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The Role of Mobile Banking in Facilitating Rural Finance: Reducing Inequality in Financial Services between Urban and Rural Areas

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Over the past several decades, financial services in China's rural areas have gone through rounds of reforms but still lag behind; urban and rural financial inequality persists. First of all, the distribution of banking outlets is uneven. Statistics put banking outlets nationwide at 175,000, or 1.34 per 10,000 persons. However, there are no more than 27,000 banking outlets in rural areas, or 0.36 per 10,000 persons, far below the national average. As of the end of 2010, 2,312 towns still had no access to financial services. Secondly, the distribution of financial service personnel is uneven. Nationwide there are 43 financial service personnel for every 10,000 residents in cities, 11 for every 10,000 residents in counties and towns, but less than one financial service person for every 10,000 residents in administrative villages.¹ Finally, rural financial services face such problems as limited product varieties, short service hours and low efficiency.²

China's financial regulators have keenly felt the need to change the status quo of rural financial services. In March 2011, China

Banking Regulatory Commission issued *Circular on Continuing to Do a Good Job of Making Coverage of Basic Financial Services Universal in All Towns*, which required that financial institutions take more effective measures to improve the equality of financial services in rural areas. The Circular laid emphasis on the use of mobile communication and internet technologies to develop modern financial services, such as telephone banking and mobile banking. Mobile banking can make up for the shortage of banking outlets in rural areas, significantly reduce financial service costs, and provide affordable modern financial services to low income rural residents, therefore improving the farewell levels of the whole society. The development of mobile banking in rural areas is conducive to eliminating financial inequality between urban and rural areas by alleviating uneven distribution of urban and rural financial resources and thus to promoting rural economic development and achieving inclusive economic growth.

¹ Tang Shuangning, "Seven Contradictions and Eight Imbalances in Rural Financial Services", China Financial Net: <http://active.zgjr.com/News/2009113/index/336232737400.html>

² "Circular on Continuing to Do a Good Job of Making Coverage of Basic Financial Services Universal in All Towns", CBRC website: <http://www.cbrc.gov.cn/chinese/home/jsp/docView.jsp?docID=20110330BEE85DF651E52411FFCFB8480EB74300>

I. Mobile Banking Service Underway in China

Mobile banking service is jointly offered by banks and mobile communication carriers and performed through a mobile phone; it is an extension of traditional banking service channels on the mobile phone and is supported by the client's bank account. In 1996 Expandia Bank and Radiomobile of the Czech Republic launched mobile banking service in Prague. In 1999 Citibank, Gemplus and M1 jointly offered the service of sending transaction information to banks over SMS. Thereafter mobile banking kept gaining popularity all over the world. In 2004 a telecom operator of the Philippines partnered with the rural banks to launch mobile banking service for the rural poor in the country. After several years of development, mobile banking service now covers most of the Philippines' rural areas, and rural financial services in the country have been reduced as a result.

Mobile banking has two advantages over traditional forms of banking. First, it is available 24 hours a day and therefore meets clients' banking needs at any time. Second, it is possible wherever mobile internet is available and thus saves clients' trips to banks.

Mobile banking has had a history of more than ten years in China. Since 1999 when China Mobile joined hands with six commercial banks, including Industrial and Commercial Bank of China (ICBC), China Construction Bank (CCB) and Agricultural Bank of China (ABC), to offer mobile banking services, mobile banking based on STK and BREW, WAP mobile banking and 3G mobile banking have been introduced. Service varieties have expanded from the original account management to wealth management and consumer credit and therefore have covered most of clients' financial needs (Table 1). ABC's online banking service even enables rural households to receive and repay small loans.

II. Mobile Banking to Achieve Rapid Breakthroughs in Rural Areas

The development of mobile banking in cities is less than satisfactory although the number of its users has been increasing. We believe that it is in the rural areas rather than the cities that mobile banking will achieve breakthrough

Table 1. Mobile Banking of Chinese Commercial Banks

Name	Account Management	Money Transfer, Remittances	Payment of Fees	Wealth Management	Others
Industrial and Commercial Bank of China					
China Construction Bank					
Agricultural Bank of China					Micro finance for rural households
Bank of China					Payment of fees through mobile phone, loan management
China Merchants Bank					Financial information
China Everbright Bank					Payment of fees through mobile phone
Bank of Communications					ATM withdrawals without the use of bank cards, payment of fees through mobile phone

Source: websites of Chinese commercial banks

development and yield the most benefits. Banking outlets providing a variety of services are many and within easy reach in cities whereas such outlets are far less in number in rural areas where the demand for financial services is huge. The development of mobile banking in rural areas by cashing in on the extensive use of mobile phones in these areas contributes to reducing rural financial service costs and expanding the coverage of rural financial services and therefore to improving the quality of rural financial services and eliminating financial inequality between urban and rural areas.

Popularity of mobile phones and increasing mobile internet business

The latest statistics from the Ministry of Industry and Information Technology suggest that as of the end of 2010 the mobile penetration rate nationwide was 64.4 sets per 100 persons.³ According to surveys by China Internet Network Information Center, as of the end of 2009, the number of mobile internet users stood at 233 million, of whom urban areas accounted for 160 million (58.3 percent of urban internet users) and rural areas accounted for 71.89 million (67.3 percent of rural internet users). Rural areas have a higher penetration of mobile internet than do urban areas.⁴ The increasing popularity of mobile phones in rural areas and the extensive use of mobile

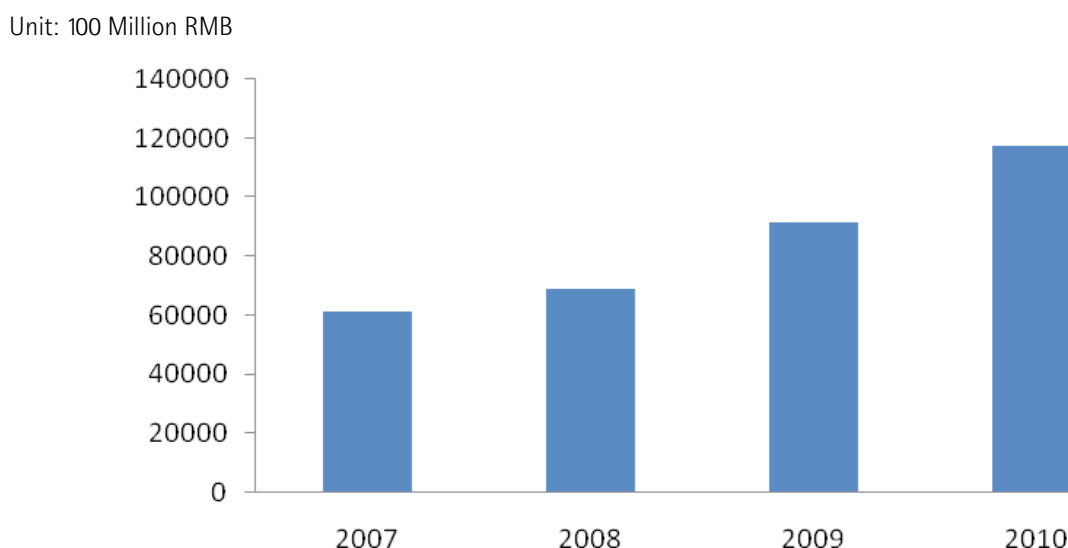
internet technology have enabled more and more rural residents to obtain access to mobile banking and complete various financial transactions at home.

Mobile banking as an ideal choice for meeting the rural financial needs

With the government's increasing attention paid to agriculture, farmers and rural areas, agriculture related loans made by financial institutions have been on the increase during recent years. As of the end of 2010, the balance of agriculture related loans amounted to 11.77 trillion RMB yuan, up 92.4 percent over the end of 2007. Of the figure, the balance of loans to rural areas was 9.8017 trillion RMB yuan (2.6043 trillion RMB yuan for rural households, with an increase of 1.2645 trillion RMB yuan from the end of 2007).⁵ At the same time, the demand of rural residents for basic financial services, such as deposits and withdrawals, remittances and settlements and insurance, has been increasing; as a consequence, the rural financial service capacity has been further strained. Fig. 1 shows the changes in the balances of agriculture related loans made by financial institutions from 2007 to 2010, revealing an upward trend year on year.

However, rural areas have far less banking outlets than urban areas. As of the end of 2010, rural credit cooperatives had 28,886

Fig. 1 Changes in Balances of Agriculture Related Loans Made by Financial Institutions



Source: China Rural Financial Services Report 2010, the People's Bank of China

³ "China National Telecom Industry Statistic Report 2010", the Central Government website: http://www.gov.cn/gzdt/2011-01/26/content_1793136.htm

⁴ "Research Report on Internet Development in China's Rural Areas 2009", China Internet Network Information Center: <http://www.cnnic.net.cn/html/Dir/2010/04/15/5810.htm>

⁵ "Report on China's Rural Financial Services 2010", PBC website: http://www.pbc.gov.cn/publish/goutongjiaoliu/524/2011/20110304154916129749854/20110304154916129749854_.html

outlets nationwide, rural cooperative banks had 1,238 outlets nationwide, and rural commercial banks had 1,164 outlets nationwide. Nevertheless, these seemingly vast numbers are far from enough given that China has a rural population of 720 million.⁶ In India, by contrast, commercial banks have more than 30,000 branches in rural areas, grassroots agriculture credit associations number more than 90,000, land development banks have more than 2,000 branches in rural areas, and regional rural banks have more than 14,000 branches.⁷ The existing rural banking outlets in China cannot meet the rapidly increasing rural financial service needs. Mobile banking is a valuable complement to rural banking outlets and makes rural banking services more convenient.

Cooperation between mobile operators and banks in developing mobile banking

Through the strategic move of cooperation with banks in developing mobile banking, mobile operators are able to further expand the use of their value added services among rural clients and deepen the application of mobile internet in rural financial services sector. The development of mobile banking gives a boost to online shopping and deepens the use of mobile internet.

On the other hand, through such cooperation banks are able to reduce costs. The development of mobile banking helps banks save on costs involved in the construction and running of ATM machines, the construction of banking outlets and frequent small transactions. This accords with the requirement of developing low cost and yet quality financial services in rural areas.

III. Rural Mobile Banking Calls for Cooperation Among Banks, Operators and Financial Regulators

As an extension of traditional banking service channels, mobile banking is a solution to the problem of insufficient financial service resources in rural areas and deepens rural financial services. The material conditions for the development of rural mobile banking are already in place. The demand of rural residents for financial services gives a strong impetus to mobile

banking. Also, banks and mobile operators are motivated to develop mobile banking as a new source of profit. While the cooperation between banks and mobile operators as key players of the mobile banking industrial chain is essential, the support of financial regulators is necessary.

On the one hand, banks should reduce mobile banking fees in those rural areas where the use of mobile phones is widespread and the demand for financial services is strong while providing quality mobile banking services. According to the latest statistics of the Ministry of Industry and Information technology, as of the end of 2010, the penetration of mobile phones was 82.8 sets per 100 persons in the eastern provinces, against 55.5 sets per 100 persons in the western provinces and 51.7 sets per 100 persons in central provinces.⁸ Banks can focus on the rural areas of the relatively more developed eastern provinces for the development of mobile banking. Since the demand for low cost financial services in these areas is big, reducing mobile banking fees is an important way to attract customers. Currently, because bank transfers through mobile phones are not significantly cheaper than those through online banking, mobile banking is not yet a big attraction to rural banking clients. Lowering the rates for rural mobile banking services will undoubtedly lead to an increase in the number of clients (Table 2). In addition, banks can establish agency relationships with qualified rural financial institutions in an effort to expand their mobile banking business and elevate its influence.

In addition, mobile operators should provide clients with greater security assurances and smoother experience in the use of mobile banking. At present, the biggest obstacle to the spread of mobile banking is clients' doubts about its security. As a matter of fact, mobile banking operates through a closed mobile data network and the mobile terminal does not provide an environment where viruses survive; thus, it is virtually exempt from the effects of hackers and Trojan horse programs.⁹ Operators should enhance publicity about the security of mobile banking to dispel rural clients' doubts about it. At the same time, operators should further strengthen mobile network stability in order to ensure that the network is stable while mobile banking is in progress. Besides, given that the penetration of intelligent mobile phones in rural areas is lower than that in urban areas, operators should introduce SMS based mobile banking since it is easier and more convenient to operate. Also, they should

⁶ "The Central Bank: Using Various Monetary Policies and Instruments to Maintain Price Stability", China Securities Net: <http://www.cnstock.com/index/gdxw/201102/1153750.htm>

⁷ "Overseas Rural Financial Development: Experience and Inspiration", Xinhua Net: http://news.xinhuanet.com/theory/2008-10/31/content_10286491.htm

⁸ "Penetration of Mobile Phones Nationwide: 64.4 Sets Per 100 Persons, with Shanghai Ranking First", 163.com: <http://tech.163.com/11/0212/03/6SLNFD8000915BE.html>

⁹ "Mobile Banking is More Secure Than Online Banking", Tianjin Net: http://www.tianjinwe.com/tianjin/tjcj/201104/t20110412_3493950.html

consider promoting different versions of mobile banking in rural and urban areas, e.g., WSP mobile banking in urban areas and SMS based mobile banking in rural areas, in response to uneven development of communication networks in urban and rural areas.

The payment and money transfer service in Kenya, known as M-PESA, provides a success story in mobile banking service.¹⁰ In Kenya, there is a limited number of banking outlets because of exorbitant costs of establishing banks and financial service fees are high. Also, the banks traditionally focus on high end clients in cities. As a consequence, rural residents have little access to low cost financial services. With the development of Kenyan rural economy, the rural demand for financial services is robust. As of 2006, just before the introduction of M-PESA, 38 percent of the Kenyan population had never used any kind of financial service. M-PESA has now radically changed this. The program's target clients are Kenyans who do not have access to traditional financial services. Since it makes money transfers using SMS, it

does not have the requirements of monthly fees and minimum account balance, therefore effectively reducing transaction costs and meeting rural residents' needs for low cost financial services. Financial regulators need to join hands with related departments to work out laws and regulations governing the mobile banking by rural financial institutions. Current laws and regulations that apply include the *Law on Commercial Banks* and *General Rules on Loans*. However, these laws and regulations do not specifically provide for rural financial services, and rural financial institutions often do not have a legal basis to go by in expanding into mobile banking. Since mobile banking involves multiple entities, including commercial banks and operators, the CBRC should, in conjunction with related departments including the Ministry of Industry and Information Technology, introduce in an earlier date business norms and standards for mobile banking in terms of security, compatibility and so on in order to promote its long term development.

Table 2. Rates for Bank Transfers Through Mobile Phones at Commercial Banks

Bank	Charging rates
Industrial and Commercial Bank of China	Consistent with E-banking charging standards of ICBC
China Construction Bank	Charging for inter-city transfer (remittance), inter-bank remittance and corporate remittance. A preferential charging rate will be used in these businesses before Dec. 31, 2011, viz. no less than 1 yuan and no more than 15 yuan.
Agricultural Bank of China	Different discounts provided by branches.
Bank of China	Free for real-time transfer in RMB or foreign exchange, except inter-provincial transfer between intra-bank cards, which will be charged with an 80% discount.
China Merchants Bank	As charging rates of normal transfers and remittances.
China Everbright Bank	Free for intra-bank transfer; inter-bank transfers will be charged in 20% of normal rate.
Bank of Communications	6 yuan as service charge every month; free for intra-bank transfer within the same city, 0.15% for intra-bank transfer between different cities and inter-bank transfer within the same city; 0.3% for inter-bank transfer between different cities

Source: websites of commercial banks

¹⁰ "M-PESA: The Success of Mobile Currency", China Mobile News: http://labs.chinamobile.com/mblog/36572_85397

China Mobile Joins Hands with Pudong Development Bank in Developing Mobile Banking

On November 25, 2010, China Mobile and Shanghai Pudong Development Bank signed a strategic cooperation agreement under which the former spent 39.46 billion RMB yuan to purchase 2.87 billion new shares of the latter and therefore became its second largest shareholder by holding 20 percent of its equity. China Mobile did so in order to promote the expansion of its mobile payment business in the financial service area and thus further development of B2C and C2C business. China Mobile started to experiment with mobile payment business in 2007 and by 2009 had, by and large, completed mobile payment technologies and business programs. Thereafter it tried out mobile payment service involving small amounts of payment in Hunan, Chongqing, Guangdong, Shanghai and other provinces. China Mobile and Pudong Development Bank have been in cooperation in the mobile payment area and have energetically developed mobile remittance service in an effort to deepen rural personal financial services since China Mobile's telecom services cover the vast rural areas. As a result, migrant workers will be able to send money home more conveniently.

Taking advantage of wireless communication technologies and the popularity of mobile phones, mobile banking makes up for the shortage of banking outlets and meets rural residents' financial needs. It significantly reduces the costs of financial services and helps commercial banks better serve rural areas, thus improving the farmers' income levels and contributing to rural construction. Successful experiences from other countries, such as Kenya's M-PESA and the Philippines' G-Cash, show that mobile banking can provide low-cost modern financial services to low-income rural residents and therefore help improve the welfare level of the whole society.

Pudong Development has recently introduced a mobile banking service called "remittance through mobile phone numbers". If both the remitter and the beneficiary have a bank account with Pudong Development Bank and each binds his mobile phone number to his account, the remitter does not need to enter the beneficiary's account number but only his mobile phone number. This is more convenient than the traditional remittance service through account numbers. Pudong Development Bank provides at least three mobile banking security guarantees to clients. First, the system automatically recognizes the mobile phone number the client uses when logging in, and login will be successful only when the client uses the mobile phone number he provided to the Bank. Second, if the inquiry password set by the client lacks strength, the system will verify his personal identification, and if he passes the verification, will recommend that he revise his password for security. Third, the transaction will be successful only when the inquiry and transaction passwords have been verified.

China Mobile reports that by the end of 2009 its rural outlets nationwide had amounted to nearly 520,000.¹¹ Through this cooperation, Pudong Development Bank takes advantage of China Mobile's network of outlets in the country, especially those in rural areas, in developing its mobile banking business. The Bank revealed that its 2010 mobile banking business exceeded 6 billion RMB yuan. As an emerging financial service platform, mobile banking is gaining increasing recognition and popularity.

¹¹ "China Mobile Becomes Pudong Development Bank's Shareholder in Developing Mobile Remittance Business", Sohu IT: <http://it.sohu.com/20101201/n278024242.shtml>