2002a)).

⁹ Among the many sources discussing repayment rates DeSchrevel (2005), for instance, refers to repayment rates of 97%, Wine (2005b) refers to repayment rates of 95%, and CGAP (2002b) quotes loss rates in the range of 1%-2% for good MFIs and below 5% for viable MFIs in general. These surprisingly high repayment rates are caused by innovative MFI lending techniques (group lending, progressive lending, forced saving etc.) as well as the lack of possibilities remaining for the microborrower if she defaults on her loan.

¹⁰ Such as a lack of financially viable and professionally managed MFIs, inappropriate or unpredictable macro-policies, weak government support and regulation of MFIs, hard to hedge foreign exchange risk and donor-based lending crowding out commercial lending.

MFI networks.¹¹ Furthermore, several commercial microcredit funds have recently been launched. These investment funds normally invest in MFI debt and they are typically set up by major international banks who finance MFIs by selling shares in dollar-denominated debt funds to investors in the world market.¹² In addition to these global fund offerings there are also examples of local offerings (in local currency) in more advanced developing countries such as Mexico and India (Meehan (2004), Wine (2005a)).¹³ Finally, another interesting step taken towards commercialization of microlending is microfinance securitization. Instead of the MFIs exposing themselves to the credit risk of thousands of micro clients, the MFIs can serve as middle-hands and channel the risk (and return) of the loan portfolio pool to an investor in the form of clearly structured securities. These (asset-backed) securities are then backed by the actual microloans and they can be designed to have different maturities, risk-return profiles, currency denomination etc.¹⁴ Until the MFIs themselves have developed the technical/financial expertise needed to arrange such a (direct) securitization it is also possible for more advanced financial firms to pool together and securitize the loans given to (or the bonds issued by) the MFIs in something one could call an indirect securitization.¹⁵ Both direct and indirect securitizations can be combined with some kind of credit enhancement, such as tranching, and in chapter four we will discuss this issue at some length.

3.1. Commercial Microfinance in China

What are, overall, the prospects for microfinance in China? First, while the Asian microfinance industry traditionally has focused on the very poor in rural areas, the range of borrowers has recently been extended

¹¹ *The ProCredit Group*, for instance, is a network of MFIs in Latin America, Central Europe and Africa (ProCreditHolding (2006)).

¹² Examples of such funds are *The Dexia Micro-Credit Fund* launched in 1998 by *Dexia Banque Internationale a Luxembourg* (DeSchrevel (2005)) and the *The responsAbility Global Microfinance Fund* launched in November 2003 by a group of Swiss banks, including *Credit Suisse* (responsAbility (2005)). More information on these and many other funds can be found on *The MIX Market Microfinance Information Exchange* (TheMIXMarket (2006)).

¹³ One notable example is *Financiera Compartamos*, the large South American MFI, who issued Peso-denominated bonds aimed at the Mexican investor in 2004/2005 (Meehan (2004)).

¹⁴ A securitization in 2004 by *ICICI* (the second largest Indian bank) was one of the first direct microfinance securitizations ever. In this securitization *ICICI* bought a microloan portfolio from *SHARE Microfin Ltd*, a large Indian MFI (Meehan (2004)).

¹⁵ One of the first microcredit-backed securities of this kind was the microfinance collateralized debt obligation issued by *BlueOrchard Finance SA* together with the US investment advisory group *Developing World Markets* (DWM) in July 2004 and in May 2005 (Meehan (2004), DeSchrevel (2005)). The CDO referenced a range of MFIs world-wide and offered a range of tranches with different risk-return profiles. In April 2006 *BlueOrchard Finance SA* and *Morgan Stanley* followed up by launching the first public microfinance CDO. The latter was also the first microfinance CDO where the loans to the MFIs were made in emerging currencies (Mexican pesos, Columbian pesos and Russian roubles) (Peterson (2006)). The first CDO aimed at an MFI network, in turn, was the collateralized loan obligation (CLO) structured by the consultancy company *Symbiotics SA* and the *European Investment Fund* (EIF) in November 2005. This deal referenced Eastern European MFIs within the microfinance network *Opportunity International* (Symbiotics (2006)).

to include low-income urban micro-entrepreneurs and the like. This broadening of the client base is a relevant development for a country such as China with its large (and quickly growing) urban population. Of course, in addition to these city dwellers there are also hundreds of millions of rural Chinese who live in various states of poverty. Many of these farmers and traders etc. are also likely to need sustainable financing on reasonable terms.

What, then, are the prospects for *commercial* microfinance in China? Needless to say, the potential to commercialize the microfinance industry in China depends first and foremost on the will of the Chinese government. If the Chinese authorities fulfill their promise to deregulate the market for financial services, including properly (de)regulating the microfinance market, then, as long as the underlying fundamentals do not differ too much from those in the rest of Asia one can expect commercialization of microlending, as well as microfinance more generally, to be an attractive opportunity in China. At least in the long run. Furthermore, of course, for commercialization of microlending to take hold there must be profits to be made for those providing the funds, i.e. for the MFIs. Now, in many other Asian countries, microfinance investments indeed seem to promise sufficiently high risk-adjusted returns to attract commercially oriented MFIs. Interest rates charged to micro-entrepreneurs in these countries lie in the 30%-50% range. Even after having subtracted the MFIs administrative costs etc. from these 30%-50%, the resulting interest rate charged to the ultimate investors are sufficient to cover expected default losses in the underlying loan pool (which in China have been estimated by *The China Foundation for Poverty Alleviation* (GlobalEnvision (2003)) to be as low as in other Asian countries at 3%).

What about the current situation in China? First of all, it is clear that commercial microfinance has not yet reached a sustainable scale in China. Likely reasons for this are the earlier mentioned factors of non-competitive (i.e. too low) interest rates, lack of a legal environment and lack of policies encouraging commercial initiatives (Knowledge@Wharton (2006b)). State involvement in rural financial intermediation in general and the consequent crowding out of commercial initiatives is another reason. Furthermore, current regulations effectively keep foreign institutions out of direct involvement in the microfinance market. Until the market is more deregulated international microfinance organizations are instead teaming up with local actors. Consulting and training of local institutions is also seen as an alternative to immediate involvement (Knowledge@Wharton (2006b)).

Some progress towards commercialization can be observed, however. There are signs that the Chinese government aims at reducing its own role and make the microfinance sector more market-oriented. And in

addition to the earlier mentioned government-induced reform of the rural credit cooperative (RCC) sector, the Asian Development Bank is also involved in supporting the sustainable development of RCCs in some Chinese regions through technical assistance (ADB (2004)). Moreover, as an effect of the WTO entry, there are reforms to expect in all areas of the Chinese financial system, including the microfinance industry and the other sectors of the financial system involved in lending to the poor. These reforms are likely to open up the microfinance sector to competition, market determined interest rates and commercial-based thinking.

While the role of the private sector in Chinese microfinance still is quite limited there are exceptions. The Ford Foundation is one of these. Since 1994, the Ford Foundation has funded an experimental microfinance project in China along the lines of the Grameen Bank.¹⁶ The project, Funding the Poor Initiative (FPC), is led by a group of scholars at the Rural Development Institute (RDI) of the Chinese Academy of Social Sciences and over time it has grown into a large microfinance program reaching more than 15000 clients (Duval and Goodwin-Groen (2004)). Furthermore, in another private initiative, Citigroup has given USD1.3 million to Grameen USA/Trust to support the development of microfinance in China (Knowledge@Wharton (2006b)).

4. Structured Microfinance

As mentioned in the previous chapter there are different ways for advanced MFIs to raise funds through the capital market. On one hand, the MFI can borrow in the traditional way by issuing bonds in the capital market. This is not securitization since the assets (the microloans) remain on the balance sheet of the MFI, and the lender is exposed to the credit risk of the MFI rather than the credit risk of the microborrower. When securitizing the microloans, on the other hand, the MFI transfers the loans from the balance sheet to the investor. In this case the credit risk of the MFI is of subordinate interest and it is now the creditworthiness of the pool of microloans that is important for the investor. This far there are very few examples of this, direct, form of microfinance securitization.¹⁷ Instead, and as mentioned earlier, an alternative to the MFIs securitizing their microloan portfolios directly is for international investment banks, hedge funds and the likes to pool together and securitize debt issued by the MFIs. In the near future, this indirect form of securitizing microcredits is probably a more realistic alternative than the direct form.¹⁸

¹⁶ Grameen Bank was one of the first microfinance institutions and it has developed a well known set of lending techniques based on group lending. The bank (together with its founder Prof. Muhammad Yunus) was awarded the Nobel Peace Prize for 2006 for their efforts to create economic and social development from below.

¹⁷ The earlier mentioned *ICICI* securitization is one of few examples.

¹⁸ The earlier mentioned *BlueOrchard* and *Symbiotics* securitizations were of this indirect kind.

Most of the existing (indirect) microfinance securitizations have been highly structured deals containing various kinds of credit enhancements. More exactly, the majority of these innovative deals have been structured as collateralized loan obligations (CLOs). Now, why is such a tranching needed? In an attempt to answer this we briefly return to the world of mainstream structured finance where at least two examples of market imperfection create value to a structured deal such as a CDO; asymmetric information and market incompleteness/segmentation (Mitchell (2004)). Moreover, since these imperfections, arguably, are particularly strong in the case of microfinance securitizations there are compelling reasons to structure these deals using tranching.

The first imperfection, asymmetric information, manifests itself through an information advantage of the originator of the securitization over the investor regarding the quality of the loans in the pool; the investors are simply afraid that the originator will repackage and sell them its "problem debt". The problem is likely to be particularly serious in a microfinance securitization where the information advantage of the originating firm (who is typically specialized in monitoring MFIs) over the investors is particularly clear. By structuring the securitization using some kind of external credit guarantee one can eliminate some of the investors' worries about information asymmetry. This is likely to be particularly successful if the guarantee is combined with a tranching of the issued asset-backed securities into assets with different seniority (like in a CLO/CDO). In this way the (less informed) investors can invest in the safe senior tranches at the same time as the originator retains the risky equity tranche itself. The originator will then be the first to suffer losses in case of microloan defaults and the investor can worry less about the (difficult to assess) quality of the pool of underlying microloans.

Market incompleteness, and the related phenomena of market segmentation, also adds value to a tranched securitization deal (Mitchell (2004)). If the originator has private information about some investors, it can create securities that are tailor-made to meet these investors' special demands (market segmentation). Additionally, it can create otherwise unattainable securities by an intelligent tranching of the pool of underlying assets (market incompleteness). Examples of situations where market incompleteness/segmentation can create value for a tranched product are investment restrictions dictated by investor traditions/mandates or government regulations, the limited supply of a certain category of debt instruments, or a rating-dependent mispricing of debt and the associated arbitrage opportunities. More exactly, through tranching one could attract investors that normally would not consider, or would not be allowed to, investing in an emerging market (and even less be willing or allowed to lend to retail customers in

rural areas in these countries). The tranching of pools of microloans would then clearly help complete the market. The diverse investment mandates of different investor groups would also facilitate market segmentation. Moreover, considering the potentially very low correlation between microloans and traditional investment products it is also likely that assets with risk-return profiles that are otherwise unattainable could be achieved through tranches of microfinance securitizations. Again, these assets would help complete the market. Finally, if the price of debt varies across rating categories in a way inconsistent with the actual credit risk (perhaps due to the earlier mentioned market segmentation), then arbitrage profits are available for the originator that can slice and dice the pool of underlying assets into tranches belonging to the "right" rating categories.

Of course, for the originator to be able to profit from market segmentation- and market incompleteness-induced profits through tranching it must be difficult for other originators to structure repeat deals. Considering the novelty of microfinance securitization, this is most likely the situation in today's microfinance market where the behavior of the assets (microloans/MFI-loans) must be considered largely unknown territory for the general investment community. This further strengthens the hypothesis that tranching is particularly suitable for securitizations in the microfinance industry.

4.1. Structured Microfinance in China

As discussed above the prospects for commercial microfinance in China are quite good. In Asia as a whole, the microfinance industry is growing in importance and in 2004 there were around 40 million microloans made in Asia (ADB (2004)). Furthermore, the recent interest rate cap relaxations as well as a perceived change in policy direction might gradually change the Chinese microfinance landscape in the direction of its neighboring countries. In such an environment, with quickly growing numbers of Chinese MFIs, one can also envision a thriving Chinese microcredit securitization industry further down the road.

What are then the prospects for *structured* microfinance in China? To try to answer this question we will discuss three reasons why commercial microlending, in general, and securitization and structuring of microcredits, in particular, eventually could be particularly promising in a China context:

(i) Lack of currency risk

A commercial MFI that relies solely on domestic funding does not have to worry about currency risk. However, for most MFIs funded on commercial terms, relying on domestic funding only is not an option, at least not in the long run. In order to attract enough capital to meet the demand for microcredit, it is

necessary to borrow internationally. This introduces currency risk, which ultimately needs to be hedged. Unfortunately, in most countries with active microfinance industries the availability of methods to hedge foreign exchange risk (such as forwards, swaps, letters of credit, back-to-back lending etc.) is very limited.¹⁹ This puts the MFIs in a difficult position; either they borrow locally, thereby avoiding currency risk but facing funding constraints, or they borrow internationally, and face the risk of a sudden devaluation of their local (often quite volatile) currency.

Now, due to its size, China is not as dependent on foreign funding as many smaller nations are. Instead, a growing pool of domestic investors (private and government-related) is a potential source of capital for micro-entrepreneurs. By relying on domestic capital in this way one avoids the currency risk associated with borrowing in the international capital market. Moreover, even in case a large domestic micro-investor base would never materialize itself in China, the Chinese currency itself, the Renminbi, is an additional reason why foreign exchange risk could be less of a problem. Since the Renminbi, eventually, will be an important international (reserve) currency it is quite reasonable to expect future international investors to be willing to hold Renminbi in their portfolios in addition to US Dollars or Euros. This will allow Chinese MFIs to tap the international capital market in their own local currency and thereby avoid foreign exchange risk.

The advantage of being able to arrange funding locally is particularly appealing in securitizations and structured deals. However, these, more complex, structures need a large number of microborrowers as well as investors to cover their costs, and this has led to most of them being done in a multicountry setting (both on the borrower- and on the investor side). Obviously, this creates substantial foreign exchange risk that has to be hedged. It also creates the additional problem of having to deal with several different legal, regulatory and government policy frameworks. Now, opposite to the typical developing country, the potential size of the Chinese microcredit market is large enough to sustain a domestic structured microfinance industry. Issuance of microfinance collateralized debt obligations and the likes on a local basis would be both possible and appropriate in the future, and the lack of currency risk in these deals would be a significant advantage compared to the existing international deals mentioned in chapter three.

(ii) Economies of scale

As mentioned earlier, the potential future Chinese microfinance market is huge. Regardless if one looks at it from the demand side or from the supply side. For instance, the rural population is close to 900 million and the potential number of micro-entrepreneurs in China is likely to be hundreds of millions. Furthermore,

¹⁹ In a survey made by *The World Bank*-affiliated *Consultative Group to Assist the Poor* (CGAP) up to 50% of the existing MFIs have difficulties hedging themselves against foreign exchange risk (Ivatury and Abrams (2004)).

although still in an early state of development the Chinese capital market as a whole is growing rapidly and both the equity market and the bond market has already reached a respectable size, at least by Asian standards; by the end of 2004 the stock market capitalization was RMB3.71 trillion and the value of the total bond stock was RMB3.82 trillion (Zhongli (2005)). A legal framework for this quickly growing capital market is also being prepared. All this is important news also for micro-entrepreneurs even if only a modest share of this quickly growing market, eventually, is allocated to microfinance investments. Finally, the rising global importance of the Chinese currency together with the large foreign interest in investing in China in general could increase the potential supply of commercially oriented microfinance funding even further.

This huge (potential) market would certainly lead to MFIs profiting from economies of scale and it could significantly reduce the current large administrative costs associated with microlending.²⁰ This, in turn, would in a competitive environment with commercially oriented actors improve the conditions for Chinese micro-entrepreneurs by providing them with cheaper funding. The MFIs and the ultimate investors would of course also reap some of the profits from these scale profits. This would most likely further spur the rate of innovation in cost-reducing techniques and thereby also spur the growth of the market even further. Which would bring more economies of scale and so on... The size of the Chinese market would also make it easier for the MFIs (and ultimately for the micro-entrepreneurs) to diversify their financing. Otherwise, relying on one, or just a few, sources of capital exposes the borrower to the risk of a sudden stop in funding which in turn could lead to the "bankruptcy" of the micro-venture. Obviously, such a bankruptcy would be a huge efficiency loss, both to the borrower herself and to the wider community. Fund diversification is therefore very important in order to ensure the long-term availability of funding and to avoid costly funding interruptions. And the larger the pool of microinvestors is, the easier it is to diversify.

If we turn to the particular issue of structured microfinance; scale is again an important determinant for success. In order to arrange a more complex funding structure the structurer needs a certain critical volume (of clients or funds). Whether the securitization is done directly on the microborrower level or indirectly by pooling together MFIs, or whether it is a simple pass-through securitization or a more complex tranched structure, there is a certain minimum volume needed to break even. As stressed above, in China, such a critical volume of microfinance actors could eventually be established locally if competition is allowed. This would also mean that microfinance collateralized loan obligations and other modern and innovative solutions to the funding problem could be arranged locally instead of internationally. Of course, the players

²⁰ There are also some indications of Chinese MFIs facing lower administrative costs than the average MFI world wide (Park and Ren (2001)).

arranging these services, as well as the ultimate investors providing the Renminbi, do not have to be, or perhaps should not even be encouraged to be, locals.

(iii) Large potential interest from traditional financial firms

For many international banks and financial firms the expectation of a huge future Chinese financial market is enticing. In addition to the regular ways of entering this market, a possible way of capturing a share of this market could be to start dealing with those who, one day, will build up a substantial piece of this market, i.e. small farmers, traders and micro-entrepreneurs located in rural as well as in urban areas. Today, only a small share of this back-bone of the Chinese society has access to formal funding, whether it is through (commercial or non-commercial) microfinance programs and the likes or through the regular banking system.

Of course, the commercial microfinance market in China is not limited to international banks. Domestic banks should also grab the possibility to reach out to the poorer neighborhoods. For the large four state-owned banks, Agricultural Bank of China, Bank of China, Industrial and Commercial Bank of China and Peoples Construction Bank of China, their extensive branch networks could be an important tool to reach out to the micro-entrepreneurs. And a successful reform of the rural credit cooperatives (RRCs) could turn these cooperations into competitive commercial banks ready to lend on commercial terms on a grand scale.

In the context of Chinese commercial microfinance, intermediation of structured microfinance products could be a particularly profitable arena for the more advanced financial intermediaries. The size of the Chinese market will potentially be large enough to sustain a deep and liquid market for structured microfinance products without having to rely on multi-country deals. This is quite unique (perhaps with the exception of India), and in such an environment structured microfinance has the potential to be a lucrative fee-generating area for international as well as domestic banks.²¹ Not to forget, a fee-generating microfinance business would also lead to diversification gains for most commercial banks. Finally, in addition to earning fees from originating securitizations and structured microfinance deals there is nothing that prevents these banks to use the structured microfinance market for their proprietary trading purposes as well. By taking positions in, for instance, the most risky tranches of a structured securitization the originating bank can use their superior knowledge of the loan pool to make intelligent investments in their own books.

²¹ The management fee of *The responsAbility Global Microfinance Fund* is 2.2% or less (responsAbility (2005)), the management fee of the *BlueOrchard* CDO is 1.06% (BlueOrchard (2006)) and fees of mainstream CDOs usually lie in the 1.5%-1.75% range (Bloomberg (2005)).

To sum up, scale advantages coupled with no or little currency risk could make China an ideal environment for grand scale structured microfinance. The potential demand for microfunding in China is huge and, equally, the potential supply of microfunding in China is huge; the only thing that remains is for the two to meet. For this, we believe tools from mainstream structured finance could turn out to be helpful. In this context, the newly created framework for asset securitization and the 2005 collateralized loan obligation arranged by China Development Bank are important steps also for the microfinance community.

As a final note on the merits of structured microfinance in China we would like to highlight some of its policy implications. First, we would like to highlight the role this avenue potentially could play in reducing unemployment in China. The hypothesis behind this argument is simply that funding is as an efficient bottleneck for many un- or underemployed in China. Not only could increased funding on the micro-scale turn unemployed into self-employed but, additionally, funding could also enable existing micro-entrepreneurs to expand and hire additional workers. Being entirely micro-oriented this could potentially solve some of the problems with unemployment locally or regionally with less need for rural-urban- or west-east migration. Second, any problems with corruption or government bureaucracy (whether at the local, regional or national level) as well as inefficient and expensive middlemen could also be minimized through the use of a direct link between the microborrower and the lender (investor). Importantly, while commercial microfinance, more generally, perhaps would circumvent government intervention/bureaucracy, structured microfinance as we define it in this paper would do the same for non-governmental/private MFI intervention/bureaucracy as well. In this way it would be a more efficient corruption-fighting vehicle, overall.

5. Conclusions

The purpose of this paper has been to highlight the potential for commercial microfinance initiatives in China. While still of little importance in China, microfinance, particularly commercial such, could eventually be a promising alternative to state-subsidized rural- and urban lending programs. We have particularly stressed the potential for structured microfinance in China, i.e. more complex solutions involving securitization, credit enhancement, tranching etc. At least further down the road. The microfinance market will then potentially be large enough to sustain a local, Chinese, structured microfinance market without the need for links with the international capital market. Advantages related to this would be a more efficient and penetrable legal/regulatory/policy framework as well as a lack of currency risk.

When it comes to policy, structured microfinance could possibly help meet the increasing threat of mass-unemployment in China by facilitating the channelling of funds from investors to employment generating micro-enterprizes. In addition, by creating a direct link between the borrower and the lender, securitization techniques could also help bypass government bureaucracy/corruption as well as unnecessary middleman costs.

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