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Banks (Citi)
Asia

Chinese Banks

Deposit Insurance: Not What it Seems

- **Why deposit insurance?** – The government and PBOC appears keen to roll-out deposit insurance which is seen as a pre-requisite to full deposit rate liberalization. Arguments for deposit insurance: to protect small depositors, reduce contagion risk (in the case of bank runs), and provide a mechanism for resolving bank failures. Deposit insurance is also seen as a necessity in a developed and open financial system; China is the only country in our Asian coverage without a formal deposit insurance scheme.

- **Reducing protection** – But deposit insurance in China may not be what it seems. Systemic risks could instead increase because unlike other countries that have gone from no deposit protection to some form of deposit insurance, China is moving from having a perceived implicit blanket deposit guarantee by the government to an explicit limited deposit insurance scheme, i.e. protection is being reduced.

- **Timing is not ideal** – Deposit insurance is coming at a time when liquidity is tightening, deposit competition is already intense and banks are unlikely to be able to pass on the cost of deposit insurance to customers. Assuming China begins with a flat premium rate system – usually the case in less developed countries – a 10bps premium rate (lower end in region) would lower 2013E earnings by 5-7% for the sector.

- **Double whammy for small banks** – Deposit insurance and deposit rate liberalization together would pressure funding costs for small banks: formal deposit insurance would lead to a bigger risk premium on small banks' deposits; less liquid balance sheets and weaker deposit franchises (more reliant on time and corporate deposits) make small banks more vulnerable to deposit rate liberalization. Joint stock banks' non-guaranteed WMP returns have already been running at a 30-40bps premium to the big banks. Prefer big banks, top picks CCB and ABC; least preferred MSB and CNCB.

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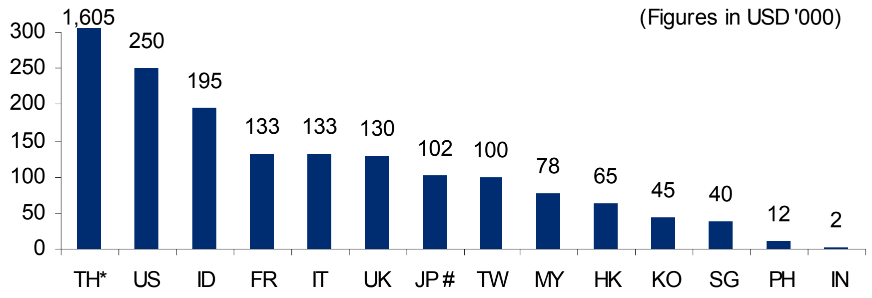
Figure 1. Deposit insurance coverage ceiling across geographies (USD '000)



Source: Citi Research, Regulatory Agency Websites
* Thailand adopted a phased reduction of insurance coverage from THB50m to THB1m after Aug. 2016
# Japan offers 100% coverage on payment & settlement deposits; limited coverage up to USD102,000 on others

Deposit Insurance in a Global Context

Before we discuss the implications of deposit insurance in China, we first review deposit insurance schemes globally and highlight the negatives and positives of deposit insurance.

Protects depositors from losses in case a bank becomes insolvent

Deposit Insurance is an established system to protect depositors from the loss of their deposits in the event an insured institution is unable to meet its obligations to depositors. In some countries this is also termed as deposit protection or deposit guarantee. The system acts as a financial safety net in cases of a bank run and reduces contagion risk within the banking industry.

Prior to the establishment of specific deposit insurance regulation, many countries offered a blanket guarantee by the government on all deposits – usually adopted in response to a banking crisis. But regulators soon discovered that this exposed them to a liability greater than they could actually fund. Following a few insolvency crisis, many governments rushed to legislate deposit insurance and quantify an upper ceiling so as to limit their exposure.

112 jurisdictions have deposit insurance schemes, 41 others are considering implementation (Jun-13)

As of 30 June 2013, according to the International Association of Deposit Insurers, 112 jurisdictions have instituted deposit insurance in some form or the other, while another 41 jurisdictions are studying or considering implementation.

Figure 2. List of a few deposit insurance regulators

	Deposit Insurance Organization	Year of Introduction
US	Federal Deposit Insurance Corporation	1934
India	Deposit Insurance & Credit Guarantee Corporation	1962
Philippines	Philippine Deposit Insurance Corporate	1963
Japan	Deposit Insurance Corporation of Japan	1971
Taiwan	Central Deposit Insurance Corporation	1985
Korea	Korea Deposit Insurance Corporation	1996
Italy	Fondo Interbancario di Tutela dei Depositi	1997
France	Fonds de Garantie des Dépôts	1999
UK	Financial Services Compensation Scheme	2001
Indonesia	Indonesian Deposit Insurance Corporation	2005
Malaysia	Perbadanan Insurans Deposit Malaysia	2005
Singapore	Singapore Deposit Insurance Corporation	2005
Hong Kong	Hong Kong Deposit Protection Board	2006
Thailand	Deposit Protection Agency	2008

Source: Citi Research, Regulatory Agency Websites

Compulsory Membership for Deposit-taking Institutions

Korea, UK guarantee schemes additionally include insurance firms, investment traders and brokers

Deposit insurance schemes are legally compulsory for all institutions accepting retail deposits. While the exact scope of institutions protected may vary across countries, commercial banks, cooperative and rural banks are included in all countries. Korea and UK are amongst those that go a step further and protect insurance companies, investment traders and brokers in addition to banks.

Several of these schemes also include special purpose financial institutions like the labour banks in Japan, National Agricultural Cooperatives in Korea, Savings and Mortgage banks and Private Development Bank in Philippines, Credit Foncier Companies in Thailand and Home Finance, Pension and Endowments in UK amongst many others.

US, France, Italy, UK offer the highest deposit guarantee coverage limit

Maximum coverage limit for deposit insurance varies across countries with developed markets like US, France, Italy and UK generally offering a higher guarantee limit. Across Asia, the coverage limit is highest for Thailand (USD1.6m), Indonesia (USD195,000), Japan (USD 102,000), while lowest in India (USD1,700).

Phased rollover from blanket guarantee to explicit & limited guarantee in Thailand

Thailand is amongst the newest members to announce a formal deposit insurance scheme in 2008, prior to which it offered a blanket guarantee on all deposits. In order to avoid any depositor upheaval, the government has adopted a phased rollout of the old scheme by 2016. Thailand Depository Protection Agency insures deposits up to THB50m for the three year period from Aug. 2012 to Aug. 2015, following which deposits up to THB25m will be insured for a year from Aug. 2015 to Aug. 2016 and thereafter only deposits up to THB1m will be insured.

Figure 3. Types of institutions protected by deposit insurance scheme

	Commercial Banks	Islamic Banks	Co-operative / Rural Banks	Foreign Bank Branches	Insurance Company	Investment Traders / Brokers	Others	Inclusions in others	Coverage Limit (in LCY)	Coverage Limit (in USD)
France [1]	✓	-	✓	✓	×	×	×	-	EUR 100,000	USD 133,000
Hong Kong	✓	-	✓	✓	×	×	-	All licenced banks in HK	HKD 500,000	USD 64,500
India	✓	-	✓	✓	×	×	-	-	INR 100,000	USD 1,700
Indonesia	✓	✓	✓	✓	×	×	-	-	IDR 2 billion	USD 195,000
Italy [2]	✓	-	✓	✓	×	×	×	-	EUR 100,000	USD 133,000
Japan [3]	✓	-	✓	✓	×	×	✓	Labour banks, Shinkin Central Bank, Shinkumi Federation Bank, Rokinren Bank, Shoko Chukin Bank	JPY 10 million	USD 102,000
Korea	✓	-	✓	✓	✓	✓	✓	National Agricultural Cooperatives Federation (NongHyup), National Federation of Fisheries Cooperatives (SuHyup)	KRW 50 million	USD 45,000
Malaysia	✓	✓	✓	✓	✓	×	-	-	MYR 250,000	USD 77,500
Philippines	✓	-	✓	✓	×	×	✓	Savings & Mortgage banks Private Development Bank	PHP 500,000	USD 11,500
Singapore	✓	-	✓	✓	×	×	✓	Finance companies like Hong Leong Finance, Sing Investments & Finance, Singapura Finance	SGD 50,000	USD 39,500
Taiwan	✓	-	✓	✓	×	×	✓	Agricultur. Bank of Taiwan, Credit cooperatives, Credit dept. of farmers' & fishermen's assoc.	TWD 3 million	USD 100,300
Thailand [4]	✓	-	✓	✓	×	×	✓	Credit Foncier Companies	THB 50 million	USD 1.6 million
UK [1]	✓	-	✓	✓	✓	✓	✓	Home Finance, Pensions, Endowments	Deposits - GBP85,000 Investmnt - GBP50,000 Home Fin - GBP50,000 Insurance - Unlimited	Deposits – USD130,000 Investmnt – USD77,000 Home Fin – USD77,000 Insurance - Unlimited
US	✓	-	✓	✓	×	×	×	-	USD 250,000	USD 250,000

Source: Citi Research, Regulatory Agency Websites
Notes:
[1] France, UK do not insure local branches of institutions belonging to European Economic Area. However, local branches of non-European Economic Area are insured.
[2] Membership for Italian financial institutions is mandatory, but an EU financial institution with branches in Italy can also voluntarily join the scheme.
[3] Japan offers 100% coverage on payment and settlement deposits and a limited coverage of up to 10 million on other deposits
[4] Thailand has adopted a phased reduction of insurance coverage. Coverage limit are THB50m until Aug. 2015, THB25m for Aug 2015 – Aug 2016, and THB1m thereafter

Protects Demand, Savings, Time Deposits and More…

Insures domestic, foreign currency deposits but not offshore deposits…

Deposit insurance is aimed at maintaining depositor confidence without unduly burdening the banking system with high premium costs. Ordinarily these schemes have been formulated to protect deposits received in the normal course of business, such as demand, savings and time deposit. Foreign currency deposits are also insured by most countries, except Japan, Singapore and Thailand in Asia.

…does not also include complex products like structured deposits, bearer deposits, central / state deposits

However, more complex deposit products like structured deposits, which are in the course of investments and include portions of debt and equity, bearer deposits, promissory notes, deposits of central and state governments or deposits embedded with derivatives are not protected. Insurance protection is also only aimed at domestic deposits, and does not include offshore deposits of domestic banks, with the exception of Italy.

Figure 4. Types of deposits eligible for insurance

	Traditional Domestic Deposits	Islamic Deposits	Foreign Currency Deposits [1]	Offshore deposits	Pledged deposits	Guaranteed Deposits	Structured / Investment Deposits	Bearer Deposits	Coverage Limit
France	✓	-	×	×	✓	✓	✓	×	EUR 100,000
Hong Kong [2]	✓	-	✓	×	×	✓	×	×	HKD 500,000
India	✓	-	✓	×	×	✓	×	×	INR 100,000
Indonesia	✓	✓	✓	×	✓	✓	×	✓	IDR 2 billion
Italy [3]	✓	-	✓	✓	✓	✓	×	×	EUR 100,000
Japan [4]	✓	-	×	×	×	✓	×	×	JPY 10 million
Korea	✓	-	✓	×	✓	✓	×	×	KRW 50 million
Malaysia	✓	✓	✓	×	✓	✓	×	×	MYR 250,000
Philippines	✓	-	✓	×	✓	✓	×	✓	PHP 500,000
Singapore	✓	✓	×	×	×	✓	×	✓	SGD 50,000
Taiwan	✓	-	✓	×	✓	✓	×	×	TWD 3 million
Thailand	✓	-	×	×	✓	✓	×	×	THB 50 million
UK	✓	-	✓	×	×	✓	✓	✓	Deposits - GBP 85,000 Investment - GBP50,000 Home Fin. - GBP50,000 Insurance - Unlimited
US	✓	-	✓	×	✓	✓	×	✓	USD 250,000

Source: Citi Research, Regulatory Agency Websites
Notes:
[1] Foreign currency deposits where eligible, are payable in local currency and do not insure against currency fluctuations
[2] Time deposits with maturity greater than 5 years are not eligible for deposit insurance in Hong Kong
[3] Italy's deposit insurance protects depositors of European Union branches of Italian banks, it may also include non-EU branches of Italian banks
[4] Japan offers 100% coverage on payment and settlement deposits and a limited coverage of up to 10 million on other deposits

Member Financial Institutions Fund the Scheme

Members pay joining fee and annual / semi-annual premiums

Deposit insurance schemes are predominantly funded by the member institutions. New members pay an initial seed capital while joining the scheme, which varies from a 0.50% charge on their paid-up capital to a flat joining fee. Members are also required to pay a premium on total insurance deposits they hold at the end of each period on an annual or semi-annual basis. During periods of crisis, regulators may further require its members to pay an additional premium to cover any potential shortfalls in the fund.

Other sources of funding for these insurance schemes include earnings on funds invested and amounts recovered after liquidation of a failed institution. Some regulators also have a standby agreement with the government to obtain capital or credit at least-cost basis in dire cases to prevent insolvency.

Flat vs. Differential Premium Rates

Insurance premium rates payable by member institutions can be assessed using –

- Flat premium percent payable on the value of insured deposit, or
- Differential rates based on a risk assessment of the insured institution.

Flat premium rates do not discourage banks from taking excessive risk

India, Indonesia, Japan, Korea, Philippines and Thailand have adopted a ***flat premium rate system***, where premiums are fixed at a given percent per unit of eligible deposit. Premium costs vary across countries from 0.08% p.a. in Japan and Korea to as high as 0.47% p.a. in Thailand. This method is easy to implement, but does not account for the risk portfolio of a banks' balance sheet. By charging all members an equal percent, it does not distinguish a conservative bank from one that takes on excessive risk.

HK, Malaysia, Singapore, Taiwan, UK and US use differential premium rates

Differential premium rates are used in Hong Kong, Malaysia, Singapore, Taiwan, UK and US. Banks are assessed individually based on pre-defined scales fixed by the regulators after taking into account asset quality, capital adequacy and liquidity levels. Different premium rates are then applied to each risk categories, with the more risky institutions paying a higher premium per unit of deposit. In Hong Kong premium rates vary from 0.0175%p.a. for Category 1 institutions to 0.0490%p.a. for Category 4 or 5. The extent of variation in premium rates for least risky to highly risky is the strongest in US, from 0.03% - 0.45%p.a.

Figure 5. Deposit insurance premium rates charged differ across countries

	Premium Type	Categories	Premium Rate (% p.a.)
Flat Premium Rates			
India	Flat rate	n.a.	0.1000%
Indonesia	Flat rate	n.a.	0.2000%
Japan	Flat rate	Payment and settlement Deposits	0.1070%
		General Deposits	0.0820%
Korea	Flat rate	Banks	0.0800%
		Insurance companies	0.1500%
		Investment Traders & Brokers	0.1500%
		Merchant Banks	0.1500%
		Mutual Savings Banks	0.4000%
Philippines	Flat rate	n.a.	0.2000%
Thailand	Flat rate	n.a.	0.4700%
Differential Premium Rates			
Hong Kong	Differential rate	Category 1	0.0175%
		Category 2	0.0280%
		Category 3	0.0385%
		Category 4 or 5	0.0490%
Malaysia	Differential rate	Category 1	0.0300%
		Category 2	0.0600%
		Category 3	0.1200%
		Category 4	0.2400%
Singapore	Differential rate	Incorporated in Singapore	0.0200%
		Foreign banks' asset maintenance ratio:	
		- Greater than 5	0.0200%
		- Between 2 and 5	0.0300%
		- Less than 2	0.0700%
Taiwan	Differential rate	Grade 1	0.0500%
		Grade 2	0.0600%
		Grade 3	0.0800%
		Grade 4	0.1100%
		Grade 5	0.1500%
UK	Differential rate	Fixed yearly based on budget requirements and are subject to an annual limit	n.a.
US	Differential rate	Based on risk assessment	0.03% - 0.45%

Source: Citi Research, Regulatory Agency Websites
Note: Indonesia is currently preparing a draft regulation on differential premium rates based on risk profiles

Differential rates replace flat rate structure as the system progress

Differential premium rates are considered more sophisticated to flat premium rates, as it penalizes banks taking on excessive risk. Most countries adopt a flat premium rate during the initial implementation phase due to its ease of use, but gradually move onto differential rates as the system progresses.

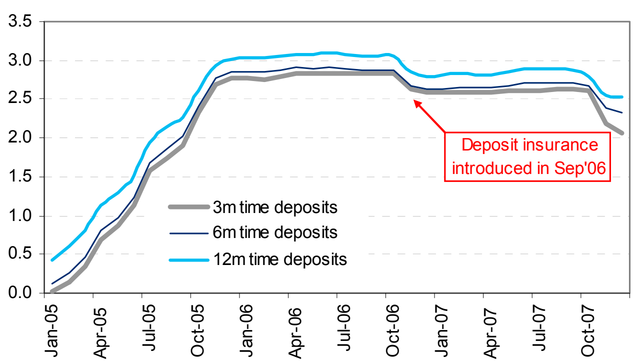
Premium Costs Find Their Way to Customers Eventually

Deposit insurance premiums are theoretically paid by insured institutions and not by individual depositors. As a result, one might say that depositors do not bear any financial implications of deposit protection. But actual practices vary across countries, and are dependent on prevailing competition for loans and deposits in the banking sector. Many countries where deposit insurance schemes have been newly implemented have seen a marginal fall in deposit rates, largely due to – (i) premium costs are passed onto customers (ii) reduced risk associated with insured deposits.

Costs transferred to customers via lower deposit rates or higher lending rates

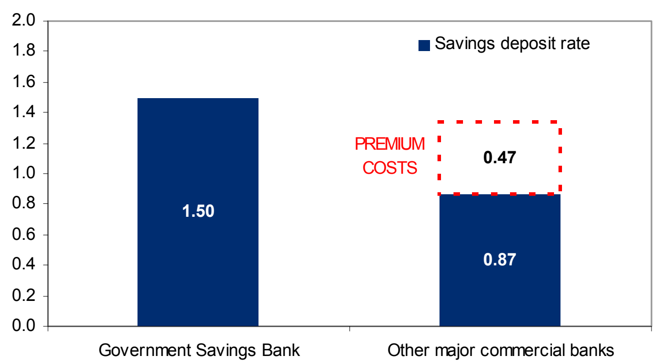
Insured institutions are often known to pass on premium costs to customers in terms of either lower deposit rates or higher lending rates. Hong Kong deposit rates declined 20bps after the introduction of the Hong Kong Deposit Protection Scheme in September 2006 (Figure 6). In Thailand, deposit insurance premiums have resulted in deposit rate variation between specialized financial institutions (SFI) and other major commercial banks. SFIs supervised by the Finance of Ministry, like the Government Savings Bank (GSB), are not required to pay any premium, but enjoy full deposit guarantee. Meanwhile, major commercial banks are required to pay a premium of 0.47%p.a. Lower cost burden on SFIs (such as GSB) is evident from the higher savings rate they offered to depositors in Feb. 2012 (Figure 7).

Figure 6. Hong Kong deposit rates declined 20bps after implementation of deposit insurance scheme in Sept'06



Source: HKMA, Citi Research

Figure 7. Savings deposit rates in Thailand offered by commercial banks were lower than Government Savings Bank in Feb 2012 due to premium costs



Source: The Nation, Thailand (Feb 6th, 2012), Citi Research

Depositors' risk-reward expectations decline as deposit risk reduces

Reduced risk associated with an insured deposit vis-à-vis an uninsured deposit also lowers depositor's expectations for risk-reward. This impact is rather profound when riskier banks which were previously unguaranteed are included in guarantee schemes and afforded deposit insurance.

Discretionary Power to Act as Conservator and Liquidator

Banking regulation in most countries comprises three agencies – (i) Supervision (ii) Lender of last resort and (iii) Deposit insurer. All of these agencies share a common objective to promote the stability of the banking system. As a result, their functions are often correlated. Most countries have arrangements to define how different bodies cooperate with each other and exchange information. For instance, under certain circumstances, in Hong Kong, depositors may be protected simultaneously by the Deposit Protection Scheme and the Investor Compensation Fund. To avoid overlapping of compensation, a memorandum of undertaking between the two parties helps mutual cooperation.

A deposit insurance body is entrusted with special powers to facilitate it to act as a conservator of the banking system and a liquidator for failed institutions. Powers for its routine functioning as a deposit guarantor include:

- **Collecting premium contributions** from members and impose penalties
- **Administering the insurance fund**, manage fund investment
- **Canceling registration** of an insured bank if it fails to pay premiums regularly
- **Educating general public** on deposit insurance schemes

Special powers during resolution of insolvent financial institutions include:

- **Placing insured depository institution in liquidation** and realizing its assets
- **Obtaining a stay on judicial actions** to which a depository institution is becoming a party, if the deposit insurance agency is acting as its receiver.
- **Repudiating any contract or lease** to which the failed institution was a party. As well as power to enforce any contract entered into by the depository institution.
- **Transferring assets of failed institutions** to a newly created bank.
- **Determining claims** of insured deposits and making payments to depositors.
- **Not being subject to court supervision** while administering assets and liabilities of failed institutions.

Deposit Insurance – A Sense of Public Assurance

Key positives of deposit insurance: confidence

Reassure confidence in the system. Deposit insurance address public concerns over the safety of their deposits. In case an institution faces a shock where creditors question its solvency, a run may occur, which often results in widespread liquidity problems across other institutions. Bank runs most often result in a contagion; affecting banks which were otherwise sound, to fail. An appropriate regulatory scheme curbs such systemic risks that disrupt the health of the real economy.

Fair competition

Help develop competitive and fair markets. Deposit insurance instills confidence, especially amongst depositors of smaller banks, thus shifting their focus from liquidity and capital risks. This helps level the playing field for smaller banks, who otherwise find it difficult to compete with large powerful banks with strong capital.

Protect small depositors

Protect small, less sophisticated depositors. Who are often distinguished by the small size of their deposits and are not financially sophisticated to regularly monitor the condition of their financial institution. Further by limiting insurance coverage, regulators provide an incentive for financially sophisticated depositors to exert market discipline and help constrain overly risky behavior by insured institutions.

Lower bailout costs

Lower need for taxpayers bailouts. In case of bank failures, the government often step-in as the lender of last resort, doling out taxpayer's money to rescue failed banks. An effective insurance scheme helps reduce the dependence on government funding and instead uses collected funds from the banks.

Resolution mechanism

Create a mechanism for resolving failed institutions. Deposit insurance is often associated with mechanisms for dealing with failed institutions. An effective failure resolution framework helps minimize the adverse impact of troubled institution and contributes to an orderly liquidation process.

But a Sense of Surety Comes At Its Own Cost

Moral hazard is the main disadvantage

Create a greater systemic risk. Existence of deposit guarantees creates a moral hazard as it alters the industry mindset, inculcating a cavalier behavior on part of depositors and bankers alike. Depositors are no longer concerned about the bank's portfolio risk as they believe their liabilities are insured by a government agency. They effectively consider the bank deposit as a government deposit and turn indifferent to any solvency risk. Banks on their part, after realizing the reduced risk based liability pricing, engage in funding riskier projects.

Flat premium rates are ineffective. Countries where such insurance is implicit, mainly all developed countries, find it difficult to price premiums. Moreover, most countries until recently followed a flat premium structure, which has the same effect as transferring wealth from conservative banks to risky banks in the long run.

…but scientifically quantifying risk is tricky. Banks' tendency to take on larger risks can be curtailed by an effective insurance pricing mechanism. But forming an appropriate risk based pricing mechanism is challenging for the need of a dynamic estimation of risk for each asset class. Moreover, even where differential premium rates are adopted, difference in rates remains marginal and there is lack of any scientifically based deposit insurance structure.

Deposit Insurance and China

Why Deposit Insurance?

China is one of the few countries not to have deposit insurance

China's strong economic growth in the last decade and the success of its financial sector have resulted in a rapid increase in its total banking loans and deposits to Rmb73trn and Rmb104trn respectively as of June 2013.Yet China is one of the few countries to not have any explicit deposit insurance. Discussion of an official deposit insurance scheme in China has been around for many years, but in May 2013 the State Council approved deposit insurance as one of the financial reforms for the 2013 reform agenda. We believe the government and the PBOC are keen to push forward with a deposit insurance scheme.

Seen as a prerequisite to full deposit rate liberalization

A deposit insurance scheme is considered a prerequisite to full deposit rate liberalization. Under a fully liberalized interest rate environment, banks are at liberty to offer higher interest rates and attract deposits. If these rates are too high, banks may take excessive asset risks to offset this high deposit cost and may be unable to meet their obligations to depositors, leading to a potential bank run. China also sees the establishment of a deposit insurance scheme an apt approach for a market-oriented exit mechanism of financial institutions, which can protect depositors, allow weaker banks to exit the system and maintain financial stability.

Implemented together with bank bankruptcy law

Deposit insurance in China is likely to be implemented together with a bankruptcy law for banks. Both will require legislative changes. We believe a new institution will be set-up to administer the scheme but the supervisory function of this institution is still under discussion.

Reducing Protection

Going from implicit blanket guarantee to explicit limited insurance scheme

For countries that are coming from zero deposit protection, establishing a deposit insurance scheme protects small depositors, helps to curb contagion risks and improves banking system stability. Since virtually all banks in China are state owned to one extent or another – either owned directly by the state or indirectly through local governments and SOEs – there is in our view a perceived implicit guarantee on all deposits in China (there has been a precedent in 1998 when the government bailed out all depositors in the failed Hainan Development Bank). A deposit insurance scheme in China may therefore have the **opposite effect** because it represents a shift from having an implicit blanket guarantee on deposits to an explicit limited insurance scheme.

Could increase systemic risks

In other words the perceived insurance coverage (albeit an implicit one currently) is being reduced rather than increased like in other countries. We understand the need to have a deposit insurance scheme as China's financial system becomes more market oriented, but we believe this shift in theory increases the systemic and contagion risks and especially at a time when liquidity is tightening and deposit competition is increasing.

Main reason why deposit insurance has been dragged for so long

We believe this (reduced deposit protection) is one of the main reasons why deposit insurance has been discussed for so long by the government but never implemented. The real test going forward we believe is whether in practice the regulators in China will really allow banks to fail.

Timing Not Ideal – Amidst Tightening Liquidity

Flat premium rates likely at first

According to press articles (Beiqingwang), during its outset, insurance coverage is likely to be limited to RMB 200,000 to RMB 500,000 with a flat premium rate. However, with progression, China may gradually move to a differentiated premium rate system based on risk assessment and higher coverage limits.

China has conducted several studies in the past to determine an appropriate coverage limit to ensure that almost all depositors are covered. According to the same press articles, a 2005 study showed coverage limit of RMB 100,000 to be sufficient to cover 98% of deposit accounts. However, a more recent study necessitates a coverage limit of RMB 500,000 to cover 98% of deposit accounts.

Figure 8. Study by Chinese government on deposit insurance coverage limits in 2005

Coverage Limit	Deposit accounts covered	Outstanding deposits covered
Below RMB 50,000	96.2%	20.5%
Below RMB 100,000	98.3%	29.5%
Below RMB 200,000	99.3%	37.6%
Below RMB 500,000	99.7%	46.1%

Source: Beiqingwang (June 24th 2013)

Costs will likely be borne by banks

Deposit insurance costs are often passed onto customers via lower deposit rates or higher lending rate, like in Thailand, Hong Kong and many other countries. But lower deposit costs in China in the current scenario seem unlikely, given that deposit competition is already intense and liquidity in China will likely be on a tightening course. Hence we expect premiums on deposit insurance to be borne by the banks. The table below (Figure 9) shows the earnings impact on the sector based on various premium rates. Assuming, premium rates are payable on domestic deposits alone, **a 0.10% premium rate (lower end of the flat premium rates in the region) would lower 2013E earnings by 5-7%.**

Figure 9. Chinese banks 2013E earnings sensitivity to deposit insurance premium

Flat Premium Rate p.a.	ICBC	CCB	ABC	BOC	BoCom	CMB	CNCB	MSB	CRCB
0.025%	1.5%	1.5%	1.9%	1.4%	1.6%	1.5%	1.9%	1.4%	1.3%
0.050%	2.9%	3.1%	3.7%	2.9%	3.3%	3.0%	3.7%	2.8%	2.7%
0.075%	4.4%	4.6%	5.6%	4.3%	4.9%	4.6%	5.6%	4.1%	4.0%
0.100%	5.9%	6.2%	7.4%	5.7%	6.6%	6.1%	7.4%	5.5%	5.3%
0.125%	7.4%	7.7%	9.3%	7.1%	8.2%	7.6%	9.3%	6.9%	6.6%
0.150%	8.8%	9.2%	11.1%	8.6%	9.9%	9.1%	11.2%	8.3%	8.0%
0.175%	10.3%	10.8%	13.0%	10.0%	11.5%	10.7%	13.0%	9.6%	9.3%
0.200%	11.8%	12.3%	14.9%	11.4%	13.2%	12.2%	14.9%	11.0%	10.6%

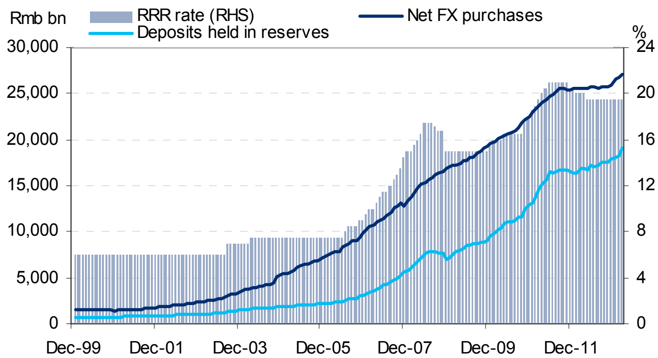
Source: Citi Research Estimates

Expect Tightening Liquidity

Significant liquidity inflows since WTO entry

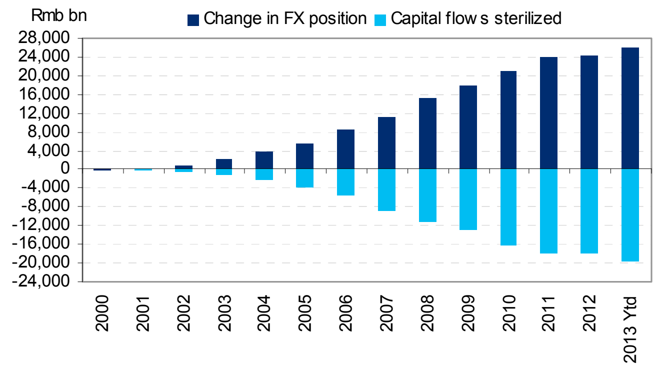
Since entering the WTO in late 2001, China has experienced significant inflows of capital driven by expanding trade and current account surpluses and an appreciating currency. These inflows have been reflected in steadily increasing net FX purchases in the banking system (Figure 10) and rising FX reserves. The rise in the RRR (currently at 19.5% for the big banks, close to a record high) reflects the PBOC’s efforts to sterilize these capital inflows. We estimate that the PBOC has sterilized 76% of liquidity inflows since 2000 using RRR and open market operations (Figure 11). With these inflows, liquidity in the banking system improved and the LDR in the banking system has been declining up until the global financial crisis (Figure 13) as deposit growth has mostly exceeded loan growth during this period (Figure 12).

Figure 10. China – Cumulative net FX purchases and cumulative increase in deposit reserve requirements since Dec-99



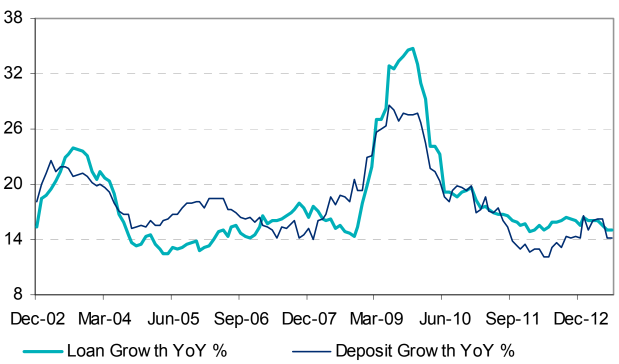
Source: CEIC Data Company Limited, Citi Research

Figure 11. China – Cumulative net FX purchases and cumulative capital flows sterilized by PBOC since 2000



Note: Foreign capital flows are sterilized by PBOC using Open Market Operations and RRR on deposits
Source: CEIC Data Company Limited, Wind, Citi Research Estimates

Figure 12. China – Deposit growth has exceeded loan growth since 2004 until Global Financial Crisis



Source: CEIC Data Company Limited, Citi Research

Figure 13. China – Loan-deposit ratio (local and foreign currency) has been declining but started to rise in 2009.

Source: CEIC Data Company Limited, Citi Research

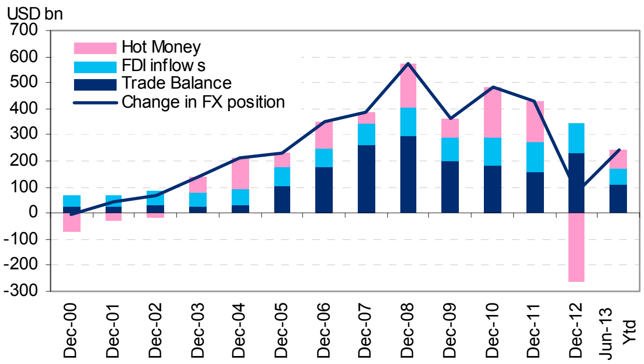
Banking system liquidity began to tighten in 2009

However, since 2009, banking system liquidity has began to tighten and this has been reflected in a gradually rising LDR trend as China embarked on a credit and investment driven stimulus to support economic growth. From the listed banks data available, it seems that the rise in the system LDR in recent years has been driven mainly by the big banks, where daily average LDRs have risen (Figure 15), whereas the joint stock banks have been deleveraging in the past few years due to stricter LDR standards.

Significant contraction in hot money flows in 2012

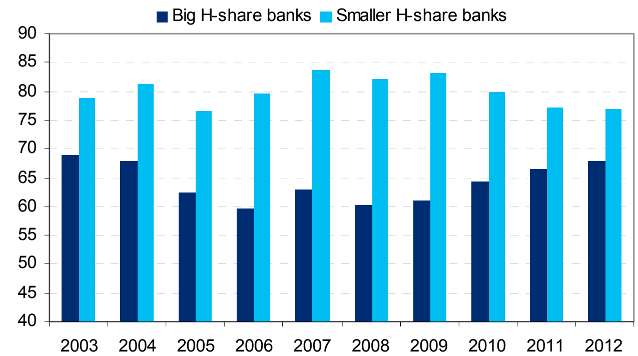
Our simple breakdown of China's external capital flows shows that hot money flows turned significantly negative in 2012 – the first outflow of hot money in the past decade – and was the key driver for the sharp fall in net FX purchase in 2012 (Figure 14). Overall capital inflows have rebounded in 1H13 but probably somewhat inflated by fake trades which lifted the trade surplus in Jan-April.

Figure 14. China – External capital flows breakdown



Note: Hot Money = Change in FX position - FDI Inflows - Trade Balance
Source: CEIC Data Company Limited, Citi Research

Figure 15. Chinese banks – Average daily loan-deposit ratio



Note: Big banks here include ICBC, CCB, ABC, BOC and BoCom
Source: Company Reports, Citi Research

QE tapering, declining trade balance, slowdown in shadow banking contribute to tightening liquidity

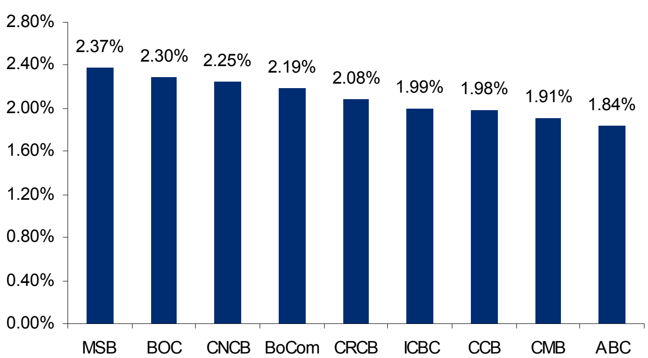
Going forward, we believe a relatively tight liquidity environment will persist in China as we foresee less capital inflows or pressure for capital outflows due to QE tapering (impacting hot money flows), a structurally declining trade balance (China's trade surplus is a mirror effect of the US trade deficit, which has been declining) and the government's anti-corruption measures. The government's efforts to slowdown the growth of shadow banking could also have an impact on deposits – for example, bank acceptances have been a popular way for banks to boost deposits (through the collection of margin deposits) but the crack down on fake trades has led to a contraction in undiscounted bank acceptance bills since June.

Double Whammy for Small Banks

Deposit cost differentiation is limited currently

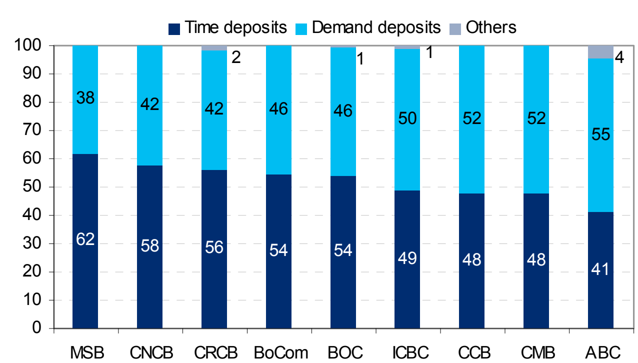
Owing to the deposit rate regulations, there is currently little differentiation in deposit costs at the moment. Whatever differences there exist in deposit costs (Figure 16) is mostly a function of differences in deposit mix (Figure 17); the differences in time deposit and demand deposit costs are relatively insignificant in our view (Figure 18 and Figure 19).

Figure 16. Chinese banks – Average deposit costs (2012)



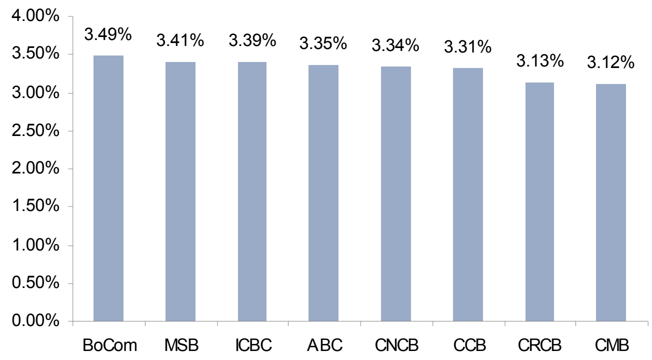
Source: Company Reports, Citi Research

Figure 17. Chinese banks – Deposit breakdown by type (2012)



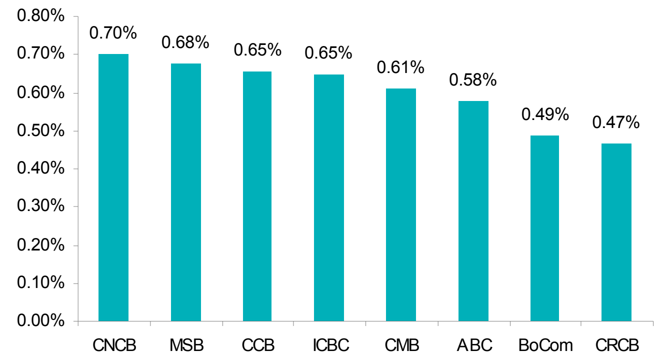
Source: Company Reports, Citi Research

Figure 18. Chinese banks – Average time deposit costs (2012)



Note: BOC does not report breakdown of its deposit costs by time and demand and hence excluded above.
Source: Company Reports, Citi Research

Figure 19. Chinese banks – Average demand deposit costs (2012)

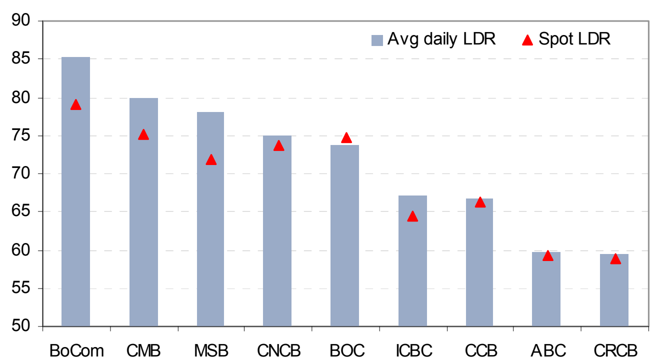


Note: BOC does not report breakdown of its deposit costs by time and demand and hence excluded above.
Source: Company Reports, Citi Research

Small banks' deposit costs expected to rise more going forward

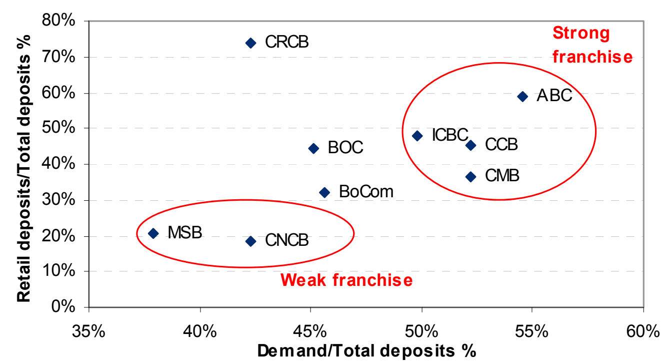
As an explicit deposit insurance scheme is established and deposit rates liberalize, we believe the differences in deposit costs will increase, with the funding cost for smaller banks likely to rise more because: (1) the scaling back of deposit guarantee coverage due to the introduction of a formal deposit insurance scheme – a greater risk premium should therefore be placed on smaller banks; (2) smaller banks having tighter liquidity positions as reflected in their higher LDRs (Figure 20); and (3) weaker deposit franchises as shown by their greater reliance on time deposits and corporate deposits (Figure 21).

Figure 20. Chinese banks – Spot LDR vs average daily LDR (2012)



Source: Company Reports, Citi Research

Figure 21. Chinese banks – Deposit franchise comparison (2012).

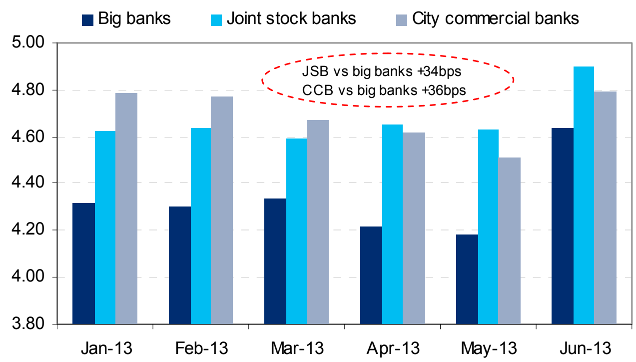


Source: Company Reports and Citi Research

Joint stock banks are already paying a premium for WMPs

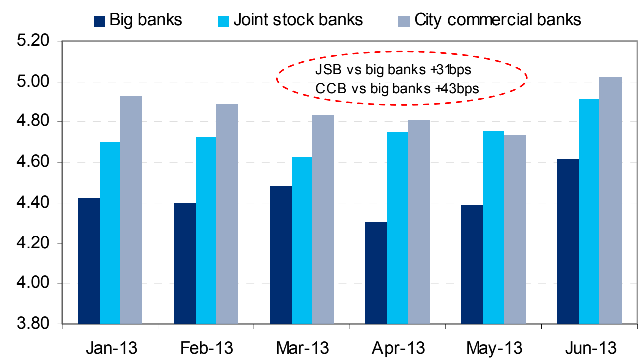
Joint stock banks are already paying a premium for customer funds - our analysis shows that returns on joint stock banks' non-principal guaranteed WMPs have tended to be around 30-40bps higher than the big banks (and city commercial banks offering an even slightly bigger premium than this).

Figure 22. Chinese banks – Monthly returns on 90-100 day non-guaranteed products (%)



Source: Wind, Citi Research

Figure 23. Chinese banks – Monthly returns on 180-190 day non-guaranteed products (%)



Source: Wind, Citi Research

Deposit Liberalization: Next Steps

Limited impact from both interbank CDs and removal of 5-year benchmark

Besides deposit insurance, there has lately been speculation in the media about initiatives next in the pipeline to push forward deposit rate liberalization. These reports are mostly centered on the introduction of interbank certificates of deposits (CD) and the removal of the five-year deposit rate benchmark. We believe neither of these will have a significant earnings impact:

- **Interbank CDs** – These are large-sized, short-term (at least initially) certificates of deposits that banks can issue to financial institutions. CDs are like time deposits but they are transferable and therefore have better liquidity features than a regular time deposit. We understand that banks have already applied to the PBOC for issuance quotas on interbank CDs and so this product seems ready to be introduced. We do not see much impact on banks' earnings because interbank market rates are already liberalized and so the introduction of CDs in the interbank market should not impact NIMs. We expect there will be a bigger impact if and when CDs are introduced to corporate and retail depositors.

- **Removal of five-year deposit rate benchmark** – This has been mentioned by the press for a while and was widely expected to happen together with the removal of the lending rate floor in July 2013. Removal of the five-year benchmark effectively removes the ceiling on five-year deposit rates and is in-line with the PBOC's stated schedule which is to liberalize large-sized, long-term deposits before small, short-term deposits. Like the removal of the lending rate floor, removing the five-year deposit rate benchmark would be largely symbolic because such long-term deposits hardly exist among banks in our universe (Figure 24).

Figure 24. Chinese Banks – Deposit breakdown by type (2012)

Deposit Mix (FY12)	ICBC	CCB	ABC	BOC	BoCom	CMB	CNCB	MSB	CRCB	Avg
Corporate time	21.4%	21.1%	11.8%	24.6%	34.1%	32.0%	43.9%	47.1%	2.9%	26.5%
Personal time	27.5%	26.7%	29.5%	29.1%	20.3%	15.8%	13.8%	14.8%	53.3%	25.6%
TIME DEPOSITS	**48.9%**	**47.8%**	**41.2%**	**53.7%**	**54.4%**	**47.8%**	**57.7%**	**61.9%**	**56.1%**	**52.2%**
Corporate demand	29.3%	33.6%	24.9%	29.2%	33.7%	31.5%	37.8%	32.3%	21.8%	30.4%
Personal demand	20.5%	18.6%	29.7%	16.4%	11.9%	20.7%	4.5%	5.6%	20.6%	16.5%
DEMAND DEPOSITS	**49.8%**	**52.2%**	**54.5%**	**45.7%**	**45.6%**	**52.2%**	**42.3%**	**37.9%**	**42.3%**	**47.0%**
Other deposits	1.3%	0.0%	4.2%	0.7%	0.0%	0.0%	0.0%	0.2%	1.6%	0.9%
TOTAL DEPOSITS	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**
Corporate deposits	50.6%	54.7%	36.6%	53.8%	67.8%	63.5%	81.7%	79.4%	24.6%	57.0%
Retail deposits	48.0%	45.3%	59.1%	45.5%	32.2%	36.5%	18.3%	20.4%	73.8%	42.1%
Overdue/demand	51.9%	51.9%	60.4%	45.9%	45.0%	52.7%	50.4%	37.8%	46.2%	49.1%
<3m	15.0%	18.3%	11.8%	23.4%	24.1%	21.3%	20.8%	27.8%	15.7%	19.8%
3m to 1yr	21.7%	20.5%	18.1%	20.5%	20.3%	18.1%	20.5%	24.4%	28.8%	21.4%
1 to 5yr	11.2%	9.2%	9.7%	10.0%	10.6%	7.9%	8.2%	9.6%	9.3%	9.5%
>5yr	0.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.1%	0.3%	0.0%	0.1%

Note: Figures for BOC are for domestic operations only
Source: Company Reports and Citi Research Estimates

Figure 25. Chinese Banks – Sensitivity of Deposit Pricing on NIM / Earnings

	ICBC	CCB	ABC	BOC	BoCom	CMB	CNCB	MSB	CRCB	Avg
1. Sensitivity to a 10% rise in deposit pricing *										
NIM impact (bps)										
Total demand deposits	1.4	1.5	1.6	1.0	1.2	1.4	1.1	0.8	1.0	1.2
- Corporate demand deposits	0.8	1.0	0.7	0.6	0.9	0.9	1.0	0.7	0.5	0.8
- Personal demand deposits	0.6	0.5	0.9	0.3	0.3	0.6	0.1	0.1	0.5	0.4
Total time deposits	11.6	11.8	10.2	9.6	12.3	11.4	13.4	11.8	11.6	11.5
- Corporate time deposits	5.1	5.2	2.9	4.4	7.7	7.6	10.2	8.9	0.6	5.8
- Personal time deposits	6.5	6.6	7.3	5.2	4.6	3.8	3.2	2.8	11.0	5.7
Total deposits	13.0	13.3	11.8	10.6	13.5	12.8	14.6	12.6	12.6	12.7
- Corporate deposits	5.9	6.2	3.6	5.0	8.6	8.5	11.2	9.7	1.1	6.6
- Personal deposits	7.1	7.1	8.2	5.6	4.9	4.3	3.3	2.9	11.5	6.1
Earnings impact (%)										
Total demand deposits	0.7	0.8	1.0	0.6	0.8	0.8	0.8	0.5	0.5	0.7
- Corporate demand deposits	0.4	0.5	0.5	0.4	0.6	0.5	0.7	0.4	0.3	0.5
- Personal demand deposits	0.3	0.3	0.5	0.2	0.2	0.3	0.1	0.1	0.3	0.3
Total time deposits	6.2	6.2	6.5	6.2	8.0	6.2	9.5	7.2	6.2	6.9
- Corporate time deposits	2.7	2.8	1.9	2.8	5.0	4.2	7.3	5.5	0.3	3.6
- Personal time deposits	3.5	3.5	4.7	3.4	3.0	2.1	2.3	1.7	5.9	3.3
Total deposits	7.0	7.0	7.6	6.8	8.8	7.0	10.4	7.8	6.8	7.7
- Corporate deposits	3.2	3.3	2.3	3.2	5.6	4.6	8.0	5.9	0.6	4.1
- Personal deposits	3.8	3.8	5.2	3.6	3.2	2.4	2.4	1.8	6.2	3.6
2. Sensitivity to a 10bps rise in deposit pricing										
NIM impact (bps)										
Total demand deposits	3.9	4.3	4.5	2.7	3.4	4.1	3.3	2.4	2.9	3.5
- Corporate demand deposits	2.3	2.8	2.1	1.7	2.5	2.5	2.9	2.0	1.5	2.3
- Personal demand deposits	1.6	1.5	2.5	1.0	0.9	1.6	0.4	0.4	1.4	1.3
Total time deposits	3.9	3.9	3.4	3.2	4.1	3.8	4.5	3.9	3.9	3.8
- Corporate time deposits	1.7	1.7	1.0	1.5	2.6	2.5	3.4	3.0	0.2	1.9
- Personal time deposits	2.2	2.2	2.4	1.7	1.5	1.3	1.1	0.9	3.7	1.9
Total deposits	7.8	8.2	7.9	5.9	7.5	7.9	7.7	6.3	6.8	7.4
- Corporate deposits	4.0	4.5	3.0	3.2	5.1	5.0	6.3	5.0	1.7	4.2
- Personal deposits	3.8	3.7	4.9	2.7	2.4	2.9	1.4	1.3	5.1	3.1
Earnings impact (%)										
Total demand deposits	2.1	2.3	2.9	1.8	2.2	2.3	2.3	1.5	1.6	2.1
- Corporate demand deposits	1.2	1.5	1.3	1.1	1.7	1.4	2.1	1.3	0.8	1.4
- Personal demand deposits	0.9	0.8	1.6	0.6	0.6	0.9	0.2	0.2	0.8	0.7
Total time deposits	2.1	2.1	2.2	2.1	2.7	2.1	3.2	2.4	2.1	2.3
- Corporate time deposits	0.9	0.9	0.6	0.9	1.7	1.4	2.4	1.8	0.1	1.2
- Personal time deposits	1.2	1.2	1.6	1.1	1.0	0.7	0.8	0.6	2.0	1.1
Total deposits	4.2	4.4	5.1	3.8	4.9	4.3	5.5	3.9	3.6	4.4
- Corporate deposits	2.2	2.4	1.9	2.1	3.3	2.7	4.5	3.1	0.9	2.6
- Personal deposits	2.0	2.0	3.1	1.8	1.6	1.6	1.0	0.8	2.7	1.8

* Note: based on benchmark rates of 0.35% for demand deposits and 3.00% for 1Y time deposits

Source: Company Reports and Citi Research Estimates

Figure 26. Chinese Banks – Valuation Table

02-Sep-13	ABC	ICBC	CCB	BoC	CMB	BoCom	CNCB	MSB	CRCB	Average
Stock code	1288.CN	1398.CN	0939.CN	3988.CN	3968.CN	3328.CN	0998.CN	1988.CN	3618.CN	
Market cap (US$ bn)	142.83	235.47	187.64	120.44	39.67	50.76	22.87	31.60	4.28	
Recommendation	1	1	1	1	2	2	2	3	1	
Price (HK$)	3.41	5.22	5.82	3.34	13.82	5.30	3.79	8.64	3.57	
Target (HK$)	4.20	6.60	7.80	4.20	13.88	5.60	3.90	7.00	5.00	
Expected Return	23%	26%	34%	26%	0%	6%	3%	-19%	40%	
EPS (Rmb)										
12	0.45	0.67	0.77	0.50	2.05	0.88	0.66	1.34	0.58	
13F	0.51	0.71	0.83	0.53	1.81	0.82	0.70	1.39	0.67	
14F	0.55	0.76	0.92	0.56	1.98	0.87	0.75	1.50	0.74	
EPS (Rmb) growth (%)										
12	19.0	14.5	14.1	12.2	25.3	7.9	(6.7)	28.6	26.2	**15.06**
13F	13.6	5.5	7.9	6.9	(11.8)	(7.5)	4.8	3.6	16.6	**6.03**
14F	8.1	7.1	9.7	4.9	9.4	5.9	7.7	7.8	10.0	**7.69**
EPS (HK$)										
12	0.54	0.82	0.94	0.61	2.50	1.08	0.81	1.64	0.70	**0.90**
13F	0.62	0.86	1.02	0.65	2.21	1.00	0.85	1.70	0.82	**0.93**
14F	0.67	0.92	1.12	0.68	2.41	1.06	0.91	1.83	0.90	**1.01**
EPS (HK$) growth (%)										
12	19.0	14.5	14.1	12.2	25.3	7.9	(6.7)	28.6	26.2	**15.06**
13F	13.6	5.5	7.9	6.9	(11.8)	(7.5)	4.8	3.6	16.6	**6.03**
14F	8.1	7.1	9.7	4.9	9.4	5.9	7.7	7.8	10.0	**7.69**
PER (x)										
12	6.3	6.4	6.2	5.5	5.5	4.9	4.7	5.3	5.1	**5.99**
13F	5.5	6.0	5.7	5.1	6.3	5.3	4.5	5.1	4.4	**5.66**
14F	5.1	5.6	5.2	4.9	5.7	5.0	4.2	4.7	4.0	**5.25**
Price/PPOP (x)										
12	5.0	6.3	5.8	4.9	6.5	4.6	3.7	6.9	5.2	**5.64**
13F	4.1	5.1	4.7	4.1	4.5	3.5	2.8	4.2	4.3	**4.46**
14F	3.8	4.5	4.1	3.7	3.8	3.2	2.7	3.3	3.6	**3.97**
BVPS (HK$)										
12	2.81	3.91	4.59	3.60	11.06	6.24	5.05	7.01	4.18	**4.49**
13F	3.24	4.50	5.28	4.04	12.63	6.94	5.70	8.52	4.82	**5.14**
14F	3.70	5.13	6.04	4.49	14.38	7.67	6.40	10.01	5.50	**5.84**
Price/Book (x)										
12	1.2	1.3	1.3	0.9	1.2	0.8	0.8	1.2	0.9	**1.19**
13F	1.1	1.2	1.1	0.8	1.1	0.8	0.7	1.0	0.7	**1.04**
14F	0.9	1.0	1.0	0.7	1.0	0.7	0.6	0.9	0.6	**0.91**
DPS (HK$)										
12	0.19	0.29	0.33	0.21	0.75	0.08	0.18	0.18	0.21	**0.27**
13F	0.22	0.31	0.36	0.23	0.66	0.30	0.21	0.34	0.25	**0.31**
14F	0.23	0.33	0.39	0.24	0.72	0.32	0.23	0.37	0.28	**0.33**
Dividend yield (%)										
12	5.6	5.6	5.6	6.4	5.4	1.5	4.8	2.1	5.8	**5.33**
13F	6.4	5.9	6.1	6.8	4.8	5.6	5.6	3.9	7.1	**6.04**
14F	6.9	6.3	6.7	7.2	5.2	6.0	6.0	4.2	7.8	**5.28**

Note: *Exchange Rate of HK$1.219108 for FY13E and FY14E
Source: Company Reports and Citi Research Estimates

Figure 27. Chinese Banks – Performance Ratios

02/09/2013	ABC	ICBC	CCB	BoC	CMB	BoCom	CNCB	MSB	CRCB	Average
ROA (stated)										
12	1.16	1.44	1.47	1.14	1.46	1.18	1.08	1.38	1.38	**1.34**
13F	1.17	1.36	1.40	1.11	1.27	1.07	1.01	1.20	1.38	**1.27**
14F	1.13	1.32	1.36	1.05	1.21	1.00	0.95	1.19	1.31	**1.22**
ROE (stated)										
12	20.74	22.98	22.04	18.01	24.79	17.91	17.06	25.67	17.94	**21.47**
13F	20.44	20.87	20.60	17.04	20.01	15.15	15.77	21.86	18.80	**19.78**
14F	19.29	19.52	19.71	16.01	17.87	14.46	15.09	19.75	18.04	**18.61**
Net interest margin										
12	2.77	2.58	2.75	2.15	3.03	2.59	2.65	2.88	3.50	**2.64**
13F	2.64	2.45	2.61	2.23	2.87	2.49	2.57	2.65	3.38	**2.54**
14F	2.57	2.39	2.53	2.14	2.78	2.37	2.48	2.66	3.28	**2.46**
Cost/income										
12	43.0	35.9	37.0	43.7	42.8	39.2	39.0	41.7	44.5	**39.55**
13F	43.9	35.8	37.0	43.0	43.3	38.5	39.7	43.3	42.9	**39.66**
14F	44.7	36.1	37.3	43.4	43.7	39.3	40.7	44.3	42.6	**40.14**
Non-interest inc/total operating income										
12	19.6	21.1	23.6	29.8	22.3	18.6	15.9	24.8	4.1	**22.60**
13F	21.9	24.1	24.0	31.2	23.7	20.1	18.3	24.8	4.4	**24.34**
14F	22.6	25.2	24.7	32.5	24.4	20.9	18.6	26.3	4.9	**25.25**
Loans/deposits										
12	59.2	64.5	66.2	74.8	75.2	79.0	73.7	71.9	58.9	**67.73**
13F	59.8	65.9	66.8	75.4	75.5	79.4	71.3	72.3	59.8	**68.41**
14F	60.3	67.2	67.2	75.7	75.6	79.5	71.3	72.6	60.5	**69.02**
Loan growth										
12	14.1	13.0	15.6	8.2	16.0	15.1	16.0	14.9	20.2	**13.62**
13F	13.2	12.5	14.4	12.5	14.4	13.6	14.1	13.7	17.9	**13.38**
14F	13.3	12.1	13.3	11.3	13.2	13.0	12.9	13.5	18.5	**12.73**
Equity/assets										
12	5.7	6.4	6.8	6.8	5.9	7.2	6.7	5.2	7.4	**6.46**
13F	5.8	6.7	6.9	6.8	6.8	7.0	6.5	6.1	7.4	**6.63**
14F	5.9	6.9	7.0	6.8	6.8	6.9	6.4	6.3	7.3	**6.73**
Tier 1 CAR										
12	9.7	10.6	11.3	10.5	8.5	11.3	9.9	8.1	12.0	**10.50**
13F	9.1	10.9	11.0	9.7	9.3	10.2	9.1	7.8	11.3	**10.22**
14F	9.3	11.3	11.3	9.9	9.2	10.1	9.0	8.0	10.3	**10.44**
Total CAR										
12	12.6	13.7	14.3	12.6	12.1	14.2	13.4	10.8	12.9	**13.38**
13F	11.6	13.8	12.9	12.6	12.4	12.6	11.3	9.4	11.8	**12.72**
14F	11.6	14.1	13.1	12.6	12.0	12.3	11.0	9.5	10.8	**12.81**
Bad Debt Provisions/Average Loans										
12	0.90	0.41	0.57	0.29	0.31	0.53	0.85	0.71	0.32	**0.54**
13F	0.75	0.56	0.62	0.49	0.55	0.70	0.95	0.78	0.53	**0.63**
14F	0.75	0.61	0.62	0.55	0.60	0.70	0.95	0.79	0.66	**0.65**
Impaired loans ratio										
12	1.33	0.85	0.99	0.95	0.61	0.92	0.74	0.76	0.98	**0.97**
13F	1.27	0.90	1.06	1.01	0.81	1.08	1.02	0.83	1.05	**1.03**
14F	1.43	0.92	1.15	1.06	0.94	1.26	1.12	0.86	1.10	**1.11**
Provision coverage										
12	326.4	296.0	271.3	236.3	355.1	250.7	288.2	315.1	350.6	**289.4**
13F	348.0	297.0	268.8	252.9	291.6	224.7	218.1	309.2	322.5	**288.3**
14F	315.0	309.1	261.6	262.1	274.4	207.5	210.3	316.8	316.3	**283.9**

Source: Company Reports and Citi Research Estimates

Appendix A-1

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