Chinese Financial Development in Historical Context

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Zhou Xiaochuan, the Governor of the People’s Bank of China, shocked observers in October when he worried publicly that his country may be facing a “Minsky Moment.” “When there are too many pro-cyclical factors in an economy, cyclical fluctuations will be amplified,” Zhou argued. “If we’re too optimistic when things go smoothly, tensions build up, which could lead to a sharp correction.”¹ Fears that the world’s second largest economy is on the cusp of financial crash of the type analyzed by economist Hyman Minsky have long been a concern of foreign investors. Some have bet against Chinese assets, expecting a chaotic deflation of China’s debt bubble. Many rich Chinese have sought to ferret their wealth abroad, into dollar-denominated assets or apartments in Sydney or Vancouver, seeking to diversify amid fears of an impending crash.

Yet China has repeatedly proven doubters wrong. It has avoided financial crisis and maintained GDP growth above 6% every year since the early 1990s. In the late 1990s and early 2000s, China had to execute a bank bailout equivalent to around 28% of GDP, yet even this had little appreciable effect on GDP growth, and created only small ripples in financial markets.² Neither the 2008 credit crunch nor the rise and fall of commodity prices have managed to derail Chinese growth.

“This time is different,” is the famous saying of the many investors throughout history who have lost their shirts after misplaced bets on financial stability went wrong. To what extent is China different? What can we understand about the country’s economic development and financial stability from looking at the past? We know that Chinese leaders have repeatedly looked to historical models, both in East Asia and in the West, when crafting economic policy. Is China’s financial model unique? What does economic history have to say about its sustainability? This paper will examine Chinese financial development in comparison with the Japan, the Asian Tigers, and the Soviet Union.

Chart 1: China Bank Lending to the Non-Financial Sector, % GDP, BIS

The history examined here suggests that China’s bank-lending, investment-driven growth model is reaching its limits. China’s private sector has boomed, building not only an export manufacturing powerhouse, but also a vibrant service sector. Yet returns on

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capital are falling, and they are likely to converge on developed-country levels over the next decade. Notably, they appear to be falling despite that China has a much lower level of capital per worker than in other East Asian countries to which China is often compared. As the marginal benefit of additional capital formation falls, China will need to reduce investment if it is to avoid wasting resources by plowing funds into non-profitable uses. In other rapidly industrializing Asian countries, the shift from investment to consumption-driven growth was accompanied by a reduction in the government’s role in directing investment. This shift has often been accompanied by financial turbulence, whether Japan in the early 1990s or South Korea in 1998.

China itself is in the middle of a debate about whether this time—or this country—is indeed different. Zhou Xiaochuan’s invocation of a Minsky moment suggests that some of China’s economic policymakers sense risk. Many of the country’s actual economic policy decisions, most notably its willingness to keep credit to the non-financial sector growing faster than GDP, implies that the country’s political leadership is more sanguine. Has China found a new model of financing growth that is immune to diminishing returns? The history presented here suggests not.

Is China’s Financial Model Unique?

In nearly all instances of non-European rapid industrialization the state has played a significant role. Economic historian Alexander Gerschenkron famously noted that Germany’s effort to ‘catch up’ to British levels of industry looked different than the origins of the industrial revolution in Britain itself. Unlike Britain, which relied primarily on privately-owned banks to finance industry, Germany and other continental powers organized state-backed banks, which mobilized large pools of capital and directed funds toward industrial development. Germany in the late 19th century did not industrialize nearly as rapidly as East Asia in the 20th century, but German growth rates nevertheless far outstripped Britain’s during the industrial revolution.

Gerschenkron’s model of financing industrialization—in which governments help collect capital and direct it toward heavy industries—functions most naturally in a

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financial system based on banks rather than capital markets. Both banks and capital markets can be used to fund industrialization. Yet if the goal is to push capital into certain sectors, banks are better suited to purpose, because they can be controlled administratively via diktats from the government. Capital markets must be incentivized if they are to direct disproportionate funds to industrial development, and this takes extra administrative skill to manage. Thus rapidly industrializing states from 19th century Germany to postwar Japan have relied disproportionately on banks to finance industry during their high-growth years.

Chart 2: Foreign Direct Investment, % GDP, World Bank

The Economic Outcomes of Chinese Credit Growth

China’s credit boom has funded more investment than consumption, so the long-term results of credit growth will depend on whether this investment pays off. Predicting the results of investment surges, however, is not easy. The reason is that we have no means of knowing in advance whether a given investment will pay off. This is particularly challenging in high-growth economies. In advanced economies such as the United States,
returns to capital change little over time. The result of any specific investment may be
difficult to predict, but aggregate returns have proven relatively stable. By contrast, high
growing economies have much more potential for large swings—either in a positive or
negative direction.

The cost of investment gone wrong is only visible years, sometimes decades, after the
investment is first accounted for. A new factory built in the United States in 2005 may
have looked like a productive investment at the time. In 2009, with a recession dragging
down factory sales, it could have looked like a disastrous waste. It is likely that only by
2025 or 2030 will enough time have elapsed to let us determine with any reasonable
confidence whether building the factory was a profitable investment. For large
infrastructure projects, the payback period may be even longer. This makes interpreting
GDP data challenging, because a factory is usually booked as an investment—thereby
increasing GDP—in the year it is built. It may be years before it becomes clear whether
this increase in production (a new factory) pays off via higher wealth by producing and
selling goods that exceed the cost of the factory.

News reports from China are full of stories about empty apartment blocks and
unprofitable railroads, the type of stories that suggest a portion of Chinese investment
may increase GDP today but decrease net wealth in the long run. But how large a portion? 
Anecdotes alone tell us little about whether the scale of investment that will be long-run
unprofitable is significant as a share of China’s economy. Aggregate data about capital
formation, however, can shed some light.

What do we know about capital formation? First, as the chart on the left-hand side
below shows, most advanced economies have roughly similar rates of capital formation,
around 20% of GDP. Second, when we exclude tiny countries and commodity exporters,
economic development is generally accompanied by a convergence of capital formation
rates to the level of advanced economies. The decline in Japanese capital formation rates,
from around 30-35% of GDP during its rapid growth in the 1960s and 1970s, to near the
advanced-economy average of around 20% of GDP today, is the best example of this.

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7 The data presented here is gross fixed capital formation, which excludes depreciation (hence is gross, not net) and includes only fixed capital (not, eg, inventories).
Evidence of capital formation rates in Korea, another rapid-industrializing East Asian country, fits the trend: capital formation rates accelerated to around 35% during Korea’s period of rapid growth in the 1970s and 1980s, but slowed as Korea became wealthier. Now Korean capital formation is only slightly above the advanced-economy average. Germany and Italy also experienced above-average capital formation rates during the 1960s as they rebuilt from the war and as many parts of Italy industrialized for the first time. Now they differ little from the average of advanced-economies.

We can understand why rates of capital formation slow by looking at changes in the marginal utility of capital over time. When a country has little infrastructure or industry, adding one road or factory can provide a great deal of economic benefit. As the country builds more roads, though, diminishing returns set in. The value add of the second road may still be high, but it is likely lower than the first. The value of the thousandth road is lower still. Indeed, as the below chart shows, declining returns to capital have been visible across the rapid-industrializing East Asian economies, which have converged on the U.S. level. Convergence makes sense: barring restrictions on capital mobility, we would expect capital to flow to areas where it makes the highest return. (This hasn’t happened in many underdeveloped countries, but capital flows between advanced economies are far larger, and thus more likely to drive returns to
capital in advanced economies toward a similar level.) For countries that have industrialized rapidly, the trend of diminishing marginal returns is clear: as the capital stock increases, returns decrease.

Chart 4: Return on Capital (Penn World Tables, OECD, Chong-en Bai et al)8

How can we determine returns to capital? Calculations are only as good as the data quality, but one back-of-the-envelope method is to divide the capital income share of GDP by each country’s capital stock. Here I use data on GDP, capital stock, and capital income share from the Penn World Tables, with the exception of Japanese GDP and capital stock data, which are from the OECD. The Chinese data on returns to capital is from calculations by Chong-en Bai et al.9 As the above chart demonstrates, countries have higher returns to capital when they are poorer. As their economies develop, returns decline, converging on the levels of advanced economies.10

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8 Note that the method of calculating China’s return to capital differs from the other countries examined here.
9 Japan’s return on capital as calculated from the Penn World Tables gives impossibly high values. Something is clearly wrong with the data. The OECD values, by contrast, look reasonable.
10 Notably, this method does not control for the possibility, mentioned above, that recorded GDP overstates actual increases to well-being if investments are not long-term profitable. If, as seems plausible, there is more malinvestment in rapidly-growing economies, then this may overstate returns to capital during the high-growth period.
As returns to capital decline, so too does capital formation—at least, it usually does. If building additional roads and factories becomes less profitable, people will decide to invest less and consume more. This trend has been visible across East Asian economies, which recorded extraordinarily high savings rates during their rapid growth, before then watching savings rates decline as they became wealthier and as the benefit of additional investment declined. In Japan and South Korea, the decline in returns to capital was accompanied by slowing investment rates. The investment slowdown in Japan began after the high-growth 1960s and early 1970s, while Korea’s period of most rapid growth and subsequent investment slowdown occurred slightly later. Also notable in both Japan and Korea is that surges in capital formation unconnected with higher returns to capital ended in financial crises. This too makes sense, because investments that are not accompanied by returns are likely evidence of a bubble. Japanese capital formation jumped in the late 1980s even as returns were flat—an investment boom that led to the early 1990s crash. Similarly, Korean capital formation rates jumped in the 1990s even as returns slumped, setting the stage for the painful 1998 financial crisis and subsequent recession. Since these two financial crises, both countries’ rates of capital formation and returns to capital have been roughly correlated.

Chart 5: Gross Fixed Capital Formation, % GDP (left axis) and Return on Capital, %
Judging by data on capital formation and returns, China today finds itself in a position analogous to Japan in the 1980s or Korea in the 1990s. Returns to capital have declined, part of a long-term trend that accelerated after the 2008 financial crisis. Declining returns to capital, as noted above, are to be expected as diminishing returns set in. For nearly three decades, China has invested 20-30 percentage points of GDP more than advanced economies, funds which have built a massive industrial base, vast new cities, and world-class infrastructure in the country’s rich coastal regions. There is no historical example that suggests that China could significantly reverse its declining rate of return to capital investment. Returns to capital are following the path of Japan and South Korea, though judging by levels of capital per worker, China is facing diminishing returns earlier than some of its East Asian peers.

Chart 6: Gross Fixed Capital Formation, % GDP (left axis) and Return on Capital, %

Yet though returns to capital in China have declined since 2008, capital formation rates have increased. The structure of China’s corporations is probably to blame. Unlike its East Asian peers, which used implicit and explicit state support to subsidize private sector firms, a significant share of Chinese investment is done by state-owned firms financed by state-owned banks. Though both private and state-owned firms can face incentives to overinvest, it appears that China’s state-owned enterprises face worse incentives than East Asian peers at a similar stage of investment. What has emerged in China is a new sort of “dual economy.” Unlike at its early stage of development, when
China’s economy was divided into a rural, agrarian economy and an urban, industrialized economy that operated according to different patterns, China now faces an economy divided between state and private firms.\textsuperscript{11}

Today’s dual economy in China operates differently. Private firms are broadly profitable, and they have kept profit margins high in part by reducing investment rates. By contrast, state-owned firms face less incentive to make money, and their profit margins are accordingly significantly lower than private firms. This is despite that state-owned firms receive the benefits of subsidized finance and preferential regulation. Some are even monopolies—and thus ought to have higher profit margins than private sector firms that face competition. That they are less profitable suggests that they are investing poorly and wasting money.

This dual economy explains much about why returns to capital are slowing. Like other state sector firms, Chinese SOEs face soft-budget constraints. Hardly any go bankrupt after wasting money, and it is just as risky to anger government and party officials by not investing in pet projects as it is to lose money through poorly conceived investments. Thus the investment level has stayed elevated as returns decline. Only in the past several years has data emerged suggesting that China’s investment rate may now be slowing as financial regulators tighten lending rules, though a clear downward trend has yet to emerge. What is clear is that any decline in China’s investment rate thus far—if indeed it is occurring in a sustained manner—is far smaller in magnitude than the decline in returns to capital. China is investing too much, constructing buildings and infrastructure whose cost may not be met by future returns.

To fund this investment, according to World Bank estimates, China today saves 48% of its income, probably the highest rate ever recorded, excluding tiny countries and oil producers.\textsuperscript{12} China’s investment rate has increased even as foreign direct investment has decreased. Thus Chinese households have had to save more. Yet savings are useful only insofar as they lead to future returns; otherwise it is better to spend now, especially for a country like China, where present needs for consumption remain great. The new

\textsuperscript{11} This “dual economy” thesis was initially sketched out by Arthur Lewis, “Economic Development with Unlimited Supplies of Labor,” \textit{The Manchester School} 22 (1954): 139-191.

\textsuperscript{12} World Bank data on savings as % GDP suggests that the Philippines had a higher savings rate, but this seems implausible.
dual economy, in other words, is suppressing consumption, deterring potentially profitable private investment, and depressing returns to capital even as it wastes money on poorly conceived state-sector spending.

For a decade, economists in China and abroad have been urging Beijing to transition to a growth model based more on consumption, but progress is slow. The challenge is that unless declines in investment are matched by increases in consumption, GDP growth will slow. Some growth slowdown is inevitable as a country gets richer, and Chinese GDP today is growing between 6-7% annually rather than 8-10% a half decade ago. How can China boost consumption? Despite rapid income growth, household savings rates remain high. Elevated savings rates are commonly ascribed to China’s weak social safety net, which forces Chinese households to save significant amounts of funds for retirement or to self-insure against the risk of health problems or unemployment. However, after a decade of social spending increases, household savings rates have barely budged. It now appears that demographic shifts and the magnitude of income growth explain much of today’s elevated savings rates. These are factors that public policy can do relatively little to change.

Chart 7: China Household Consumption and Labor Share of GDP, %

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13 For an excellent overview, see Andrew Batson, "Why Chinese Save, or The Death of the Precautionary Savings Hypothesis," https://andrewbatson.com/2015/04/07/the-death-of-the-precautionary-savings-hypothesis/
Yet even if public policy can only marginally affect aggregate household savings rates in the short term, the government can nonetheless take steps to boost consumption. One way to do so is by having the government spend directly. Rates of social spending increases have slowed in recent years, in part because spending on services disproportionately relevant to the poor is not a popular use of scarce tax dollars in a party that, though nominally communist, is dominated by the rich. President Xi Jinping’s rhetoric about reducing poverty appears to address such concerns, though Hu Jintao also talked about reducing inequality with little evident success. Reducing income inequality might also help to bring down savings rates, because poorer households are probably more likely to spend rather than save additional income.

**China’s Banking System in Comparative Perspective**

Alexander Gershenkron’s argument that late-industrializing countries must rely on a financial model that differs from US or UK experience has proven true in East Asia. Here, too, China is following a path forged by Japan, Taiwan, and South Korea. There are several key features. First, China and its East Asian neighbors have relied on banks rather than on capital markets to funnel funds to industry. Second, these banks either have been state-owned or de facto state directed, which allowed the government to target funds and certain industries. Third, loans to favored sectors, especially manufacturing and industry, have been below market interest rates and at times even below the inflation rate. (When the interest rate on a loan is below the inflation rate, the recipient of the loan is being paid by the bank to borrow). Fourth, banks’ cheap lending rates have been made possible by ‘financial repression’, that is, by keeping rates on deposits artificially suppressed. This transfers wealth from depositors, who have a lower return on savings, to banks. Fifth, when banks made loans that were not repaid, the government bailed them out, often at significant cost to the taxpayer.

The downsides of this system—particularly in its inability to properly price credit risk and thus in creating an incentive for banks to lend even to non-creditworthy businesses—are obvious. Nonetheless, this system has proven capable of forcing up the savings rate and driving capital to businesses. For poor countries, higher savings and higher investment are a crucial precondition for growth. In adopting this type of financial
system, China has reaped benefits like those of its peers in Asia. It has also accumulated similar risks.

To understand China’s financial system, take each of these parts in turn. First, its reliance on banks rather than capital markets. China’s decision to rely on banks emerged of design rather than necessity. At the beginning of its transition from a centrally-planned economy under Mao Zedong to a combination of central planning and markets in the late 1970s, China had no capital markets to speak of. It did, however, have a bank: the People’s Bank of China (PBoC). Under central planning, banks were primarily charged with accounting and managing payments, because there was no significant system of lending, and because all credit risk was born by the state. A more market-based economy required some means of providing capital to firms, so China created several lending banks out of the existing structure of the PBoC, while transforming the PBoC into something that looked closer to a normal capitalist central bank.14 Adjusting the existing banking system so that it fit capitalist purposes was easier than creating capital markets from scratch.

This focus on banks rather than capital markets mirrored other Asian countries. In Japan, for example, the sale and purchase of bonds was heavily regulated during the 1950s through 1970s, so firms had little choice but to seek capital from banks. The government supported this system because it was easier to control, while banks lobbied in favor of retaining regulation because it meant they faced less competition. A state-dominated banking system is easier to manage when banks’ business model is not threatened by capital markets, which provide firms an alternate means of raising cash. Officials in China who want to limit the banks’ power have sought to build capital markets, though they have had only limited success so far.

China’s biggest banks remain owned and heavily influenced by the state. Even after Deng Xiaoping’s program of reform and opening began allowing a private sector to emerge, the financial system still heavily favored the state sector, which was disproportionately centered in the heavy industrial sphere.15 This trend has continued to the present. For one thing, even though each of the ‘big four’ state-owned banks have listed stakes on stock exchanges, all are majority state owned. Second, the leadership of

each of the big four banks is appointed by the Chinese Communist Party, ensuring that profit maximization is far from their only goal. On top of this direct control over bank leadership, the state shapes lending patterns by encouraging banks to provide credit to state-owned firms. It does this both by providing mechanisms for SOE bosses and government officials to lobby and pressure banks for loans, and by providing implicit guarantees on bank loans to SOEs.16

Taiwan, South Korea, and Japan all used state-owned or state-directed banks to fund industrialization, channeling lending to state-owned or state-preferred firms. In Taiwan, for example, the early years of industrialization saw banks give the bulk of their loans to state-owned firms, a trend that reversed as Taiwan’s economy developed. In Japan, the central bank used a technique called “window guidance”—unofficial regulatory demands—to push banks to adopt certain lending policies, and to threaten reduced funding if the central bank’s preferences were not met.17 These techniques guaranteed that industrial firms, which regulators believed were more likely to drive economic development, received subsidized funding. South Korea nationalized its banks after the country’s 1961 coup, giving them government guarantees and ordering them to provide cheap long-term loans to industry.18

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16 Until recently, SOEs were not permitted to default. China has recently seen its first SOE defaults, though it is too soon to say whether the scale of SOE defaults will shape bank lending decisions.
One dilemma for every developing country is finding capital needed to fund new businesses. Foreign capital is one option, though the quantities of foreign capital on offer have rarely proven sufficient to permit the rapid capital accumulation that is necessary for high rates of economic growth. East Asia’s late industrializing countries all turned to financial repression to gather savings and direct it toward investment. Here, too, China is no exception to the East Asian trend.

Financial repression refers to a set of policies that use regulation to repress certain financial activities and funnel capital to others. Financial repression usually has the following features. First, regulation restricts the number and type of financial products that are available, especially to consumers, leaving consumers with the choice either of keeping cash under the mattress or in a bank. Other products, such as stocks and bonds, are either heavily discouraged or prohibited. Second, regulation also caps the interest rates that banks offer on deposits. Normally banks face competition for deposits, so if one bank offers low interest rates, depositors will choose to save money in a rival. Regulation can hold down rates across the industry, thereby reducing banks’ funding costs. This transfers wealth from consumers to banks, and provides banks with cheap pools of capital.

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that can fund industrialization. Finally, financial repression is often, though not always, accompanied by lax bank regulation designed to permit large-scale bank lending.

![Chart 9: Korea, Bank lending rates and inflation](image)

Financial repression was visible in all of East Asia’s rapid industrializers, though the specifics changed over time. The above charts of Korea’s experience provide a representative example. The first chart shows that Korean manufacturers received lower than average bank loans, and that all bank loans were often provided at interest rates below inflation. The second chart, below, shows the difference between bank lending rates and rates on loans from the informal “curb” market, where individuals could access short-term credit. For the entire 1980s and 1990s, rates for comparable loans were far higher in the curb market—where rates were not controlled—than in the regulated bank market. Government regulation held down rates on bank loans, which went disproportionately toward the type of manufacturing firms that the government believed would boost long-term growth. As Korea’s banking system was deregulated, bank loan rates converged on market rates.

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China, too, has long had a system of financial repression that has only recently begun to unravel. As in other East Asian countries, deposit rates were regulated so that they were always below what the market rate would have been, and often below inflation. This reduced household income and transferred wealth from households to banks and to the government. Second, Chinese households faced few other options for saving, with international investment restricted by capital controls and the stock market seen as an untrustworthy store of wealth. Real estate has absorbed a significant share of household savings, as Chinese opted to place excess cash in a second apartment rather than in bank accounts with negative real interest rates.

Rapid real estate price growth is another similarity between Japan’s development in the 1980s and China’s today—though the cause of China’s real estate boom were different from Japan’s. In both countries, low interest rates facilitated construction and investment. But in Japan, the land bubble emerged as financial markets were being deregulated and as demand for capital from industry was declining. As banks lent funds

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for real estate, real estate prices boomed, creating a speculative bubble. China’s real estate boom has had different drivers. Until recently, consumer demand was not bank-driven. Banks still have ample loan demand from corporate customers, especially from SOEs, and mortgages have played a relatively small role in housing demand, though this is rapidly changing.

China is now unwinding financial repression. Unlike in Japan, when the demise of financial repression was accompanied by a real estate boom, financial deregulation in China will likely reduce households’ propensity to use real estate for investment purposes. Interest rates have been partly liberalized. The government is at least in theory trying to build more credible debt and equity markets that could absorb Chinese household investment. Yet the biggest challenge comes not with liberalization but with improving regulation. Financial repression usually pairs strict rules on household investments with lax regulation of bank lending. The purpose of most financial repression regimes is to boost bank lending, so regulators only loosely monitor banks’ lending decisions. The benefit of such an approach is that it lets banks lend, creating capital needed for investment. The downside is that, when banks lend to firms that invest poorly, banks require a bailout. China already faced one banking crisis during the late 1990s, when the volume of non-performing loans (NPLs) spiked and the government was forced to execute a bank bailout of 28% of GDP to keep its banks solvent.

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The bad news for China is that East Asian transitions away from financial repression models have often been accompanied by financial turbulence. As noted above, financial crises in Japan (early 1990s) and South Korea (1998) were driven by rates of investment that were not proportionate with falling returns to capital. Both countries saw poor investment decision become financial crises when it became clear that the countries’ banks were stuffed with bad loans that would never be repaid. Because each relied heavily on banks rather than capital markets, lending—and economic growth—could only be restarted after sizeable bank bailouts in each country.

**The Risk of the Soviet Option**

Japan and South Korea reaped immense benefits from rapid economic growth in the postwar period. The crises of each country’s model of financial development accompanied a shift to lower investment rates. Reduced investment, in turn, was made possible by a loosening of the government-bank nexus that had driven capital toward industry during their high growth days. Each country suffered immensely from their

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respective financial crises. But the crises also served a useful purpose, driving home the extent to which the financial model must change if the country was to avoid inefficient overinvestment in the future, and shaking up the political structure in a way that let investment rates decline. As the above charts of fixed capital formation rates show, each country’s crisis marked a turning point.

There is a much more worrisome example of a country that, because of the depth of state control of the economy, staved off a crisis of its growth model for far longer than a market economy could have, with disastrous results. Like East Asia’s economies, the Soviet Union used financial repression to mobilize savings and direct capital toward heavy industry. Like East Asia, the Soviet Union experienced rapid growth rates during the 1930s through 1960s. In the 1950s, for example, annual GDP growth likely exceeded 5%, far faster than the United States was growing. Indeed, during the early postwar years American economists projected forward to the day when the Soviet economy would overtake the United States.

Today we remember the Soviet economic experiment as an absolute failure. This assessment depends on what you are measuring. The Soviet economy proved capable, like the East Asian economies, of amassing capital and investing it productively in basic industries: steel mills, electric production and the like. (The brutality of the Soviet political system meant that, unlike in Japan or South Korea, Soviet industrialization was accompanied by mass famine and violent repressions.) But it must be recognized that, in terms of moving the Soviet Union from an agrarian economy to an industrialized one, the planned economy worked at least tolerably well. From 1930 to 1960, there were multiple countries that did worse.

Where the Soviet Union failed, spectacularly so, was in moving beyond basic industrialization. Not only was it unable to develop new industries beyond its copycat replication of the US and German industrial base—which was a sensible strategy for a dirt-poor country in 1928, but less so for a middle-income country in 1965—it also proved unable to reduce investment in industries that were no longer efficient. Thus even a decade before its final demise, the Soviet Union was plowing huge sums of capital into industries that were decades out of date and had no hope of renewal. The Soviet Union therefore entered the late 1980s with huge sums of what in a capitalist economy would be called debt: funds invested in industries that would not be matched by future
production. Even as the marginal product of capital collapsed in the 1970s and 1980s, capital formation rates in the Soviet Union remained stubbornly high. The reason was that vested interests linked to the old industries continued to dominate decision making about capital investment. State control staved off a financial crisis for longer than was possible in Japan or South Korea, but this permitted bad investment to build up. The result was disastrous.

China has already taken important steps to avoid the Soviet fate. By every metric, its industries have proven more successful in shifting to higher-value-added production, replacing old equipment and making workers more productive. Unlike the Soviet Union, its private sector is large, diversified, and far more efficient than the state sector. Openness to foreign trade provides an important check on inefficiency by demonstrating that certain investments are inefficient. The Soviet Union, which lacked a clear understanding of how domestic prices compared with international prices—and therefore did not know how inefficient its firms were—had no such mechanism. To be sure, China shields state-owned sectors such as steel from a truly competitive environment by showering steel firms with cheap credit and regulatory support. But whatever the failings of China’s economic governance, a partially-functioning system of incentives is likely to produce significantly better outcomes than the Soviet system, where incentives barely existed.

25 I explore this dilemma in The Struggle to Save the Soviet Economy: Mikhail Gorbachev and the Collapse of the USSR (UNC Press, 2016).
Conclusions

History presents no firm predictions about the future, but it can suggest patterns. One historical pattern—that returns to capital converge over time on the advanced-economy average—is well established. Returns to capital in China have fallen sharply, and are unlikely to significantly reverse. Thus, the country must begin reducing capital investment rates if it is to avoid diminishing returns and significant waste. This is already beginning to happen, but the rate of change has been slow.

A second historical pattern is that the shift from capital investment to consumption-driven growth has often been accompanied by financial turbulence. In both Japan and South Korea, slowing capital formation required a shift away from a bank-dominated financial system funded by financial repression. This proved difficult to execute. Investment-focused financial repression regimes succeed in allocating capital to firms in part because of their lax bank regulations. The purpose of such regimes is to dish out capital, not to ask tough questions about how it will be spent. When returns to capital are high, this may make sense. It makes less sense when returns fall. Yet both in Japan

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26 Gur Ofer, “Soviet Economic Growth: 1928-1985,” *Journal of Economic Literature* 25, no. 4 (Dec, 1987): 978. Like all Soviet data, this should be taken as at best a loose representation of Soviet economic realities. But the basic picture seems accurate. Note that the period from 1940-1950 is low because of World War II.
and South Korea, financial regulation struggled to keep pace. Returns fell faster than bank lending standards improved. The result in both countries was a financial crisis—Japan in the early 1990s, South Korea in 1998.

China today is trying to reduce moral hazard—the belief that bank loans will never go bad—by tightening regulation and allowing a small number of corporate defaults. Historical experience suggests that Beijing is right to focus on bank regulation. Yet all the evidence thus far suggests it faces similar challenges. Industry groups and local governments have grown strong on the back of decades of cheap loans, and they are fighting any attempt to limit their funding source. In China’s nascent credit markets, meanwhile, the belief that defaults are possible and that prices can go up as well as down remains only partial. Beijing has work to do, in other words. Chinese financial markets believe that ‘this time is different,’ but China’s financial development has thus far followed a pattern set by its East Asian neighbors.

The comparison between China and its East Asian neighbors is not only a source of pessimism. Despite experiencing financial crises when their growth models hit limits in the 1980s and 1990s, China’s neighbors today are highly developed. Japan’s much-discussed 25 years of stagnation is partially due to the financial hangover of the 1990s, as banks struggled to clean up their balance sheets. But it is equally due to Japan’s aging society, which naturally effects aggregate growth rates. Growth rates in household income when adjusted for demographic shifts look rather better. South Korea has continued to achieve solid growth rates in the two decades since the 1997 crash.

Even if China’s shift away from investment-driven growth is accompanied by financial difficulties, this need not derail growth in Chinese living standards over the long-run. But much depends on how China responds. If it does not manage to cut funds to its most backward industries, it risks Soviet-style waste. Failing to recapitalize banks after a future real estate bust, meanwhile, risks a Japan-style lost decade. Despite China’s dilemmas of debt and development, a path exists to a more sustainable, if slower-growing, future. But with interest groups and party factions lobbying to maintain the status quo, despite the risks, it is far from clear whether Beijing will manage to find it.
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