

China's Slowdown[†]

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This paper evaluates explanations for China's growth slowdown. The natural tendency for rapidly growing economies to slow down is a major factor, along with problems bequeathed by unbalanced growth, including a declining ICOR, slowing total factor productivity growth, and rising indebtedness. A number of other mechanisms are of lesser importance: demographics, President Xi's centralization of political power and anti-corruption campaign, and U.S. export controls. Sustaining growth in the longer term will require China to step away from investment, debt and export-fueled growth in favor of a balanced growth model with household consumption playing a larger role. Doing so will require hardening of the budget constraints of regional and local governments and restructuring of the nonperforming debts of property and construction companies.

Key Word: China, Growth Slowdowns, Economic Growth, Debt
JEL Code: E02, O10, O11

I. Introduction

The growth slowdown in China is indisputable. As shown in Figure 1, the three-year nonoverlapping GDP growth rate slowed from 12.8 percent in 2005-07 to 9.9 percent in 2008-10, 8.4 percent in 2011-13, 7.1 percent in 2014-16, 6.6 percent in 2017-19, and 4.5 percent in the pandemic-punctuated years 2020-22.¹ This sequence gives the unmistakable impression of an underlying trend. It also raises at least three questions. First, what are the factors responsible for this trend of slowing growth? Second, will the trend continue? Third, what are the implications for the rest of the world?

This paper will have most to say about the first of these questions, as there is a large and contentious body of work focusing on the past and current performance

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¹All figures are from the IMF's World Economic Outlook database.

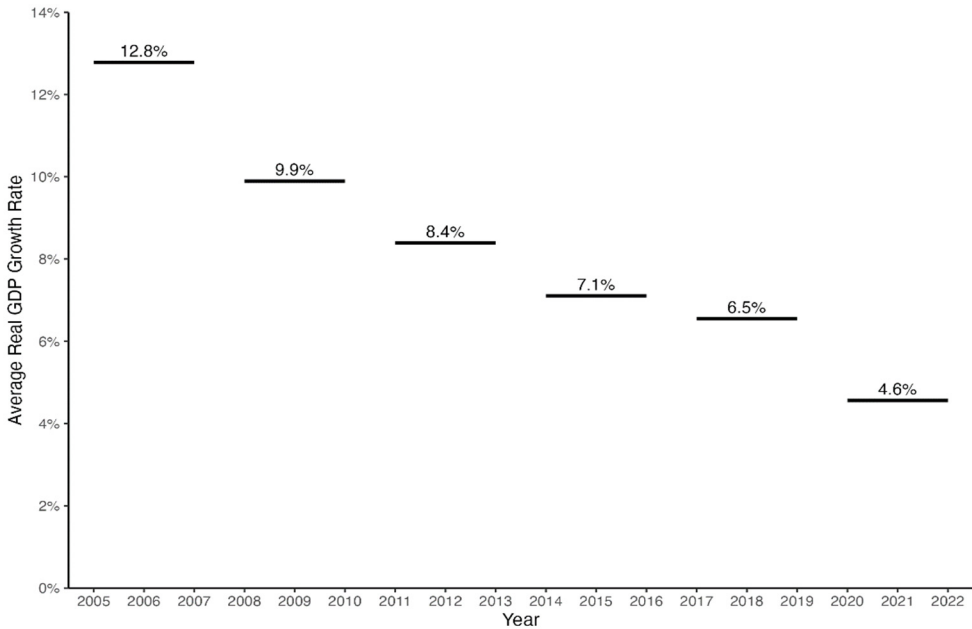


FIGURE 1. THREE-YEAR AVERAGE GDP GROWTH RATE

Source: IMF World Outlook.

of the Chinese economy. Attempts to answer the second and third questions, which concern the future, are by definition more speculative.

On the causes of the slowdown, the paper will explore seven hypotheses. First, China's slowdown is heavily driven by its demography, and specifically by a labor force that effectively stopped growing in 2015. Second, the slowdown in China is analogous to those of other formerly fast-growing economies, in East Asia and elsewhere, which occurred once the easy returns on investments and technology transfers were reaped and the country reached middle-income status. Third, Chinese economic growth has slowed as a result of diminishing returns to a growth model that emphasizes investment, exports and debt, and due to the reluctance of the government and other vested interests to move away from this tried-and-true economic strategy. Fourth, corporate investments, household spending and entrepreneurship have been depressed by the uncertainty associated with the centralization of political power in the hands of the president and the politburo and by their crackdown on dissent. Fifth, U.S. export controls, which limit China's access to state-of-the-art semiconductors with national security and artificial intelligence applications, have slowed and will continue to slow the growth of output and productivity in China's increasingly important high-tech sector. Sixth, the central government has grown increasingly reluctant to use its macroeconomic policy instruments, its fiscal levers in particular, in order to sustain a high level of growth, reflecting concern over high and rising levels of debt. Finally, heavy household, corporate and government debts have given rise to distortions and have diverted resources away from productive uses while also creating the risk of a costly and disruptive financial crisis.

As for whether this trend of slowing growth will continue, the answer, inevitably, is maybe. Forecasting growth requires one initially to forecast other domestic and international economic and political variables, the evolution of which is highly uncertain. If one believes that China's growth slowdown is heavily driven by its demography, for example, then the answer turns on the success or failure of the authorities' efforts to raise the birth rate, which remains uncertain. If one believes that the main culprit is a growth model that has outlived its usefulness, then the answer depends on whether or not officials in high circles acknowledge this fact and move away from that model; just because they have been reluctant to do so in the past is no guarantee that they won't do so in the future. If one thinks that political centralization and repression have depressed spending and entrepreneurship, then it is important to acknowledge uncertainty about whether this centralizing trend will continue; if one's belief is that U.S.-China tensions and U.S. export controls are holding back China's high-tech sector, then one needs a forecast of whether those tensions will continue to intensify or, instead, diminish.

On the third question – implications for other economies – the answer depends on the specific economy considering that slower growth in China will impact its neighbors and competitors through multiple channels of differing levels of importance depending on the country. Slower growth will mean less intense export competition from Chinese firms and less demand for imports from Chinese consumers, meaning that instances of spillover will vary depending on an economy's net trade balance with the country – recognizing also that rebalancing in China, if it accompanies the growth slowdown, could alter the balance of bilateral trade. Slower growth will mean a less voracious appetite for energy and raw materials, which will benefit other energy- and raw-material importing countries and hurt the corresponding exporters. Slower growth of China's high-tech sector, if this results from U.S. export controls, will work to the benefit of other high-tech economies in the region. However, insofar as slower growth of China's high tech sector stems from U.S. prohibitions on the transfer of advanced manufacturing equipment, this will work to the disadvantage of other countries whose firms operate manufacturing facilities in China. Economists have deployed partial- and general-equilibrium models in an effort to pin down these effects. All that can be said with confidence, however, is that the external implications of China's slowdown will vary by case.

II. Demography

Kotschy and Bloom (2023) is a survey of channels through which demography affects economic growth. As the authors observe, although earlier studies showed conclusively that a falling youth share of the population creates the opportunity for a demographic dividend (it is associated with faster growth), there is no consensus with regard to the implications of a rising old-age population share. Whereas some studies suggest that a rising old-age share will slow growth by lowering the ratio of labor to capital and depressing rates of return on investment (Jones, 2022), others suggest that it will encourage capital-labor substitution and encourage growth (Cutler *et al.*, 1990). Most recent works (e.g., Aksoy *et al.*, 2019) evidently conclude

in favor of a negative impact on balance.

The magnitude of this effect will depend, however, not just on the share of a country's population above a given age threshold but on how many individuals above that threshold can remain productive members of the labor force. China's population may be ageing, but the health and longevity of the elderly is improving, enabling older workers to stay in the labor force longer. Life expectancy in China has risen from 66 years in 1979, when the period of reform and rapid economic growth commenced, to 77 years today; United Nations projections see it as increasing further, to 82 years, by 2050 (Figure 2). It is widely anticipated (see, e.g., Reuters, 2023a) that China will raise its retirement age, which currently stands at 60 for men, 55 for white-collar women, and 50 for women working in factories. Looking at a cross-section of countries, Kotschy and Bloom conclude that introducing this additional effect into models of the impact of ageing on growth reduces the estimated impact of a given change in raw demographic structure by more than half.

Moreover, the magnitude of the demographic dividend will depend not simply on the share of the Chinese population that is of working age but also on participation rates. Ming's (2023) reconstruction of the latter suggests that at the same time the share of China's population that was of working age rose from 60 percent in 1982 to 73 percent in 2015, labor force participation dropped from 85 percent to 70 percent. This decline reflected increasingly stringent enforcement of the aforementioned mandatory retirement provisions, but also increases in secondary and tertiary educational enrollment and rising child care costs, which kept women out of the labor force. On balance, these calculations suggest a minimal change in the share

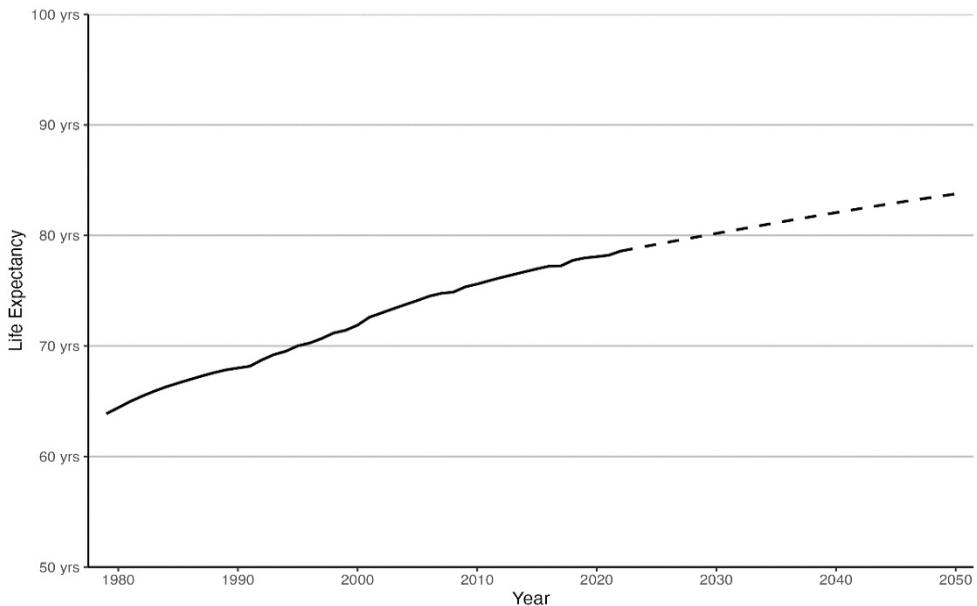


FIGURE 2. MEDIAN LIFE EXPECTANCY AT BIRTH

Note: Median life expectancy at birth, both sexes. Dotted line represents UN projections.

Source: United Nations, *World Population Prospects*.

of labor-force participants in the population over this period. This negative finding is reinforced by a regression analysis which shows little evidence of a relationship between the working-age share of the population and economic growth across Chinese prefectures and over time.

Youth unemployment points in the same direction – that sheer size of the labor force and share of the population in their prime working-age years matter less when a non-negligible share of that labor force is unemployed. China has stopped publishing youth unemployment statistics, but as of June of 2023, the urban youth unemployment rate was 21 percent (Figure 3). A number of studies have emphasized China's rapid accumulation of human capital, as reflected in university enrollment and graduation, as a factor offsetting the declining size of the labor force (see Peschel and Liu (2022) for discussion). However, the country's high urban youth unemployment rate is indicative of a mismatch between skills supplied and demanded, reflecting how China boosted the share of university-educated labor-force entrants while simultaneously clamping down on the service sector, their logical destination, and instead subsidizing construction (Steil and Harding, 2023). On balance, this analysis leads one to downplay the hypothesis that demographic factors are driving the growth slowdown.

Looking forward, youth unemployment can be reduced by educational reforms that better match the skills acquired by labor-force entrants to those desired by firms. Labor force participation by women can be encouraged through the more generous provision of child-care services, and the continued labor force participation of older workers can be promoted by the wider provision of health services and by an increase in the retirement age.

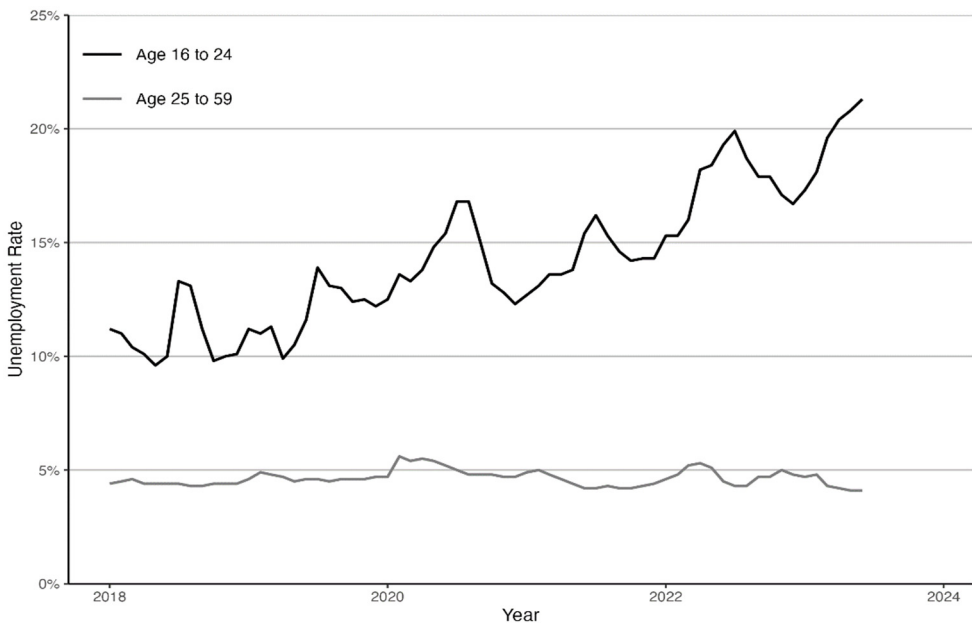


FIGURE 3. URBAN UNEMPLOYMENT RATES

Source: National Bureau of Statistics.

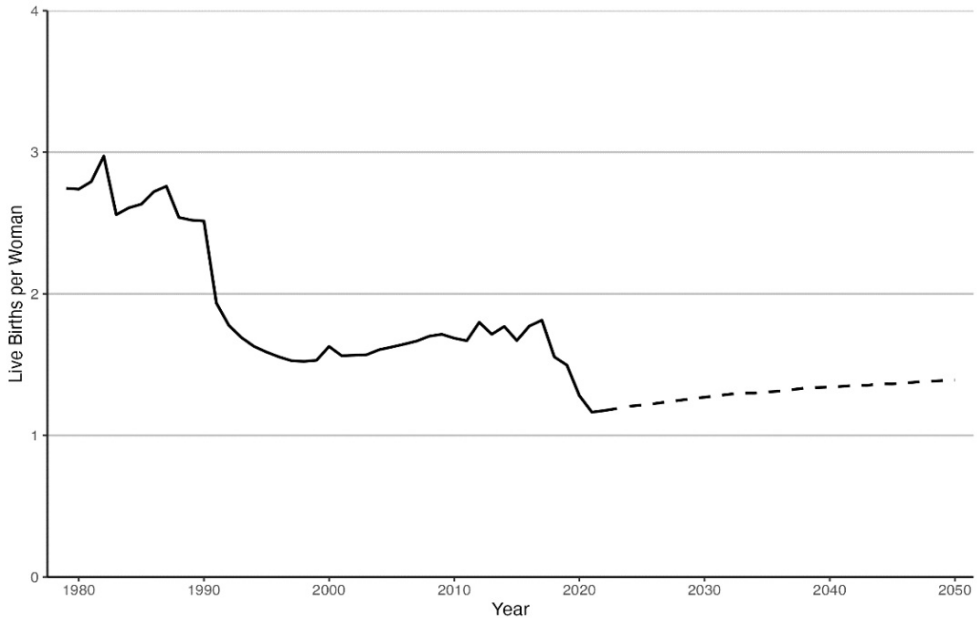


FIGURE 4. TOTAL FERTILITY

Note: Total fertility, both sexes. Dotted line represents UN projections.

Source: United Nations, *World Population Prospects*.

Over a longer horizon, Chinese policymakers are seeking to limit demographic drag by increasing the fertility rate. This started with the relaxation of the one-child policy and continued with efforts to enhance child-care availability, but early returns have disappointed (Figure 4). According to the latest data, China's fertility rate remains below even those of Italy and Japan (Fuxian, 2023). Liu (2023) suggests that the reluctance of Chinese women to marry and bear children reflects the disproportionate burden on wives in providing childcare and household services, together with the career costs borne by mothers when they interrupt their labor force participation (as in Goldin, 2021). This in turn suggests that the longer-run objective of increasing the fertility rate will be achieved only in conjunction with measures to address social and gender inequalities. These last points should resonate with South Korean readers.² Unfortunately, China appears to be moving in the opposite direction, with the current government's reassertion of "traditional virtues of the Chinese nation" (Osnos, 2023). Revealingly, for the first time in several decades, all of the members of the politburo are male.

III. Natural Slowdown

A second hypothesis is that rapidly growing catch-up economies have a natural

²South Korea, it should be noted, has and will continue to have an even lower total fertility rate than China, according to United Nations projections.

tendency to slow down. Initially, rapid growth can be sustained by even modest investment rates that build up the capital stock from low levels. Output per worker can be increased by transferring labor from agriculture, initially the dominant source of employment, to manufacturing, where productivity is higher, and by exporting the output of industry when there is a shortfall of domestic demand. Productivity can be upgraded by licensing foreign technologies, engaging in reverse engineering, and encouraging inward foreign investment.

Over time, however, these easily accessed inputs are progressively exhausted. They must be replaced by indigenous sources of output and productivity growth. Capital/output ratios rise, raising the incremental capital/output rate (ICOR). The pool of underemployed agricultural labor is drained. Exporting becomes more difficult, as an initially small player in world markets grows larger and experiences protectionist pushback from its trade partners. The share of the labor force in manufacturing peaks at around 25 percent, after which employment shifts toward the service sector, where levels and growth rates of productivity are lower. As the economy approaches the technological frontier, it must develop new technologies at home rather than importing them from abroad. With the diversification of social goals, more savings are devoted to environmental cleanup, health care, old-age pensions and other transfer payments, leaving less for capacity expansion in industry.

These dynamics are evident in China. The share of employment in agriculture has fallen from 60 percent in 1991 to less than 25 percent today. Over the last decade, the share of the workforce employed in the industrial sector has begun to fall, while that employed in services has risen strongly, from 36 percent in 2012 to 47 percent in 2022. Clark and Dawson (2022) estimate that China's ICOR has increased from 4 at the turn of the century to more than 8 today (Figure 5). For China, having grown

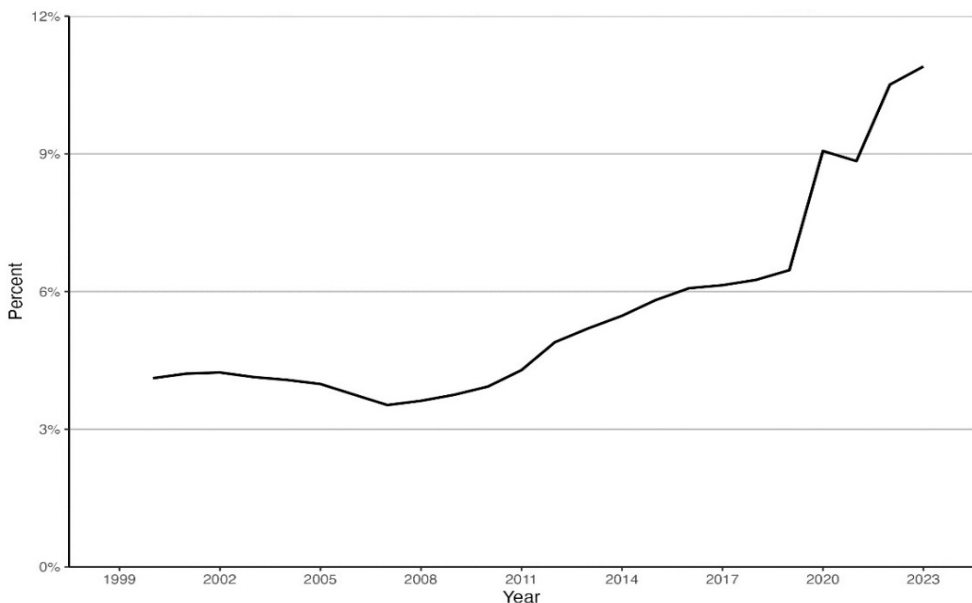


FIGURE 5. 5-YEAR ROLLING AVERAGE OF INCREMENTAL INVESTMENT TO OUTPUT RATIO

Source: IMF World Economic Outlook.

into a large supplier in world markets, its exports are more likely to excite protectionist sensitivities.

Eichengreen, Park, and Shin (2012; 2014) suggest that these structural features have led to slowdowns in aggregate GDP growth, in China and more generally. Their model predicted a slowdown in the aggregate growth rate in China around 2015, which is not inconsistent with the facts.³ However, the average deceleration of the growth rate in their sample of slowdown episodes is 3.5 percentage points. China's growth rate has slowed (on a three-year moving-average basis) by 8.3 percentage points since the apex of high growth in 2005-07. This suggests that natural slowdown is not the entire story.

IV. Unbalanced Growth

A third hypothesis is that GDP growth has slowed because the economy is unbalanced, owing to continued pursuit of a growth model no longer suited to the country's circumstances. Chinese authorities have long prioritized investment over consumption. Private consumption remains little more than a third of GDP, while savings and investment rates approach 50 percent of national income, unprecedented for a country of China's (or any country's) size.⁴ High investment delivered fast growth when infrastructure was underdeveloped and the capital stock was small but the country has since invested extensively in infrastructure, and the return on investment, as measured by the ICOR, has doubled over the last two decades, as noted above.

However, allowing investment to decline would cause growth to slow and the economy to undershoot its growth targets, absent measures capable of boosting household consumption. Not wishing to see its growth targets missed, the politburo continues to encourage investment, using the central government's fiscal resources and policy banks to provide the necessary finance. Increasingly, investment is undertaken by local and regional governments and their local government financial vehicles (LGFVs).⁵ A third of LGFVs failed to generate positive cash flow in 2022, indicative of the low returns on these investments.⁶

The government has proposed to address these imbalances through what has been termed a "dual circulation strategy," introduced in May of 2020; one element involves increasing domestic consumption while the other entails continuing to grow exports. However, increasing household consumption requires raising household incomes, which are an unusually low 60 percent of GDP. Raising household incomes implies granting higher wages. Higher wages mean higher costs of production and declining international competitiveness, *ceteris paribus*, defeating the other element of the strategy. Not willing to accept the slower growth that will come with declining

³There is a related literature on the "middle-income trap" (World Bank, 2007), but this concerns the possibility that income growth in late-developing countries may slow relative to that in advanced economies such that relative incomes fail to converge, not with how growth rates in late-developing countries themselves vary over time. This is linked to the distinction between "sigma" and "beta" convergence (see Barro and Sala-i-Martin, 1995).

⁴Gross national savings rates actually peaked at 52 percent of GDP in 2008. The savings rate was still 44 percent in 2019, the last semi-normal pre-COVID year.

⁵Local and regional governments receive transfers from Beijing, while LTFVs receive transfers from local and regional governments. LTFVs are discussed later in the paper in the context of China's debt problem.

⁶See Reuters (2023b) for additional data points.

international competitiveness, Chinese officials have been reluctant to operationalize their dual circulation strategy.

In 2021, the government then followed with a “common prosperity strategy” that foresaw transferring income, through the fiscal system, from the wealthy, whose marginal propensity to consume is low, to working-class households, whose propensity to consume is higher. The intention was to boost household consumption without damaging export competitiveness. However, while that year and the subsequent period saw harsher policies toward the wealthy, it how much of this reflected the desire for “common prosperity” as opposed to insistence on stricter political control remains unclear. More broadly there is the worry that garnishing corporate profits and high incomes will discourage investment and entrepreneurship. The government has again been reluctant to implement the strategy for fear of damaging the vitality of the economy (Pettis, 2021).

The implication is that in order to sustain a higher growth rate in the long run, China must accept a sharper growth slowdown in the short run. If one thinks that vested interests in Beijing, in local and regional governments, and in high-investment sectors of the economy will be reluctant to accept this, then one is likely to arrive at a relatively pessimistic forecast of future Chinese growth. Another implication is that prudence is necessary when interpreting Chinese growth statistics. Construction of unoccupied apartment blocks and empty airports shows up as GDP growth but has little economic value. This leads authors such as Pettis (2019) to question the meaning of such statistics and to distinguish between the quality and quantity of Chinese growth.

V. Rule of Law

Some observers point to the increasingly repressive policies of the central government under President Xi as discouraging investment and growth. Posen (2023) points to a general tendency for authoritarian governments to crack down on private enterprises as they become larger and more powerful. He argues that the resulting uncertainty discourages investment and causes households to defer spending on durable goods, suggesting that there is evidence of both tendencies in China. Households fearful of losing access to their assets are prioritizing liquidity over spending, thereby aggravating preexisting conditions of excessive saving and inadequate consumption.⁷ Osnos (2023) suggests that political uncertainty and repression in China discourage entrepreneurship while encouraging emigration of the most skilled and educated workers. Posen suggests further that harsh COVID-19 lockdowns catalyzed these fears of arbitrary future action by authorities.

These warnings are not without merit, but quantifying their impact is challenging given the ambiguity of the arguments and the mixed nature of the evidence. It could be that these authors are arguing that authoritarian governance, in China and in general, is detrimental to growth. Nonetheless, evidence to this effect is not consistent. In an influential study, Barro (1996), using cross-country regressions,

⁷IMF (2022), p.5 confirms a further rise in household savings since 2019, though how much of this is attributable to the COVID-19-related lockdowns as opposed to general political uncertainty is unclear.

found that the effect of democracy on economic growth is negative once one controls for rule of law, market freedom, government consumption and human capital. Gerring *et al.* (2012) reinforce his conclusion, whereas Acemoglu *et al.* (2019) provide evidence from a dynamic panel model focusing on changes in political regimes that democracy has a positive effect on GDP per capita. Such results are clearly sensitive to the methodology used.

Alternatively, the position can be interpreted as arguing that weak rule of law, implying uncertainty about property rights, is bad for growth. However, as emphasized by Haggard and Tiede (2010), rule of law can affect economic growth through multiple channels, i.e., through security of property and enforcement of contracts, through checks on the government, and through checks on corruption. China's current government has launched a high-profile anti-corruption campaign, something that most economists argue should be positive for growth.⁸ At the same time, however, checks on government (given political centralization) and security of property (as in the case of Jack Ma) have weakened, with the opposite effect.⁹

VI. U.S. Export Controls

The US federal government operates a system of export controls designed to limit China's access to U.S. designed and produced dual-use technologies with both civilian and military uses, notably high-end semiconductors with applications in weapons systems and artificial intelligence (AI). American controls are now applied extraterritorially – that is, Washington, D.C. seeks to limit the export of items produced in other countries containing U.S.-produced inputs, such as the advanced photolithography machines produced by the Dutch company ASML (Bown, 2020). U.S. export restrictions have been applied since 2018. The question is whether they have contributed materially to the slowdown in China and whether they will do so in the future.

Current authority for the president to control dual-use exports for national security and foreign policy reasons was established by the Export Control Reform of 2018.¹⁰ In addition, the U.S. government maintains an “entity list” of firms, such as Huawei, with which U.S. trade is restricted. However, while the Department of Commerce compiles an extensive list of dual-use technologies potentially subject to control (covering some 18 percent of total U.S. exports to China), it requires licenses or prohibits export for only a small fraction of the enumerated items. These exceptions raise questions about the comprehensiveness and hence the impact of U.S. controls. Thus, Huawei was initially able to continue acquiring unrestricted technology exports, including 4G, 6G, cloud and undersea cable technologies (Congressional

⁸Li, Roland, and Xie (2022) argue, however, that local corruption actually has a positive impact on productivity in China, absent reliable contract enforcement and other conventional aspects of rule of law.

⁹Haggard and Tiede's empirical analysis finds that control of corruption has a more robust impact on growth than security of property rights and checks on government. In contrast to Li *et al.* (2022), they point to a negative impact of corruption on growth.

¹⁰This type of authority existed before World War II and under the Export Control Acts of 1949 and Export Administration Acts of 1970 and 1979, which were aimed at the Soviet Union. These provisions were allowed to expire in 1990 with the end of the Cold War, although limited presidential powers remained under an executive order issued by President George H.W. Bush.

Research Service, 2022). The Chinese foundry Semiconductor Manufacturing International Corporation (SMIC) was similarly able to import U.S. manufacturing equipment and designs for chips of at least 14 nanometers (only chips with resolutions of 10 nanometers and less were restricted).¹¹ Chinese firms' foreign subsidiaries were able to purchase chips that their parents were barred from buying. These entities were also able to obtain advanced semiconductors from third parties such as the Taiwanese company TSMC and the South Korean chipmakers Samsung and SK Hynix, which also secured indefinite waivers to install otherwise restricted equipment in their factories in China.

Estimating the impact on the Chinese economy is difficult given the absence of input-output tables at the necessary level of disaggregation. Estimates depend also on what one assumes with regard to the scope of evasion and the ability of Chinese producers to develop substitutes for restricted exports. The ability of SMIC unexpectedly to provide Huawei with advanced microprocessors for its latest-generation smartphone suggests that this last response should not be underestimated. Semiconductor manufacturing and related industries may account for only some 7 percent of Chinese GDP, but in addition to estimating the impact on China's high-tech sector per se, one must also form an estimate of the impact of tech-sector outputs such as AI on the productivity of other industries.

One study has taken on this challenge. Assuming a 21 percent reduction in China's semiconductor supply, Oxford Economics (2023) estimates a drag on growth of five basis points (five one-hundredths of a percent) in 2023, rising to a cumulative medium-term 0.8 percent decline in the level of GDP by 2026. The larger medium-term effect reflects the impact over time on downstream semiconductor-using sectors. This is considerably lower than Oxford's estimate of the impact on Chinese GDP of the COVID-19 lockdowns and of the correction in the property market.¹² The implication is that U.S. export controls have not contributed materially to the Chinese growth slowdown to date.

Chorzempa (2023) considers the impact of these U.S. export restrictions on the neighboring South Korean semiconductor industry. He estimates that Samsung and SK Hynix benefit significantly in the short run from the decline in Chinese competition in their memory chip business, but he also observes that while Samsung and SK Hynix received waivers from U.S. export controls, as noted above, the two companies are not exempt from bans on exporting semiconductor-related manufacturing equipment, including to their own production facilities in China. Samsung produces 40 percent of its NAND chips in China, while SK manufactures 20 percent of its NAND chips and 40 percent of its DRAM chips there. The inability to export manufacturing equipment will prevent the two companies from upgrading their facilities, eventually rendering those fabs uncompetitive and requiring earlier investments to be written off.¹³ Thus, the impact on South Korean high-tech firms,

¹¹In July of 2022, this ban was extended to chips with resolutions of 14 nanometers.

¹²Using an input-output model, Park and Liu (2023) find a negative impact on the semiconductor, machinery manufacturing and construction sectors in China. However, the authors analyze the impact under the assumption of a 50 percent reduction in U.S. semiconductor exports to China. They do not consider also the application of similar restrictions by other countries.

¹³In addition, companies may not be eligible for tax incentives for investments in the U.S. under the CHIPS Act if they continue investing in China.

while positive in the short run, is apt to be negative in the longer run.

VII. Fiscal Policy

Some attribute the growth slowdown in China to the reluctance of policymakers to apply fiscal stimulus measures more aggressively in the face of weak demand. This stands in contrast to the policy responses to previous crises. In response to the global financial crisis, the government announced a massive RMB 4 trillion stimulus, approximately 13 percent of 2009 GDP.¹⁴ In 2015-17, in response to a stock market crash and capital outflows, it increased the augmented fiscal deficit and borrowing by government policy banks by an annual average of 7 percent of GDP over three years.

Attitudes toward the use of fiscal policy had evidently changed by 2020-21, when in response to the COVID pandemic the government provided a smaller stimulus of approximately 5% of GDP; this was only a fraction of that applied by the U.S., UK, and Japan, and even by other middle-income countries such as Brazil. The central government's response to disappointing growth in 2023 was even more tentative. In October, officials approved the sale of an additional RMB 1 trillion of central government bonds to finance local government flood and other disaster-related relief. This raised the budget deficit for the year by 0.8 percent of GDP, small by the standards of other countries facing a situation of weak private demand and small by the standards of China's own past.¹⁵

This more conservative approach to fiscal policy presumably reflects higher levels of central government and LGFV debt accumulated in the interim (more on which below). The question here, however, is not why, but with what effects? Focusing on advanced countries, Rachel and Summers (2019) argue that an expansionary fiscal policy was essential in the run-up to the COVID-19 pandemic to prevent the economy from falling into an extended period of slow or no growth. They estimate that the neutral real interest rate fell by 300 basis points over the preceding 20 years. In the absence of supportive fiscal policies, it would have been as much as 200 basis points below zero, consigning these economies to stagnation.

Is China now in this position? Guofeng and Rees (2021) estimate a neutral real rate for China, also finding a downward trend over the last 20 years, but their estimates place the neutral rate throughout this period above 2 percent. Thus, China does not appear to have suffered from a persistent problem of deficient private demand over this period.

Is it plausible that the situation changed dramatically after 2019, when Guofeng and Rees's sample period ends? Rachel and Summers observe that the neutral rate is

¹⁴Roughly a third was its own spending, two thirds debt-financed spending by LGFVs and state-owned enterprises.

¹⁵In addition to the fiscal impulse being weaker, Posen (2023) suggests that the fiscal multiplier is now smaller, as households facing heightened policy and political uncertainty grow more reluctant to spend. Along with this action on the fiscal front, there was some supportive use of monetary policies: the People's Bank of China cut its one-year loan prime rate twice over the first three quarters of the year. Again, however, the cuts were small, and the central bank left longer-term rates unchanged. Commentators dismissed the cuts as "underwhelming" (Tan, 2023) and explained this in terms of the need to support a weak exchange rate in the face of high central bank policy rates in, *inter alia*, the United States.

determined by slowly moving variables such as potential output growth, demographics and income distribution. For China, Guofeng and Rees similarly point to the roles of potential output growth, demographics, financial development, and shifts in savings preferences as incomes have risen. Their estimates of past movements in the neutral rate, incorporating these determinants, show these too to be slowly moving. This implies that not a lot has changed since 2019 and that deficient public spending is unlikely to be behind the slowing rate of Chinese growth.

VIII. Debt

Another widely cited culprit with regard to the Chinese growth slowdown is high debt. Figure 6 shows the debt/GDP ratio as calculated from the IMF's Global Debt Monitor, distinguishing public, household, and nonfinancial corporate debt. The sum, which approached 300 percent in 2023, rivals that of the most heavily indebted advanced economies and exceeds the debt ratios of other emerging markets.

Heavy indebtedness is an intrinsic feature of Chinese political economy and of the growth model pursued thus far. First, the central government's political legitimacy rests on success at delivering "common prosperity," which among other things entails hitting its targets for GDP growth. Until recently, central government authorities have therefore responded with fiscal stimulus measures, financed by debt issuance, whenever growth shows signs of falling short of target, as in 2008-09, 2015-16 and 2020 (see above).

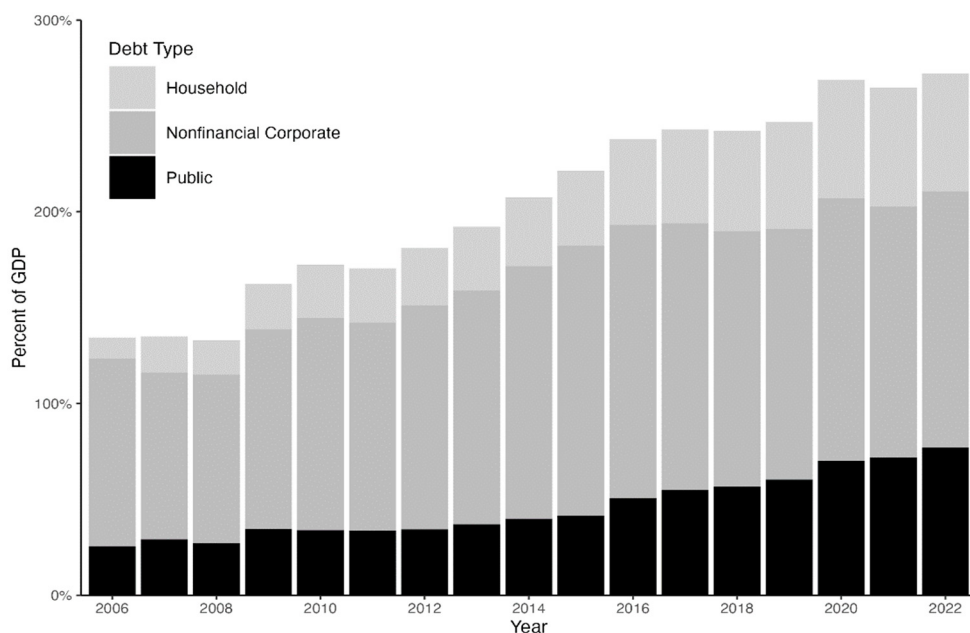


FIGURE 6. DEBT TO GDP RATIO

Source: IMF Debt Monitor.

Second, local government officials have powerful incentives to borrow, through their LGFVs, in order to build roads, railways, power plants and housing but also to invest in enterprises in manufacturing and other sectors, so as to provide employment for their constituents and sinecures for themselves. Historically, local governments and their financing vehicles have had soft budget constraints. They have received transfers from the central government and forbearance from its policy banks when experiencing debt distress.¹⁶ Transfers are motivated by fears of contagion; as one observer put it, “If one local government defaults...it would bring about a systemic crisis and trigger a market sell-off of the debts of various local governments, and even the central government’s. Local government debts,” the implication follows, “are also debts of the central government.”¹⁷

Third, property investment is an intrinsic feature of the Chinese economy, given the perceived safety of investments in property relative to other assets.¹⁸ China’s large property-development companies, forced to build ahead of demand, borrowed in order to finance construction. Real-estate developers, like local governments (the two sometimes being one and the same), enjoyed generous access to debt finance from banks and trust companies, given that the property sector was an important component of the Chinese economy and a critical contributor to GDP growth.¹⁹ Households generously funded these trust companies, which promised high rates of return, in the belief that the shadow banks in question enjoyed implicit guarantees from the government. Developers also borrowed abroad, foreign lenders tending to extrapolate past increases in property prices and believing that government would step in if the trust companies experienced financial distress.

In 2020, however, officials grew concerned about a property bubble, and they curtailed the sector’s credit access. In the subsequent three years, more than 50 Chinese developers, short of cash, defaulted or failed to make timely debt payments. The problems of Evergrande and Country Garden spooked home buyers, who questioned whether the companies would deliver the promised apartments, causing home sales and prices to fall, which further worsened the financial position of the developers. They also worsened the problems of local governments, which depended on land sales for current revenues.

Debt of the real-estate/construction sector has received the most attention, for good reason, but other heavily indebted corporate sectors include transportation, retail, leisure, consumer goods and pharmaceuticals. Like property developers, enterprises in these sectors, many of which are linked to local governments, were

¹⁶As noted in Section 7, fiscal stimulus in 2023 was adopted in part to aid local governments struggling with debt. In contrast to earlier periods, however, steps were also taken to rein in moral hazard. Local governments in 12 high-debt regions were not permitted to undertake new projects without permission from the central government and were not permitted to take on new railway and power-plant projects under any circumstances. The central government also issued an order specifying that debt of LGFVs should not grow faster than the average loan growth rates of the corporate sector in the province where LGFVs are located.

¹⁷The quote is attributable to Xu Gao, chief economist at Bank of China International, cited in Lee (2023).

¹⁸Relatedly, it is sometimes argued that China’s current generation sees itself as a “real estate generation,” given that it was the first generation to take advantage the housing privatization that began after 1998 (Huifeng and Cai, 2023). If the savings and spending decisions of future generations are then less “real-estate centric,” then this problem of excessive focus on the construction sector may solve itself.

¹⁹Official statistics suggest that real estate and construction constituted 14 percent of GDP in 2020, up from 10 percent in 1995. Rogoff and Yang (2020) estimate that the real estate sector is responsible for fully 29 percent of Chinese GDP, taking into account higher order upstream and downstream linkages. This is more than twice the comparable level for South Korea.

encouraged to borrow to help the authorities achieve their announced growth targets, until starting in 2020 when the central government sought to reduce financial risk by cracking down on speculative activity (S&P Global, 2021).

The channels through which heavy indebtedness and debt distress negatively impact economic growth are familiar from earlier research. Heavy government debt discourages capital accumulation if investors lower their expectations of returns in anticipation of higher and more distortionary taxes to meet debt service obligations in the future. Indebted governments with less fiscal space will be more reluctant to engage in expansionary fiscal policies in downturns, as seen in the Chinese case, and to undertake productivity-enhancing investments. The perceived need to recapitalize the debts of distressed corporates, LGFVs and local governments may then reduce the fiscal space still further. Heavily indebted households may be reluctant to spend, preferring to pay down existing obligations and strengthen their balance sheets. Heavily indebted corporates struggling to meet their interest obligations will similarly be in a poor position to undertake productivity-enhancing investments. Banks evergreening their loans to corporations with distressed debts will lack the resources to lend to more productive entrants, while the failure of loss-making firms to exit will discourage entry by those new competitors, as in the case of Japan's zombie banks and firms (Caballero, Hoshi, and Kashyap, 2008).

Earlier research also points to policies intended to minimize these negative impacts. A central government running deficits in bad times should run surpluses in good times. Reducing vertical fiscal imbalances and hardening the budget constraints of regional and local administrations will limit the likelihood that the central authorities will be forced to assume the debts of lower levels of government. Regulators should discourage financial intermediaries from evergreening their loans to insolvent corporations and LGFVs, while the debts of the latter should be restructured sooner rather than later.

The problem at hand is that these interventions imply slower growth in the short run. Corporations and local governments with harder budget constraints will spend less. Restructuring their debts will impose losses on investors, who will feel negative wealth effects, and on banks, which will suffer balance-sheet losses. Property prices will fall, and confidence may be further eroded.

This, then, is a general instance of the more general phenomenon of unbalanced growth described in Section 4, a model that is not feasible indefinitely. The longer authorities stick with it, the greater the vulnerabilities and headwinds for future growth – and the heavier the debt bequeathed to the future. However, moving away from that model implies slower growth now. Again, the implication is that to sustain a higher growth rate in the long run, China needs to accept a sharper growth slowdown in the short run.

IX. Crisis Risk

Conventional wisdom has it that China remains enough of a controlled economy and that the central government retains sufficient fiscal space such that a financial crisis capable of throwing growth seriously off course is a low-probability event.

Still, some such as Ip (2023) have sought to make the case that crisis risk is real. His argument starts with the fact that the liabilities of local governments and their LGFVs exceed 45 percent of GDP.²⁰ It then proceeds to the observation that 80 percent of LGFV debt is held by banks, while much of the rest is held by trust companies.²¹ The IMF estimates that the cost of restructuring financially nonviable LGFV debt could approach \$1 trillion. If the entirety of this cost is borne by banks, restructuring charges would reduce bank capital relative to assets by 3.5 percentage points.²²

Bank capital ratios, at slightly more than 10 percent of assets, are already low by international standards. Consequently, news of this further damage to bank balance sheets could precipitate a crisis of confidence and unleash depositor runs, starting with local banks, which are least well capitalized, in provinces suffering from the largest declines in property prices, and then spreading from there to other banks, including big, systemically important banks. The central government would be forced to step in, recapitalizing the banks in order to restore confidence,²³ but the government would then enter a “diabolic loop” (Brunnermeier and Reis, 2023), as recapitalization costs add to an already heavy government debt. Questioning the government’s ability to service that debt without help from a monetary authority, investors would shed government bonds. The central bank would be forced to buy them to stabilize the market, fueling inflation. Either way – via a banking panic or through an inflationary crisis – growth would suffer.

Spelling out this scenario has the advantage of exposing its plausibility, or lack thereof. Central government debt in China is 77 percent of GDP. Adding \$1 trillion of bank recapitalization costs would raise this to approximately 83 percent. It is questionable whether a change of this magnitude, on its own, would undermine confidence in the central government’s debt. \$1 trillion may be a large number, but it is less than 6 percent of Chinese GDP, as noted. To put this in perspective, recall that the cost of resolving the banking crisis in South Korea between 1998 and 2002 cost \$160 trillion won, or 30 percent of 2002 GDP (Kim, 2006). Evidently, China’s banking problems do not begin to approach historic Korean levels.²⁴

Thus, the conventional wisdom that China possesses the instruments and fiscal space needed to resolve its debt and banking problems and to avert any incipient crisis remains accurate for the moment. Nonetheless, the central government is running substantial budget deficits which, if allowed to continue, will erode that fiscal space. The longer nonperforming loans to LGFVs remain unaddressed, the more costly they will be to resolve. The conventional wisdom may not remain conventional indefinitely.

²⁰This estimate is from the IMF (2023).

²¹Ip doesn’t mention the claims of banks and trust companies on troubled property-development companies, but these issues point in the same direction.

²²The IMF describes a case where banks bear half of the cost of restructuring that debt. Here, for simplicity I describe a case where banks bear the entire cost of restructuring the local government debt on their balance sheets.

²³This would follow the precedent of the 1990s, when a banking crisis was resolved by transferring nonperforming assets to government owned and operated asset management companies.

²⁴That said, the Korean government’s debt was much lower as a share of GDP, giving it fiscal space adequate for absorbing those costs.

X. Conclusion

In *The Interpretation of Dreams* (1900), Sigmund Freud referred to the concept of an overdetermined system, where a single occurrence has multiple causes. China's growth slowdown is plausibly interpreted analogously as having multiple causes, ranging from unfavorable demographics, the exhaustion of high growth potential, and the diminishing effectiveness of unbalanced growth on the one hand, to U.S. export prohibitions, centralization of domestic political control, and heavy debt on the other. As with any overdetermined system, it is challenging to pin down the relative importance of different factors. Almost certainly, the natural tendency for rapidly growing economies to slow down is a major factor, although this tendency alone cannot explain the magnitude of the deceleration in China over the last 15 years. The problems bequeathed by unbalanced growth, including a declining ICOR, slowing total factor productivity growth and rising indebtedness, almost certainly constitute collectively a second major factor. In contrast, a number of other mechanisms indicated by observers are likely to be less important, such as demographics, due to offsetting changes from labor force participation and unemployment. President Xi's centralization of political power and anti-corruption campaign also falls into this category, insofar as the different elements work in different directions, as do U.S. export controls, which are less than comprehensive and will encourage innovation by China to neutralize their effects.

Looking to the future, how growth evolves will depend on policy choices that are difficult to predict. What is clear is that there is a tradeoff between the short and longer runs. Sustaining growth over the longer term will require steps away from investment, debt and export-fueled growth in favor of a balanced growth model with a larger role for household consumption. Doing this will require hardening the budget constraints of regional and local governments and LGFVs and will mean the restructuring of the nonperforming debts of property and construction companies. Healthy growth can be maintained on this basis, although not necessarily growth at China's earlier, impressive rates, given China's demographics, inherited debts, and other headwinds. However, these same steps supporting growth in the longer run will make for slower growth in the short run, as the higher wages needed to support household consumption will undermine export competitiveness, regional and local governments will spend less, and debt restructuring will roil financial markets.

If they are secure in their position, as they appear to be, Chinese leaders can play the long game. Their discount rates being low, they can regard short-term costs as an acceptable price to pay for healthy growth in the medium to long run. At the same time, Chinese leaders, like leaders everywhere, can be set in their ways; they show an understandable reluctance to abandon a tried and true growth model that has served them well. Whether they will choose to restructure and reform the economy is thus anyone's guess.

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