Report Part Title: China's Economy and the Importance of the Financial System

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Chapter 1 | China's Economy and the Importance of the Financial System

"For many observers, the Chinese banking problem is one of the most serious in the world and perhaps the most serious. The situation of the Chinese currency is seen by many observers as precarious, with devaluation almost inevitable. These views may be entirely unfounded, exaggerated or wrong but they surely affect the stability and economic prospects of the Chinese economy. It would be a mistake to dismiss them with the argument that capital controls shelter the economy. The urgent need to deal with the banking problem is difficult to exaggerate, a view obviously shared by the Chinese authorities."

– Rudi Dornbusch and Francesco Giavazzi, 1999

China's rapid growth over the past four decades has been accompanied by dire warnings about its sustainability nearly every step of the way. These concerns have come not only from external observers of China, including international financial institutions such as the International Monetary Fund, but from China's own leadership. Premier Wen Jiabao famously warned in 2007 that China's growth was "unstable, unbalanced, uncoordinated, and unsustainable."[1] Since that statement, China's economy has weathered the global financial crisis and tripled in size, adding almost $9 trillion in annual GDP. China's economy has been responsible for around half of global growth during the past decade.

Public concerns about China's rapid growth are often accompanied by warnings of imminent financial crisis, and while it is possible that significant risks to growth could emerge from the real economy, most analyses focus on China's financial system as the primary source of risk. The quote above from economists Rudi Dornbusch and Francesco Giavazzi is from a volume published by the Bank for International Settlements in 1999, under the chapter title "Heading off China's financial crisis."[2] Much of the commentary surrounding China's growth since that time has been a persistent drumbeat of concern that China's economic momentum could quickly seize up because of risks building within the financial system.

Since a financial crisis has not occurred, new analyses have refocused on the characteristics of China's economy and political system that have allowed the country to avoid upheaval. China's high savings rate, the internal nature of China's debt, the level of state control of the economy, and the influence of government over key financial actors are frequently cited explanations for why China is "different" from other emerging or developed market financial systems.

Lost in this shift in the dominant narrative—from predicting crisis to explaining its absence—has been adequate discussion of the vitally important changes that have taken place within China's economy and financial system over the past five years. Ironically, China was less vulnerable to financial system stress during the 2000s, when mainstream commentary emphasized China's exposure to shocks and the risks of rapid state-directed lending, than it is today. Changes in the fundamentals of China's financial system have made previous analyses and lines of argument effectively obsolete. China's financial system is now

[1] Wen made the remarks at a news conference during the annual National People's Congress in 2007.
[2] Rudi Dornbusch and Francesco Giavazzi, "Heading off China's Financial Crisis," in *Strengthening the Banking System in China: Issues and Experience*, Bank for International Settlements Policy Papers, no. 7 (1999), https://www.bis.org/publ/plcy07b.pdf.

funded differently than it was just a few years ago and channels credit to different recipients. Old arguments about the operation of China's financial system should not be dusted off but thrown out entirely.

The singular focus on "crisis" itself is also misplaced. The fundamental question—for China, the United States, and the rest of the global economy—is whether China will experience a significant shortfall in output growth in the coming years. This step down in real growth may or may not cause a financial crisis per se. Economic recessions do not always lead to that outcome, but the pain associated with a sharp reduction in growth is every bit as wrenching. In recognition that economic disruption can occur without a financial collapse, the International Monetary Fund is adapting its analysis of financial conditions to focus on predicting ranges of outcomes for growth rather than the probability of crisis.[3]

The least understood aspect of China's economic performance since the 1990s has been the evolution of the financial system that made it possible. This study aims to clarify how China's financial system operates today, the consequences of its rapid growth, and the nature of its risks and sources of resilience compared to other financial systems.

We will first highlight rapid changes in the operation of China's financial system, particularly since 2014, that raise new and different concerns about China's economic stability and growth trajectory. Changes in the funding structure of China's banks warrant particular attention, to a far greater extent than old concerns about local government borrowing (although these still exist). Secondly, we systematically evaluate the sources of China's financial system resilience to explain why it remains functioning where others would have already suffered a crisis or widespread bankruptcies and defaults.

One of the key arguments of this study is that political factors—in particular, China's policy credibility—more effectively explain China's financial system resilience to date than do economic fundamentals or administrative policy tools. This credibility is a powerful, but fragile asset, which is at severe risk now that China's credit growth is slowing and implied guarantees must be rolled back. Today and in the years just ahead, the probability of financial crisis will be driven more by changes in government policy—especially by attempts to reform the system to make it more sustainable—than by external or market-originated shocks. Efforts to control volatility in some areas of the system must create it, intentionally or inadvertently, in others.

The political bargain underpinning Chinese leaders' legitimacy in delivering rising standards of living and economic stability has shifted along with the fundamentals of the financial system. As that system delivered economic expansion beyond the limits of potential growth, the risk implicitly borne by China's households and firms in funding that system's excessive growth has mushroomed, jeopardizing much of the gains.

Maintaining financial stability has required political authorities to support increasingly risky assets and investment products at the same time that China's financial authorities bend over backwards asserting they will not automatically respond to relieve all conceivable forms of financial distress. Financial sustainability and reform requires the presence of risk along with reward and the market-enforced prospect of defaults and bankruptcies. This contradiction of motives is straining China's credibility, both in

[3] *Global Financial Stability Report: Is Growth at Risk?* (Washington: International Monetary Fund, 2017), 91-116, https://www.imf.org/en/Publications/GFSR/Issues/2017/09/27/global-financial-stability-report-october-2017.

terms of ability to manage a rapidly growing debt burden and the leadership's commitments to financial reform itself. This nexus between China's fluctuating credibility and the pace of growth in financial system risks is the singular relationship to watch in order to gauge the prospects of financial crisis or an output growth slowdown in China in the years to come.

The Missing Link: China's Financial System

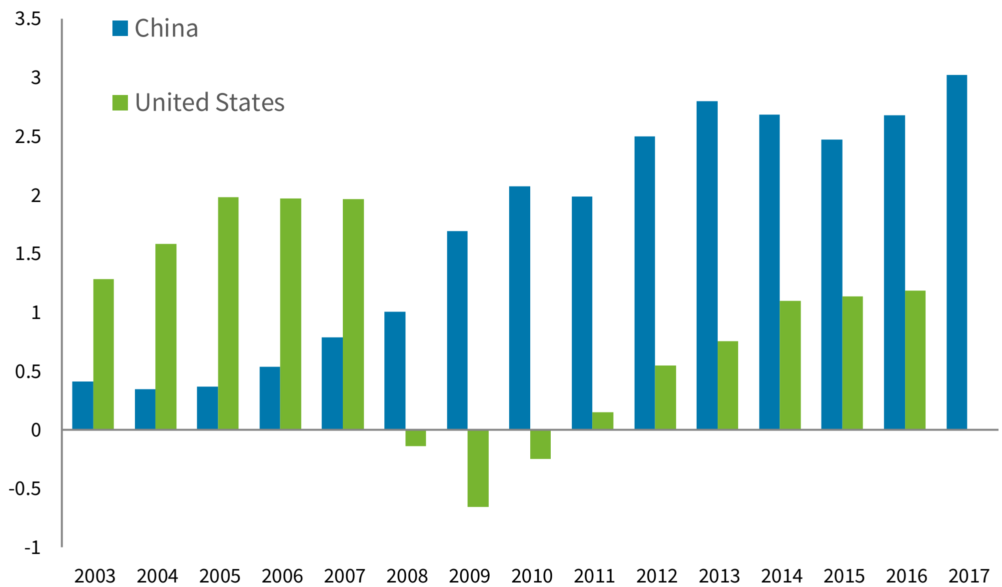
Most books about China's economy start with the stellar headline growth numbers: average annual expansion of 9.5 percent for the past 35 years, resulting in a tenfold expansion of GDP since 2000, from $1.2 trillion to $12.8 trillion. What is generally overlooked is that China's financial system has grown twice as fast: from around $1.7 trillion in assets as of the end of 2000, China's banking system ballooned 22-fold to $38.4 trillion in assets by the end of 2017.

In principle, this is not surprising. China's financial system started in 1978 as virtually non-existent, and then was repressed and controlled for years. Reform and liberalization naturally saw financing channels expand to meet the needs of a rapidly growing economy, often referred to as financial "deepening." The same can be said of China's economy in general: rapid growth rates were possible because the economy started the "reform and opening" period at such an artificially low level after years of misguided economic campaigns and other state interventions. Had China started 1978 at a per capita GDP level closer to that of another developing country, for example, Nicaragua ($2,221), the economy would have needed to grow at only a 3.5 percent compound rate to reach today's levels.[4]

The growth of China's financial system has also been unprecedented in global and historical terms. The value of Chinese banking system assets is today around 50 percent of total global annual output, even though China's economy represents little more than 15 percent of world output. Most of this financial system growth—around $29 trillion in new assets—has occurred just since the global financial crisis in 2008. There is simply no historical analogy for a single country's banking system expanding this rapidly compared to its own economy or to the global economy, particularly during a period of relatively weak global growth. While the U.S. financial system is more diverse and is not as bank-dominated as China's, the overall pace of Chinese credit growth through banks alone has exceeded total U.S. credit growth through all channels by a wide margin since the global financial crisis. By most measures, the expansion of China's credit and the growth of its financial system over the past decade appear larger in raw asset terms than the pre-2008 credit expansion seen in the United States as well.

[4] Rhodium Group calculations, with data from World Bank national accounts data.

Figure 1-1: Total Annual Credit Growth to Non-Financial Sector, United States and China, 2002-2017
Trillion USD

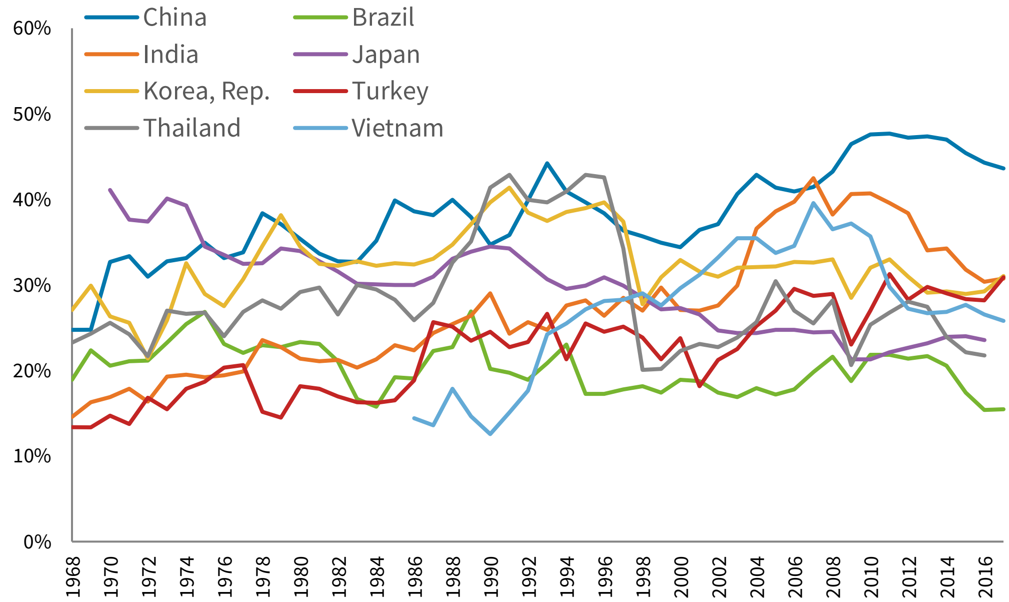


Source: Federal Reserve Bank of St. Louis, Total Credit to Private Non-Financial Sector, People's Bank of China, Total Societal Financing (TSF).

THE LEGACY OF INVESTMENT-LED GROWTH

In large part, the credit expansion over the past decade has been an unanticipated byproduct of China's continued reliance upon investment-driven growth. China's economy remains heavily reliant on investment, particularly at the local government level, which requires access to credit for firms carrying out state-directed projects. As a result, credit growth remains one of the most important determinants of the growth rate of China's economy, and China's leaders set informal credit growth targets every year alongside targeted GDP growth rates. As Figure 1-2 shows, the share of investment in China's economy has exceeded even the peak levels reached by other emerging economies over the past 50 years. Many of those economies, particularly South Korea and Thailand, saw investment levels fall when slammed by the Asian financial crisis in the late 1990s. Rebalancing an economy away from investment is necessary to make it sustainable beyond the high-return phase of catch-up financial deepening, as then-Premier Wen Jiabao himself emphasized in 2007. But it requires a readjustment of both the growth rates and the distribution of credit, as well as a change in the political balance sheet linked with a nation's financial system.

Figure 1-2: Gross Capital Formation as Percent of GDP, Developing Economies, 1968-2016
Percent



Source: World Bank.

With so much of China's financial system growth—and thus, systemic risk growth—an unintended side effect of addiction to investment-led growth, Beijing's preparedness to reverse course and control credit growth cannot be taken for granted. Over the past decade, the availability of credit as an easier means than reform to perpetuate growth has brought about evident delay in reforms to China's growth model. As long as investment-driven growth was "working" to maintain growth rates at targeted levels, there were incentives for local government officials to continue the same operating procedures and for central authorities to accommodate localities' demand for credit. Shifting away from investment-driven growth was difficult, as there were always projects underway whose completion demanded additional credit. Shuttering those projects meant recognizing immediate fiscal losses and writing off sunk investment. Decisions made in Beijing to slow credit growth over time were largely circumvented by local officials, who figured out new funding channels to keep credit flowing to the same investment projects.

HISTORICAL AND COMPARATIVE ANALYSIS

Comparisons between China's financial system and those of other developing countries can help to gauge the risks of China's credit expansion relative to other historical boom-bust cycles in emerging economies. Most such studies have focused on the "credit-to-GDP gap"—the growth of the credit-to-GDP ratio relative to its long-term trend—as a key indicator of the potential for crisis. Intuitively, this is logical as it suggests that an overly rapid expansion of credit compared to the size of the economy is an indication of speculative excess, with borrowing exceeding the eventual trend of aggregate demand. Usually these episodes end with banks dramatically curtailing credit after being forced to face up to large loan losses, resulting in weaker economic activity and sometimes crisis if losses are rapidly exposed across the financial system. China's credit-to-GDP ratio has increased by roughly 91 percentage points since the financial crisis, from around 140 percent of GDP at the end of 2008 to around 231 percent at the end of

2017. For comparison, there are few other developing economies that have ever seen total credit exceed 200 percent of GDP.[5]

However, given the size of China's financial system, there are very few relevant historical comparisons. China probably shouldn't be compared to other developing countries because other developing countries have never seen their banking systems grow this large relative to the global economy. Comparing China to developed country banking systems isn't particularly useful either, since developed markets rely upon a wide variety of financial channels and are typically not bank-dominant. The growth of China's financial system does not fit neatly into any "model" from either emerging or more developed economies because it combines both a rapid rate of expansion within an extremely large system. This fact alone has implications for China's leadership in managing financial system conditions. Chinese authorities are in uncharted territory, not only for China but also for the rest of the world.

The growth of China's financial system in itself also helps to explain China's relative stability and insulation from crises and recessions over the past two decades. Easy credit conditions cover up many investment mistakes, for both Chinese corporates and households. When credit is readily available, asset prices, particularly property prices, tend to rise. In case of bankruptcies or defaults, refinancing options that avoid significant economic pain are often available. This is true of all credit expansions, leaving aside the political sensitivity of bankruptcies and defaults within China.

Controlling the flow of credit has been virtually the *raison d'etre* of China's political system for almost half a century. There is an extensive literature within development economics about the role of the state in aggregating capital within strong banking systems (Gerschenkron) or playing a key developmental role within key industries (Evans).[6] Within China specifically, Zhang, Wang, and Wang (2012), and Walter and Howie have demonstrated the significance of the financial system and continued credit growth to China's overall economic trajectory.[7] The operation of China's financial system is not much different from that of other developing countries, as the state is typically involved in aggregating capital and resources to some degree. It is not surprising that Beijing wanted to see China's financial system expand as China's economy grew.

In general, China's financial system could be expected to expand rapidly as the economy grew at a quick rate; it is natural that a bank-dominant system should see other financing channels—bond markets, equity markets, and consumer financing tools such as credit cards—grow quickly in the process of financial reform. One measure shows that as a proportion of China's economy, financial services activity has doubled since 2005 and now represents 8.2 percent of GDP.[8] It is critical in analyzing this growth to distinguish what is healthy—financial deepening, or the development of additional productive financing channels—from what is unhealthy—a rise in risky lending and speculative finance. The key question is how fast is too fast compared to the underlying size of the economy and what types of lending activity the expansion of the financial system facilitates.

[5] Measured using the adjusted stock of PBOC total societal financing (TSF) from the People's Bank of China.
[6] Alexander Gerschenkron, *Economic Backwardness in Historical Perspective* (Cambridge, MA: Harvard University Press, 1962); Peter Evans, Embedded Autonomy: States and Industrial Transformation (Princeton, NJ: Princeton University Press, 1995).
[7] Jin Zhang, Lanfan Wang, and Susheng Wang, "Financial Development and Economic Growth: Recent Evidence from China," *Journal of Comparative Economics* vol. 40, no. 3 (2012), 393-412.https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1983654; Carl Walter and Fraser Howie, *Red Capitalism: The Fragile Financial Foundation of China's Extraordinary Rise* (Wiley, 2010).
[8] Data from National Bureau of Statistics, calculation based on proportion of financial services subcomponent of tertiary GDP to total nominal GDP based on four quarters from Q3 2016 to Q2 2017.

This is a difficult distinction to make because it requires a judgment of the potential economic payoffs from different forms of lending. For example, lending for a highway that would dramatically improve the productivity of the surrounding communities might have long-term benefits for the economy even at short-term cost. But lending to build three such highways and a rail line is unlikely to achieve the same benefits relative to the costs. Is China's financial deepening expanding access to finance for different types of borrowers, or is it simply expanding channels for the same types of borrowers and the same types of investments?

At some point, this rapid expansion of China's financial system must stop. There is a logical limit to how fast a financial system can expand relative to the underlying economy it is financing. Ultimately, the two are tethered to each other and the limits of financial deepening will be reached. Speculative bubbles in financial assets can occur but will inevitably burst. If China's financial system is not already at this limit, it is logical to ask how far away this peak will be.

Honing In on the Problem: An Unreformed Financial System

While China's economy changed rapidly over the past three decades, the financial system evolved much more slowly. In the 1980s, China's commercial banks still functioned largely as state-directed lenders, dispensing credit in line with government objectives in construction (China Construction Bank), industrial and commercial enterprises (Industrial and Commercial Bank of China), and agriculture (Agricultural Bank of China). The Bank of China, the smallest of the "Big Four" state-owned banks, concentrated on foreign currency-related activities. Other financing channels, such as equity and bond markets, consisted primarily of pilot projects for state firms, with most funding activity remaining within these large banks. In 1987, the Bank of Communications was created as the first "joint-stock" commercial bank, still directed by the state but designed to act more commercially than other lenders. City and rural commercial banks and credit cooperatives emerged in the 1990s to fulfill specific functions within those localities but largely ended up functioning as secondary fiscal institutions, lending on behalf of local government priorities rather than as stand-alone financial institutions.

The 1990s was a dramatic period for the development of China's banking system. After the Tiananmen Square debacle in 1989, opposition to economic reform and liberalization dominated the political climate in Beijing, and the economy slowed sharply. Deng Xiaoping's Southern Tour in 1992 changed that, kickstarting a wave of economic activity in China's special economic zones. Banks started to respond to these signals by lending aggressively, particularly for land development, a sector which quickly overheated. The rapid expansion of credit, along with a sharp rise in grain prices, triggered inflation of over 20 percent in 1994, requiring an aggressive monetary tightening to bring it under control.

The corresponding slowdown in the economy nearly broke China's banking system, with the Asian financial crisis in 1997 adding to the pain. Estimates of non-performing loans throughout the banking system resulting from policy-driven lending in the late 1990s typically exceeded 30 percent and some reached as high as 40 to 50 percent, but the true level was unknown.[9] A solution started to take hold in 1998 and 1999 but required almost a decade to be fully implemented: China's banks would be recapitalized, bad assets would be stripped out of balance sheets and given to newly created asset management companies (AMCs), and shares in the newly recapitalized banks would be offered to foreign

[9] John Bartel and Yiping Huang, "Dealing with the Bad Loans of the Chinese Banks," Asia-Pacific Economic Cooperation Discussion Paper, no. 13 (APEC Study Center, Columbia University, 2000), https://www8.gsb.columbia.edu/apec/sites/apec/files/files/discussion/boninhuang.pdf.

investors through listings on overseas exchanges to provide a clear signal of the banks' legitimacy. The banks' profitability would be essentially guaranteed through a government-enforced net interest margin, with a cap on deposit rates and a floor on lending rates.

The plan was successful in minimizing the problems resulting from policy-driven lending during the 1990s, but only because China essentially grew out of the problem, adding new assets at a much faster pace and so reducing the proportional impact of the older, defaulted loans. Growth, rather than improvements in efficiency, has been the primary characteristic of the change in China's banking system. Many of the system's key characteristics in the 1990s have remained essentially unchanged, including:

A bank-dominant financial system. Banks held $38.4 trillion in assets at the end of 2017, or around 81 percent of all assets held by financial institutions in China.[10] Beyond this level of dominance, banks are the primary channel through which savings is aggregated for Chinese households and corporates and lent to the rest of the economy. Banks are the key intermediary through which most Chinese citizens conduct almost all their financial activity. Even for non-traditional financial products, banks and their customers are still the primary sales channel that provides credit to borrowers who cannot gain access to the formal banking system.

Widespread moral hazard. State firms continue to have weak budget constraints, effectively preventing the proper pricing of risk in China's financial markets. The presence of implicit and explicit state guarantees for these firms effectively pushes up borrowing costs for private firms, since banks see lending to state firms as almost risk-free. The absence of a history of defaults by both state and private firms, on both loans and bonds, has allowed banks to expand lending rapidly based on the belief that regardless of their debt burdens, state firms are too politically important to be allowed to fail.

Favoritism for state borrowers, discrimination against private borrowers. China's state-owned enterprises (SOEs) continue to receive the lion's share of credit from the banking system, even though they represent a declining share of aggregate economic output. For many smaller city commercial banks, the majority of their clients are local state-owned enterprises and local government financing vehicles. Even among commercially-minded lenders, state-owned firms tend to enjoy advantages because they bear implicit or explicit government guarantees and are more likely to have fixed assets to serve as collateral. While private firms are increasingly able to access credit, they often must pay higher rates than do state-owned competitors. This reality has been very slow to change over the past 30 years.

Slow development of the bond market, especially for corporate bonds. Chinese firms have historically been forced to access financing via banks rather than directly from the equity or bond markets. The total value of outstanding issues in China's bond market stood at 50.96 trillion yuan as of the end of 2017, equivalent to around 63 percent of GDP.[11] The vast majority of these are government or policy bank bonds, in excess of 80 percent of total issuance. Until recently, corporate bond issues have been dominated by state-owned firms, with private firms again forced to pay higher rates. There is a limited history of defaults within China's corporate bond market, making it very difficult for investors to price risks accurately. The result tends to be outsized demand for bonds issued by state-owned firms that offer higher yields.

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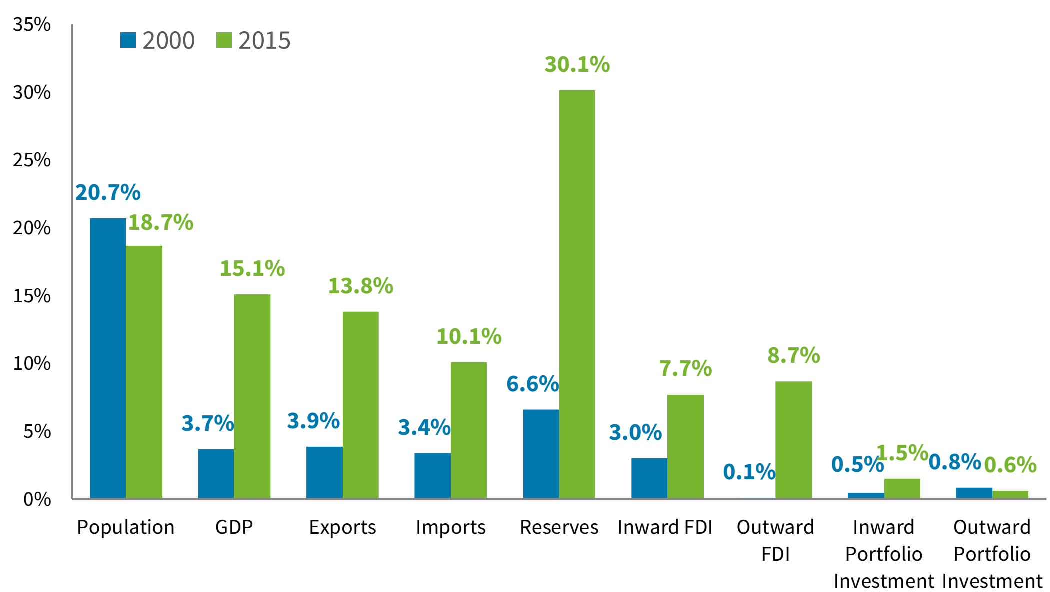
[10] Calculation of proportion of bank assets to financial assets based on end-2016 data from People's Bank of China Financial Stability Report.
[11] Data from Chinabond.com.cn, "Monthly Bulletin of Statistics," Table 1-02, December 2017.

A highly speculative equity market unreliable for corporate financing. China's equity markets have often been labeled as "casinos," but the root of speculative activity in China's stock markets, which produced the epic boom-bust cycles of 2007 and 2015, is the absence of long-term institutional investors in the market.[12] This is a byproduct of the lack of meaningful information disclosure and the absence of corporate governance standards that prevent investors from taking positions based on the fundamental conditions of China's companies or from making comparisons of the relative value between investments. Without reliable corporate information, the market has tended to respond to policy announcements or changes in liquidity conditions, encouraging speculative investors trading primarily upon momentum rather than fundamentals. In turn, these market characteristics have discouraged productive firms from using the equity markets as a financing channel.

Absence of meaningful foreign participation in China's financial system. China's financial system is still dominated by China's state-owned financial institutions—banks, insurance companies, fund management companies, and brokerages. This is not surprising in any country, but in China this home-country dominance has been largely the result of domestic protectionism, despite pledges for more openness following China's entry into the World Trade Organization. Foreign investors own only minority stakes in China's banks and have been restricted in their investments in China's equity and bond markets via quotas, although these constraints are now easing. Still, in one of the world's largest bond markets, foreign investors own less than 2 percent of the value of domestic issues. China's financial assets remain heavily under-owned by the rest of the world compared to what would be expected given China's economic importance in trade and investment.

Figure 1-3: China's Global Economic Weight, 2000 v. 2015
Percent



Source: World Bank, IMF World Economic Outlook (WEO) database, United Nations Conference on Trade and Development (UNCTAD stat), RHG estimates.

[12] "China's Stock Market: A Crazy Casino," *The Economist*, May 26, 2015, https://www.economist.com/free-exchange/2015/05/26/a-crazy-casino; Asian Securities Industry & Financial Markets Association, *China's Capital Markets: Navigating the Road Ahead* (2017), 20-21, http://www.asifma.org/uploadedfiles/china%20capital%20markets%20final%20english%20version.pdf.

Despite the persistence of these constraints, China's financial system has grown rapidly, particularly over the past decade. If the growth of China's financial system has been an important condition for the growth rate of China's economy, one of the most important questions about the outlook for the economy is whether the financial system can continue to grow at a sustainable rate so that China can achieve its potential growth.

Potential Growth, Productivity, and the Importance of Finance

Most of this study is concerned with short-term questions, but some long-term views concerning the sustainability of China's economy are necessary as well. The future success of China's economic model, policies, and policymaking, whether viewed through our credibility-centered framework or some other lens, must be understood in light of expected potential growth rates. What does winning look like for China? Some boosters in Beijing like Peking University Professor Lin Yifu continue to insist that China can grow at 6 percent or better for years to come.[13] Others, notably economists at the Conference Board, maintain the view that true growth is already only 4 percent, and potential growth is much lower because it is constrained by limits in productivity improvements.[14] We take a growth accounting approach to illuminate future growth potential and evaluate the likely success of any rebalancing of China's economic model. We conclude that China can enjoy lower but still substantial growth, but that a different allocation of credit within the financial system will be needed to deliver that.

The growth accounting approach tallies changes in the value of all inputs into economic production, plus the residual productivity growth (referred to as total factor productivity, or TFP) evident. The "factors" going into the economy are boiled down to two: labor, which includes the full workforce of the nation, the contributions of which increase as the education level goes up; and additions to the capital stock, the trove of all productive tangible and intangible assets in a nation, including land.

If the working age population of a nation is rising then—all things being equal—its potential growth rate should be rising because there are more people available to be productive. Labor force growth accounted for more than a quarter of China's GDP gains from 1978 to 1993 and continued to be positive until around 2010.[15] Unemployment was very low in 1978 because virtually everyone had to farm just to feed themselves. Whereas 71 percent of workers were farming in 1978, that number had fallen to 51 percent by 1995: 125 million workers had been freed-up to participate in higher-value work. By 2012, the share was down to 34 percent, freeing an additional 158 million Chinese to do more productive work. And as important, the population grew by 250 million people during these years. With an addition of hundreds of millions of people to the urban, modern workforce, China's potential growth was naturally extraordinarily high.

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[13] Lin previously predicted around 8 percent growth for 20 years from 2008 in this 2015 paper. Earlier in 2018 at the Boao Forum he revised those expectations to 6 percent growth for 10 years. Justin Yifu Lin and Fan Zhang, "Sustaining Growth of the People's Republic of China," *Asian Development Review* 32, no. 1 (2015), 31-48, https://www.mitpressjournals.org/doi/pdf/10.1162/ADEV_a_00045; People's Daily Online, " Justin Yifu Lin: China able to maintain 6 percent GDP growth annually in next decade," April 9, 2018, http://en.people.cn/n3/2018/0409/c90000-9447146.html.

[14] "Global Economic Outlook," The Conference Board, May 2018, https://www.conference-board.org/data/globaloutlook/; David Hoffman and Andrew Polk, "The Long Soft Fall in Chinese Growth: Business Realities, Risks, and Opportunities," The Conference Board, 2014, https://www.conference-board.org/publications/publicationdetail.cfm?publicationid=2846.

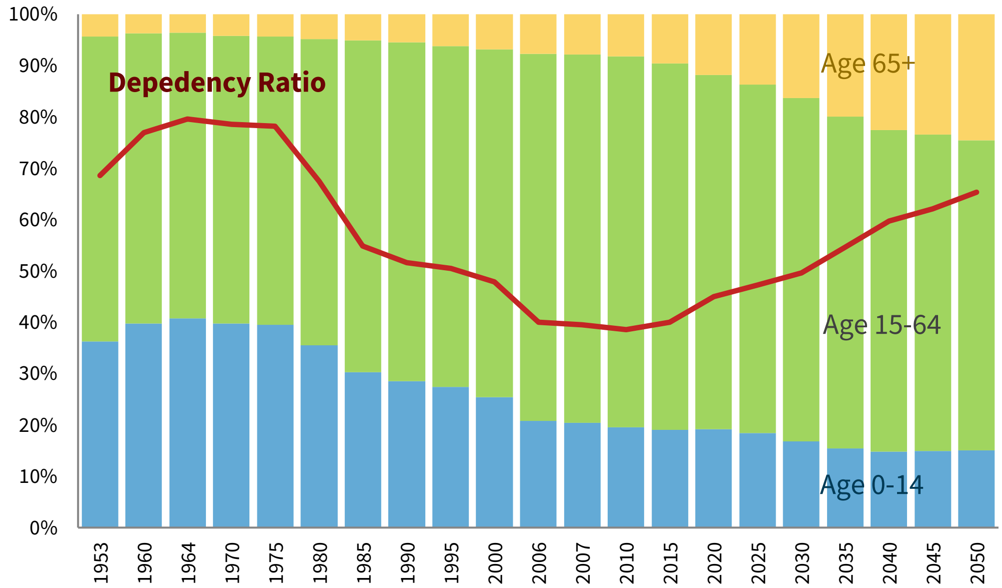
[15] International Monetary Fund, "People's Republic of China, Staff Report for the 2018 Article IV Consultation," July 2018, https://www.imf.org/en/Publications/CR/Issues/2018/07/25/Peoples-Republic-of-China-2018-Article-IV-Consultation-Press-Release-Staff-Report-Staff-46121; Dwight D. Perkins and Thomas G. Rawski, "Forecasting China's Economic Growth to 2025," Chapter 20 in *China's Great Economic Transformation*, Cambridge University Press, 2008.

Many nations have large and growing populations yet did not come close to achieving potential growth the way China has. The reason for China's outperformance (aside from its unnaturally impoverished starting point) was deepening of the capital stock. Productive deployment of capital was essential to lifting the contributions of all those workers. Policy promoted savings over consumption, and directed investment into high-return infrastructure and industries suited to a labor-rich nation in which policies previously had expressly suppressed productive specialization around comparative advantage.

Finally, total factor productivity (TFP)—the elusive, extra quantum of GDP growth above and beyond what can be attributed to more people and more capital stock—was also a star performer in the Chinese story over the past four decades. For the most part that was because pre-reform China was so extraordinarily, unnaturally unproductive. Mao and the Communist Party had consigned people to hopelessly unproductive economic fates in pursuit of political and ideological goals that failed to pan out. Once the people were permitted a modicum of economic liberty, productivity boomed. Beijing deserves credit for this as well, as it was not easy for bureaucrats and authorities to move aside to make way for commercial forces, and the subtlety with which several generations of leaders starting with Deng Xiaoping accomplished that objective within Communist ideological constraints was impressive. GDP growth of 4 to 6 percent based simply on factor input growth turned to near 10 percent performance thanks to total factor productivity generated by the gradual but broad-spectrum dilution of state planning, reduction of border investment barriers and tariffs, internal fees, and taxes, shift of expenditures to public goods, rationalization of exchange rates, and intermediation of savings.

Today, however, all three of these channels have peaked and fallen, and should not be expected to return. Instead of enjoying a demographic dividend adding to GDP, China confronts a rising demographic burden, as a shrinking working age fraction of the population takes care of legions of retired citizens (Figure 1-3). And whereas almost any investment in earlier years had a solid chance of paying off, the diminishing marginal return on capital investment in China today is manifest to all. This can partly be remedied by better intermediation of capital through financial markets: the same amount of investment put into an overcapacity industry and a medical robotics facility in a growth sector will create very different streams of industrial value-added in the future. But, as noted, the political implications of liberating markets to play that role without ideological interference are an impediment.

Figure 1-4: Estimated Proportions of China's Population by Age Group, Dependency Ratio*, 1953-2050
Percent



Source: National Bureau of Statistics (1953-1985); U.S. Census, International Database (1990-2050). *Dependency ratio is derived by dividing the combined population of people aged over 65 and under 15 and dividing by the number of people between the ages of 15 and 64.

Anything changing the value of output achievable with a given value of inputs which is not attributable to labor or capital stock can be credited to TFP. In China today, the winds of reform that discipline lending behavior in the financial sector are enormously powerful determinants of how much output value will be wrung from a set of inputs. But if no one is ever fired for lending to SOEs, then bankers will tend to lend to SOEs, regardless of performance and productivity. As Zhu Rongji said to Alan Greenspan in October 1994[16]:

> You have increased [interest] rates by 0.25 percent each time and this was extremely effective, but in China the effect wouldn't be very great. In China perhaps even a 10 percent increase might not have a great effect because some enterprises have no intention of repaying the money and don't care what the interest rate is, but this situation is gradually changing.

As vice premier and then premier, Zhu did gradually change the fiduciary responsibility with which the nation's savings was lent. That led to a better capital-output ratio in the years following his effort, enhancing both the recovery of principal investment that could be relent, profit, and—in the macro-economic framework—the TFP performance associated with growth.

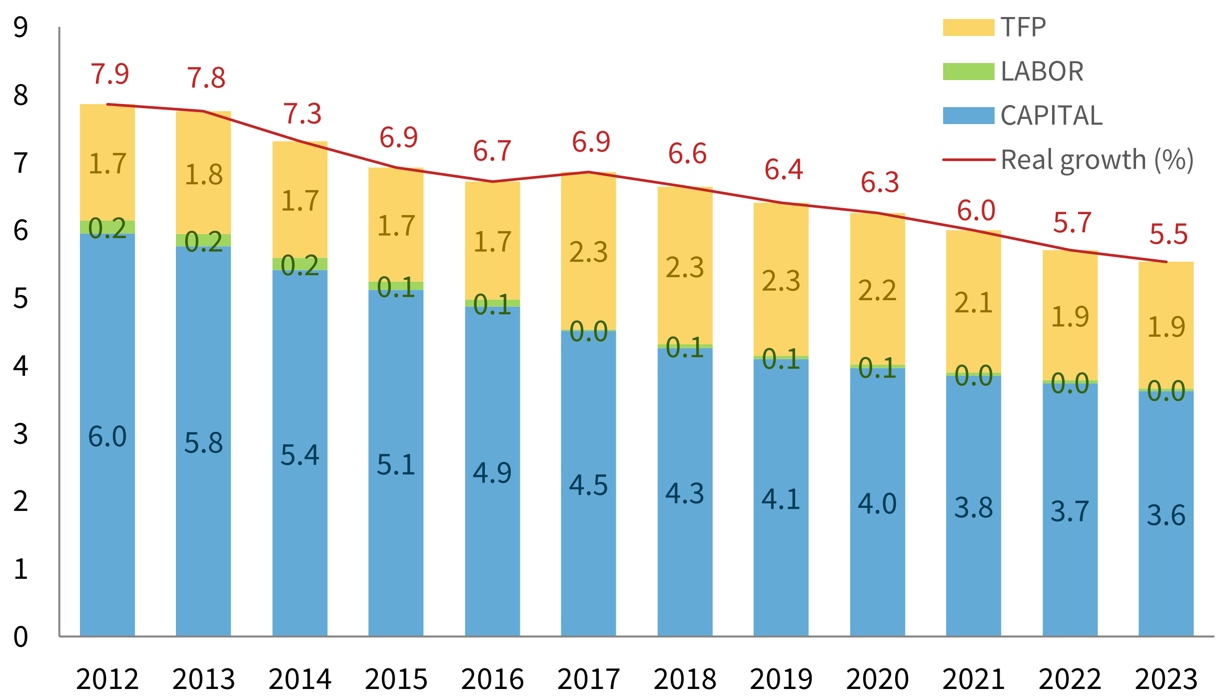
As we consider China's trend potential growth for the period ahead, we observe that labor growth will be close to zero, and we surmise that capital stock deepening will be positive but less than current levels. Figure 1-4 projects a growth accounting picture of China's long-term GDP growth based on 2018 IMF working assumptions. Where capital deepening offered 5-6 percentage points of GDP growth just a few years ago, at best it can offer 3-4 points in the years ahead, and quite likely somewhat less. While the IMF credits TFP with generating 2.3 percentage points of contribution to growth last year, this may overstate

[16] Zhu Rongji, *On the Record: The Road to Reform, 1991-1997* (Washington, D.C.: Brookings Institution Press, 2013), 263.

productivity and understate the continuing role of overinvestment. Even 1 percentage point of an annual TFP contribution to growth will require a more credible stance on reform by policymakers in Beijing.

Figure 1-5: Growth Accounting Assumptions for China's GDP Growth, 2012-2023

Percentage points



Source: International Monetary Fund.

Why is improving productivity within the financial system so hard, especially in light of the looming growth headwinds? Stepping away from abstract formulations like growth accounting models, "disciplining financial intermediation" is a euphemism for a wrenching, destabilizing, politically radical process. The "gradual" changes Premier Zhu alluded to in 1994 required laying off upwards of 30 million SOE employees from 1997-2000, recognizing and marking to market the reality that 20-30 percent of all state bank loans were non-performing and would have to be written down, and even that the Party and government should withdraw from much of the marketplace and "corporatize" (a euphemism for "sell off") many holdings.

Unleashing productivity growth means relinquishing administrative control over the marketplace in favor of macroeconomic management of just a few aggregates. That means restraining the state's hand from picking winners and losers in competitive markets. And in addition to barring politicians from "rent seeking" from business (putting on, as the expression goes, golden handcuffs), this withdrawal would constrain the state from pursuing planning ambitions, and—ultimately—from keeping the business community subservient to Party diktat. While elements of this societal rebalancing of power were achieved since the 1990s, many components were not, and still other trends—such as the withdrawal of Party Committee involvement in corporate governance—arguably have reversed in recent years.

With Party and government more entrenched and empowered today than 20 years ago and fear of the disruption inherent in reform running high, making the changes needed to reach potential growth is now more challenging than ever and must involve a more significant change in the way that China's financial system allocates credit within the economy, a process discussed in detail in Chapter 3. The centrality of China's financial system to the rate of China's past economic growth creates difficulties in redirecting China's financing channels while also slowing overall credit growth at the center of the debate over China's future growth trajectory. Simply put, no one has a clear outlook for the path of China's economic growth under conditions where financial system growth slows sharply because it has never happened, at least not since Deng Xiaoping's Southern Tour in 1992.

Plan of the Book – Including Implications for the United States

This study aims to provide an assessment of the probability that China encounters either a financial crisis or a significant shift in its growth trajectory in the near future. This is essentially an examination of a single case, and while we draw from a variety of different academic literatures, this study is not intended as a broader analysis of the causes and consequences of financial crises in emerging or developed economies. We explicitly rely upon certain assumptions of the importance of China's financial system in driving economic growth, based on the significant expansion of that system in the recent past, and we are not engaging the broader debate within the field of economics on the importance of monetary and credit growth in economic cycles, or the linkage between credit growth and the probability of crisis. This is not intended as a work of pure economics or finance. Our approach is explicitly interdisciplinary and attempts to grapple with the interaction between political variables specific to China and the interaction of those political forces with the growth of the financial system.

Methodologically, the study starts with a discussion of the critical forces that explain the continued growth of the Chinese financial system over the past decade and its increasing complexity. China's financial system has grown at a faster rate and to a larger size than any other over the past century, and yet sustaining that rapid growth has required a shift in the fundamentals of the financial system over the past five years. In particular, Chapter 2 focuses on the evolution of the Chinese financial system from a relatively stable, if inefficient, bank-led system, in which deposits from households are channeled into loans to state-owned enterprises, into a system funded at the margin by riskier non-deposit liabilities, with marginal asset growth in unregulated shadow banking sectors, raising the possibility of financial crisis. The rise of moral hazard and the central bank's early attempts to regulate the growth of informal financing channels play a key role in the continued expansion of bank assets and credit in defiance of regulatory guidance. The chapter then explains the difficulties China faces in reforming this financial system or reducing leverage in aggregate, as well as the impossibility of growing out of the debt problems that have accumulated within the financial system.

After explaining the growth of the financial system and the rise in internal complexity, the study examines the economic factors that offer the most powerful explanations for the resilience of China's economy over the past decade. Chapter 3 examines China's high national savings rate, as well as where those savings are concentrated in China, and reviews the literature concerning why both household and corporate savings rates have remained high. The chapter then discusses the need to reallocate new credit within the Chinese financial system and its capacity to improve the efficiency of credit, as well as prospects to reduce the national savings rate over time. Chapter 4 discusses the internal nature of China's debt, which is frequently mentioned as a critical factor shielding the Chinese economy from a crisis imposed by external creditors. The chapter discusses the arsenal of tools available to the People's Bank of China in injecting liquidity to manage financial stress within China's money markets, as well as the limits to such an approach.

Next, the study discusses the key political factors that are often used to explain why China's economy is "different" or insulated from the effects of a financial crisis. First, Chapter 5 discusses the track record of China's administrative controls over key actors within the financial system and Beijing's ability to mandate actions by key institutions that can mitigate the probability of crisis. The chapter reviews the recent history of China's interventions into the interbank money market during the liquidity crunch of June 2013, the equity market crisis of 2015, and the stress in the informal financial system caused by the Sealand Securities entrusted bond scandal, while discussing the limits of those administrative interventions.

Chapter 6 introduces the most meaningful political asset China has in combating financial stress: credibility. The study explains the importance of China's credibility in establishing expectations of a meaningful and sufficient government response to financial market stress. However, the political bargain that has kept China's financial system relatively stable up to this point is changing, with Beijing's credibility and the assumption that the central government will maintain financial stability now extended to increasingly risky and peripheral asset markets and financial institutions. Financial reform also threatens China's credibility as the reform process involves the government withdrawing from implicit and explicit guarantees of assets, and by design, leaving Chinese investors exposed to greater levels of financial risk.

The concluding chapter integrates the discussion of both economic and political variables that explain China's resilience so far, and discusses paths to financial crisis when China's credibility in financial markets changes. Among the scenarios discussed are funding difficulties among banks and in the interbank market, defaults in corporate bonds and among local governments, and a sustained downturn in China's property sector. External pressures, particularly from tightening U.S. monetary policy, also reduce China's freedom of action through a rising U.S. dollar and the risk of capital outflows from China.

This study analyzes the nature of China's economic growth, not international relations. However, given the enormous implications of this question for the international economy, we conclude with a discussion of what it means for the United States. We describe the long-embedded U.S. assumption that—as Ronald Reagan's national security advisers put it—Washington should, "help China modernize, on the grounds that a strong, secure and stable China can be an increasing force for peace, both in Asia and world. . . ."[17] That view was built on evidence that China's economic fiber and its evolution were convergent with U.S. interests. By contrast, Washington now asserts (in the current National Security Strategy) that China has ". . .undermined key economic institutions without undertaking significant reform of their economies or politics."[18]

The chapters to follow provide ample evidence that China certainly undertook significant reform of its economy, and even adjusted policy as well, but that these efforts have not been successfully carried through and have often been subordinated to conflicting aims. Beijing's paramount asset—its policy credibility—was the hard won result of arduous reforms implemented at great cost. This credibility is presently being spent down at an unsustainable rate, validating the U.S. prognosis of divergent future interests even if the diagnosis of past history is selective and imperfect.

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[17] Reagan Administration, National Security Decision Directive 140, "President's Visit to People's Republic of China," April 21, 1984, https://fas.org/irp/offdocs/nsdd/nsdd-140.pdf.
[18] National Security Strategy of the United States of America, December 2017, 17, https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf.