The Financial Labyrinth

Your Guide To The Maze

China's financial system has grown almost five-fold and seen a proliferation of players and products over the past decade. We try to impose order on chaos and explain how the system works.

Since the global economy was brought to its knees by the freezing up of the US financial system in 2008, China has become the market that financial analysts love to worry about. And no wonder: China's leaders responded to the slump in global demand by enabling a credit splurge of world-historic proportions. Total credit, stable at less than 150% of GDP in the years before the crisis, has surged to more than 260% of GDP. To create this boom, China deregulated its formerly stodgy financial system with alarming speed.

Once a simple arena where a handful of big state banks dispensed loans to state-owned enterprises, China's financial sector has become a labyrinth where a growing number of banks and non-banks (trust companies, brokerages and asset managers) keep inventing new financial gizmos (wealth management products, asset management programs, trust benificiary rights) that ultimately wind up in the hands of companies and households as loans.

Safer than it looks

The speed of credit growth, the proliferation of financial institutions and financial products, and the chaotic and fragmentary data, make it reasonable to fret that China is on the verge of a catastrophe like the one that sank the US in 2008. Close study has persuaded us that this is not so: the system remains securely funded by a huge pool of bank deposits, and the state competently controls enough of the main actors that the risk of

Financial system assets by institution, 2007

Institution type	Assets, RMB trn	Share of total, %
Banks	52.59	85.9
Policy	4.39	7.2
Big Five	28.00	45.7
Joint-stock	7.25	11.8
City commercial	3.34	5.5
Rural	5.61	9.2
Others	4.00	6.5
Asset managers	0.00	0.0
Trusts	0.96	1.6
Insurance companies	2.90	4.7
Mutual funds	3.03	5.0
Hedge funds	0.00	0.0
Securities	1.73	2.8
Total	**61.22**	**100.0**

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nationwide implosion in the next few years is modest. But the system's complexity and fragmentation mean that the chance of localized financial accidents is now uncomfortably high.

This issue of the *CEQ* is an attempt to bring clarity to this mystifying landscape. This article describes the financial system's current structure; subsequent pieces explain the deregulations of the past dozen years, analyze the ways banks turn ordinary loans into shadow finance, and argue that the condition of the major banks is not as dire as the pessimists proclaim.

No longer just a few big banks

We can analyze the transformation of China's financial system from two angles. One is the diversification of financial institutions. The first two tables show institutional holdings of financial system assets in 2007 and 2016. They show that China remains a bank-dominated system, but less so than a decade ago. The bank share of financial-system assets has dropped from 86% to 72%.

The position of the Big Five state-owned banks has eroded most dramatically. In 2007 they controlled nearly half of system assets; that share is now down to less than 30%. Conversely the smaller banks—and in particular the city commercial banks—have grown like topsy and enjoyed a significant market-share gain. The institutions that have gained at the banks' expense are asset managers, trusts and hedge funds. In 2007 asset

Financial system assets by institution, 2016

Institution type	Assets, RMB trn	Share of total, %	Market share change, 2007-16, pp
Banks	232.25	72.1	-13.8
Policy	22.94	7.1	-0.1
Big Five	86.60	26.9	-18.9
Joint-stock	43.50	13.5	1.7
City commercial	28.20	8.8	3.3
Rural	29.90	9.3	0.1
Others	21.11	6.6	0.0
Asset managers	34.48	10.7	10.7
Trusts	17.46	5.4	3.9
Insurance companies	15.12	4.7	0.0
Mutual funds	9.16	2.8	-2.1
Hedge funds	7.89	2.4	2.4
Securities	5.79	1.8	-1.0
Total	**322.14**	**100.0**	-

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managers and hedge funds were basically non-existent; and trusts (quasi-banks that are subject to less stringent prudential rules than regular banks and often finance riskier and higher-yielding projects) accounted for less than 2% of system assets. By 2016 these three types of institutions controlled RMB60trn in assets, an amount equal to the size of all financial system assets in 2007, and 19% of system assets today.

As the third article in this report explains, the spectacular growth of asset managers and trusts is largely the result of their role as conduits for shadow lending: loans that banks want to move off their balance sheets in order to comply with regulatory requirements such as capital-adequacy or loan-to-deposit ratios. Roughly half of trusts' and asset managers' activity is this kind of shadow lending. Much of the rest consists of investments in the bond, equity and money markets.

Smaller banks grow the fastest

Within this institutional framework, a closer look at the evolution of the banks is warranted, since despite all the changes of the last decade they remain the core of the system, and the ocean of deposits they control remains the principal source of funding for the system as a whole. Here the story is simple: the big banks have lost market share to the small ones.

In 2007, the Big Five state-owned banks (Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China,

Banking system assets, 2007

Bank type	Number	Assets, RMB trn	Share of total, %
Policy	3	4.39	8.4
Big Five	5	28.00	53.2
Joint-stock	12	7.25	13.8
City commercial	124	3.34	6.4
Rural	8509	5.61	10.7
Others	224	4.00	7.6
Total	**8877**	**52.59**	**100.0**

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Bank of China, and Bank of Communications) accounted for 53% of bank assets; by 2016 that figure was down to under 37%. The next layer consists of the 12 "joint-stock" banks. These banks operate nationally or at least across several regions, have diversified shareholding, but are effectively state-controlled (one of them, Minsheng Bank, is sometimes described as private but the high proportion of state shareholders makes this debatable). The joint-stock banks were established in the 1990s as nimbler competitors to the Big Five. Their share of bank assets has increased from 14% to 19% since 2007.

But this understates their growth: they are the most enthusiastic issuers of non-capital guaranteed wealth management products (WMPs), which sit off balance sheet because the issuing bank does not have to refund buyers' capital if the product makes a loss. Joint-stock banks have issued non-guaranteed WMPs equal to a quarter of their combined balance-sheet assets.

The most explosive growth, however, has come at the 134 city commercial banks: their market share doubled to 12%, and in absolute terms their assets grew nearly seven-fold in 2007-16 to RMB28trn. Their astonishing balance-sheet growth has depended on especially aggressive use of two tactics: borrowing funds on the interbank market to supplement their meager deposit bases, and reclassifying loans as "investments," which allows them to skirt prudential rules and lend a lot with relatively little capital, while also making low provisions for bad loans.

This reliance on non-deposit funding and shadow lending channels to disguise their loan books means that the city banks are probably the riskiest banks in China. But it is hard to know for sure because only 15 are publicly listed, and aggregating financial data for the rest of them is a cumbersome chore. Even less visible are the thousands of rural commercial banks, many of which were assembled from the older rural credit cooperatives that once dotted China's countryside. Like the city commercial banks,

Banking system assets, 2016

Bank type	Number	Assets, RMB trn	Share of total, %	Market share change 2007-16, pp
Policy	3	22.94	9.9	1.5
Big Five	5	86.60	37.3	-16.0
Joint-stock	12	43.50	18.7	4.9
City commercial	134	28.20	12.1	5.8
Rural	3782	29.90	12.9	2.2
Others	471	21.11	9.1	1.5
Total	**4408**	**232.25**	**100**	-

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they command about 13% of banking assets and have grown rapidly over the past decade. But only five are publicly listed.

From really boring to rather less boring

The other way to look at financial diversification is to break down the system by type of asset, rather than by institution. Here again there is a straightforward story.

In 2007, China's credit universe was extremely boring: 63% of it consisted of bank loans, and virtually all of the rest consisted of the most vanilla sorts of bonds: Chinese government bonds (CGBs) issued by the central government, quasi-sovereign bonds issued by the three government-owned policy banks (China Development Bank, Export-Import Bank and Agricultural Development Bank) and corporate bonds issued mainly by large SOEs. About 8% of system assets were short-term bills issued by the central bank to withdraw cash from a system that otherwise would have faced huge inflationary pressure because of inflows from China's burgeoning trade surplus.

A decade later, it is not quite so boring. Bank loans are still the largest component, but "shadow lending" via non-bank intermediaries has emerged as an important channel of finance, almost as large as corporate bond issuance. Together, bank loans and shadow loans account for about two-thirds of all credit assets. (Note that in this analysis we consider only the final credit instruments that deliver funds to borrowers. Many instruments that are often discussed in media reports, such as wealth management products and trust products, are "wrappers" that bundle up depositor funds and then invest them in loans, bonds or the equity market. The third article will explain how these work. Also note that total

Financial assets by type, 2007

Asset type	RMB trn	Share of total, %
Bank loans	27.77	62.9
Shadow loans	-	
Bonds	12.70	28.8
China government (CGBs)	4.94	11.2
Local government	-	-
Policy bank	2.88	6.5
Other financial institutions	0.34	0.8
Corporate	4.54	10.3
PBOC bills	3.66	8.3
Total	**44.13**	**100.0**
Total non-equity financial assets, % of GDP	163	
Equities, RMB trn	*32.72*	
Equities as % of GDP	*121*	

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credit measured this way is a net figure, eliminating the double counting that arises when two or more institutions are involved in the creation of a single loan.)

In relative terms the bond market is about the same size (30% of total credit assets) but its composition has changed, mainly because of the rapid growth of local-government bonds, which were first allowed in 2015 and now account for nearly 6% of all credit assets and close to 20% of total bond issuance. In just two years, the stock of local government bonds went from zero to RMB11trn, almost as much as the stock of CGBs. The corporate bond market has also diversified beyond its original small group of SOE issuers and now accounts for about 11% of total credit.

In the rest of the fixed-income market, bills issued by the People's Bank of China have disappeared, as inflationary pressure moderated after the 2008 financial crisis and the authorities became more relaxed about letting trade surpluses be recycled via private-sector capital outflows. But a couple of new instruments have emerged. Negotiable certificates of deposit (large denomination certificates of deposit tradable on secondary markets), first permitted in 2015, have become a popular way for the joint-stock banks to raise short-term funds, and now comprise 3% of credit assets.

Asset-backed securities (ABS) have also begun to be issued, but their volumes so far are (in Chinese terms) negligible. Given the huge volume of assets that could potentially be securitized (mortgage loans, revenue streams from infrastructure projects, and so on), the bottomless desire of

Financial assets by type, 2016

Asset type	RMB trn	Share of total, %	Market share change 2007-16, pp
Bank loans	112.06	57.5%	-5.5
Shadow loans	17.20	8.8%	8.8
Bonds	58.77	30.1%	1.4
China government (CGBs)	12.10	6.2	-5.0
Local government	10.85	5.6	5.6
Policy bank	12.40	6.4	-0.2
Other financial institutions	1.86	1.0	0.2
Corporate	21.56	11.1	0.8
PBOC bills	0.01	0.0	-8.3
Negotiable certificates of deposit	6.28	3.2	3.2
Asset-backed securities	0.65	0.3	0.3
Total	**194.95**	**100.0**	-
Total non-equity financial assets, % of GDP		262	
Equities, RMB trn		*50.84*	
Equities as % of GDP		*68*	

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banks to move loans off their balance sheet to make way for new lending, and the need of local governments to find steady sources of income not dependent on land sales, ABS could well become a major source of growth in China's credit markets in the next few years.

The incredible shrinking stock market

A final observation relates to the stock market. Here our choice of comparison years is not quite fair: at the end of 2007 the equity market was just past the peak of an epic boom, so its value relative to the credit system was on the high side. Conversely at the end of 2016 the market had not fully recovered from its epic crash of mid-2015, so its relative value now may be on the low side.

Nonetheless, the general trend is clear: China's financial markets are dominated by debt, and becoming more so. In 2007 the stock market's capitalization of RMB33trn was nearly triple the size of the bond market, and about three-quarters of the combined value of all credit assets. By 2016 the RMB51trn equity market was smaller than the RMB59trn bond market, and was worth just over one-quarter of all credit assets.

It is possible that this trend has peaked. Since March 2017 the authorities have launched a fierce campaign to rein in the riskier forms of debt, with shadow lending and local-government borrowing the main targets. The government is also at least rhetorically committed to a policy of "deleveraging."

Importantly, this does *not* imply an intent to reduce the aggregate debt-to-GDP ratio, which stood at 262% at the end of 2016, up more than 100 percentage points from a decade earlier. Rather the main focus is for heavily indebted state–owned enterprises to shore up their debt-to-equity ratios, mainly by raising new equity rather than paying down their debt. Yet if these initiatives are sustained, the breakneck growth of debt could slow down, the pace of equity issuance could rise, and the stock market might gain some ground on the credit behemoth.

A Short History Of Financial Deregulation

By Chen Long

Financial deregulation has seen a cartel of national state-owned banks give way to a bewildering array of local banks, non-bank lenders, wealth management products and loans disguised as investments. Regulators are tightening their grip, yet so long as Beijing demands high-speed growth, it will have to tolerate some financial misbehavior.

Over the past 10 years China's financial system underwent a massive transformation. The behemoth state-owned commercial banks lost market share to smaller joint-stock and city and rural commercial banks, which grew their balance sheets aggressively by disguising an ever greater share of their loans as trust products, asset management programs and wealth management products. Non-bank financial institutions such as trust companies and asset managers sprouted and became important links in a lengthening chain of financial intermediation.

Why did this happen? The answer is straightforward. First, liberalization was enabled by a decentralized regulatory system, in which authority was fragmented among the central bank and the insurance, securities and banking regulators. Second, the government's desire to maintain a high rate of economic growth (at least 8% during the Hu Jintao years; at least 6.5% in the Xi Jinping years) required fast credit growth.

Under these conditions, financial institutions had a strong incentive to create as much credit as they could by whatever means possible, and the fragmentation of regulations made it possible for banks to get around these barriers by regulatory arbitrage: masking loans (subject to the pru-

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dential rules of the banking regulator and central banks) as investment products to which the securities and insurance regulators might turn a blind eye. The lobbying power of financial institutions was also an important driver of deregulation.

The past decade has therefore been either a golden age of financial innovation or a lawless Wild West of risk-taking. Either way, this age may be nearing its end. In recent months financial regulation has tightened and become more centralized under a more powerful central bank. Opportunities for financial arbitrage are shrinking as government starts to worry more about containing financial risk than supporting economic growth. How the tradeoff between regulatory vigilance and GDP growth will play out during the next slowdown remains to be seen.

The "Glass-Steagall" wall crumbles

Until the early 2000s Chinese banks simply took deposits and made loans, and were subject to severe restrictions that also served as protections against financial risk. The banking regulator—the People's Bank of China (PBOC) until April 2003; the China Banking Regulatory Commission (CBRC) thereafter—set a hard limit on how much the banks could increase their loan books by every year, and the commercial banking law required banks to cap their loan books at 75% of their deposit base.

Banks were prohibited from owning any non-bank financial institutions—especially brokerages—in effect replicating the segregation of financial activity that the US imposed, under its Glass-Steagall Act, from the 1930s through the 1990s. Finally, banks enjoyed steady cash flows from the fat net interest margin guaranteed by the PBOC-set floor for loan interest rates and ceiling for deposit rates.

> With government worries about financial risk on the rise, opportunities for financial arbitrage are shrinking

This safe and static picture began to change in 2005, with new rules permitting banks to dabble in other lines of financial business and to raise funds other than traditional deposits. In February 2005 a joint regulation of the PBOC, CBRC and China Securities Regulatory Commission (CSRC) allowed commercial banks to set up mutual-fund subsidiaries—the first crack in China's "Glass-Steagall" separations. Subsequent rule changes allowed banks to own trust firms. In September, the CBRC issued guidelines on wealth management products. Banks could now start raising funds at rates higher than allowed for regulated deposits.

Major banking regulatory changes

1995	Commercial banking law sets loan-to-deposit ratio at 75%
2003	CBRC separated from PBOC
2004	First WMP
2005	CBRC officially approves WMP business
2007	CBRC issues trust product guidelines
2009	Big stimulus and expansion of WMPs and trusts
2011	PBOC scraps loan quota and publishes total social finance
2012	CSRC approves fund management subsidiaries
	CSRC approves broker asset management
2013	Interbank crunch; CBRC tackles FAPR
2015	Interest rates fully liberalized
	Revised banking law
	75% loan-to-deposit ratio removed
2016	PBOC introduces MPA
2017	Regulatory centralization

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Banks were quick to climb through the breach in the "Glass-Steagall" wall and load up on non-bank subsidiaries. ICBC, CCB and Bank of Communications set up mutual fund units in 2005. In June 2007, BoComm acquired 85% of the total shares of a Hubei trust firm, setting a precedent for bank ownership of trusts. From 2009, the CBRC permitted banks to own insurance companies.

And while the rules still formally prohibit banks from owning brokerage firms, many have found ways to do so, usually via their overseas subsidiaries. Moreover, three big financial conglomerates—CITIC, Ping An and Everbright—gradually gained approval to operate all types of financial businesses. By 2010, China's "Glass-Steagall" separations between different types of financial business were effectively dead.

The rise of wealth management products

Wealth management products (WMPs) got started even before the CBRC formally authorized them. Everbright Bank piloted the first local currency WMP in July 2004, offering a 2.18% annual return, slightly above the then 1-year benchmark deposit rate of 1.98%. After regulators gave the green light for all banks to issue WMPs, a frenzy began during the 2006-07 stock market boom. IPOs surged, and betting on stock debuts became a profitable trading strategy. Banks and trust companies collaborated to market WMPs whose proceeds were used to subscribe to IPOs. This particular strategy ended with the stock-market collapse of late 2007, but it laid the groundwork for the subsequent rapid expansion of trusts.

The easiest way for trusts to expand their reach was through banks, whose branch networks gave them a strong distribution channel. The CBRC's regulatory guidelines for trusts, issued in January 2007, put no limit on trusts raising funds through bank branches, and in that year alone trusts' assets under management nearly tripled, from RMB360bn to RMB960bn. After the stock-market bubble popped, banks and trusts shifted their attention to structuring credit for borrowers who had difficulty getting formal bank loans. Trust firms simply acted as intermediaries to channel funds from banks to borrowers, charging a small commission of 20-30 basis points (0.2-0.3%).

These trust loans, along with WMPs, became the key components of the first phase of shadow banking in China. WMPs and other trust products offered returns more than two percentage points higher than regulated deposits, so they became very popular among banks' corporate and household clients, who began to shift their money out of savings accounts and into WMPs. From the banks' point of view, the funding provided by WMPs is similar to time deposits. The only difference is that instead of being funneled into regular bank loans, some of this WMP cash was transferred to trusts and other non-bank channels which deployed them in higher-yield lending.

Regulatory Whac-a-Mole: Act I

The emergence of WMPs marked the start of interest-rate liberalization. At one level, financial regulators were content with these higher-yield alternatives to bank deposits, since they achieved the goals of rate liberalization (better pricing of risk, more options for savers) without the need for a politically tricky formal deregulation of deposit rates. But they were also shocked by the speed with which WMPs and trust loans exploded, so they decided to rein things in a bit.

In 2010 the CBRC put in new rules making it harder for banks simply to route funds directly to trusts. The next year, the PBOC began to publish data on "total social financing" (TSF), which included lending by trusts and other shadow banking activities, and quickly replaced the outdated bank-loan data as the main indicator of national credit conditions.

The restriction on bank funding of trusts worked for a few quarters, but by mid-2011 financiers found their way around this obstacle. Trusts developed their own distribution networks, and banks continued to funnel money to trusts, classifying their transfers as "financial assets purchased for resale," a type of investment. Regulators turned a blind eye, since by late 2011 the emphasis in macro policy had shifted from containing financial risk to supporting economic growth, and the authorities did not want to do anything that would constrict the supply of credit. Trust assets grew explosively, reaching RMB10trn by the end of 2013, a 30-fold increase in just seven years.

Asset managers get in on the act

Trusts were stars of the financial industry and other players wanted to get a slice of their business. In October 2012, the CSRC deregulated the asset management business of brokerage firms. And soon enough brokerages copied the trust model and started to take money from commercial banks to extend credit. They took market share from the trusts because they faced lighter regulation by the CSRC than the CBRC imposed on the trusts, and were willing to charge much lower fees to pick up business. Assets under management of brokerage firms sextupled from RMB282bn to RMB1.9trn in 2012, and kept growing rapidly in the following years.

The CSRC made another deregulatory move in late 2012, allowing mutual fund firms to set up special accounts and fund-management subsidiaries to manage money from third parties. The main difference between the two is that special accounts invest in the capital markets while fund-management subsidiaries mainly invest in credit claims. The first three fund-management subsidiaries were established in November 2012. Unsurprisingly, they adopted the same business model used by trusts and brokerage asset managers: channeling funds from the banks. Some fund managers have a natural advantage, because their parent companies are commercial banks.

Shortly after these deregulations, in April 2013, the new administration of Xi Jinping initiated another monetary policy tightening cycle to rein in credit growth, which had soared to 22% year-on-year in the final months of the Hu Jintao administration. In the beginning, the CBRC announced further restrictions on WMPs investing in "non-standardized" credit claims (credit instruments not traded on public markets—in essence, loans). This was a blow to trusts as they were the major channel for this type of WMP.

In June 2013, the interbank market suffered its first major squeeze. The PBOC withdrew liquidity and pushed up money-market rates in order to discourage banks from borrowing cheap short-term money to fund long-term high-yield credit assets. The interest rate on popular overnight repurchase agreements spiked to 13%. The high rate meant the money market basically froze up; and some worried that China had hit its

"Lehman moment," similar to the collapse of US money markets after the bankruptcy of Lehman Brothers in 2008.

The PBOC calmed things down by injecting fresh liquidity into the interbank market. The authorities shifted to the use of administrative tools, rather than monetary policy, to tighten the reins on shadow finance. In May 2014, the financial regulators issued a joint regulation that effectively prohibited banks from classifying loans to non-banks as "financial assets purchased for resale."

Regulatory Whac-a-Mole: Act II

But these restrictions did not end the growth of shadow lending; they merely changed the channel. Unable to push funds to trust firms, banks increased their dealings with the lightly regulated brokerage asset managers and fund-management subsidiaries, recording these transactions as "investment receivables." Credit creation via these channels was tolerated, especially after another monetary easing cycle began in late 2014 and the authorities were more concerned with propping up GDP growth than containing financial risk. By the end of 2016, total assets under management at brokerage asset management, fund special accounts and fund management subsidiaries reached RMB33trn, up five-fold from 2013. These institutions have become a much larger channel than trust firms in extending credit.

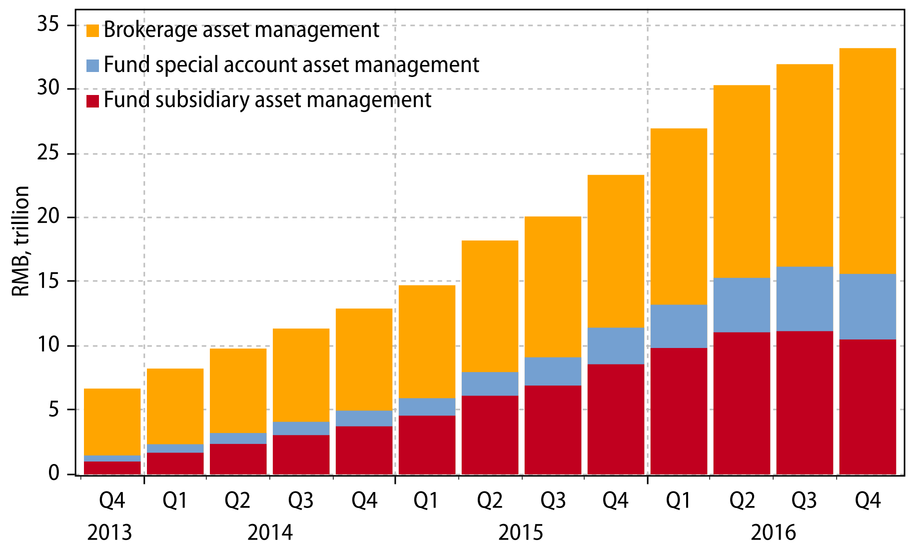
The final group to join the party were insurance companies, which had previously played a bit part in the financial explosion, thanks to a regulation that capped the guaranteed return on their investment products at 2.5%. But in 2015 the China Insurance Regulatory Commission (CIRC) scrapped that rule, igniting a frenzy of new insurance products—so-called "universal insurance products" that were in essence speculative WMPs, rather than traditional insurance policies. Insurance companies' sales of investment products soared from RMB30bn a month in 2014 to over RMB200bn a month in early 2016.

> In 2016, China's leaders decided that financial deregulation had gone far enough

Most of this increase came from little-known private insurance firms such as Anbang, Foresea Life and Evergrande Life, where investment product sales accounted for 75-95% of revenues at the peak of the insurance boom in the first quarter of 2016. (The big state-owned insurers such as China Life were far more restrained, relying on investment products for less than 20% of their revenues.) These private insurers went on gigantic

Asset managers are facing pressure to shrink

Assets under management, by type



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acquisition sprees both at home and abroad, arousing the ire of regulators. CSRC chairman Liu Shiyu condemned them as "financial crocodiles" manipulating the stock market; foreign exchange regulators were alarmed by the huge sums Anbang shipped abroad to finance the purchase of trophy assets such as New York's Waldorf-Astoria hotel.

The end of the deregulatory era?

By late 2016, the Chinese leadership concluded that deregulation had gone far enough, and that the growth of non-loan credit books and other forms of shadow finance had to be brought under control. A series of steps indicated a determination to end regulatory fragmentation and curb risky lending funded by interbank borrowing. The first step was the PBOC's imposition of a periodic macro-prudential assessment on the banking system—effectively a checklist enabling the central bank to fully evaluate each bank's operations.

In March and April of 2017, the CBRC's new chairman Guo Shuqing (who, ironically, had deregulated the broker asset managements and fund businesses as head of the CSRC in 2012) launched a barrage of regulations against financial arbitrage and loans that go through two or more intermediaries. He also ordered banks to report whether they derive more than a third of their funding from other banks, implying that this is the new informal limit for non-deposit funding. Also in April, Xiang Junbo, the

CIRC head who had killed the limits on insurance companies' investment products, was removed in a corruption inquiry; he has yet to be replaced.

This regulatory blitz had an immediate impact. The assets under management of non-bank financial institutions posted their first ever quarterly decline, falling from RMB33.8trn in the first quarter of 2017 to RMB31.6trn in the second. Sales of universal insurance products collapsed.

Underscoring the fact that the authorities intend a systematic overhaul of financial regulation, not just a short-lived crackdown, the once-every-five-years National Financial Work Conference held in July 2017 announced plans to centralize regulation and impose tighter political controls. The conference established a high-level State Council Financial Stability and Development Committee, which will sit above all existing regulators and oversee financial regulatory policy. The PBOC will house the committee's secretariat, giving the central bank the strongest say in the direction of financial regulation.

This move stops short of the oft-discussed option of setting up a single super-regulator to oversee the financial sector, but it is the next best thing. If it works properly, the PBOC-led commission should bring to an end the regulatory competition and arbitrage that has made China's financial liberalization so chaotic.

This is surely a positive move, and will curb financial risk in the short term. The question is how tighter financial regulation will sit with the government's desire for rapid GDP growth, which in turn requires a loose rein on credit creation. For the moment this conflict is submerged, because economic growth accelerated through 2016 and the government's 6.5% economic growth target will easily be met in 2017 even if shadow lending is sharply cut back.

But the present economic boom is driven mainly by a property market supported by mortgage lending, which continues to grow at 30% even as regulators tighten the noose on shadow finance. This cannot last forever. By late 2018 the property market will soften and GDP growth will decelerate again. Will the government be content to let the economy slow to a lower but more sustainable rate, or will it once again ease up on credit controls to boost growth? My bet is that credit growth will accelerate again, through either conventional loans and bonds, or some new shadow channel. The long tug-of-war over financial deregulation is not yet over.

The Financial Labyrinth

Three Sets Of Books

By Chen Long

China's financial system has grown dizzyingly complex, but at its heart sit the banks, which provide most of the funds for shadow lending by non-banks. To assess the system's risks, we need to understand the banks' three credit books: their loans, their "investments" routed through non-banks, and their off-balance-sheet wealth management products.

The Chinese financial system used to be simple. Banks took deposits and made loans or bought bonds. Non-bank financial institutions (NBFIs) were relatively small, managed money for clients, and either put their money in the banks or invested in the capital markets, which were also fairly small relative to the economy. This business model has changed a lot over the past decade. Chinese banks still lie at the heart of the system, since it is their enormous deposit base that provides the ultimate funding source for most of the credit in the system. But banks now run three distinct credit books, each of which is large enough to be systemically significant. The channels of credit creation have become more diverse, more complex (because two or more financial firms are now often involved in the creation of a single loan), and much harder to regulate.

The first of the three credit books is the traditional loan book, which is still growing steadily and remains the primary source of credit creation for the Big Five large state-owned commercial banks (Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China, Bank of China, and Bank of Communications).

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The second is the investment book, which consists of funds routed to other banks or NBFIs. About half of these "investments" are disguised loans; their form changes periodically as regulators crack down on one channel, and banks and their NBFI partners scramble to open a new one. The investment book has grown much faster than the loan book in recent years and now takes up a large share of the balance sheets of the joint-stock banks and city and rural commercial banks.

The third credit book is the rapidly growing off-balance sheet activity, mainly in the form of wealth management products (WMPs) whose investor capital is not guaranteed. This activity is especially popular among the joint-stock banks: their off-balance sheet WMP book is nearly a quarter the size of their on-balance sheet assets.

Entering the labyrinth

To understand the evolution of banks' balance sheets over the past decade, we examined not only macro-level data from the People's Bank of China (PBOC) and the China Banking Regulatory Commission (CBRC), but also compiled bottom-up data for all the publicly listed banks, of which there were 35 by the end of 2016. The sample of listed banks includes all five state-owned commercial banks as well as the postal bank, nine of the 12 national joint-stock banks, and a few large city commercial and rural commercial banks.

In aggregate this sample accounts for 88% of commercial bank assets in China. The only drawback is that while the big banks are almost fully included, the city commercial banks and rural commercial banks are still under-represented because many are not listed. City commercial banks are 16% of the total commercial banking system but only 8% of the sample, and the representation of rural commercial banks is even lower. From a system-risk standpoint this is not too troubling: all systemically important banks are included. But localized risk in small city and rural banks is harder to quantify with certainty. It is possible that shadow-lending activity is a bigger part of the balance sheet at these small banks, and is backed by more precarious capital resources, than at the listed banks.

The shift from traditional bank loans to investment products has mainly occurred in the smaller banks

The shift from traditional bank loans to investment products has mainly occurred in the smaller banks. The Big Five, which account for about 40% of system assets, run more conservative portfolios, because they are more tightly

Composition of public-listed bank assets by tier, % of total

Bank type	2007 Loans	2007 Investments	2007 Other	2016 Loans	2016 Investments	2016 Other
Big Five	48	19	33	52	11	37
Postal	N/A	N/A	N/A	35	33	33
Joint-stock	54	21	25	44	28	28
City commercial	47	19	36	34	37	29
Rural institutions	53	6	40	40	23	37
Subtotal: Joint-stock, city & rural banks	53	20	27	42	30	28
All listed banks	**49**	**19**	**32**	**47**	**19**	**33**

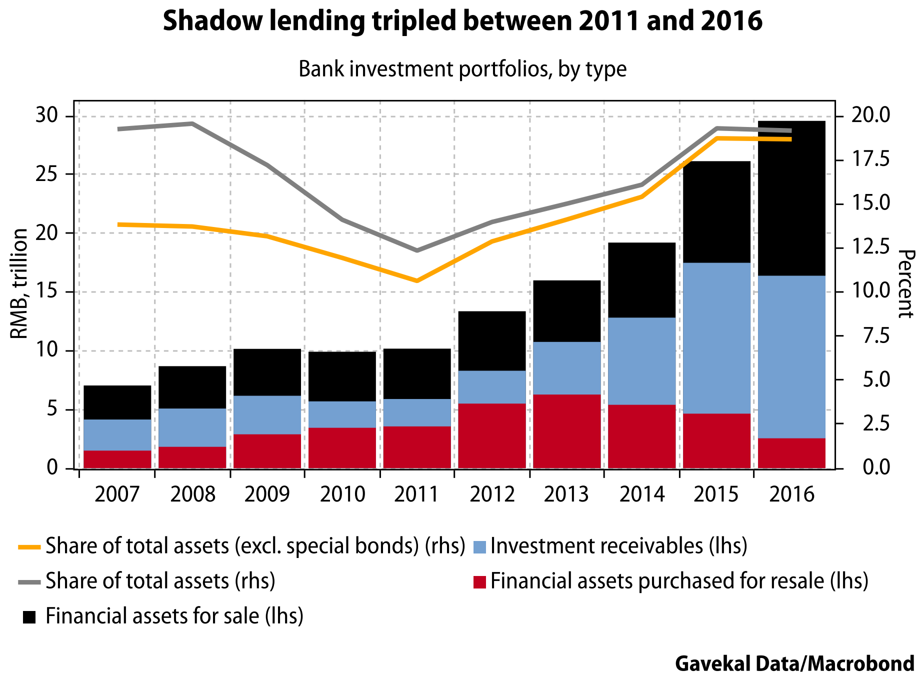
"Other" includes reserves, trading books, long-term bond holdings, loans to other banks, and fixed assets.

PBOC, CBRC, Gavekal Dragonomics research

regulated: the liquidity they provide through the interbank market is the first line of defense against banking sector problems. Bank loans accounted for 52% of their assets in 2016, a slightly higher share than in 2007. For all other types of banks, the loan share has fallen by at least 10pp, to well under half.

Conversely, the share of investment assets at the Big Five has shrunk sharply since 2007, although this is slightly misleading. Starting in the early 2000s, the big banks held as "investment assets" a lot of special bonds issued by the state-run asset management companies and the Ministry of Finance (MOF) as a result of the bank system bailout and recapitalization process of 1998-2004. Many of these bonds were retired on maturity and so have dropped off the balance sheet, reducing the big banks' overall investment portfolios from 19% to 11% of their assets. If we exclude these special bonds, then the size of the big banks investment books fell only slightly to 10% from 12% of assets in 2007-16. Even so, it is clear that the big banks have not used their investment portfolios to bulk up their balance sheets.

At the smaller banks, though, investment portfolios have exploded, and now account for a quarter of the balance sheet at joint-stock and rural banks. At city commercial banks the investment portfolio is 38% of the combined balance sheets, bigger than the loan portfolio. For the three types of smaller banks in aggregate, investments rose from 20% of assets in 2007 to 30% in 2016. In absolute terms they soared more than tenfold, from RMB1.6trn to RMB16.5trn, during the same period. Loading up on investments has been the key mechanism by which city and rural banks have expanded their share of the banking-system pie. Some of these investments are actually equity or fixed income investments, but about half are really credit instruments—i.e. *de facto* bank loans that make up part of the shadow-banking universe.



Shadow channel #1: financial assets purchased for resale

Banks classify their investment portfolios under three anodyne headings: "Financial Assets Purchased for Resale (FAPR)," "Investment Receivables (IR)" and "Financial Assets for Sale (FAS)." Each has taken a turn as the preferred channel for shadow lending; and in each case after a heyday of two or three years they became the target of regulatory scrutiny and tightening. In aggregate they tripled between 2011 and 2016, to RMB30trn, and now make up 19% of the listed banks' balance sheet.

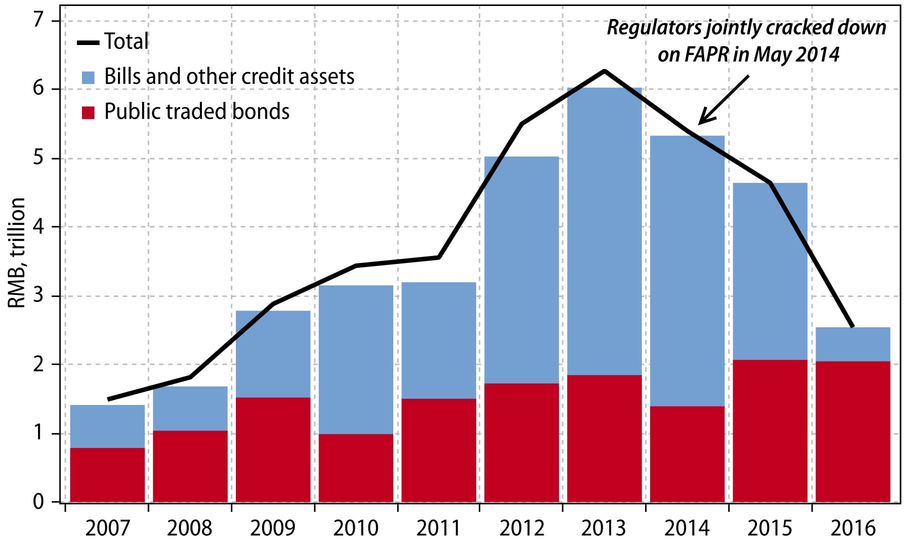
Until 2009, virtually all of the investment assets held by banks were simply bond holdings. Starting in about that year, however, banks began to use their investment portfolios to extend credit. The main reason to do so was to evade various regulations that limited banks' ability to grow their loan books. One such regulation was the statutory maximum loan-to-deposit ratio of 75%, which was only eliminated in 2015. Until 2011 banks were also subject to annual loan quotas set by the PBOC.

Even after banking rules were liberalized and these quantitative restrictions were removed, banks still could be crimped by capital-adequacy rules that compel them to maintain a capital base of at least 8% of their risk-weighted assets. Banks deemed "systemically important" faced even tougher capital requirements.

The way to get around this is to shift your assets into ones that carry a lower risk-weighting and hence a lighter capital charge. A corporate loan

Shadow investments bought for repurchase have collapsed

Financial assets purchased for resale, by type



Gavekal Data/Macrobond

has a risk-weighting of 100%, meaning that a bank must back each $100 in loans with $8 of capital. Investments often have risk-weights of 25% or below, meaning that the capital required to back $100 falls to $2 or less.

Banks first began to play this game of shifting costly loans into cheaper investments with FAPR—that is, assets bought under a repurchase agreement. FAPR includes short-term bills as well as various kinds of "non-standardized assets," meaning credit instruments that are not publicly traded. The best known of these are "trust beneficiary rights" (TBR), or a claim on the returns of an underlying asset arranged by a trust company.

A simple TBR example is as follows: Bank B tells Trust C to set up a trust product to provide credit to Company D. Bank B invests in this product, but immediately sells the claim on the returns on the trust asset to Bank A. In effect, money from Bank A is being used to finance a loan to Company D. But Bank A's balance sheet does not show a loan to Company D; it shows an "investment" (risk-weighted at 25%) in a TBR sold to it by Bank B. Bank A is usually an institution with a fast-growing loan book but a relatively small capital base. It has an incentive to disguise loans as TBRs or other kinds of investments so it can lend as much money as possible with as little capital as possible.

In 2007, total FAPR were around RMB1.5trn, or 4% of total bank assets; more than half of these holdings were bonds. Over the next six years, FAPR assets quadrupled to RMR6trn, of which nearly three-quarters were non-bond assets. Of these non-bond assets, a bit more than two-thirds were bills and the rest were credit assets such as trust beneficiary rights. In 2013, the peak of the FAPR craze, these assets accounted for 6% of the total banking system balance sheet, and 13% of the assets of joint-stock banks.

By 2014 the authorities fretted that these practices were getting out of control. In May that year, five regulators including the PBOC and CBRC jointly issued a regulation limiting the kinds of assets that could be counted as FAPR. Over the next two years FAPR holdings collapsed to RMB2.5trn, by which point they constituted less than 2% of total bank assets. The vast majority of these assets are bonds; bills and trust beneficiary rights are at their lowest level in over a decade.

Shadow channel #2: investment receivables

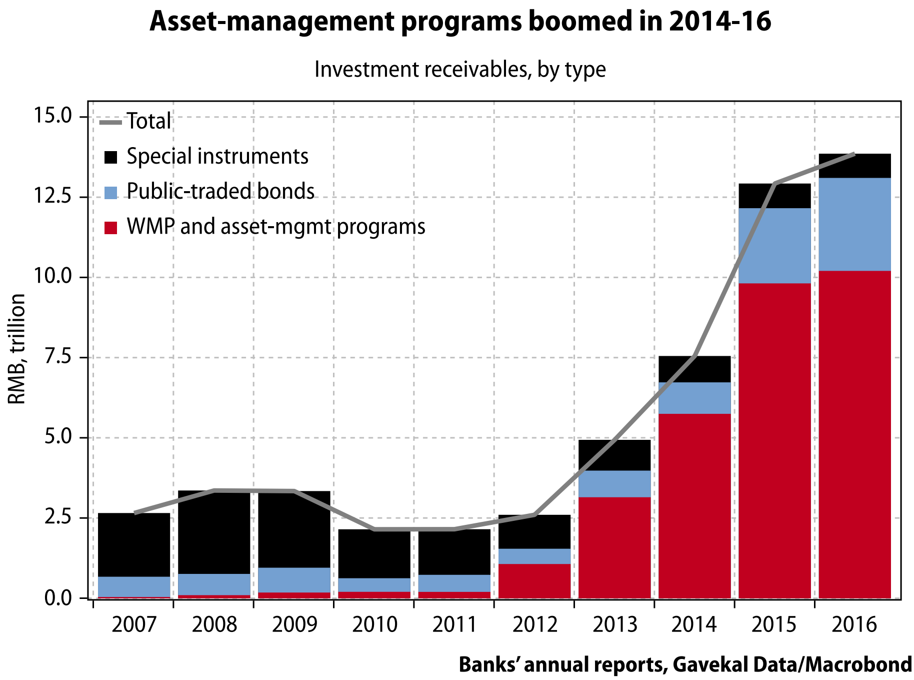
But by the time regulators started to crack down on FAPR, banks were already on to a new scheme: classifying loans as "investment receivables." Up through 2011, most of these assets were "special instruments" issued by the government, and sat on the balance sheets of the big state-owned commercial banks.

There were three main types of special instruments. The first was a set of bonds issued by the Ministry of Finance, used to inject new capital into the banks as they restructured and prepared for listing. They peaked at RMB2.6trn in 2008, when the MOF injected RMB665bn into the Agricultural Bank of China.

The second was a set of bonds issued by the four state-owned asset management companies (AMCs) set up in the late 1990s to take bad loans off the state banks' balance sheets. The banks transferred bad loans to the AMCs (at face value in the initial round, and at a discount in later rounds); in return they received bonds issued by the AMCs.

The third category were special central bank bills issued by the PBOC after 2005 to sterilize liquidity in the banking system as China's twin current-account and capital surpluses brought large inflows of foreign exchange. (If these inflows had simply gone into the domestic money supply, they would have driven up inflation. PBOC prevented this by forcing the big banks to buy its sterilization bills, thereby removing excess cash from the system.)

At their peak in 2008, investment receivables consisted almost entirely of these instruments, and 96% of them sat on the balance sheets of the big state-owned commercial banks, where they accounted for 9% of assets. At the smaller banks, they were less than 2% of assets and consisted mainly of holdings of publicly-traded bonds.



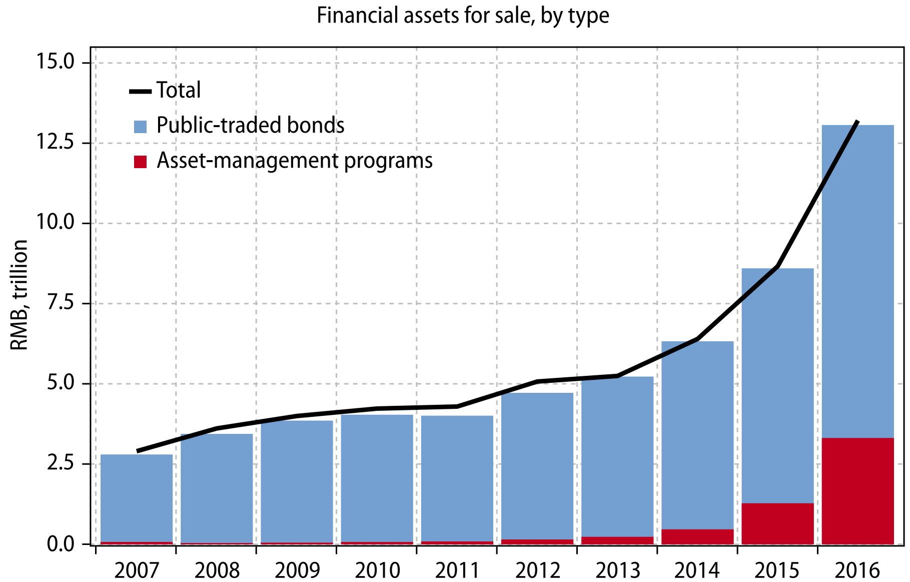
Over the next several years, investment receivables declined both in absolute terms and as a share of bank balance sheets, because the MOF and AMC bonds matured or were paid off by their issuers, and because the PBOC wound down its sterilization bill program. But in late 2012, regulatory changes prompted a boom in a new kind of investment receivables business, this time at the smaller banks.

The brokers get into the act

At the end of 2012, regulators permitted fund management companies to set up subsidiaries and special accounts to make investments, and made it much easier for brokerages to set up asset-management accounts for their clients. The effect of these new rules was that banks could now pump money into fund managers and brokerages, ostensibly as "investments" in asset-management programs. They recorded these transactions on their balance sheets as "investment receivables." In many cases, however, the fund managers and brokerages used this money to extend loans to companies.

The use of investment receivables jumped from late 2012 on, thanks to this liberalization. But it really took off in 2014, when the regulatory crackdown made it much harder to use FAPR to disguise shadow loans. By the end of 2016, investment receivables totaled nearly RMB14trn, or 9% of the banking system balance sheet. About three-quarters were

Financial assets for sale are a new channel for shadow financing



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in various asset-management programs (including wealth management products and asset-management programs of trust companies).

These instruments are overwhelmingly used by the joint-stock and city commercial banks, rather than by the big state-owned commercial banks. Investment receivables account for just 2% of the assets of the Big Five, but 18% and 21% of the balance sheets of the joint-stock and city commercial banks respectively. But after four years of explosive growth, asset management programs barely grew at all in 2016, and it is likely that tougher regulations by the CBRC will force banks to reduce their investment-receivables exposures in 2017.

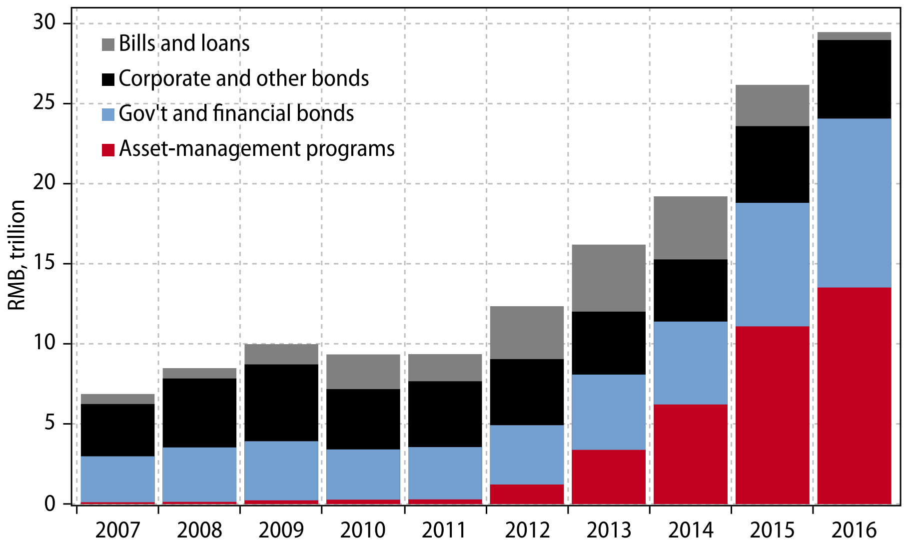
Shadow channel #3: financial assets for sale

Yet, once again, as regulators constrict one channel of shadow finance, another one opens up. As it becomes harder for banks to classify their holdings of WMPs and asset-management programs as investment receivables, they may start shoving them into the category "financial assets for sale" (FAS). Like investment receivables and FAPR, these count as investment holdings; they differ from FAPR in that there is no repurchase agreement, but they are considered "for sale" because they are bought for trading purposes rather than with the intention of being held to maturity.

As with the other two categories of investment holdings, FAS started out consisting mainly of publicly traded bonds, but since 2015 has mor-

Asset-management programs make up nearly half of total investments

Investment assets, by type



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phed into a dumping-ground for "investment products" that disguise shadow loans. By the end of 2016, RMB3.3trn of banks' total RMB13trn in FAS were non-bond assets, of which more than a third are the WMPs, asset-management programs and trust products that have historically been classified as investment receivables. Another RMB2trn are investments classified as "equity products." But make no mistake: a lot of them are money market funds or asset management programs.

Once again, the smaller banks are the biggest users of this device: FAS account for 15% and 13% of the assets of city commercial and rural commercial banks respectively. As FAPR is no longer viable, and investment receivables are the target of tighter regulation, FAS will likely become the main channel for hiding shadow credit.

In summary, despite the periodic efforts of regulators to crack down on the use of "investment assets" to disguise loan activity, the practice continues to grow, with new channels opening up each time the authorities constrict an old one. The three types of investment assets of listed banks grew from RMB7trn in 2007 to nearly RMB30trn in 2016, and while their share of the total listed banks' balance sheet has remained steady at around 19%, the composition has shifted dramatically.

As late as 2011, most investment assets were publicly-traded bonds of government agencies or state-owned financial institutions. By 2016, though, asset management programs of various stripes accounted for 46%

of investment assets, and the bond share was down to 52% (short-term bills accounted for the rest). According to data from the Asset Management Association of China, about two-thirds of asset management programs ultimately feed into loans; the remaining one-third are invested in the domestic capital markets.

Going off the balance sheet

Apart from loans and investments, banks have a third credit book: their off-balance-sheet lending. There are two main types of off-balance-sheet credit. The first includes various items recorded under "commitments" and "contingent liabilities" in the footnotes of the audited annual reports, primarily bank acceptance bills and entrusted loans. A bank acceptance bill, also called a banker's acceptance, is an instrument issued by a bank which accepts the responsibility to make payment upon maturity, even if the customer for whom the acceptance was issued has not repaid the bank. An entrusted loan is a loan between two companies, for which the bank acts as an intermediary and makes a guarantee.

Both acceptance bills and entrusted loans are included in the PBOC's "total social finance" measure of aggregate credit, so we have a good sense of their system-wide volumes and don't have to estimate them via listed banks. By the end of 2016, the combined value of entrusted loans and acceptance bills combined was RMB19trn in the banking system. Letters of credit (similar to acceptance bills) are also sometimes considered as off-balance-sheet credit, but their volumes are too small to be important.

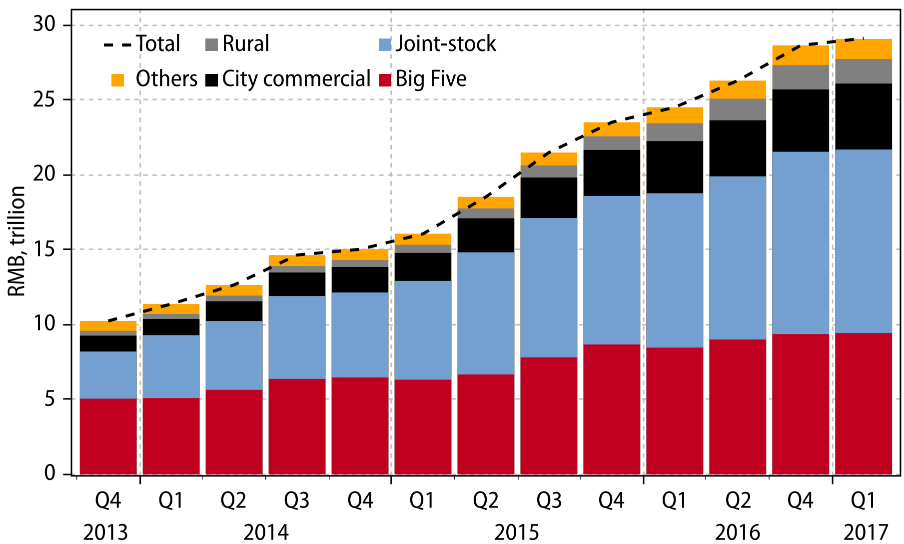
The second type of off-balance-sheet channel is non-guaranteed wealth management products. WMPs exist both on- and off-balance sheet. The difference is that on-balance-sheet WMPs guarantee the return of principle, making them a liability of the bank. WMPs for which principal is not guaranteed can be kept off the balance sheet.

The main reason to bulk up on off-balance-sheet instruments is to avoid regulations. They do not count in the calculation of loans for capital adequacy purposes. And the money that investors put in does not count as deposits either, so banks do not need to put aside required reserves to cover them. As with the various categories of investment products, off-balance-sheet WMPs are especially favored by smaller banks: they are equivalent to a quarter of on-balance-sheet assets at the joint-stock banks, and 15% at city commercial banks.

Our bottom-up calculation shows that total off-balance-sheet WMPs at the 35 listed Chinese banks amounted to RMB20.6trn at the end of 2016. For the system as a whole, the 2016 *Wealth Management Annual*

Off-balance-sheet WMPs have exploded

Lending via wealth management products, by bank type



Gavekal Data/Macrobond

Report issued by a subsidiary of the China Central Depository & Clearing Company and authorized by the CBRC, found that off-balance-sheet WMPs were RMB23.11trn—four times the amount of on-balance-sheet WMPs. Despite their lack of a principal guarantee, the default rate so far has been very low: just 0.05% of all WMPs recorded losses in 2016.

Off-balance-sheet WMPs fund a wide range of activities. Of their total value, about one-third recirculates within the financial system, going into bank deposits or money market funds. Of the remaining two-thirds, 44% goes into the bond market, 17% funds "non-standardized credit assets" or loans, and 6% goes into equity investments.

Beware the smaller banks

Summing up our tour through Chinese commercial banks' three credit books, we can make the following generalizations:

- The traditional loan book is still growing steadily and remains the primary source of credit creation for the Big Five state-owned commercial banks.
- The investment book—about half of which actually consists of disguised loans—was the main mechanism by which city and rural commercial banks expanded their share of banking assets over the past decade, and it was also used extensively by the joint-stock

banks. It now constitutes about 30% of the total assets of these smaller banks based on the listed banks' data.

- Off-balance-sheet exposures—mainly acceptance bills, entrusted loans and non-guaranteed WMPs—have risen from about RMB3trn a decade ago to RMB42trn, equivalent to 19% of the balance-sheet assets of the whole banking system.
- For the joint-stock and city commercial banks, the credit they create through their investment and off-balance-sheet portfolios is probably as great or greater than their traditional loan portfolio.
- The most obvious risk posed by this activity lies with the city commercial banks and joint-stock banks, which may not have enough capital to cover losses that might arise from their investment and off-balance-sheet exposures, and which increasingly rely on the interbank market, rather than deposits, for funding.
- The regulatory stance toward the rapid growth of the investment and off-balance-sheet portfolios has generally been one of tolerance, punctuated by occasional crackdowns on specific practices.

The big question now is whether the severe regulatory tightening against shadow lending launched in March 2017 is just another short-lived campaign, or signals a turn to more stringent regulation that will permanently curb banks' ability to hide loans in their investment books and build up off-balance-sheet activity willy-nilly.

China's Banks Are Better Than You Think

By James Stent

China's banks get a bad rap. But actually they are pretty well run, especially if one understands their twin roles as commercial actors and tools of state development policy.

Reading the incessant warnings of crisis in China's banking system, one can easily miss the fact that the big Chinese banks have become profitable, stable and well-managed organizations. Over the past two decades, China's top 17 national commercial banks, today comprising 60% of total bank assets, have evolved from bureaucratic cashiers into institutions that comply with most international standards of financial management.

They generally adhere to global accounting practices, and to capital adequacy and provisioning rules. They manage risk and reward to strike a balance between earning short-term profits and avoiding long-term losses. And they have reasonably effective corporate governance. In short, they look not much different from modern banks in other major economies.

One reason China's major banks do not get the credit they deserve for their remarkable transformation over the past 20 years is that they operate within the opaque political economy framework governed by the Communist Party and influenced by deep-rooted Chinese cultural and institutional patterns. Yet all banking systems are idiosyncratic, conditioned by national history and serving the interests of national elites.

Moreover, China's banking system is a hybrid, borrowing bits and pieces from Anglo-American, German and northeast Asian models. Financial regulators mixed these ingredients and adapted them to meet their vision

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of China's developmental needs. As a result, China's big banks are broadly modern in function and increasingly responsive to market forces, but not independent of government influence and guidance. They are tools to be used by the Party-state in the collective work of developing national wealth and power. To assess Chinese banks accurately, one needs a full understanding of Chinese banks' twin roles as commercial actors and tools of the state.

Boss Zhu cleans house

The transformation of China's banks from government cashiers to modern financial institutions began in 1998. At that time the financial system consisted basically of four big banks controlled by the Ministry of Finance. Their main job was to provide working-capital loans to state-owned enterprises (SOEs). Owing to China's economic reforms many of these SOEs were effectively bankrupt and unable to repay their debts. Non-performing loans were estimated at 40% of bank system assets.

Newly installed premier Zhu Rongji, who had spent most of the 1990s building a talented team of financial bureaucrats, drew up the blueprint for a modern financial system. The first step was a bailout and restructuring of the four big banks. Their bad loans were transferred, in exchange for bonds, to asset-management companies (AMCs) inspired by the Resolution Trust Corporation (RTC) that the US used to clean up its savings-and-loans mess in the 1980s. The Ministry of Finance injected fresh capital. And bank managers were instructed that their task was to clean up their operations so the banks could list on international stock exchanges. The first of the big four, China Construction Bank, listed in Hong Kong in 2005; the last and most troublesome, Agricultural Bank, finally listed in 2010.

The blueprint for China's modern financial system was drawn up in the late 1990s

Bank reform was not carried out in isolation. Zhu understood that the cleanup would work only if the economy grew rapidly and banks got profitable opportunities to lend. So urban housing was privatized, opening up a market for mortgage lending. SOEs were restructured, reformed and sometimes pushed into bankruptcy, so that banks faced less pressure to pump loans into non-functional companies. China's 2001 entry into the World Trade Organization ignited a phase of rapid growth powered by foreign direct investment and exports. Trade finance and loans to export manufacturers grew accordingly.

At the same time, banks were pressured to improve governance and build capital buffers. The government dispatched teams to study best practices in advanced banking systems. International investment banks and accounting firms worked intensively to improve Chinese banks' management and accounting practices so that they could list in Hong Kong. Perhaps most important, the 2003 establishment of the China Banking Regulatory Commission (CBRC)—headed for its first decade by a skilled banker from Zhu's stable, Liu Mingkang—created an institutional mechanism for forcing incremental improvements in bank management and capital adequacy.

Not accounting magic, just good policy

Zhu's bank cleanup attracted criticism as "accounting legerdemain." In the United States, savings-and-loans banks had transferred bad assets to the RTC at pennies on the dollar, reflecting likely liquidation values. China's banks, by contrast, transferred their bad loans to the AMCs at face value, resulting in massive overstatement of bank assets and net worth. Foreigners were then persuaded to invest in the banks at these inflated valuations.

Critics assumed the AMCs could never service the bonds, as receipts from liquidation of bad assets would be far below face value. Ultimately, therefore, the banks and the Chinese government would bear the costs of the bail-out, the banks would require another round of recapitalization, and foreign shareholders' holdings would be of little worth.

Like many critiques of China's banking system, this one proved wrong in most respects. Recovery values on the bad loans were indeed low, but the government orchestrated the AMCs' evolution into diversified financial conglomerates, several of which listed in Hong Kong. Thanks to income from other activities, they serviced their bonds. They accepted fresh transfers of bad loans from the banks—but at discounts that better reflected recovery values. The commercial banks built up their capital with the profits earned in the economic boom fostered by Zhu's structural reforms, and from a fat interest-rate spread guaranteed by government-regulated deposit and loan rates. Foreign strategic shareholders that bought big stakes in the banks in 2002-04 later sold their positions at hefty profits. So far, no additional capital from the government has been required.

Rather than accounting chicanery, the bank restructuring initiated by Zhu and completed by his successor, Wen Jiabao, reflected the skill of the Chinese system at pragmatically blending market and state mechanisms to achieve a positive result. It also benefited from a holistic, well-sequenced strategy, which acknowledged that bank restructuring could only occur in the context of other economic reforms. In my years as an independent director of Chinese banks, I saw the same skill at sequencing priorities play out at the micro level of bank management.

From transformation to evolution

The "transformational" era of bank restructuring ended in about 2010, when the big directly state-owned banks had all listed, and the dozen joint-stock banks (also state-owned but with more diverse shareholding) had restructured their operations along similar lines. Since then, many analysts have claimed that financial reform has stalled out. Once again, this dark view is wrong. Banking reform has indeed continued, just in a more evolutionary way. The focus shifted to incrementally improving banks' risk-management systems, increasing their exposure to the growing private sector, and adapting to interest-rate and financial-sector deregulation.

I had a front row seat during both the transformational and evolutionary phases, as an independent director of Minsheng Bank (2003-06) and of China Everbright Bank (2006-16). During this period I saw the quality of bank management steadily improve, and convergence with international standards substantially achieved. A few examples illustrate these gains in governance.

When I joined Everbright Bank Board's audit committee in 2006, the concept of internal audit was new to Chinese banks. The newly established internal audit department had little understanding of its job, an uneasy relationship with top management, and no ability to report its findings in ways that enabled directors to know whether internal controls were effective.

By 2010, internal audit had become powerful and effective, and had significantly enhanced the capacity of management and the board to control risk. This development was not unique to Everbright. In the early 2000s, high-profile defalcations, sometimes running to the tens of millions of dollars, were rife among China's banks. Since 2010 they have been rare, even though total lending activity is much higher and the involvement of non-bank financial institutions in "shadow finance" means loans have become more complex.

Strategic planning is another area of significant gains. Neither Minsheng nor Everbright, when I first joined their boards, had a strategy. This was understandable. Early in the reform process, banks could reap huge gains simply by absorbing global best practices as fast as they were able. But after the low-hanging fruit was seized, and market competition intensified, this was not enough. Everbright, like most of its competitors, beefed up its strategic planning function, empowering a committee that facilitated an intense and fruitful discussion between the board and management about the bank's direction. Formal strategic plans are now standard at China's major banks.

Finally, and contrary to a popular view in the financial press, bank boards have steadily improved and play an effective oversight role. Nominees for both shareholder and independent directors generally meet high standards; if they do not they are rejected. As a member of Everbright's nomination committee, I was involved in one such instance, when an institutional shareholder put forward a board candidate whose professional qualifications we judged inadequate. The candidate was rejected and the shareholder instructed to provide a better one. The CBRC also vetoes candidates who do not meet its standards of expertise.

Bank boards have steadily improved and play an effective oversight role

Three cheers for the CBRC

The under-appreciated role of the CBRC deserves special mention. The CBRC's supervision is much more intrusive and controlling than is common in the West. CBRC officials routinely sit in on bank board meetings as observers. When I visited the CBRC on bank business, I found the officers there extremely well informed not only about Everbright's activities but also about specific positions I had taken on various issues.

This interventionist approach may seem strange to foreigners, and at variance with global best practices about the separation between government regulation and company management. But in China it is accepted as routine, and it has produced largely positive results. With the help of the Communist Party's Organization Department, the CBRC took an active role in filling banks' management teams and boards with skilled professionals. The motive was pragmatic. The post-1998 bailout of the banks had been costly and time-consuming, and the government wanted to ensure that banks would be well enough managed that it need never be repeated. Over the past 15 years, the CBRC has steadily ratcheted up risk management, governance and capital adequacy standards. It deserves much credit for China's banking transformation.

Chinese bank regulation is effective; it is also relatively simple. Regulators focus on a handful of key financial measures, such as loan-to-deposit and leverage ratios, and compel banks to strengthen their capital bases at times of rapid balance-sheet expansion. This focus has enabled China's financial authorities to avoid the excessive and probably counter-productive complexity of US bank regulation, exemplified by the mind-numbingly arcane Dodd-Frank act.

The Augean stables aren't quite clean yet

China's banking system continues to evolve at a rapid rate. In 2010, when the "transformational" stage of bank reform concluded, interest rates were still tightly regulated and most corporate loans were made to state enterprises, despite the fact that private firms made up more than half of economic output. In the seven years since, interest rates have been deregulated and lending to private small and medium enterprises (SMEs) has soared. Lending to private-sector firms probably made up half or more of new corporate lending in 2010-13, although that figure has come down in recent years thanks to a renewed emphasis on economic stimulus via SOEs.

Much more needs to be done. In theory, interest-rate liberalization should mean that banks can price their loans on a risk-reward basis and accurately measure a risk-adjusted return on capital. In practice, their capacities in this regard are still developing. As a result, the central bank still maintains a benchmark rate for one-year loans, which serves as the basis for much loan pricing, rather than the floating money-market rates. The *de facto* state of interest-rate liberalization lags the *de jure* progress.

China's banking system continues to evolve at a rapid rate

Another important caveat is that the transformations I describe largely occurred at the 17 big nationwide banks, which account for about 60% of bank assets. Conditions at the smaller city commercial and rural commercial banks, with a handful of admirable exceptions, are more backward. These banks' share of system assets has tripled, from 9% to 26%, in the last decade. So clearly the CBRC has plenty of work to do to ensure that risks in this rapidly-expanding sector are contained, and that the transformation of the 17 large banks is replicated in the lower echelons of the system.

The expansion of "shadow lending" since 2010 means that some aspects of bank risk have leaked away from the CBRC's bailiwick. Joint-stock, city commercial and rural commercial banks have all enthusiastically moved much credit exposure off their loan books into "investment portfolios" at non-bank institutions such as trusts, asset managers and brokerages. The government has woken up to this risk and in early 2017 launched a tightening and centralization of regulation of shadow lending. Similarly, alarmed at the recent rise in dependence by smaller institutions on wholesale funding, it has cracked down on interbank lending, forcing small banks to return to more prudent reliance on deposit funding.

A final issue is that banks have increased lending to the private sector without a commensurate rise in their ability to assess private-sector risk. Credit officers have not gone through a recession in their working lives, and they lack training in cash flow analysis and in assessing management and shareholder strength. They lack the "gray hair" and "battle scars" of seasoned lending officers in other countries.

As a result, most future bad loans will likely emerge from private-sector lending—not from state-enterprise or local government debt as assumed by China skeptics. The debt of SOEs and local authorities is a problem, but precisely because these entities are directly controlled by the state, it is perfectly possible for the government to organize slow workouts that avoid the creation of non-performing loans: maturity extensions, debt-for-equity swaps, a shift to bond finance, and so on.

Doing just fine, thank you

The conclusion is that, thanks to nearly two decades of steady transformation, China's banks are pretty healthy. In the 1990s, a sclerotic banking system held back the growth of the real economy; since 2000, a flexible and rapidly evolving banking system has facilitated economic growth. Infrastructure, export manufacturing, industrial development, housing purchases and consumer spending have all been boosted by credit from the banks, provided under conditions of ever more rigorous market competition.

Relative to the most stable and well-regulated banking systems in the world—such as Canada, Australia, Hong Kong and Singapore—there is still much room for improvement. Compared to money-center banks in New York, London and Frankfurt, Chinese banks lack cutting-edge products, diversity of service offerings, sophisticated treasury operations, branding and international experience. And it remains to be seen how well Chinese banks will fare against robust non-bank players such as Alibaba and Tencent that have blazed trails in mobile payments and other areas of financial technology.

Yet China's big banks substantially comply with international standards on accounting, capitalization, provisioning and liquidity. They are global leaders in financial technology and consumer payments. In my early years on Chinese bank boards, Chinese banks were learning not just from Western banks but from their peers in countries like Thailand. Today, Chinese banks surpass the capabilities of banks in Thailand (where I have also served on bank boards). And, in the wake of the Great Recession, they find there is as much in Western banks to avoid as there is to emulate. The Chinese banking system remains a work in progress, but the progress so far has been impressive.