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Comparing Chinese and Indian Banks and their Socialist versus Capitalist Reforms

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ABSTRACT

Chinese and Indian banks have developed unique characteristics due to their distinctive reform paths and political regimes, yet they share attributes in common with banks of other emerging nations. After decades of reforms, banking systems in both countries remain relatively isolated and protected due to severe governmental interventions and strict policy directives. These limitations and drawbacks are in sharp contrast to China and India's present economic status, trade openness, and growth trajectories. This article describes the current status, strengths and weaknesses of Chinese and Indian banks; compares their commonalities and differences side-by-side; and traces banking developments and financial reforms to their particular socialist vs. capitalist political roots. Currently financial reforms are advancing in both countries with an aim to stimulate economic growth, yet their banks are burdened with rising bad debt and nonperforming loans. These article further addresses challenges of these banks and their policy implications.

Keywords: Socialist Market Economy, Bank Reforms, Non-performing Loans
JEL Classifications: G21, P21

1. INTRODUCTION

As the world's largest democratic and socialist countries, India and China have each developed distinctive paths to economic prosperity. Combined, they are leading the world as twin economic growth engines, accounting for one-third of world growth since the global financial crisis (GFC) of 2008-2009. When measured by Purchasing Power Parity, China's gross domestic product (GDP) surpassed that of the United States in 2014, and is now the world's largest economy - with India following behind the USA in third place.

For the past three decades, the economic race between India and China has been neck-in-neck with China frequently emerging as the superstar. China's growth, however, slowed to 6.9% in 2015 which is still impressive compared to that of other countries, but modest when measured by its own past glory. External causes, such as stagnation in the United States and recession in Europe since GFC, have contributed to China's decreased production; yet internal factors, especially over-capacity, imbalanced economic structure, and rising corporate debt and non-performing loans (NPLs) of banks etc., are the main culprits for its continued weakening. On the other hand, India grew 7.5% in 2015, replacing China and becoming the new primary growth engine of the global economy. India's recent expansion is welcome news; however, to continue to fuel such growth, India must provide sufficient capital for infrastructure spending and small and medium business development. Doing this would add significant strains on India's already stressed banking system.

Economic reforms in China and India, especially banking reforms, have been shaped by their political systems. Since 1978, the former communist China has adopted a socialist market economy that maintains one-party political control while allowing businesses to operate in a competitive market. This hybrid model encourages private industries to grow, but retains significant state control of the economy. Similar to China's, the Indian economy was largely centrally planned and followed a socialist path after its independence from Great Britain. After several on-again, off-again reforms, the 1991 structural-wide economic reform has been sustained until now. India's current democratic political system

and market environment have nurtured a vibrant private sector that includes a highly commercialized banking and finance industry.

After more than three decades of economic reforms, banking industries in China and India still share many common traits with those of other emerging markets. For example, their banking sectors are still dominated by large state/public banks, and these banks are over-regulated and over-protected by their governments. Such impediments cause bank systems to remain constrained and unable to attain their potential for economic achievement. The situation in China is more severe with official banks being inefficient while shadow banks experience explosive growth as a consequence of the government's financing favors for state owned enterprises (SOEs).

Thus, in studying India and China's banking systems, one must capture the essence of their financial reforms and understand the uniqueness of their political and economic structures. Similar to studies conducted by Morgan and Mario (2012) and Shanker et al. (2009), this article provides an in-depth analysis of bank systems and bank reforms of the two largest emerging nations in the world. More importantly, this study traces banking developments and reforms to their particular socialist vs. capitalist political roots, and further explains critical issues such as China's shadow banks, India's infrastructure financing, and rising corporate indebtedness in both countries.

The article starts with extensive analyses of Indian and Chinese banks' commonalities and differences, it then addresses individual challenges each country faces. The article ends by providing conclusions and policy implications.

2. COMMONALITIES BETWEEN INDIAN AND CHINESE BANKS

China and India are two of the largest emerging nations. Their banks, without exception, have many characteristics of emerging market banks. For example, Indian and Chinese banks are largely state/publicly owned, controlled, and protected; relatively inefficient; yet dominate their domestic financial systems. Their communist and socialist past further magnify some of these common characteristics, and help to explain the common challenges both bank systems are currently facing.

2.1. Common characteristics: Emerging Market Banks with Communist/Socialist Roots

Similar to banks in other emerging countries, Chinese and Indian banks are the dominant force to provide capital support for their economies. Domestic credits from China's depository institutions were 184 percent of GDP, compared with equity and debt securities that each accounted for less than 40 percent in 2014. Even though India has a more diversified financial system, with better-developed stock and insurance sectors, deposits of Indian commercial banks still accounted for 75% of GDP (Table 1). Thus, Chinese and Indian banks are the primary intermediaries in their financial sectors and such a dominant position indicates their immense economic importance.

Both China and India's banking systems are less integrated with the rest of the world. It's debatable as to which system is relatively more "open" than the other as this largely depends on the particular metrics that are being used (Beck and Demirguc-Kunt, 2009; Chinn and Ito, 2008). The consensus is that both financial sectors, especially their banks, are relatively isolated, which is in striking contrast to their respective overall economic openness.

Over the past 30 years, Chinese and Indian banks have gone through extensive reforms and have become more efficient today than ever, yet these reforms have been tightly controlled, cautiously implemented, and lagging behind overall economic reforms. Since both governments consider banks as backbones of their economies, neither country has reformed their banks to a degree that allows them to be fully commercialized. Not surprisingly, the governments still own a majority of banks, and state/public banks dominate banking activities in both countries. In China, asset shares of the biggest five State Controlled Commercial Banks (SCCBs) and State Owned Policy Banks have remained significant throughout the years, from a combined 83.4 percent in 2003 to an even higher 86.8% in 2013 (Table 2). Furthermore, China's rural cooperatives and city banks are mostly owned by local governments and are responsible for carrying out major local economic and political agendas. The situation in bureaucratic India is similar. By the end of 2014, public sector banks (PSBs) had controlling shares of 73 percent of total bank assets and liabilities, 77% of total deposits, and 76% of total loans (Table 3), and they account for approximately 68% of the country's bank branches (Press Trust of India, 2013). State dominance over Indian PSBs has remained strong throughout the years. A discussion article released by the Reserve Bank of India (RBI) in 2013 still emphasized that "an optimal (government) ownership mix in the banking sector is required to promote a balance between efficiency, equity and financial stability" (RBI, 2013).

State ownership of banks can create problems of bureaucracy, corruption, and inefficiency that hinder and are biased against

Table 1: Financial sector size of India and China

Ratio to GDP	India			China		
	2000	2009	2014	2000	2009	2014
Central bank assets	0.08	0.02	0.004	0.02	0.05	0.005
Bank deposits	0.42	0.64	0.75	1.04	1.58	1.84
Stock market capitalization	0.36	0.9	0.61	0.38	1.00	0.36
Private bond market capitalization	0.00	0.05	0.06	0.07	0.19	0.39

Sources: CEIC. Handbook of statistics on Indian Economy 2013-2014. Morgan and Mario (2012), Strengthening Financial Infrastructure. Asian Development Bank Institute Working Article 345, February. GDP: Gross domestic product

Table 2: Breakdown of Chinese banks and their asset shares (2003-2013)

Banks	2003 (%)	2013 (%)
State controlled commercial banks	75.7	78.5
Policy banks and china development bank	7.7	8.3
Rural credit cooperatives	9.6	5.7
Others (include city banks)	7.1	7.6

Source: CEIC

growth of private enterprises. Government interventions that interfere with the lending process further create distortions that prevent banks from allocating capital efficiently. For example, the Chinese government set deposit ceilings and lending floors before the interest rate liberalization. From 2010 to 2014, the net interest margins in China stayed in a narrow range of 2.5-2.77% while cost-to-income ratios also remained stable between 28% and 35% (Figure 1). SCCBs benefited from cheap capital and guaranteed profit margins, and therefore had little incentive to innovate or to provide better services to consumers.

Public or state owned banks have no motivation to take prudent risks. China's SCCBs lend primarily to large SOEs, because SOEs are backed by the state and considered as safe investments. A disproportionate amount of loans go to SOEs year after year, reaching a record of 85% in 2009 (Cary, 2013). On the other hand, the private sector, especially the small and medium enterprises (SMEs), are considered too risky and thus have limited access to capital from China's official banking system. Such discrimination continues even though more than 60 percent of China's SME owners prefer bank loans as their first choice of financing (KPMG 2014a). With little access to bank lending, SMEs have to either use internal funds or seek out expensive loans from unofficial financial channels. In 2015, for example, the private lending rate in Wenzhou was almost four times that of the official lending rate (Figure 2). Such a high cost of capital severely inhibits private sector growth in China.

Banks are strategically important tools for the Chinese and Indian governments to support economic growth. Government interventions of banking activities in both countries are severe. For example, Indian banks face governmental policy constraints as they are required to lend 40 percent of loans to the "priority sector" to support the rural and poor, to maintain 21.25% of statutory liquidity ratio (SLR) in the form of government securities, and to maintain a 4% of cash reserve ratio (CRR) with the central bank (RBI, 2015). Hence, most loans in India are made based on governmental regulations and directives (The Economist, 2013).

Similar to banks from other emerging nations, banks in China and India are well protected by the states. As a result, many foreign banks have not been able to expand in these countries as domestic banks are insulated from foreign competition. For example, Indian's Bank Nationalization Act of 1980 restricted foreign shares in domestic banks to 24% (Chakrabarti, 2005). Chinese banks also have similar caps on foreign ownership with foreign investment restricted to no more than 20% for a single investor, and to 25% for all foreign investment (Leigh and Podpiera, 2006). Some restrictions have been gradually relaxed over time, as evidenced by both countries now allowing the existence of wholly owned foreign banks; however, various regulations and bureaucratic practices continue to limit the competitiveness of foreign banks in these emerging markets. By the end of 2014, foreign banks accounted for <2% of total market share in both countries (KPMG 2014a; KPMG 2014b).

2.2. Common Challenges: Rising Bad Debt

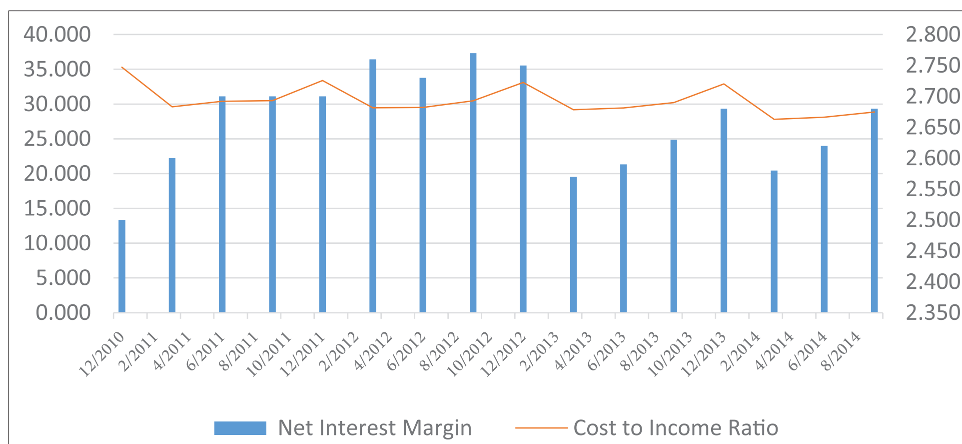
In contrast to their peers in the Western countries, Indian and Chinese banks have been tasked with implementing important social policies and fulfilling political agendas. In the former communist China, banks were assigned with maintaining maximum employment by providing capital for SOEs. In former socialist India, banks were tasked with enhancing social equity by financing rural development and establishing programs for the poor. Some of these social responsibilities still remain today. Consequently Chinese and Indian banks have, from time to time,

Table 3: Porportions of public and private sector banks to total banks in India

Year	Public sector bank asset %	Public sector bank liability %	Public sector bank deposit %	Public sector bank loan %	Private sector bank asset %	Private sector bank liability %	Private sector bank deposit %	Private sector bank loan %
2004	74	74	78	73	19	19	19	20
2014	73	73	77	76	21	21	19	19

Source: CEIC

Figure 1: Net interest margin and cost to income ratio in China



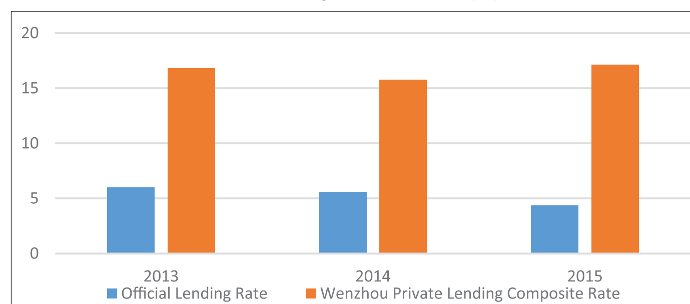
Source: CEIC

accumulated an alarming amount of NPLs. NPLs of Chinese banks were above 20% from 2000 to 2003 (Figure 3), primarily related to SOE lending. In like manner, India's NPLs mainly accumulated from the government's mandated priority lending policies to support rural areas and the impoverished. Their statistics are not as horrendous as China's, but were still menacingly high being in the low double digits in the early 2000s.

To prepare their over-burdened banks for market competition and reform, both governments recapitalized their banks with large infusions of capital. Starting in the 2000s, the Chinese government began to clean up the NPLs of its four largest state owned banks, bolstering them with an injection of RMB 2.4 tn of fresh capital (Naughton, 2007. p. 464). India also infused its banks with capital, but in a more continuous fashion. By 1999, the Indian government had infused a total of Rs. 20,446 Crore to recapitalize its nationalized banks. By 2004, the infusion increased to Rs. 22,516 Crore. During the GFC, the government infused nearly Rs. 3,100 Crore as tier-I capital in PSBs to keep them afloat (Shanker et al., 2009).

After these efforts, both governments put their banks under constant surveillance and strict liquidity and reserve requirements. As a result, NPLs of Chinese and Indian banks had remained low until they began to rise to an alarming level again in recent years. China's debt to GDP ratio reached 248% in 2014. Most of this debt was in the corporate sector, as the proportion of bad debt has been growing fastest with loans to SOEs and real estate developers being the most insolvent. NPLs of Chinese banks were 1.75% at the end of March 2016, a safe number on the surface, yet the true value of bad debt is unknown since a large amount of distressed loans was not included in the official data. According to the brokerage firm CLSA Ltd., China's bad debt accounted for 15 to 19 percent of bank loans in 2015. The firm also estimated that the government may have to inject RMB 10.6 tn of new capital, or 15.6 percent of GDP, to stabilize the banking system. In addition to such a direct bail out effort, the Chinese government has explored various innovative solutions in trying to resolve this debt crisis. In 2015, up to RMB 4 tn ($612bn) and RMB 1 tn ($152 bn) was approved for the debt-to-bonds and debt-to-equity swaps respectively (Don, 2016), in which banks trade troubled borrowers' short term loans for long term bonds and/or write off their bad debt in exchange for equity. These measures have received less than overwhelming support as they only delay problems and will leave banks with complications of maturity mismatch and depress their profits for years to come. Furthermore, China's state-controlled asset management companies have been busy buying up banks' bad debts-the same way they did when rescuing the big four banks in the early 2000.

Figure 2: Comparison of Wenzhou private lending rate and official bank lending rate in China (%)

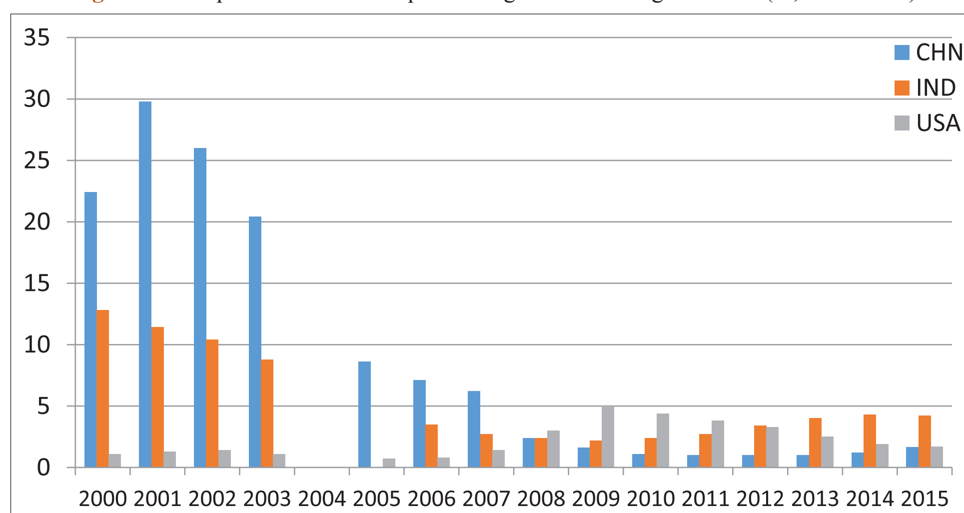


Source: CEIC. All rates are for 1 year maturity

Indian banks have been facing a similar problem of rising nonperforming assets (NPAs). 178 out of 500 of the largest listed non-financial Indian companies failed to make interest payments in first quarter of 2015 (Choudhury, 2016). Some companies that invested heavily in infrastructure, steel, and power, for example, have been in deep financial trouble due to low commodity prices and regulatory delays. As of September 2015, PSBs carried 5.1% of NPAs and 11% of stressed assets (Nair, 2016). More NPAs will be disclosed in the near future as the RBI ordered banks to clean up their balance sheets before March 2017.

As they have done many times before, the Indian government has been continuously infusing their banks after GFC. During

Figure 3: Comparison of bank nonperforming loans to total gross loans (%, 2000-2015)



Source: World Bank

2011-2014, the government infused a total of Rs. 49,717 Crore for PSBs to maintain adequate capital margins. In January 2015, it followed with another Rs. 6,990 Crores injection to nine banks to meet BASEL III requirements (Goyal, 2015). In 2016-17 budget, it announced that it will allocate another Rs. 25,000 Crore to recapitalize PSBs to bail them out of bad debt (Nair, 2016). In addition, the Indian government has also come up with a debt to equity swap scheme to help banks further cope with NPAs.

In summary, Chinese and Indian banks share many common characteristics as emerging market banks. They monopolize relatively isolated domestic financial sectors and are protected from global competition. Both bank systems have gone through substantial reforms and have become more commercialized during the past three decades; nonetheless, state and public owned banks still dominate most banking activities. Since these public/state banks still carry certain social and political responsibilities and their lending is largely directed by the state, NPLs/NPAs often rise as a consequence of inefficient allocation of capital. Currently, rising bad debts have reached dangerous levels and has becoming a common threat to both economies.

3. DIFFERENCES BETWEEN INDIAN AND CHINESE BANKS

As much as they have in common, Chinese and Indian banks are significantly different. Most of their differences can be traced and attributed to their unique political roots and reform paths.

3.1. Socialist versus Capitalist Bank Reforms

China is a socialist country. China's socialist market economic reforms are top down and strategically planned. China's one party government has maintained a tight grip on its banking system, making their banks the largest in the world and capable of channeling sufficient capital to the economy. Bank reforms in China, however, have fallen behind its economic reforms, resulting in a large and fast growing shadow banking sector that poses a serious threat to its financial stability. By comparison, India is the world's largest democratic country and its financial reforms were initiated earlier than China's and are more advanced, providing India's banking system with a stronger institutional framework and making them more efficient and less vulnerable.

India has among the oldest banks in Asia which are more mature and offer a wider range of products and services than do Chinese banks. The Bank of Hindustan, for example, was established in 1770, and the RBI was founded in 1935. RBI later became the central bank of India. India's early economic reforms, while plentiful, had been a bumpy ride at best. The reforms of Indian's bank system is a typical example of India style "on again, off again" reform. Since gaining its independence in 1947, India has nationalized their banks twice, attempting "to increase banks' support for economic growth using government ownership to reduce their vulnerability to connected lending, to force rural branching to encourage small savers, and to contribute to planned growth and equitable distribution of credit, particularly to small scale industry and farmers" (Dobson, 2007. p. 4). Starting in 1969, the Indian government nationalized fourteen of the largest commercial banks that held 85 percent of the country's total bank deposits. Again in 1980, the government further nationalized eight more commercial banks which allowed the state to control over 91% of country's banking business. However, since 1991, India has implemented a series of structural wide economic reforms which include privatization and commercialization of its banking industry. The 1991 reform has been active and ongoing ever since.

Due to strong opposition from both politicians and public banking unions, the Indian government decided not to privatize existing PSBs during the reforms, but instead allowed for the entry of private banks to increase market competition. In 1993, six private banks and three foreign banks were granted licenses (Dobson, 2007). In 2014, RBI cautiously granted licenses to two more private banks while announcing that it will gradually provide more bank licenses in the near future (Choudhury and Pandey, 2014). Growth of India's private banks has been promising. The market share of private banks, as measured by low cost deposits, increased from 3.5% in 2000 to 17.7% in 2015 (BNP Paribas Investment Partners, 2015). Currently, India has a total of 27 PSBs and 22 private banks.

In comparison, Chinese banks are younger. They also went through extensive reforms, but at a later time and with a different reform strategy. Commercialization of Chinese banks only began in 1995; 17 years after China's widespread real sector reforms that began in 1978. Different from India's reforms that emphasizing new private bank entrance, China's banking reforms have focused on privatizing existing state-owned banks while maintaining them as an instrument of the government's economic policy.

After the communist party took control of China in 1949, the People's Bank of China (PBOC) was responsible for capital allocations for the newly minted command economy. During the early stage of the economic reform in 1978, China's financial system was diversified to meet the rapid demand of economic growth. Stock and bond markets were established and the PBOC became the central BOC. Four of the largest state owned banks – Industrial and Commercial BC (ICBC), China Construction Bank (CCB), Agriculture BC (ABC), and BOC - subsequently took over the PBOC's depository and lending functions and have since dominated the country's banking activities. Since the early 2000s, the government has recapitalized the big four state-owned banks and positioned them for initial public offerings in the Hong Kong and Shanghai Stock Exchanges. These banks are now State-Controlled Commercial Banks or State-Controlled Equitized Banks since the Chinese government still owns a majority of shares in these equitized banks, with state ownership ranging from 57% to 83% in 2009 (Martin, 2012).

3.2. Giant Chinese Banks Versus Commercialized Indian Banks

In just 30 years, Chinese banks have grown to become the largest ones in the world with the help of the state. By August 2015, sixteen Chinese banks made into the world's 100 largest banks list, with the big four SCCBs ranked among the top five largest banks in the world. In fact, ICBC has been the world's largest bank (by

assets) for 4 years in a row from 2012 to 2015. In contrast, although Indian banks are relatively consolidated with their top 10 banks accounting for more than 50% of the total industry (Indian Brand Equity Foundation, 2013), only their largest one, the State Bank of India, made into the world's top 100 banks list in 2015 - coming in 58th based on total assets (SNL Financial, 2015).

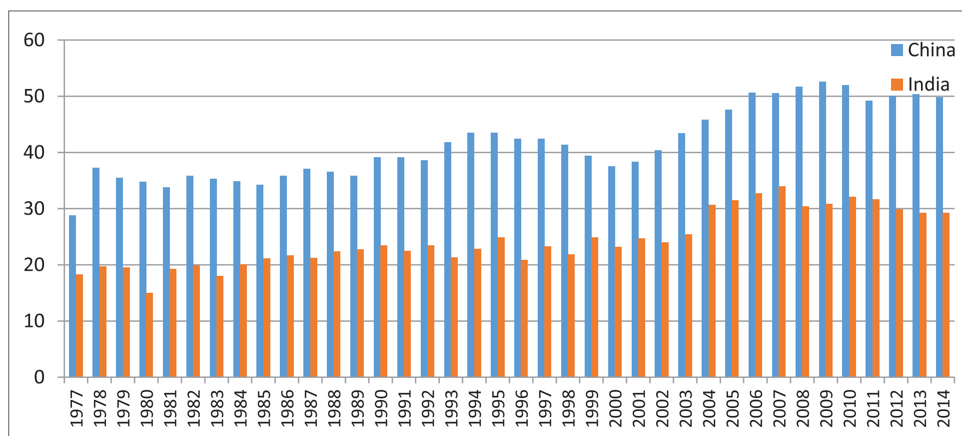
Chinese banks are also the biggest players in channeling funds between domestic savers and borrowers. Their focus is mainly on traditional financial intermediations of collecting deposits and making loans. Chinese banks command sufficient capital resources and have been able to transform most of the nation's vast savings into deposits, and then into loans, with a majority of those loans going to SOEs.

Rapid economic growth has increased household income and savings in India as well. India's savings rate has risen and reached an averaged 29% of GDP since 2000; yet it is still lower than China's 47% of GDP (Figure 4). Since India has a more developed financial system, investors have opportunities to invest in alternative financial assets such as mutual funds and insurance instruments. They also prefer to accumulate gold and other real assets. Indian banks must compete for limited capital and their lending capacity is further restricted by priority lending requirements and the holding of government securities. Thus, Indian banks' capability of financial intermediation is much lower than that of their Chinese peers. Domestic credit provided by Indian banks was only 74.8% of GDP in 2014, less than half of the 169.2% provided by Chinese banks (Figure 5).

Nevertheless, Indian banks are more commercialized and more efficient compared to China's banking giants. A democratic government and more than three decades of banking reforms have given Indian banks a better financial infrastructure, which includes: Well-developed rules and regulations, liberalized interest rates, fully converted capital accounts, and free floating exchange rates. These institutional frameworks allow Indian banks to operate in a more market-based and competitive environment, enabling them to provide better financial products and services for their clients.

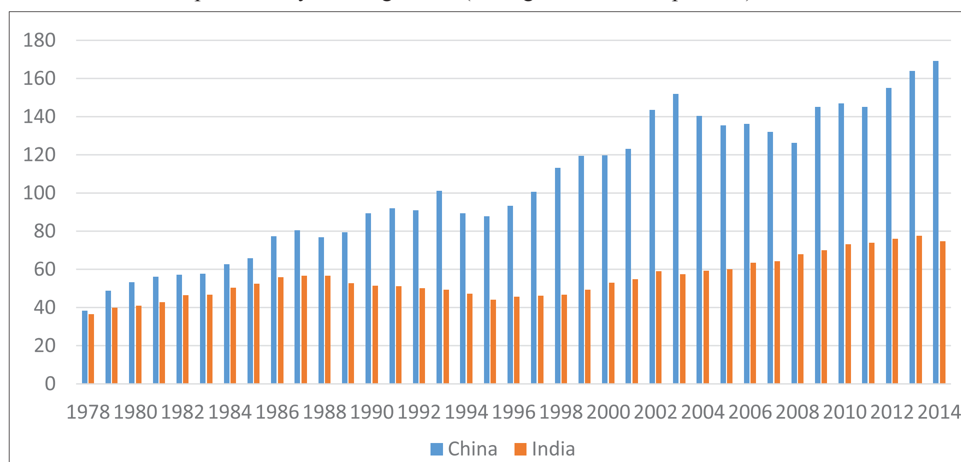
At first glance, Chinese banks appear to be more profitable than Indian banks as they consistently earned higher returns on assets and equity (Figure 6); however, such levels of profitability are mainly from an "administrative monopoly"- the monopoly power granted by authority rather than by financial strength earned from market competition (Wu, 2013). For example, large SCCBs had

Figure 4: Gross domestic savings (% of gross domestic product) of India and China



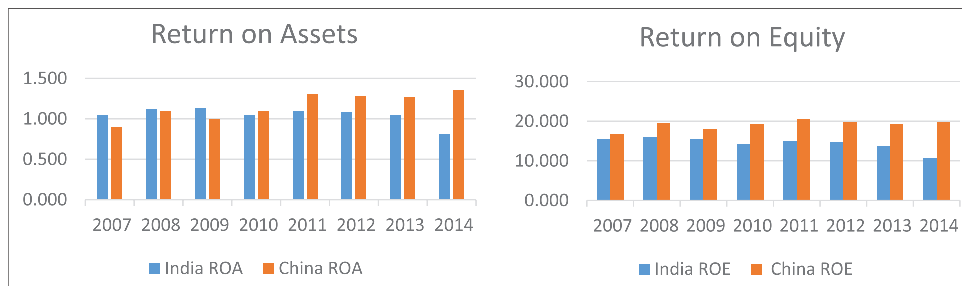
Source: World Bank

Figure 5: Domestic credit provided by banking sector (% of gross domestic product) in India and China



Source: CEIC

Figure 6: Comparison of profitability of Indian and Chinese Banks



Source: CEIC

been earning guaranteed profit margins as the Chinese government controlled interest rates until 2015. With their sheer size and "administrative monopoly" power, China's SCCBs were sheltered from competition, solidly "profitable" and "too-big-to-fail." As expected, large SCCBs' profitability has been gradually falling after interest rates were liberalized.

When considering other measurements besides profitability and size, Indian banks are in fact more commercialized, providing better services, and are more financially sound and stable. A survey conducted in 2009 indicated that the banking industry in India was already healthier than that in China. Indian banks' regulatory framework, risk management, credit quality, and technological systems were all rated better than the banks of the other BRIC nations especially those of China (FICCI, 2010).

Indian banks have consistently had a better financial regulatory infrastructure than their Chinese counterparts. India's strength of legal rights index scores have always been higher than those of China's (Table 4), indicating that Indian banks provide a higher level of legal protection for both borrowers and lenders. In comparison, China has some of the lowest levels of legal lending protection and so is in need of significant improvement. India also excels in providing a high level of transparency with better credit information to help borrowers and lenders to make better decisions. This is reflected in India's strong Depth of Credit Information Index, an index that measures the rules affecting the scope, accessibility, and quality of credit information available (Table 5). Even though there was more lending made in China, the quality of such lending is less than optimal as credit information is less readily available which may have caused inefficient allocation of capital in China.

The banking system in India is also relatively more stable than that in China. Chinese and Indian banks are expected to meet BASEL III standards in 2018 and 2019 respectively, but Indian banks are better positioned to do so with their consistently higher capital-to-asset ratios (Figure 7). Even though India currently has a huge capital demand due to its fast economic growth, it is disciplined to maintain a high level of capital in the banks to meet BASEL III standards. In order to help India's financial system to become more stable, RBI further ordered banks to clean up their bad loans before March 2017. With more capital injections by the government, loans to equity swaps, and allowing failed companies to bankrupt, the clean-up mandate will further prepare Indian banks' readiness for BASEL III. Another sign that India has a stronger bank system is

Table 4: Strength of legal rights index (0=weak to 12=strong)

Country name	China	India	United States
2013	4	6	11
2014	4	6	11
2015	4	6	11

Source: World Bank

Table 5: Depth of credit information index (0=low to 8=high)

Country Name	China	India	United States
2013	6	7	8
2014	6	7	8
2015	6	7	8

Source: World Bank

that personal loans have a higher potential for default for Indian banks; however, SOEs pose a higher default risk for Chinese banks. With SOEs' sheer size and importance in maintaining employment and social stability, their potential failures may pose a risk of widespread social and economic turbulence.

In conclusion, the differences between Chinese and Indian banks are mainly determined by their political roots and unique reform paths. China's banking reforms have lagged behind its real economic progress. Even though state owned banks have been privatized, the majority of their loans still go to SOEs since the government remains as the banks' majority shareholder and policy maker. Chinese banks are young but gigantic and are the main tools the government uses to steer its economy. By comparison, Indian banks are smaller but have a longer established history, and they are more commercialized and financially stable due to India's democratic political system and competitive market environment.

4. CURRENT UNIQUE CHALLENGES

Looking forward, China and India both have a long way to go before having fully commercialized banking systems and highly efficient financial markets. Besides both their banks are now facing mounting bad debt, each has to deal with its own unique challenge in this journey.

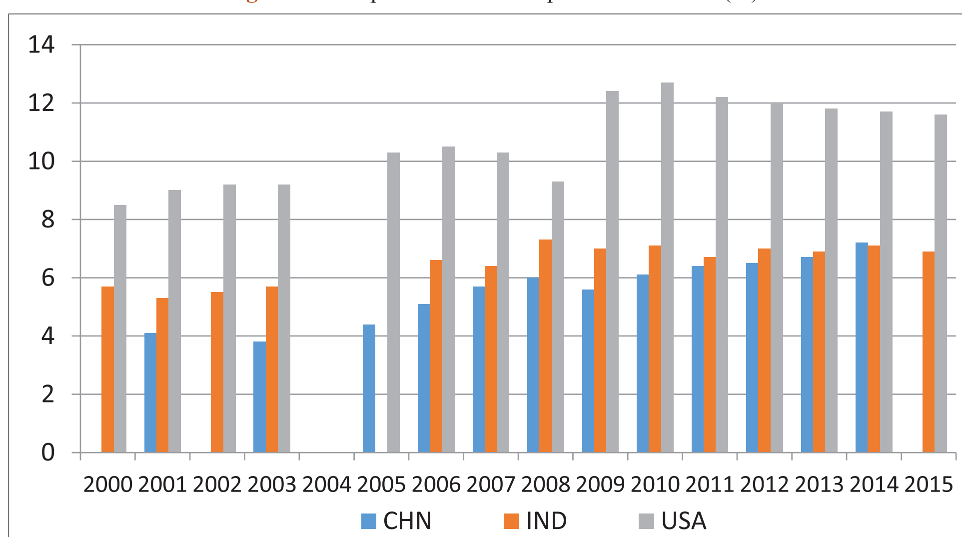
4.1. China: Shadow Banking

The biggest threat to China's banking, even the entire financial system, is its large and expanding shadow banks.

China is currently a socialist country that still wants to depend on SOEs to grow its economy. The responsibility of SCCBs, which are still largely state-owned and controlled, has historically been to provide capital to SOEs. Consequently, the growth of shadow banks, also known as non-bank financial intermediaries that engage in credit intermediation (GFSR, 2014), has accelerated to fill the gap of unmet demand, especially demand from SMEs in the private sector. With rapid growth of China's private industry, shadow banks have ballooned in size and scope quickly. In just 10 years, documented shadow bank lending as a proportion of China's total social financing - a measure of new credit extended to the economy, increased significantly from 7.7% in 2003 to 29.9% in 2013. This increase occurred while official bank lending decreased from 87.8% to 54.8% during the same period (Table 6). Other than documented shadow institutions, there is also a fast-growing undocumented sector that is non-transparent and even more "shadowy." Chinese government data for this underground channel is unavailable. The International Monetary Fund estimated that this informal shadow sector to be approximately RMB 2.5-3.5tn, or 6-8% of China's GDP in 2012 (GFSR, 2014). Adding together both documented and estimated undocumented or underground shadow institutions, several investment banks estimated that total shadow bank lending accounted for between 26% and 57% of China's total GDP in 2014 (Buitelaar, 2014). According to CLSA, shadow lending hit approximately RMB 40 tn at the end of 2015, or about 59 percent of GDP (Don, 2016).

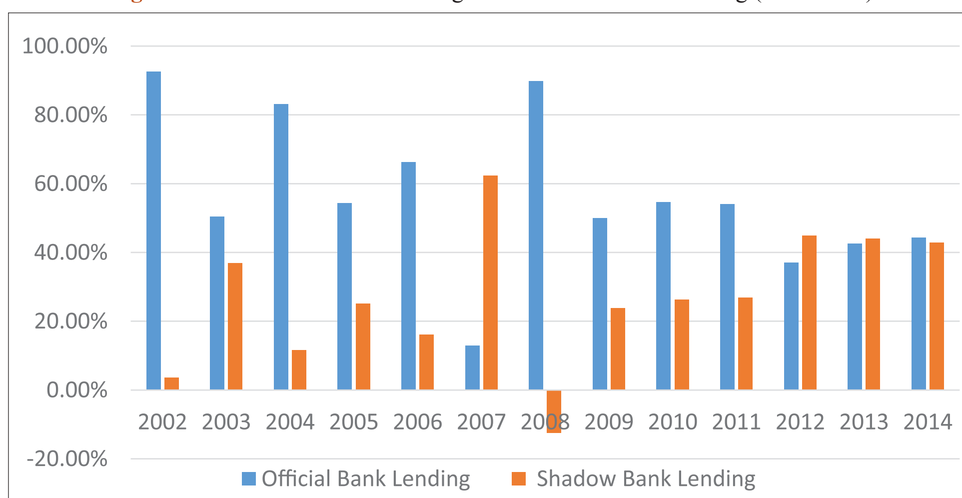
A unique yet dangerous characteristic of China's shadow banks is that they provide direct credit extensions to the economy. In 2002, new shadow lending was 3.6% of total new loans, only a fraction compared to new official loans that was 92.6%. But the situation changed dramatically just 1 year later when new shadow loans jumped to 36.9% of total new lending. Growth of shadow loans reached a peak in 2007, accounting for 62.4% of new lending, and then plummeted into negative territory in 2008. Shadow bank lending has since bounced back to above 40% since 2012 (Figure 8).

Figure 7: Comparison of bank capital to asset ratio (%)



Source: World Bank

Figure 8: New shadow bank lending vs. new official bank lending (2002-2014)



Source: CEIC

Table 6: China's social financing flow (2003 vs. 2013)

% of total	Official bank loans	Shadow bank financing	Corporate bonds	Non-financial institutions equity	Other
2003	87.8	7.7	1.5	1.6	1.4
2013	54.8	29.9	10.4	1.3	3.6

Source: CEIC

China's shadow banks help fund unmet demand that official banks have ignored or are incapable of fulfilling. But they also pose a serious threat to China's financial stability due to their explosive growth, large size, and extensive intertwined relationships with official banks, local governments, and the real estate sector (Buitelaar, 2014). To address the underlying problems and risk caused by shadow banks, Chinese authorities have implemented various regulations and new practices. Hoping to attract capital flows from the shadow sector back into the official banking system, the government even sped up interest rate liberalization, abolished lending floor in July 2013 and deposit ceiling in October 2015. To avoid social unrest and political risk, the government bailed out several troubled trust products that were sold by ICBC and CCB in 2012, and established a special fund to bail out even more trust firms that ran into trouble in 2014, including a 3 billion Yuan product issued by China Credit Trust Co. (Zhu, 2014).

Despite various governmental efforts, China's overall shadow banking activities have further accelerated. Government crackdowns did slow the growth of entrusted loans and trusts, but wealth management products continue to balloon, as have other shadow activities such as asset management plans which reached RMB 18.8tn in 2015, a stunning 70% jump (Lee, 2016).

Relentless growth of China's shadow sector indicates that there is a continuous supply and demand for non-official bank lending: Investors want higher yields and borrowers, such as SMEs and small manufactures, need access to capital. Since shadow banks have been paving the way to market liberalization, the growth of this sector will remain strong. Therefore, the government must gradually find ways to track and regulate both documented shadow institutions and underground lending, making shadow lending more transparent and allow their risk to be priced properly.

4.2. India: Infrastructure Financing

India's main challenge is to finance its urgent infrastructure needs. India has consistently invested less in its infrastructure when compared to that of China. Infrastructure bottlenecks have restricted India from collecting the demographic dividends it deserves. If it is not properly funded, it will continue to be an obstacle of economic growth well into the future - especially given that India wants to be the next manufacture hub of the world. The World Bank estimated that India's infrastructure need could reach up to $1.7tn by the end of the decade (Andres et al., 2013). In order to catch up with China, India has committed 9 percent of GDP for infrastructure development during 2012-2017. The Union Budget of 2016 announced a record Rs. 2.21 lakh crore toward the infrastructure sector (Datta, 2016). Indian government's efforts in facing its infrastructure demand are well documented, but does it have the ability to finance the capital?

In the past, India's infrastructure has been funded primarily by banks. To encourage banks toward further exposure to infrastructure projects, the government exempts banks infrastructure bond from regulatory targets such as SLR, CRR, and PSL (Foreign and Commonwealth Office, 2014). However, banks are not the right vehicle to finance long-term infrastructure projects due to maturity mismatch problem. Indian banks also don't receive enough funding because there are various other financial institutions compete for shares of capital. Thus, developing a long-term capital market, such as a well-functioned corporate bond market, is essential for infrastructure financing. But India currently doesn't have a mature corporate debt market. The situation has forced the government to call upon the private sector to contribute a significant portion of infrastructure funding– a call about which private lenders have been less than enthusiastic and responsive. In 2006, the India Infrastructure Finance Company Limited was established to facilitate Public-Private Partnership in infrastructure investment. However, the World Bank's ratings of this partnership were overall unsatisfactory (World Bank, 2016), indicating that more assessment and guidance are needed if the government tries to reinvigorate infrastructure financing through Public-Private Partnership now. In addition, some companies that previously participated in infrastructure financing have been burdened with large amounts of bad debt. In fact, the infrastructure and construction sectors carried one third of bad loans in the beginning of 2015 (Mallet and Crabtree, 2015). Such poor performance may further hamper infrastructure growth and funding options.

Due to quantitative easing in the U.S. and Europe, India has been able to secure low cost capital from global financial markets. This low rate environment will most likely last for a while for India, yet foreign currency loans, however cheap, come bundled with high political and exchange rate risks. Many factors in international markets can change quickly causing India's borrowing costs to increase unexpectedly. For a capital deficit country like India, finding capital to support growth is an imperative yet daunting task.

5. CONCLUSION AND POLICY IMPLICATIONS

Emerging nations like China and India depend on their banks to fuel economic growth. Bank systems in both countries have much in common and face similar problems, yet they are also significantly different with each having unique challenges in key areas. Isolated financial systems that are heavily dominated by state owned and controlled commercial banks are a common theme for emerging nations. Since their economies are not yet fully developed, banking systems tend to be rather weak and in need of protection. However, as India's and China's economies continue to expand, their banking systems must also catch up and keep pace with the speed of economic growth. In other words, they must both have a truly commercialized and efficient banking system to support ongoing growth.

Much of the inefficiencies and market imperfections in India and China's banking sectors are self-induced by their respective reform paths that have taken place while adapting to specific

political and economic environments. Explosive growth of shadow banks in China are largely a byproduct of an underdeveloped and overregulated financial system and a socialist regime that favors SOE financing. Further reforms should focus not only on the banks but also on the financial system as whole, gradually untangling the complicated ties between official banks, shadow banks, and governments at all levels. Insufficient infrastructure funding in India can be remedied by having a fully functioning corporate bond market that will help decrease bank dominance and diversify risk. In order to truly release India's growth potential, it must find ways, either domestically and/or globally, to finance its infrastructure needs.

China and India, especially China, have to speed up their banking reforms as they have been lagging behind economic reforms and growth. Both countries would have experienced even faster economic growth if banks were fully commercialized and capital resources were allocated more efficiently without governmental policy distortions. In order to do so, first of all, Indian and Chinese banks should reduce state and public ownership of banks and minimize governmental intervention. Second, they should deepen financial and banking sector reforms, remove government protection of state and public banks and increase competition from both private and foreign banks. Third, both countries should build a credit system that facilitates consumer and trade finance. Currently retail credit penetrations are low and neither country has adequate retail lending and credit assessment systems. With economic booms and the rise of a middle class population, Chinese and Indian banks have great growth potential in consumer lending, especially in consumer financing of automobiles, mortgages, gold purchases, and various durable goods. Forth, successful banking reforms should also focus on providing adequate financial infrastructures such as clearing and settlement systems for derivatives markets, and on enhancing institutional frameworks such as regulation, governance, tax, and legal systems which will better ensure smooth operation of banks. India has once again stepped ahead of China in confronting these problems as in 2014 it drafted the Indian Financial Code to address financial regulatory issues[1]. Finally, India and China should have better clarified roles for their central banks. Both central banks have claimed to be fairly independent, nonetheless, the PBOC has been setting rules that help fulfill government agendas and the RBI still guides bank expenditures to fund government policies and manage deficits. Having truly independent central banks will help improve the overall health of both countries' financial systems.

There is much that both countries can learn from each other's successes and shortcomings, as China and India continue to be the world's two leading economic growth engines. It is, therefore, critical for their isolated and lagging financial sectors to be even further reformed and for their inefficient banking systems to be improved to better service consumer and business needs. There is also a demand for banks in India and China to become more integrated with the global financial system to facilitate global trade and international growth. Future reform policies must be cautious and prudent in order to strike just the right balance between financial openness and financial stability. Both countries and the world have a lot to gain by China and India having healthy banks to support and fuel sustained economic growth.

1 See Patnaik and Shah (2014) "Reforming India's Financial System" for more details of IFC.

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