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ABSTRACT

Has China's Growth Gone from Miracle to Malady?*

China's remarkable run of persistently high growth in recent decades is all the more stunning in light of the country's low levels of financial and institutional development, state-dominated economy, and nondemocratic government. Notwithstanding the inefficient and risky growth model, the government has maneuvered the economy around various stresses without any major financial or economic crash. With a shrinking labor force and declining efficiency of investment, raising productivity growth is key to maintaining reasonable GDP growth. Unbalanced reforms, a schizophrenic approach to the role of the market versus the state, and strains in financial and property markets could result in significant volatility but a financial or economic collapse is not in the cards.

JEL Classification: F2, F3, F4

Keywords: growth rebalancing, sectoral reallocation, demographics, productivity growth, financial risks

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1. Introduction

Several "unprecedented" economic, financial, and political events have occurred in recent decades, many of them short-lived and most of them unfavorable in some form or another. Then there is China's growth over the last few decades, which stands out as a positive historical (and persistent) anomaly by any measure. Mean reversion, the middle income trap, or any number of formal, informal, and statistical models have for many years now been used to predict an imminent sharp decline, if not collapse, in China's growth. China's low levels of financial and institutional development, state-dominated economy, nondemocratic government, and manifold other inadequacies should have dragged down growth. And yet, until the COVID pandemic rocked it back on its heels, the Chinese economy powered through periods of domestic and global turmoil seemingly unscathed. Is the much anticipated and long foretold day of reckoning finally at hand?

China has had a remarkable run of growth, lofting it from low income status three decades ago to upper middle income status now. China's GDP was $18.3 trillion in 2022 (at market exchange rates), 73 percent that of the United States and ten times more than the comparable ratio of 7 percent in 1990 (see Figure 1). The gap in per capita incomes is larger. China's per capita income is now roughly $13,000, 17 percent that of the United States compared to less than 2 percent in 1990. In purchasing power parity (PPP) exchange rate terms, China's economy is now 1.2 times the size of the United States. Over the period 2007-2022, China accounted for 35 percent of global nominal GDP growth (at market exchange rates), compared to 27 percent for the United States.[1]

China's GDP growth in the last three decades has been reliant on investment growth financed by an inefficient banking system and has occurred against the backdrop of a bloated state sector, authoritarian government, and weak institutional framework. A striking aspect of China's economic performance has been the government's ability to manage the severe economic and financial stresses that have built up as a result of the highly inefficient and risky

[1] The growth contribution figures are based on nominal GDP in US dollars measured at market exchange rates. Measured in PPP exchange rates, China and the United States accounted for 26 percent and 13 percent, respectively, of global GDP growth over this period. While China's GDP is larger in PPP terms, over the period 2007-2022 the renminbi appreciated relative to the US dollar by 12 percent at market exchange rates but *depreciated* by 34 percent at PPP exchange rates (end-of-year exchange rates). China's nominal GDP in US dollars at market exchange rates was 5.1 times larger in 2022 than in 2007. At PPP exchange rates, China's 2022 GDP was 3.4 times its 2007 level. When measured using GDP at constant prices and PPP exchange rates, China accounts for 36 percent of global growth from 2007 to 2022.

growth model it has embraced. The government has maneuvered the economy around the seemingly inevitable prospects, at various points, of a banking crisis, massive currency devaluation, housing market meltdown, and economic collapse. Notwithstanding numerous ructions in financial and housing markets and in GDP growth, these plausible doomsday scenarios have yet to materialize.

Yet, each of these near misses has exacted a toll. The huge buildup in domestic debt, the loss of $1 trillion in reserves during 2015-2016, and the highly volatile prices of stocks, property, and other assets are emblematic of the challenges the economy has had to contend with. They also highlight erosions in the efficacy of macroeconomic policy tools and the government's shrinking capacity to respond effectively to adverse domestic and external circumstances.

Beijing now faces a number of policy dilemmas, some of which are of its own creation—how to continue deleveraging while maintaining growth; how to reduce energy-intensive production while the economy continues to rely on heavy industry; how to get markets to exert financial discipline even while Beijing tries to strengthen state control; how to restrain wealth inequality while relying on the private sector to generate more wealth; and how to encourage private sector innovation while cutting successful private enterprises down to size.

Beijing's attempts to resolve these inherently contradictory impulses in the guise of market-oriented socialism will inevitably lead to further stumbles and accidents. The government's policy approach, while driven by the right objectives, could generate more uncertainty and volatility in the short run, which in turn could reduce public support for much-needed reforms to bolster long-term productivity and growth.

Even if no crises materialize and the government succeeds in steering the economy through murky waters, unfavorable demographics, high debt levels, and an inefficient financial system will increasingly constrain China's growth. This gloomy picture has to be offset by the recognition that, for an economy that now accounts for nearly one-fifth of global GDP (at market exchange rates), even a more restrained growth rate relative to its own historical standards will mean the continuation of an extraordinary growth streak.

2. Sources and Structure of Growth

China's official GDP data have become the focus of much attention and some controversy. Whether China's GDP is correctly measured remains a subject of debate, with some

even arguing that growth might be understated in certain periods. By and large, scholars seem to agree that data on annual growth rates have become reasonably reliable in recent years, matching up with various other indicators of economic activity (while quarterly growth rates often seem too smooth to be realistic).[2]

Among other sources of alternative data, the Penn World Table (PWT) is used widely in macroeconomic research since it provides a breakdown of GDP into different expenditure components, in both local currency and international prices, and on a consistent basis for a large number of countries (see Feenstra, Inklaar, and Timmer, 2015). Based on the then-available PWT version 8.0 data, Pritchett and Summers (2014) highlight China's phenomenal run of per capita real GDP growth.[3] They note that "China's experience from 1977 to 2010 already holds the distinction of being the only instance, quite possibly in the history of mankind, but certainly in the data, with a sustained episode of super-rapid (> 6 ppa) growth for more than 32 years." They point to Brazil, Japan, and Southeast Asian economies as having experienced periods of sustained high growth before shifting to long periods of low to zero growth, with China being a huge statistical outlier by any measure. Based on analysis of cross-country historical data, they make a strong statistical case for mean reversion pulling down China's growth.

In the latest version of PWT (10.01), China's growth looks a little less remarkable.[4] Average annual per capita GDP growth over the Pritchett-Summers sample (1977-2010) is 8.75 based on PWT 8.0 data and roughly 6 percent based on PWT 9.0 and 10.01 (the latest available version, which has data through 2019). China's per capita GDP growth rate was 3.9 percent from 2011 through 2019 per PWT 10.01 and 6 percent from 2011 through 2022 in the official data. Irrespective of which data source (and which version of that source) one chooses to use, Pritchett and Summers's substantive point stands--that China's growth over the last five decades has been spectacular and unique in recent history. And their point that China's growth would perforce slow down seems to be holding up as well, although average growth of 6 percent over a decade is slow only by China's own historical standards.

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[2] Chen et al. (2019) argue that China's official statistics overstate GDP growth by about 1.8 percentage points per annum over the period 2010-2016. Clark, Pinkovskiy, and Sala-i-Martin (2020) reach the opposite conclusion for a longer sample, while Holz (2014) and Fernald, Hsu, and Spiegel (2021) conclude that the official data are mostly reasonable, even if a tad too smooth.

[3] In later sections of their paper, these authors use PWT 7.1 to project China's dollar GDP into the future in order to build on some earlier calculations using that version.

[4] See Appendix Figure A1 for a comparison of China's growth based on data from different versions of the PWT.

Figure 2 shows China's growth over the last three decades based on official data as well as data from the PWT 10.01. The trend decline in growth over the last decade and a half is apparent in the data. The pandemic-induced slowdown in 2020 was followed by a strong rebound in 2021, before the government's draconian COVID lockdown policies pulled growth back down to 3 percent in 2022. In late 2022, the Chinese government's reversal of its increasingly untenable zero-COVID policy briefly lifted domestic stock markets and buoyed optimism about China's short-term growth prospects. The government's volte-face can be taken as a sign of flexibility or, less favorably, its dogged unwillingness to acknowledge policy errors and undertake a course correction until left with no choice. In any event, the economy seems set for a stronger performance during 2023 than in 2022, but growth beyond that will depend on how structural changes that have been underway in the economy play out.

Fixing Imbalances

For many years, the Chinese government has touted its goals of rebalancing the economy. This is taken to mean reducing the reliance on investment-heavy growth and getting household consumption to be the key contributor to GDP growth; generating more growth come from the services sector rather than low-skill low-wage manufacturing; and shifting away from capital-intensive growth in a manner that improves employment growth. These could be seen as different facets of the same objective.

In the decade between the Asian and global financial crises, China's large and rising current account surplus—which peaked at over 10 percent of GDP in 2007—was seen as an important symptom of domestic imbalances (and as a major contributor to global imbalances). High investment and even higher saving were anomalies to be fixed. Figure 3 shows that some of this rebalancing did take place, with China's current account surplus falling to and remaining at around 2 percent of GDP since 2011. Both saving and investment have fallen from their peaks but remain high by international standards. For instance, the investment to GDP ratio has declined by 4 percentage points from its 2010-2011 peak but still remains high at 43 percent.

Did the external rebalancing reflect internal rebalancing? Figure 4 shows the contributions of different expenditure components to real GDP growth. Domestic rebalancing initially lagged behind external rebalancing. For much of the last two decades, investment has been the key contributor to growth. This pattern intensified in the immediate aftermath of the

global financial crisis, with investment growth accounting for about two-thirds of GDP growth during 2009-2010. Since then, household consumption has become the main contributor to growth. In 2020, with household consumption collapsing during the pandemic, investment again dominated growth. This pattern was reversed in 2021 as pent-up demand sent household consumption surging. It is worth noting that net exports have in general been a relatively modest contributor to China's overall growth.

Given that China has a capital to labor ratio that is much lower than that of advanced economies, one could argue that more rather than less investment is desirable.[5] For instance, China's capital to labor ratio is only about 28 percent that of the United States. However, recent investment has been driven by the public (state) sector rather than the nongovernmental sector. In 2022, for instance, state investment amounted to 44 percent of total fixed asset investment, a significant increase relative to the corresponding ratio of about 36 percent during 2017-2018 (Figure 5).[6] This is not inherently a problem—after all, investment in private sector firms, especially smaller ones, rather than large, state-owned enterprises can be much riskier. But in China state-owned enterprises, which have collectively received a disproportionate share of bank credit, have typically not generated strong returns on those investments.[7]

The recent collapse in nongovernmental investment growth (Figure 5), with state investment accounting for nearly all of the growth in overall fixed asset investment in 2022 is a sign that private businesses might be wary of increasing investment when they see the economic and political environments as unfavorable. Moreover, China's capital to *output* ratio is in fact about 50 percent higher than that of the United States. This reflects lower levels of total factor

[5] The ratios mentioned in this paragraph are based on PWT 10.01 estimates of capital stocks, TFP, and GDP at constant 2017 national prices and employment levels for the two countries in 2019. Estimates of capital stocks and GDP at current PPPs yield similar ratios. In principle, estimates of the labor force rather than employment levels should be used in such calculations, but this would not affect the ratio much given current estimates of unemployment rates in both countries.

[6] The breakdown of investment into state and nongovernmental is based on fixed asset investment data. This is different from the national income accounts concept of gross fixed capital formation (which is the measure used earlier in this paper). A sectoral breakdown of gross fixed capital formation is not available. For a critical evaluation of various measures of investment in China, see Nicholas Lardy's blog post https://www.piie.com/blogs/china-economic-watch/china-has-been-overstating-role-private-investment-its-economy.

[7] As one example of the differentials in productivity and profitability between state-owned and private enterprises, Jurzyk and Ruane (2021) find that publicly listed state-owned enterprises are less productive and profitable than publicly listed firms in which the state has no ownership stake.

productivity (TFP) and human capital in China relative to the United States. This implies that increasing investment might not be the optimal way to generate growth (see Rogoff, 2022).[8]

Another aspect of rebalancing that has played out over the last three decades is the gradual increase in the services sector's share of aggregate GDP as well as employment (Figure 6). By 2012, the services sector accounted for the largest shares of output and employment and, by 2021, this sector accounted for more than 50 percent of GDP and close to 50 percent of aggregate employment. With this sector accounting for a substantial fraction of employment growth in recent decades, the availability of financing and productivity growth in this sector will be important determinants of China's growth.[9]

In short, while the trajectory has been uneven, there has been significant progress towards the objective of growth rebalancing, with household consumption becoming the key driver of growth and the services sector becoming more prominent than manufacturing.

Prospects

Speculating about China's medium- and long-term growth prospects has been a growth industry in itself—one that has enormous implications for the world economy as well.[10] Pritchett and Summers (2014) and many other authors have pointed to the risks of extrapolating China's future growth based on its performance over the last few decades. There is a large margin of uncertainty surrounding any projections of a growth in an economy undergoing substantial structural change. One can at best use the growth of various factors that go into the aggregate production function as an indicator of what the future might hold.

China's labor force, defined as the population in the 15-64 age range, is shrinking (see Figure 7). By 2030, it is expected to decline at the rate of about 1 percent per year, acting as a drag on growth (immigration is minimal and unlikely to offset this decline). But of course it is not just the number of bodies but the skills embedded in the workforce that matter for output. Is the quality of the labor force improving? China's human capital index in PWT, based on years of

[8] For more analysis of these shifts in investment patterns and their implications, see Lardy (2014, 2019).
[9] Over the two decades from 1991-2021, average annual employment growth in industry and services were 1.5 percent and 3.6 percent, respectively. Overall employment growth averaged only 0.5 percent over this period, as employment in the primary sector continued to shrink. The official urban unemployment rate was 4 percent at the end of 2021.
[10] For some recent examples, see Bailliu et al. (2017), Dollar, Huang, and Yao (2020), Rosen (2021), Benzell et al. (2023), and Goldman Sachs (2023). For discussion of the middle income trap and potential implications for China's growth, see Eichengreen, Park, and Shin (2012) and Kharas and Gill (2020).

schooling and the returns to education, shows an increase from 1.96 in 1990 to 2.44 in 2010 and then to 2.69 in 2019 (comparable figures for the United States are 3.44, 3.70, and 3.75, respectively).[11] The increase in human capital embedded in each unit of labor could partially offset shrinkage in the labor force, although part of the increase in the PWT's measure of human capital could itself simply reflect higher returns to education on account of a rising capital-labor ratio.

Higher investment growth could pick up some of the slack but that has many risks, as discussed earlier. That leaves productivity. For all the inefficiencies that seem to pervade its economy, China has generated decent total factor productivity growth on average over the last few decades.[12] But as Figure 8 shows, productivity growth has been muted over the last decade, with annual TFP growth averaging only about 1 percent per annum. Clearly, China's growth will run aground without an improvement in productivity growth. The government seems to recognize this but before we discuss its policy approach, we must consider the possibility that the economy could come off the rails, validating warnings about all the overt and hidden imbalances that have been building up for many years.

3. Vulnerabilities

A number of domestic and external financial vulnerabilities loom in the background, raising the specter of China's economy being vulnerable to a crash similar to that experienced by other high-flying economies such as the Asian tigers. There are grounds for concern but at least some of the traditional red flags such as high levels of foreign currency-denominated external debt, which have caused numerous emerging market economy crashes, are not present in China's case.

Debt Distress?

China's overall debt levels and the possibility of a financial crash that spills over to global financial markets has been a significant concern for many years now. Debt levels have indeed risen over time, although gross debt levels are not substantially out of line with other major economies such as the United States and Japan. One important difference is that, as a ratio

[11] These numbers are taken from PWT 10.01 and refer to the variable *hc*.
[12] See Bosworth and Collins (2008) and Sasaki et al. (2021).

to nominal GDP, explicit public debt is much lower in China than in most other major economies while corporate debt is higher.

Corporate debt, which rose substantially in the aftermath of the global financial crisis, became a major source of concern and was seen as emblematic of China's investment-heavy growth model (Figure 9). By 2016, nonfinancial corporate debt stood at 145 percent of GDP. Recognizing these risks, the government initiated a deleveraging campaign that, by 2021, resulted in corporate debt falling back to 131 percent of GDP. Even though China has a high level of corporate debt, most of this is denominated in China's own currency and owned by domestic banks and investors, creating fewer fragilities than external debt (owed to foreign investors and denominated in foreign currencies such as the U.S. dollar).

There are, however, specific sectors where the concentration of debt could be a problem. The real estate sector, in particular, is a broader source of economic vulnerability. Real estate investment has become a bulwark of the economy, helping to keep growth on an even keel even when other sectors flounder.[13] Local government officials are eager to sell land to developers, boosting government revenues and enabling a range of expenditures, including on pet infrastructure projects. A fall in real estate prices or other factors that restrain real estate activity could thus have broad implications for growth through knock-on effects on other sectors, local government finances, and even household wealth.

Indeed, household exposure to the real estate sector, which has risen partly on account of government policies, has created additional vulnerabilities that could affect not just economic but also social stability. Easier access to residential mortgages, which the government encouraged, boosted housing demand and played a significant role in the surge in household debt, from about 30 percent of GDP a decade ago to slightly more than 60 percent of annual GDP (Figure 9). Property has also become a mainstay of Chinese household wealth, accounting for nearly 60 percent of household wealth in 2019.[14] Thus, households are exposed in multiple ways to house price fluctuations.

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[13] Rogoff and Yang (2021 and addendum) estimate that the direct and indirect domestic value added of the real estate sector (both residential and commercial) is about 24 percent. Adding in the imported content of China's real estate sector would push that estimate up by about 3 percentage points. Rogoff and Yang (2022) and Huang (2023) highlight various other risks related to this sector and their systemic implications. Chen et al. (2017) discuss how the real estate boom has exacerbated capital misallocation.

[14] This estimate is based on a survey conducted by the People's Bank of China that is summarized in this news story: http://www.xinhuanet.com/english/2020-04/26/c_139009659.htm.

While corporate and household debt levels are high, however, it is worth noting that saving rates are high as well (Figure 10). Take, for instance, household saving which has averaged 25 percent of GDP in the last few years. This is a flow variable as opposed to debt, which is a stock variable. A stock measure of household savings such as household deposits in the banking system, which amounted to 94 percent of GDP in 2021 (Figure 11), portray a more benign situation. In particular, overall household balance sheets do not appear at risk. In fact, the high level of household saving, which now amounts to 38 percent of household disposable income (Figure 10), provides a measure of protection for household balance sheets but also inhibits the objective of boosting consumption growth.

One of the takeaways from this discussion is that much of the debt accumulation in China is financed by domestic savings, making it not so much a source of financial risk as of major inefficiencies and waste because of a broken system of allocating capital.[15] The state owns many of the key creditors and debtors, so a financial shock is unlikely to set off a financial crisis or a collapse in growth. There are still potential concerns about social stability if the government were to account for the true extent of losses in the banking system and use tax revenues to finance a recapitalization, which would be a large and complex undertaking.

Of course, it is not just aggregate levels of debt versus assets but how those are distributed through the economy that matter. A number of property developers, such as Evergrande, have run into financial trouble in recent years. Many property developers who are similarly exposed, with high debt levels and with vulnerable balance sheets if house prices were to tumble further, and a number of financial institutions who have lent to them are exposed to spillovers of problems from Evergrande. But a systemic meltdown is not in the cards. Most major Chinese banks are under state control and can provide infusions of cash to troubled corporations, even if that only pushes problems off into the future. Such stumbles are inevitable as China tries to give market forces freer rein, but the government has enough control and resources to prevent broader financial crashes.

On a less sanguine note, it is worth noting that for a number of years various monetary and credit aggregates have grown faster than nominal GDP (Figure 12). These aggregates include M2 and measures of credit growth (total renminbi loans and total social financing, a broad measure of credit and liquidity that includes corporate bonds, foreign currency loans, trust

[15] Song and Xiong (2018) reach a similar conclusion.

loans, bank acceptance bills, and nonfinancial corporations' equity financing). There was a dramatic discrepancy between growth in these aggregates and in nominal GDP in 2009-2010, a period when the government unleashed a massive gusher of credit to support the economy by financing an investment boom (see Hsieh, Bai, and Song, 2016). Some of these discrepancies have persisted over time, including in 2020 and 2022. Coming on top of already high levels of leverage, this portends rising levels of debt that could pose problems in the future.[16]

External Vulnerabilities

Many emerging market economies have run into distress on account of high levels of external debt, particularly foreign currency debt than can cause balance sheet problems when a country's economy and exchange rate deteriorate simultaneously. China's overall external debt is estimated to be about 16 percent of GDP, far less than most other emerging market economies, and less than half of this is denominated in foreign currencies.

Still, economic and political uncertainty have created concerns about capital flight. For a number of years now, the net errors and omissions item in the balance of payments has been substantially negative (Figure 13). This is suggestive of a great deal of capital flowing out through unofficial channels, presumably to obviate controls on capital outflows.[17] These outflows seem to have picked up during 2015-2016, when the renminbi came under sharp depreciation pressures and the government also initiated an anti-corruption campaign, and have mostly stayed in the $150-200 billion range since then.

How large could these outflows be if, for instance, a banking panic were to lead to a flight of deposits out of the banking system and out of the country? In 2021, total deposits in the banking system amounted to about 170 percent of GDP (please refer back to Figure 11). With foreign exchange reserves amounting to about 17 percent of GDP, flight of even 10 percent of

[16] According to official data from the China Banking and Insurance Regulatory Commission, the ratio of nonperforming loans to total loans (NPL ratio) in the banking system at the end of 2022 was 1.7 percent. Of the different categories of banks, the average NPL ratio was 1.3 percent for large commercial banks, 3.2 percent for rural commercial banks, and under 2 percent for all other categories. Whether these numbers are an accurate reflection of problem loans in the banking system and how large the effects of loan evergreening are remain open to question.

[17] The balance of payments identity is as follows: Current account + capital account + net errors and omissions – change in international reserves = 0. A negative net errors and omissions implies that the sum of the current and capital accounts is positive (assuming no change in international reserves). During the early 2000s, when the renminbi faced substantial appreciation pressures and the government was trying to restrict capital *inflows*, net errors and omissions were persistently positive and large.

total deposits would deplete reserves.[18] This is, of course, an unlikely scenario given that much of the banking system is state-owned and the government would probably back all deposits in the event of a financial panic. Moreover, capital control levers can be quite potent when the government directly controls much of the banking system and, therefore, the main conduits for large capital outflows.

Financial or currency meltdown scenarios are, almost by definition, the result of unexpected sequences of events. While these cannot be ruled out altogether, it is not easy to lay out a plausible scenario for such a meltdown in China.

4. Policy Frameworks and Contradictions

China has used a variety of organizing frameworks for its policies. These frameworks can often sound like slogans rather than policy statements. In fact, they serve as guideposts for a broad range of reforms and even serve to galvanize public support. While there have been reforms in recent years, many of these have been related to the financial sector and capital markets, with far less progress on supply-side and institutional reforms. This lack of balance creates its own risks.

Frameworks for Organizing Reforms and Reducing Resistance

Major economic reforms are often undertaken under the shadow of a crisis. Chinese leaders have undertaken some reforms even when short-term growth seems secure and despite potential risks and dislocations. There are multiple elements to any major reform effort—the framework, strategy, tactics, and implementation. At least on the first three, China has created an effective template.

To begin with, let us review examples of policy frameworks deployed by the government. Consider, for instance, how China rallied domestic support around the objective of making the renminbi an international currency, which in turn necessitated relaxing restrictions on cross-border capital flows.[19] Given its underdeveloped financial markets, capital account

[18] Obstfeld, Shambaugh, and Taylor (2010) argue that emerging market economies take M2 into consideration in determining their reserve holdings. The IMF now incorporates similar measures into its assessments of reserve adequacy.

[19] See Prasad (2016), Eichengreen and Xia (2019), and Miao and Deng (2019). For a discussion of China's approach to capital account liberalization, see Prasad and Rajan (2008) and Clayton et al. (2023).

liberalization is premature for China. But this objective highlighted areas where reforms were in China's own interest—more efficient financial markets, better regulation of those markets, and a more flexible exchange rate. The framework proved important not only for catalyzing the individual reforms but in showing how they fit together and reinforce each other.

Second, a narrative that highlights the broad benefits of reforms can help blunt opposition. A major stumbling block to reforms in emerging market economies is the view, often a legitimate one, that such reforms largely benefit the economic and political elite. China has been effective at creating narratives that build broad support and provide a framework for communicating the logic and desirability of individual reforms. In early 2013, the Chinese government announced the common prosperity plan to reduce inequality, a dubious policy goal if it were to emphasize redistributive policies. In fact, the specific steps outlined in the plan were exactly the reforms China needed—financial market liberalization, reform of state-owned enterprises, and freer labor mobility. All worthy reforms in and of themselves but the narrative helped emphasize that the benefits were designed and intended to be widespread rather than accruing to the select few.

A clear timeline helps build credibility and reduce opposition to reforms. Some years ago, the government announced that within a two year period it would eliminate the ceiling on interest rates paid on bank deposits. The ceiling had stifled bank competition, resulting in households getting minuscule inflation-adjusted returns on their deposits for much of the last decade. This sort of explicit commitment to a major policy change not only signaled seriousness but also blunted the opposition from banks, which had time to adjust to the change rather than having it foisted on them at short notice.

The implementation of such reforms is a fraught matter, however. China's approach often seems plodding and hypercautious, but might have some merits in an economy beset with multiple inefficiencies. For instance, despite the strong rationale for the move, removing the ceiling on deposit rates had risks. Weaker banks could offer higher interest rates to compete for deposits, make riskier loans, and set themselves up for failure. While it put in place an explicit deposit insurance system to reduce these risks, the government chipped away at the deposit rate ceiling by allowing the proliferation of other saving products with higher returns. This approach

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For a discussion of the indirect (collateral) benefits of capital account liberalization, see Kose et al. (2009).

had its own risks as "wealth management products" and off-balance sheet lending proliferated. Regulators had to aggressively rein in these sorts of activities; nevertheless, these actions by the government eventually helped catalyze interest rate reforms.

Similarly, reform of state-owned enterprises has focused on subjecting them to harder budget constraints and market discipline rather than privatization. Keeping these enterprises in state hands lessens the imperative for reforms but also avoids the risks of large-scale privatization, such as the looting of assets. Small and indirect reform steps--even if inefficient overall relative to a big-bang approach--elicit less opposition, pose fewer risks from the reforms themselves, and make course corrections easier.

The government has persisted with this approach. Recognizing the need to improve productivity and shift away from low-skill manufacturing, the government recently articulated the "dual circulation" policy, which implies continued engagement with global trade and finance but seeks a greater reliance on domestic demand as well as technological self-sufficiency and home-grown innovation. This policy, as well as the Made in China 2025 policy, have run into difficulties as China still needs foreign technology to upgrade its industry but U.S.-China tensions have limited the availability of the necessary products and technological expertise.[20] Rising economic and geopolitical rifts with the West, particularly due to Beijing's stance on the Russian invasion of Ukraine and also because of the increasingly hostile environment towards foreign businesses operating in China, could more broadly limit China's access to foreign technology (and markets for its exports). In addition, there are limits to direct government intervention, not just in the allocation of resources but in an environment where reforms in complementary areas do not proceed in parallel.[21]

Unbalanced Reforms

Thanks to the efforts of some reform-minded officials, Xi Jinping's government seems to have understood the need for financial sector reforms and liberalization in order to promote better resource allocation. Fixing the financial system is not just about managing risks and

[20] Bergsten (2022) and Roach (2023) discuss the U.S.-China economic rivalry and the possible fallout on both countries. For more discussion of the Made in China 2025 policy as well as its impact and limitations, see Wei, Xie, and Zhang (2017) and Branstetter and Lee (2022).

[21] Branstetter, Li, and Ren (2022) find that Chinese industrial policies have not had salutary effects in promoting productivity.

avoiding financial disaster but also about allocating capital to the more productive, dynamic, and employment-generating parts of the economy. What will it take?

Since China's financial system is still bank dominated, fixing them is a key priority. The reported nonperforming loan ratios of major Chinese banks are low, but that is largely a reflection of that loan portfolio being concentrated in the state enterprise sector. Evergreening those loans, many of which may never be repaid in full, is in the interest of banks in order to keep those enterprises afloat and the loans from having to be recognized as nonperforming. Banks also need the right incentive structure to make loan decisions based on commercial considerations. Bankers are rational in responding to distorted incentives—loans to large state enterprises are safer even if those enterprises are insolvent because of implicit government guarantees. Solving these two problems requires recognizing and removing bad loans from banks' balance sheets, as well as reform of the state enterprises themselves, including weaning them off dependence on bank credit.

The government has also tried to improve market mechanisms to fortify the banking system by putting in place an explicit deposit insurance system, in the hope that markets would better discipline banks based on the riskiness of their balance sheets. But there appears to be a pervasive belief (garnered from observed yields and risk spreads) that the state still provides implicit full insurance to the entire banking system and perhaps even for other financial products. The government will need to demonstrate its seriousness about not protecting weak banks or unregulated saving products (much the same can be said for advanced economy governments and central banks!).

In recent years, the government has had to deal with episodes of housing market and stock market volatility. The government has often found itself caught in a schizophrenic effort to strike a balance between maintaining confidence in the market and allowing the market to discipline itself, which has the perverse effect of heightening market turbulence. This on-off approach to intervention has sometimes injected a strong dose of uncertainty on top of already fragile investor sentiment and added to market volatility.

Another lesson to be taken from these episodes of volatility is not that market-oriented reforms can backfire but that they can add to volatility and generate more risks if they are not accompanied by broader reforms. China needs a better institutional framework—including more transparency in its policy-making process, better corporate governance and accounting standards,

and more operational independence for the central bank and regulatory authorities—to supplement its financial and other market-oriented reforms. Progress in these areas has been lacking.

The government has rightly encouraged the development of stock and corporate bond markets, both as avenues for firms to raise financing and for savers to get higher returns and diversify their portfolios. But it has done little to improve corporate governance of Chinese companies or their accounting and auditing standards. The resulting opacity has contributed to large fluctuations in stock and bond markets, as investors have little information about the companies they are investing in, leading them to follow and exacerbate market swings. Although China has dropped most restrictions on capital inflows into its bond and stock markets, foreign investors remain wary for the reasons above and also because capital controls have been used as a tool to relieve large transitory pressures on the exchange rate.

This highlights the importance of getting regulatory frameworks and other institutional aspects such as public and corporate transparency right while freeing up markets. Otherwise, the result is likely to be more volatility and few of the benefits anticipated from such reforms.

When the government talks about state enterprise reform, it means subjecting them to market forces while maintaining state control. When it allows market forces a greater role in determining the exchange rate, it still wants to maintain stability and control. Reconciling these two contradictory impulses—more freedom for markets but with a heavy hand of government intervention to maintain "stability and order" —poses difficult challenges.

Implementing even well-intentioned reforms in a second-best world with rampant inefficiencies involves transitional risks that might manifest in financial and economic volatility. The Chinese government has so far had enough resources and policy space to cope with some of those transitional risks, but it is a legitimate concern that its actions and attempts to clamp down on markets at difficult times might exacerbate problems, with long-lasting consequences.[22]

[22] One interesting example is the People's Bank of China's attempt, in August 2015, to allow for a wider trading band for the renminbi's exchange rate relative to the dollar. This was intended as a move toward greater exchange rate flexibility. However, the central bank combined this policy change with a 1.9 percent step devaluation of the renminbi relative to the dollar. In the absence of clear communication from the central bank, this move was interpreted by markets as a signal of more devaluation to come in order to boost exports at a time when the economy was weakening. This set off worldwide turmoil in currency markets that lasted for over a year. It cost the Chinese central bank about $1 trillion in reserves to limit the renminbi's further depreciation and prevent a capital outflow-currency depreciation spiral.

5. Conclusion

China has found a way to get results—generating sustained growth over a long period, improving the living standards of its people, avoiding a financial crisis, and pulling its economy through a number of perilous periods for the world economy. It has done all of this without a well-functioning financial system, a strong institutional framework, a market-oriented economy, or a democratic and open system of government. There is certainly cause for humility for anyone attempting to explain the China phenomenon based on the historical record and experiences of other countries.

China's growth model and approach to reforms have not hewed to conventional norms and arguably tensions are building up in the system, with a possibly explosive meltdown at some point. But so far the government has proved adept at navigating around such perils. There have undoubtedly been mishaps, often with significant consequences, but the government has left itself room for maneuver. And there have been many resources wasted over time, with a big bill left to pay at some point in the future.

If the government's goal is to sustain growth, it needs to find ways to improve the allocation of resources within the economy and enhance productivity growth. This will require a better financial system. Indeed, while there are legitimate concerns about China's high rates of investment in physical capital, the capital-labor ratio is much lower than in advanced economies such as the United States, and China still has vast needs for infrastructure in its interior provinces. The challenge is the efficient intermediation of domestic savings into domestic investment, so capital is allocated to its most productive uses. China would benefit from a financial system that does a better job of allocating resources to more productive uses and to dynamic parts of the economy, especially the services sector and small and medium enterprises. This requires fixing the banking system, improving depth and liquidity in bond markets, and tightening regulation to mitigate institution-specific and system-wide risks. Such reforms, in tandem with institutional and supply-side reforms, will help reduce unproductive investment, improve employment and household income growth, and promote more regionally balanced development.

The underpinnings of China's growth seem fragile from historical and analytical perspectives. Things that must end do often end suddenly and in unpredictable ways. Yet, if the government plays its cards right, one could equally well envision a more benign future for the

Chinese economy—with growth that is more moderate by its own standards, but that is more sustainable from economic, social, and environmental perspectives.

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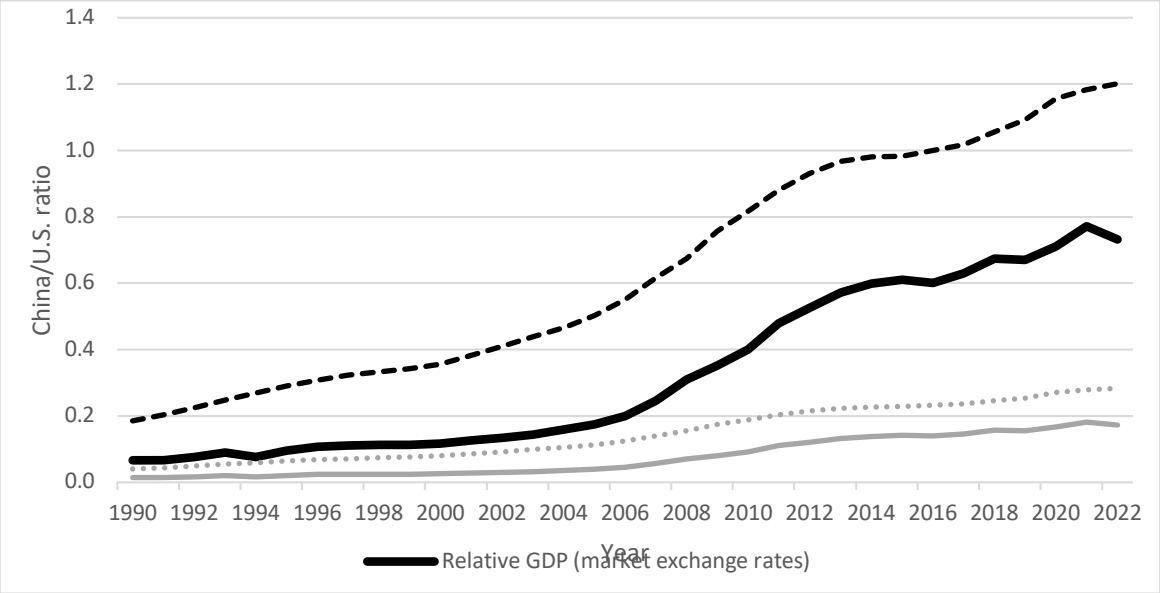
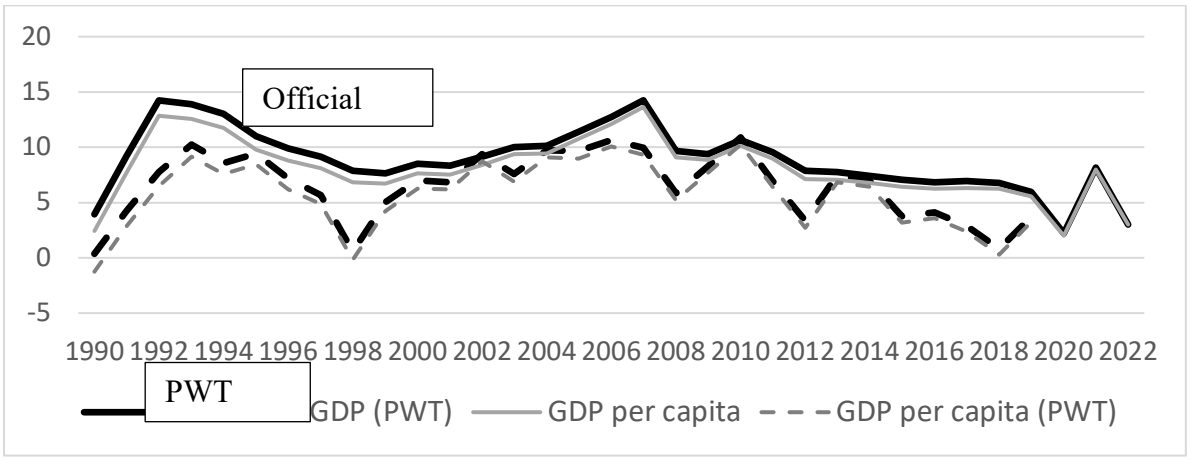
Figure 1. Relative GDP and Per Capita Income: China and the United States
(in percent)



Data source: IMF World Economic Outlook October 2022.

Notes: This chart shows China's GDP and per capita GDP relative to the United States based on market and PPP exchange rates.

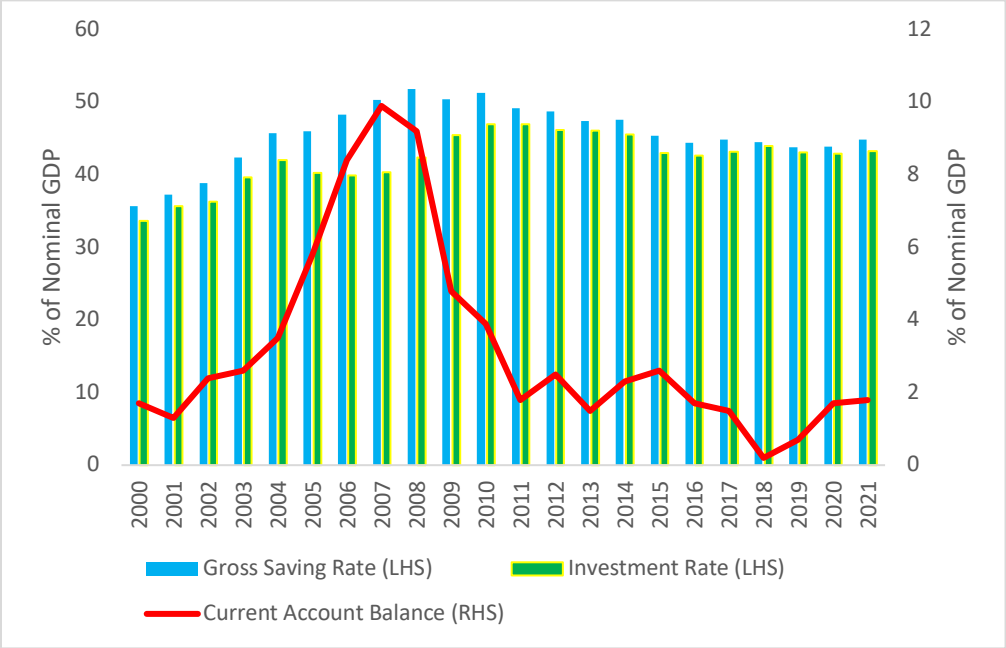
Figure 2. China: Annual Growth in Real GDP and Per Capita Real GDP
(in percent)



Data sources: World Bank's World Development Indicators and Penn World Tables 10.01.

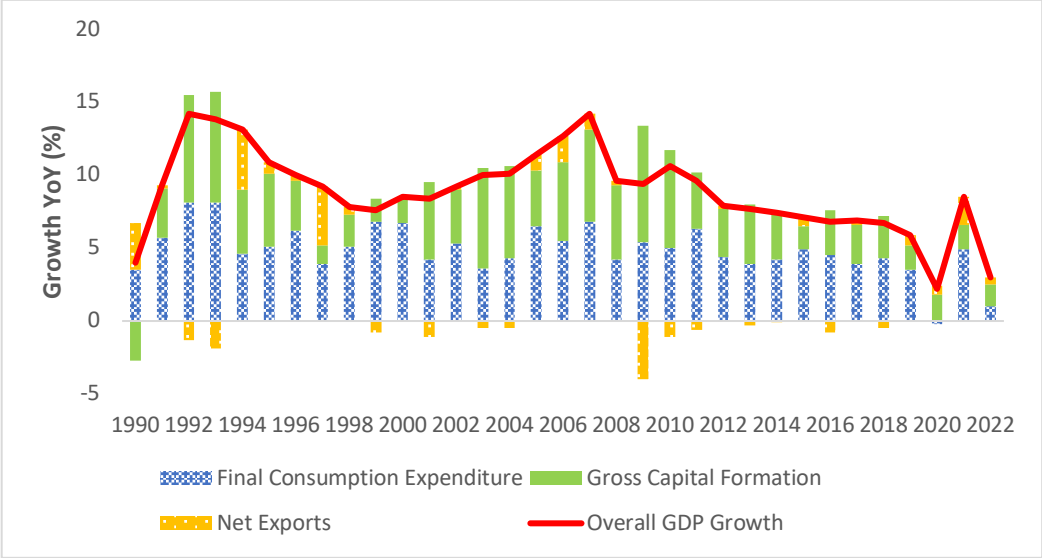
Notes: Real GDP in constant local currency units in WDI data and real GDP at constant 2017 national prices in PWT data. The specific PWT variable used in these calculations is $RGDP^{NA}$, which is the best measure for evaluating the "growth performance of economies" (Feenstra, Inklar, and Timmer, 2015).

Figure 3. Saving, Investment, and Current Account Balance
(in percent of nominal GDP)



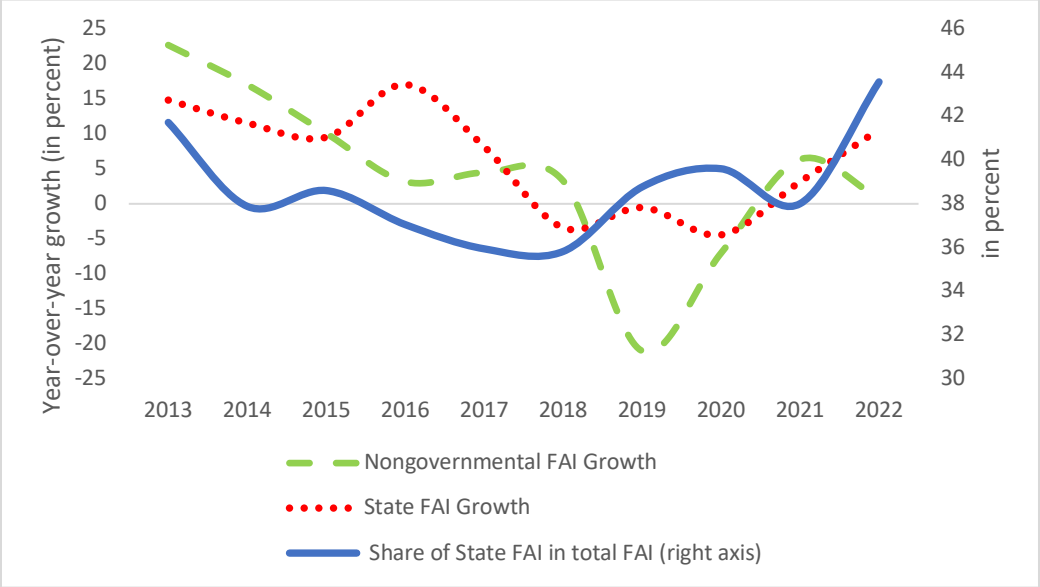
Data source: CEIC.

Figure 4. Growth Contributions of Demand Components



Data sources: CEIC and National Bureau of Statistics, China.

Figure 5. Fixed Asset Investment



Data sources: CEIC and National Bureau of Statistics, China.
Notes: Growth rates are year-over-year based on monthly data. Starting in 2018, the National Bureau of Statistics stopped providing data on levels of FAI. The ratio of state FAI to total FAI is based on imputed end of year data.

Figure 6A. Sectoral Shares of Output

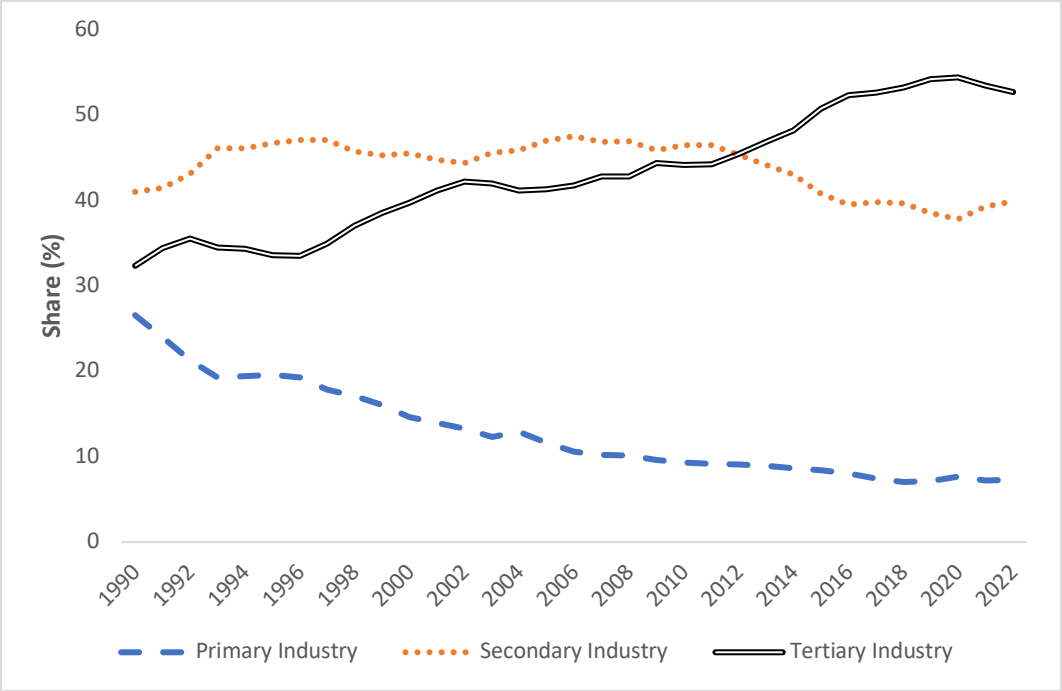
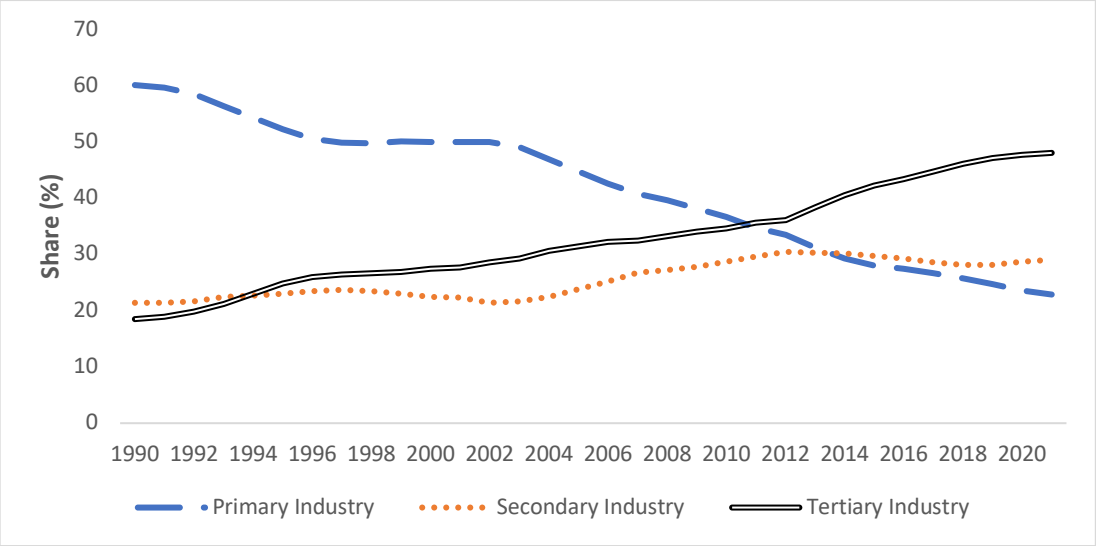
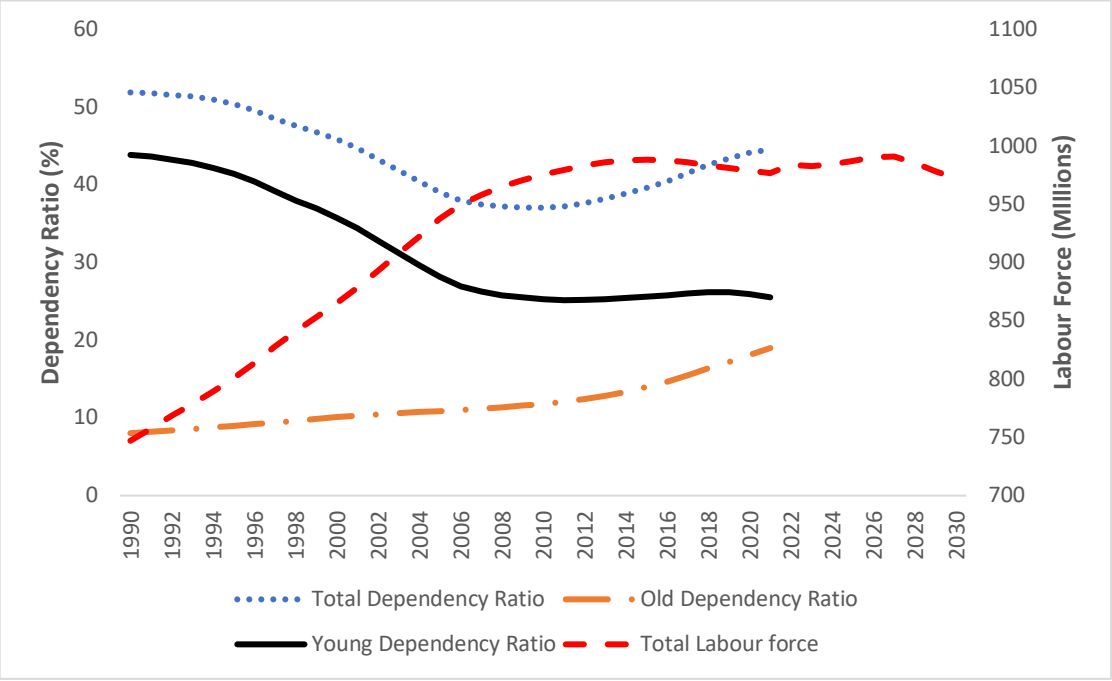


Figure 6B. Sectoral Shares of Employment



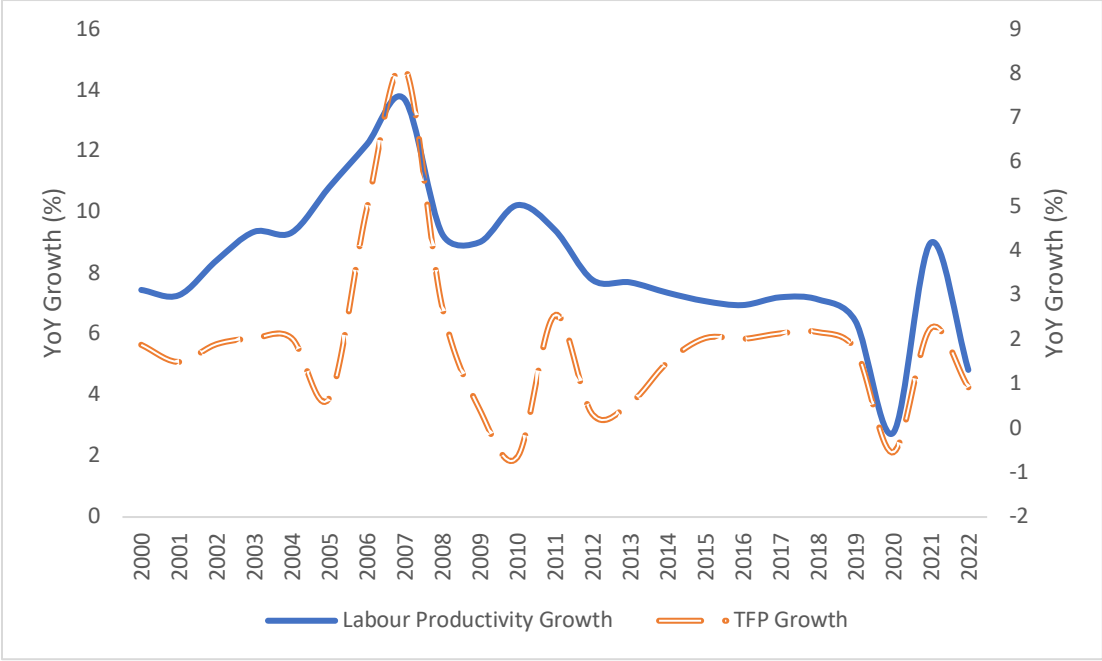
Data sources: CEIC Data and National Bureau of Statistics, China.

Figure 7. Demographics and Labor Force



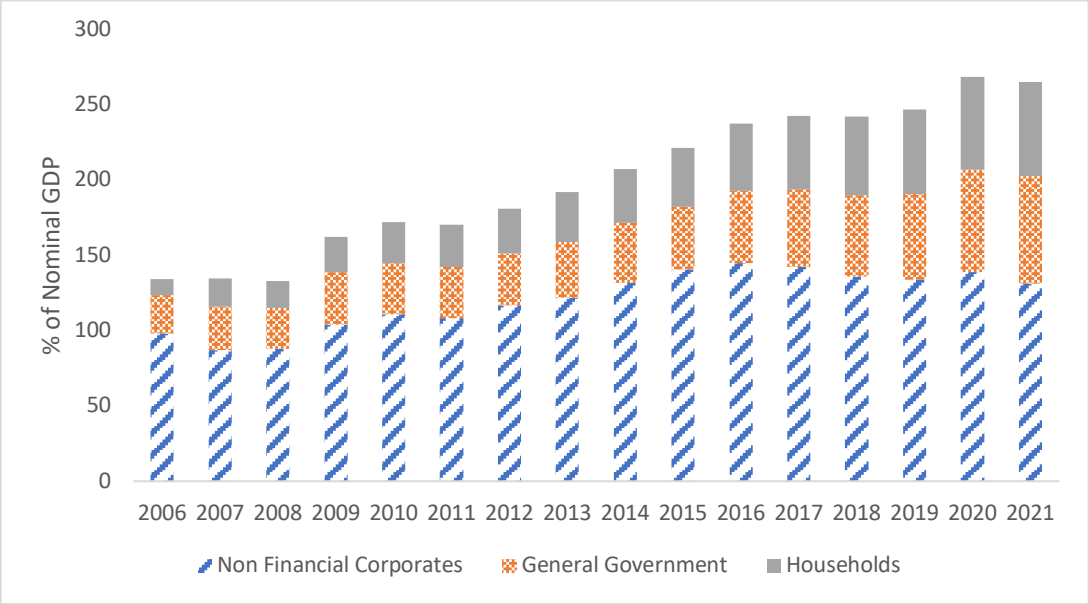
Data sources: United Nations, World Bank, and National Bureau of Statistics, China.
Notes: Labor force forecasts for 2023–2030 are from the United Nations.

Figure 8. Growth in Labor Productivity and Total Factor Productivity
(annual growth, in percent)



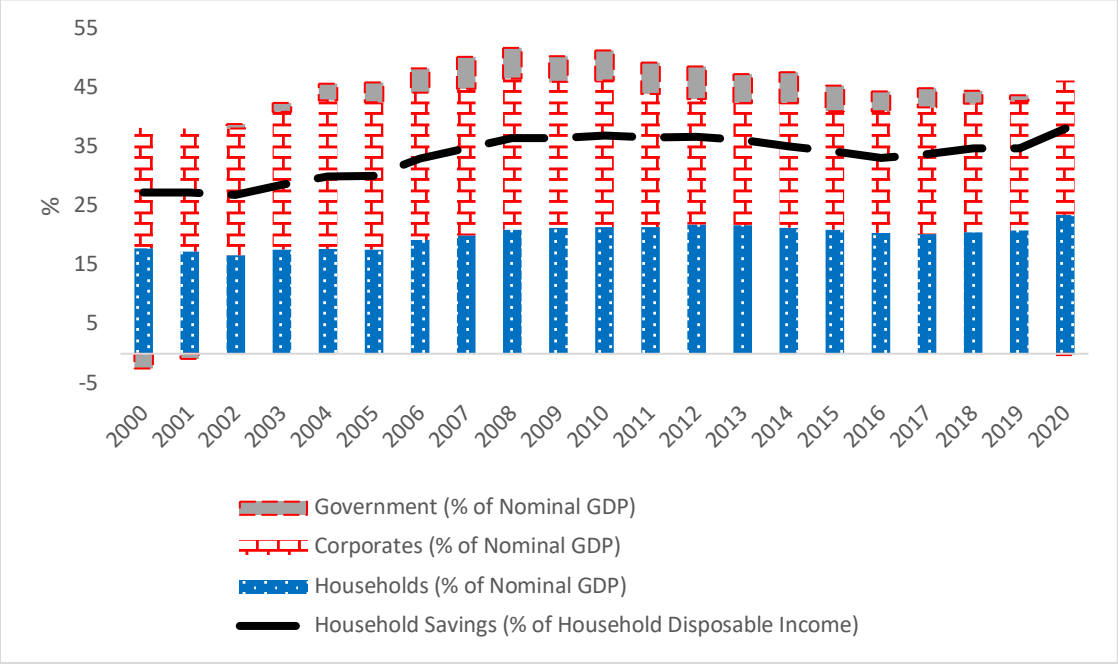
Data sources: CEIC and The Conference Board.

Figure 9. Components of Gross Debt
(in percent of nominal GDP)



Data sources: IMF Global Debt Database.

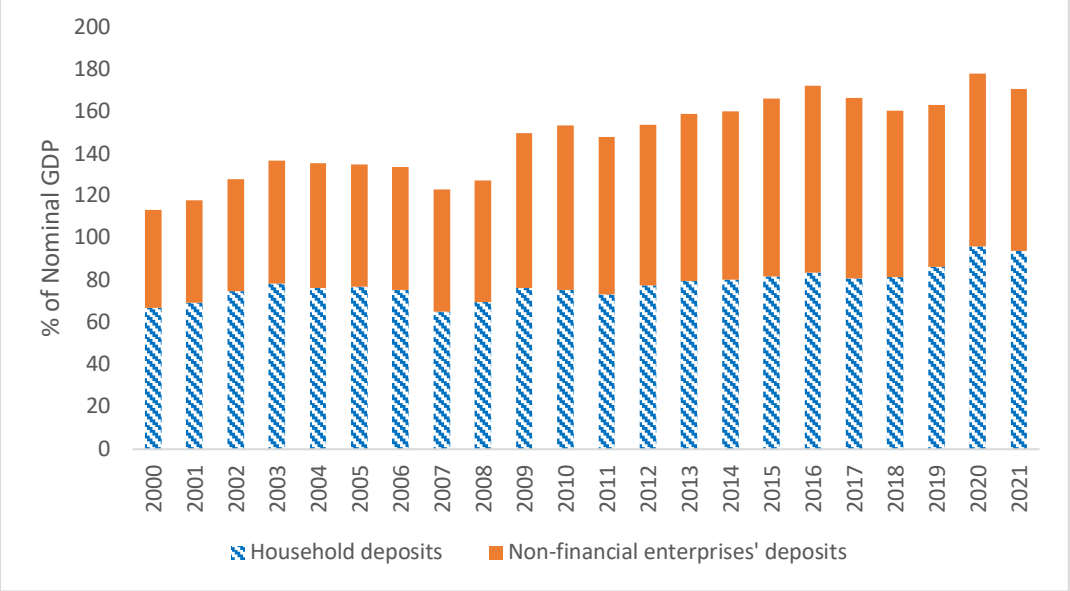
Figure 10. Components of Gross National Saving
(in percent of nominal GDP)



Data sources: CEIC and Flow of Funds, Ministry of Finance, China.

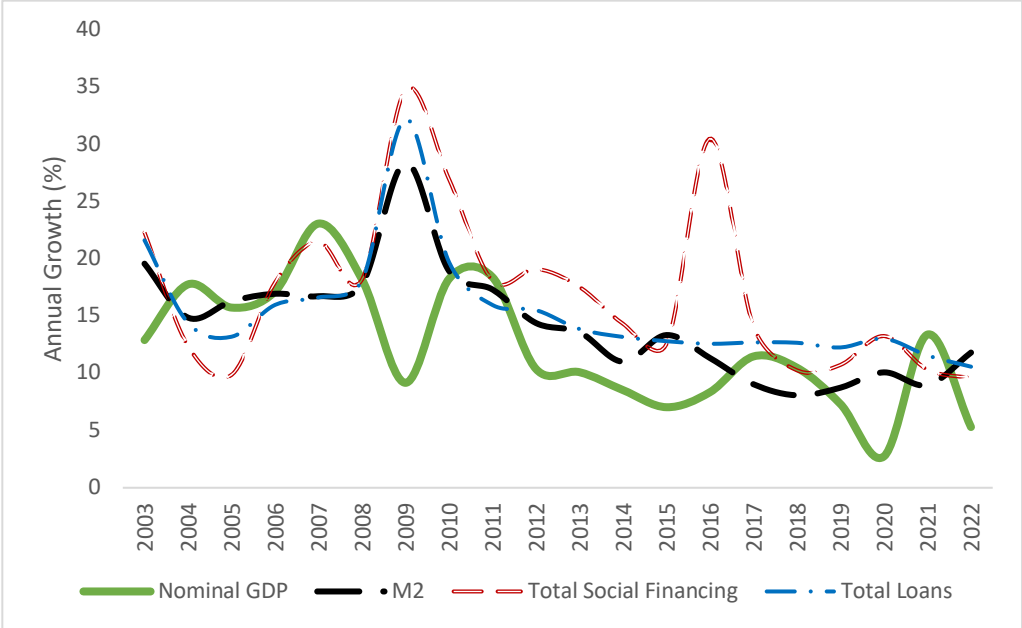
Notes: Corporate saving calculated as the sum of gross savings of financial and nonfinancial institutions.

Figure 11. Banking Deposits: Household and Corporate
(in percent of nominal GDP)



Data sources: CEIC Data, Flow of Funds and National Balance Sheet, China.

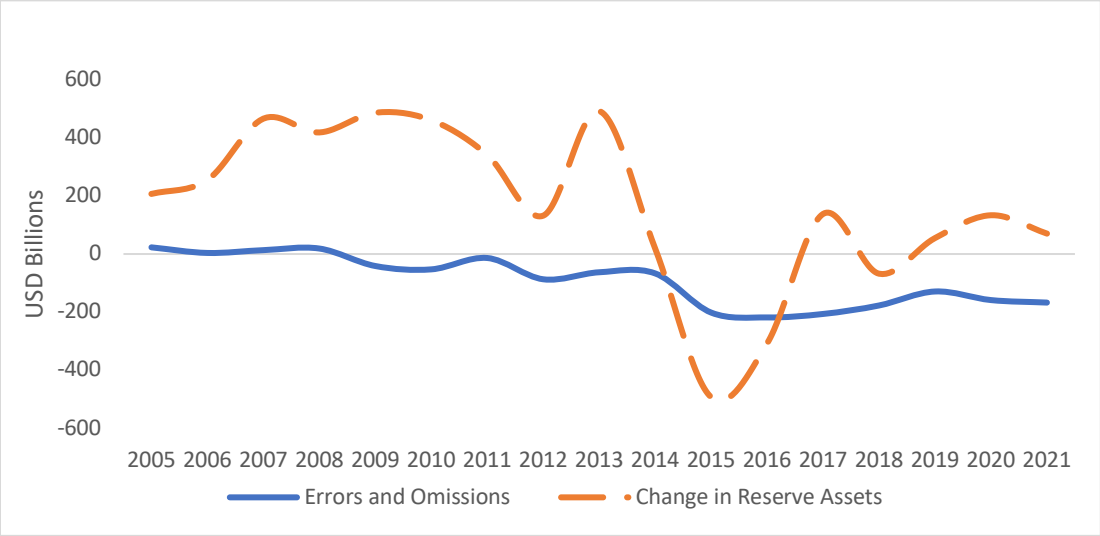
Figure 12. Growth in Nominal GDP and Monetary/Credit Aggregates
(in percent)



Data source: CEIC.

Notes: Total Loans is the sum of total Loans denominated in local currency and total loans denominated in foreign currencies

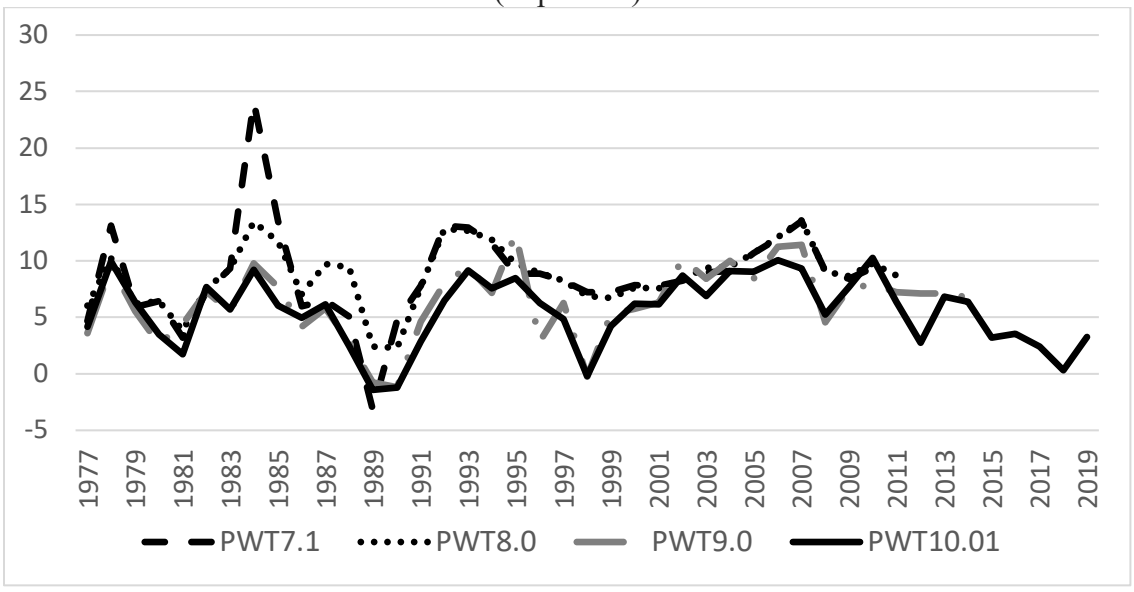
Figure 13. Net Errors & Omissions and Changes in Reserves
(in USD billions)



Data sources: CEIC and IMF.
Notes: Changes in reserves are calculated from end of year stocks of foreign exchange reserves.

APPENDIX

Figure A1. Per Capita Real GDP Growth Across Different PWT Versions
(in percent)



Data sources: Penn World Table Versions 7.1, 8.0, 9.0, and 10.01.
Notes: Real GDP at constant 2005 national prices in PWT 7.1 and 8.0 data, real GDP at constant 2011 national prices in PWT 9.0 data, real GDP at constant 2017 national prices in PWT 10.01 data. The specific variable used in these calculations is $RGDP^{NA}$, which is the best measure for evaluating the "growth performance of economies" (Feenstra, Inklar, and Timmer, 2015).