

Navigating the transition: China's future at a crossroads

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Qian Wang, Ph.D.; Jessica Mengqi Wu, M.Sc., CFA; and Zoe Bryn Odenwalder

- After three decades of impressive growth, China has approached a crossroads in its transition. It must balance near-term economic and social stability with long-term growth sustainability, while keeping financial risk at bay. The task is even more challenging amid rising uncertainty on the external front.
- Policy actions have the potential to tip China from one economic outcome to another. If China pushes forward with structural reforms too aggressively without a sufficient policy cushion, it could cause a hard landing; but failing to reform could lead to a collapse in productivity growth and Japan-style stagnation. We discuss four scenarios for China's future.
- Although China has the tools and ability to navigate this transition in the near term, the true risks lie in the medium term to long term. Slower China growth could have negative ramifications for the world, but the magnitude rests heavily on which scenario occurs.
- Investing in China increases exposure to a growing share of the world economy and its associated diversification benefits. We advise investors to remain patient, yet vigilant, during the transition. In the long term, we remain constructive about China's economy, given abundant room for development.

China's double-digit growth during the last three decades has been one of the most dramatic global economic developments, elevating the country's economy to the second-largest in the world and making China the largest manufacturer, exporter, foreign direct investment recipient, and holder of foreign exchange (FX) reserves. But this growth has more than halved in recent years, as the previous growth model, which relied heavily on investment and exports fueled by massive debt accumulation, has become unsustainable. This slowdown has added to investors' concerns about China's ability to achieve sustained and healthy growth into the future.

To a large extent, the downward trend in China's economic growth since the Global Financial Crisis can be attributed to both demand- and supply-side factors, including the sluggish global trade growth, industrial and housing overcapacity, unfavorable demographics, and falling productivity growth. To rebalance the growth model toward a more sustainable path, China must implement structural reforms to ensure that investment spending flows toward the most efficient uses of capital and to avoid misallocation and overinvestment in certain sectors. However, such a transition process comes with significant risk. Coupled with the current high weight of investment spending in GDP growth, normal swings in market-driven investment and credit flows could easily trigger a sharp slowdown. A smooth transition has become increasingly challenging amid heightened uncertainty regarding the China-U.S. bilateral relationship and persistent capital outflow pressure.

Policymakers must maintain a subtle balance between the pace and quality of growth by handling the tension between the long-term nature of growth rebalancing

and the shorter-term concern of maintaining economic and social stability. China's decisions to manage this tension will have profound consequences. Moving aggressively on either front could lead to an economic crisis or long-term stagnation. In our view, policy actions and structural reforms hold the key to China's future and will lead to one of four growth trajectories: smooth rebalancing, hard landing, Japan-style stagnation, or emerging-market-style instability.

The world is not exempt from the risks of China's transition. The spillovers could increase considerably along with China's further integration into the global economy and financial markets. However, our analysis shows that the impact is sensitive to which scenario occurs. We remain hopeful about China in the long term, but its economic outlook will be a consequence of many complex, deep-rooted factors that will become clearer with time. Close monitoring of its economic, financial, policy, social, and political development is warranted.

Part I: Challenges and associated risks

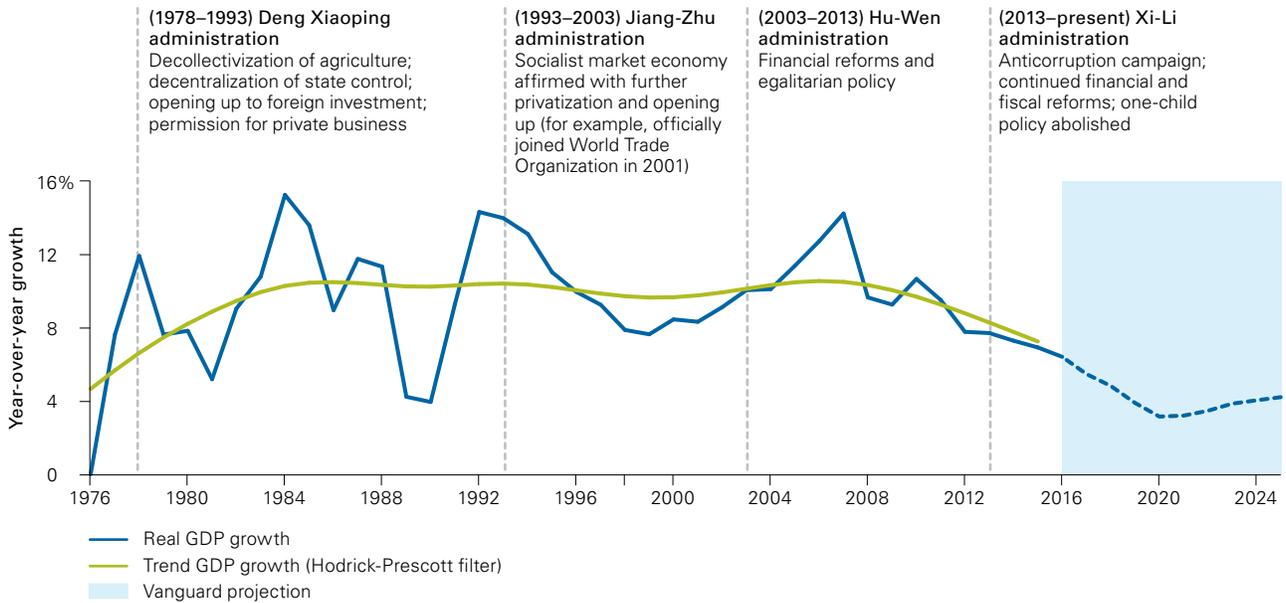
Since the early 1980s, China's economic reform and open-door policy¹ has led to an impressive economic expansion, as shown in **Figure 1**. Nonetheless, economic growth has slowed notably since the Global Financial Crisis because of both supply and demand weakness. The primary demand-side drags stem from industrial and housing overcapacity and a sluggish global economy, which resulted in a sharp deceleration of domestic investment and export growth. On the supply side, growth is constrained by unfavorable demographics and slower productivity. China's economic growth will be driven by the decisions made to weather these supply- and demand-side factors.

Notes on risk

All investing is subject to risk, including the possible loss of the money you invest. Past performance is no guarantee of future returns. Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk, which is the chance that political upheaval, financial troubles, or natural disasters will adversely affect the value of securities issued by companies in foreign countries or regions; and currency risk, which is the chance that the value of a foreign investment, measured in U.S. dollars, will decrease because of unfavorable changes in currency exchange rates. Stocks of companies based in emerging markets are subject to national and regional political and economic risks and to the risk of currency fluctuations. These risks are especially high in emerging markets.

¹ The open-door economic policy for foreign businesses was initiated in 1978 by Deng Xiaoping after recognizing China's need for Western technology and investment. China's main trading partners previously had been only the Soviet Union and its satellites.

Figure 1. China's growth is entering a new phase



Notes: Vanguard GDP projection is plotted under our base case scenario that China will have a “smooth rebalancing.” (See page 12 for more details.) The Hodrick-Prescott filter is used to remove the cyclical component of a time series.

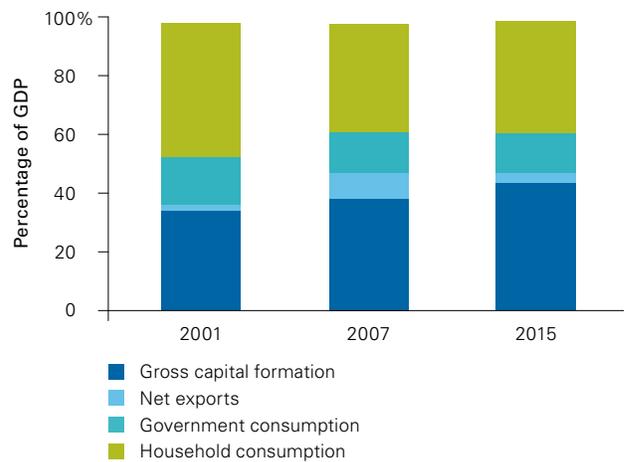
Sources: National Bureau of Statistics of China (NBS) and Vanguard.

The demand-side headwinds

Booming exports and investment have been key growth drivers for China during the past decades; **Figure 2** shows that the combined share of investment and exports in GDP has risen more than 10 percentage points, while household consumption has been shrinking. However, both have lost their momentum in recent years and continue to face significant headwinds.

When China entered the World Trade Organization, its abundant supply of cheap labor, pro-business regulatory environment, and strengthening infrastructure allowed it to quickly emerge as the “world’s factory,” and exports became a primary part of the country’s growth. However, since the Global Financial Crisis, the situation has reversed and annualized export growth fell from 27% to 4%. Amid weak global demand, fast-rising unit labor costs and appreciation of the real effective exchange rate weakened China’s competitiveness in the low-skilled and labor-intensive manufacturing sectors.

Figure 2. Booming investment and exports are the key drivers of China's growth



Sources: NBS and CEIC.

As China becomes more developed by continuing to increase its technological ability and transition toward higher-value-added industries, the era of cheap labor is drawing to a close. While this will not happen overnight, the external environment is becoming increasingly unfavorable given structural deceleration and rising protectionist sentiment (Davis et al., 2016). Rising protectionism around the world and growing uncertainty in the China-U.S. bilateral economic and political relationship could pose significant downside risks if trade friction in China and

the United States increases or a potential “trade war” ensues. These factors will prevent a global trade revival in the medium term.

Despite massive investment for decades, there is still room for more. Because even after 30 years of growth, China’s capital per capita is below that of the four “Asian tigers”² in the 1980s and much lower than that of the United States today (Figure 3).

Figure 3. Slower and more efficient investment growth is needed



Notes: Investment as a percentage of GDP is from the International Monetary Fund (IMF) World Economic Outlook (2016). “Today” is defined as the average for 2014. Asian tigers are at China’s 2014 nominal per capita GDP level (\$7,500 in 2014 U.S. dollars). The capital-per-capita ratio is from the Penn World Tables 8.1, in 2005 U.S. dollars, with “today” defined as the average for 2011.

Sources: Vanguard calculations, using data from the IMF and the Penn World Tables.

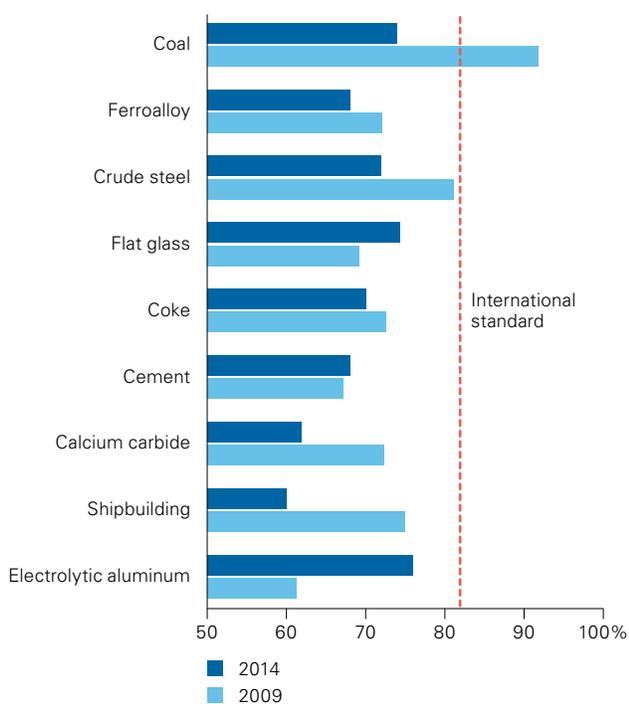
2 The Asian tigers are the high-growth economies of South Korea, Hong Kong, Taiwan, and Singapore.

However, past investment growth has been concentrated in the heavy-industrial and housing-construction sectors, leading to significant expansion in capacity. After the Global Financial Crisis global demand slowed, while investment increased rapidly with the rollout of a 4 trillion renminbi fiscal stimulus package³; this package exacerbated overcapacity in many sectors.

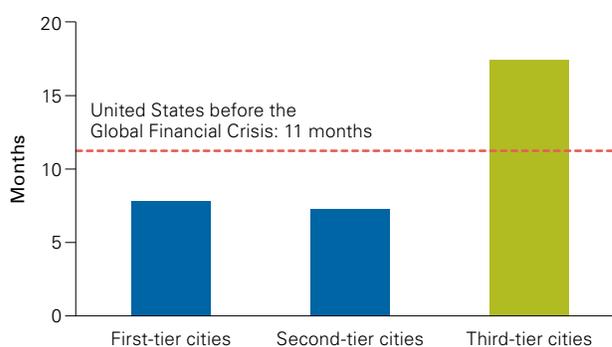
The average capacity utilization ratio in the major industrial sectors is well below the international standard (see **Figure 4a**), and housing inventory in third-tier cities⁴ is much higher than the U.S. level before the financial crisis, despite a housing market boom in 2016 (see **Figure 4b**).

Figure 4. Overcapacity will take years to unwind

a. Capacity utilization ratio



b. Real estate inventory-to-sales ratio



Notes: The earliest capacity utilization ratio calculation for the shipbuilding industry is from 2012. Data for real estate inventory-to-sales ratio are updated through November 2016.

Sources: National Development and Reform Commission, People’s Bank of China, NBS, China Real Estate Index System, Soufun, Wind, and Vanguard.

³ The State Council of the People’s Republic of China announced the 4 trillion renminbi fiscal stimulus package in November 2008 as an attempt to minimize the economic shock from the Global Financial Crisis. The package was invested in key areas such as housing, rural infrastructure, transportation, health, and education. Critics have blamed it for causing a surge in Chinese debt, especially in local governments and state-owned enterprises.

⁴ Third-tier cities refer to small cities in China. They account for about 65% of the total floor space sold in China’s property market. First-tier cities are “The Big 4” of Beijing, Shanghai, Guangzhou, and Shenzhen. Second-tier cities are made up mainly of provincial capitals and coastal cities, such as Tianjin, Chongqing, Chengdu, Wuhan, and Xiamen.

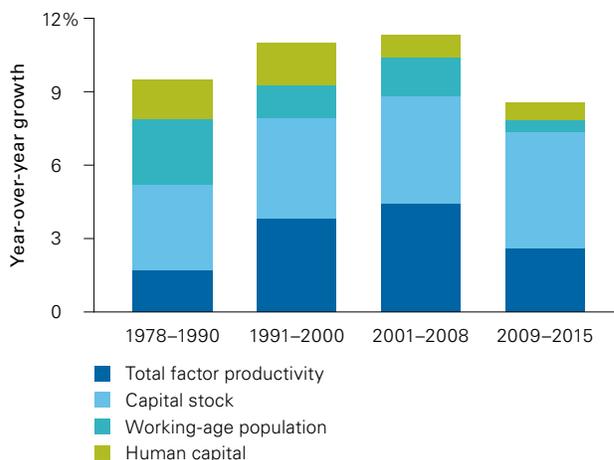
The moderate leverage level in the household sector and continued urbanization do not make overcapacity an immediate risk; however, China does need to achieve slower and more sustainable investment growth. It must avoid misallocation and overinvestment in certain sectors by ensuring that investment spending flows toward the most efficient uses of capital. Thus, the overcapacity sectors are likely to see depressed growth for a protracted period, weighing on GDP growth.⁵

The supply-side headwinds

China is not immune to global structural trends with unfavorable demographic prospects and lower productivity growth on the supply side (Davis et al., 2016), as shown in Figure 5.

A shrinking labor force and a rapidly aging society pose the most far-reaching challenge in China. With declining fertility rates since the 1980s, partly due to the government’s one-child policy, the population has been aging rapidly, and this trend could accelerate in the future. According to the United Nations, China’s labor force will decrease 30% by 2050.⁶ This will require an average of 2.2 working-age citizens to support one retiree and result in a demographic situation similar to that of Japan today.⁷ This has led to a decline in China’s urban labor force and productivity growth because the smaller pool of surplus labor in rural areas has slowed the pace of migration. Furthermore, strong institutional barriers (for example, hukou, the household registration system),⁸ and higher opportunity costs for migration have put pressure on urban labor force and productivity growth.

Figure 5. Total factor productivity and labor input are contributing less to growth



Sources: NBS, CEIC, United Nations, and Vanguard estimates.

A lack of effective structural reforms and a fading catch-up effect will continue to weigh on China’s productivity growth and lead to lower GDP growth. With purchasing power parity (PPP)-adjusted GDP per capita over 13,000 international dollars, China will face the challenge of escaping the “middle-income trap”⁹ and redefining itself away from being the “world’s factory.” Historically, many low-income countries experienced decelerating growth by about 30% when the PPP-adjusted GDP per capita exceeded 11,000 international dollars (see Figure 6).

⁵ Based on an input-output analysis, we estimate that a 10% decline in housing investment could shed more than 2% from headline GDP growth, considering the direct impact on GDP growth and the indirect impact on related industrial investment (such as steel and cement) and private consumption (such as furniture and household appliances).

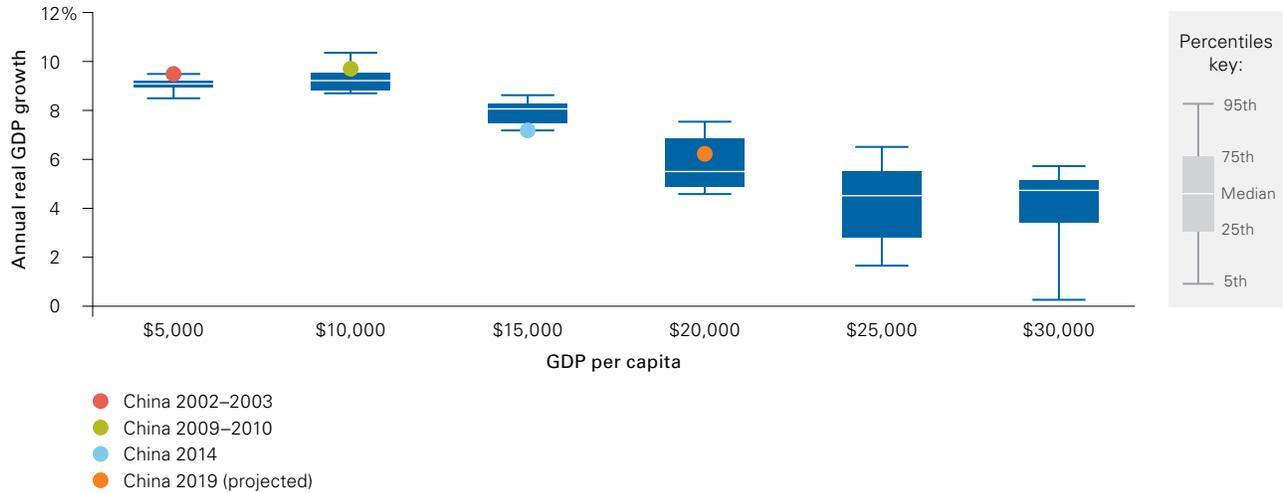
⁶ This is based on the assumption that the birth rate will not increase. Aging will continue at a rapid pace in coming decades, and the proportion of the elderly population (age 65 and above) will rise to 29% by 2050, according to the United Nations.

⁷ Despite the relaxation of the one-child policy, we believe the birth rate is unlikely to be significantly or sustainably boosted because of the rising cost of raising children and cultural shift. As such, it is unlikely to reverse Chinese’s unbalanced demographics in the medium term.

⁸ Farmers have been allowed to migrate to cities to work since the mid-1990s, but they cannot change their hukou status and become “semi-urban” residents without access to the public services and social welfare in cities, which dramatically increases their migration cost.

⁹ The phrase “middle-income trap” was first raised by Garrett (2004). He observed that many middle-income countries fell into stagnation because they failed to compete with both high-income countries (lack of technology and supportive system) and low-income countries (lack of cheap labor). Latin American and Middle Eastern countries are examples of the middle-income trap. This occurs because of unfavorable demographic dynamics; low economic diversity; inefficient financial markets; lack of high-quality infrastructure; low innovation; weak economic, political, and judicial systems; and inefficient labor markets. These factors must be mitigated by structural reforms.

Figure 6. Moving to high-income status means slower growth



Notes: GDP per capita is PPP-adjusted. China’s nominal GDP per capita in U.S. dollars was \$7,590 in 2014, according to the World Bank.
Sources: IMF, World Bank, and Vanguard.

Innovation and structural reforms will be critical for unlocking the full potential of China’s productivity growth. Between 1978 and the early 2000s, China carried out significant reforms¹⁰ to open up the market, liberalize the economy, and boost productivity growth. However, the previous reform dividend has faded, and recent reform progress has been gradual. Although it will be more difficult to address the remaining institutional challenges such as state-owned enterprise (SOE) reforms, land reforms, and fiscal reforms—the government will have to overcome resistance from vested interest groups and risk a potential sharp economic slowdown—it will be essential. (See **Appendix I** on page 22.)

The risk lies in the medium term

Two primary risks exist: the significant accumulation of credit and challenges associated with maintaining fixed foreign exchange rates, free capital movement, and independent monetary policy, the “impossible trinity.”¹¹

Leverage in the economy has exploded, along with the credit-fueled investment boom. According to the Bank for International Settlements, total nonfinancial debt-to-GDP surged from 145% in 2007 to 255% in less than nine years. Although many investors are concerned about China’s level of debt, it is similar to those in developed markets, and China is able to support a relatively high

¹⁰ Important reforms during that period include rural reform, gradually replacing the central planning system with markets and pricing signals, continuously opening up to foreign trade and investment (particularly after joining the WTO in 2001), and restructuring banks and SOEs.

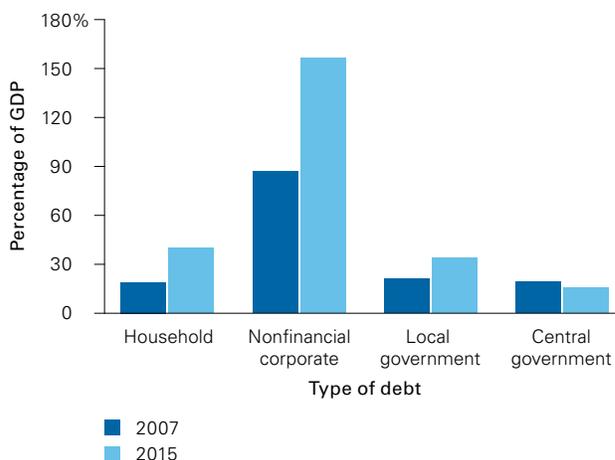
¹¹ The “impossible trinity” is a trilemma in international economics which states that it is impossible to have a fixed foreign exchange rate, free capital movement (absence of capital controls), and independent monetary policy at the same time. The theory is a hypothesis based on the uncovered interest rate parity condition and a finding from empirical studies where governments that have tried to simultaneously pursue all three goals have failed, such as in the Mexican peso crisis in 1994–1995, the Asian financial crisis in 1997, and the Argentinean financial collapse in 2001–2002.

leverage level given its large gross national savings. Instead, the rapid growth of leverage in such a short period and the concentration in the corporate sector, especially in unproductive state sectors, is more concerning (see Figure 7).

History suggests that such a rapid increase in debt may lead to a financial crisis and a protracted growth slowdown. China's corporate debt level is among the highest in the world, largely due to the overleveraged SOEs, including local government funding vehicles (LGFVs). SOEs have enjoyed higher and faster leverage growth because of implicit and explicit guarantees by the government and their close relationship with state-owned banks, even though SOEs perform much more poorly than private enterprises. The situation has been further exacerbated by the 4 trillion renminbi fiscal package announced in 2008, when the government urged banks to lend aggressively to SOEs that undertook many large-scale investment projects to support economic growth. Today, based on a National Bureau of Statistics of China survey on industrial enterprises, SOEs account for about 40% of total industrial assets; 30% of them are loss-making compared with only 11% of private firms. Their leverage level has risen sharply since the Global Financial Crisis and has significantly outpaced the deleveraging in the private sector. As a result, even though SOEs have privileged access to resources and markets, their return on capital has fallen below that of their private peers.

It is not surprising that the elevated and fast-rising debt levels have produced lower GDP than in the past. Corporations are facing increased challenges to pay off the debt given falling efficiency, slowing economic growth, and elevated real interest rates (see Figure 8). Corporate defaults, bankruptcies, and banks' nonperforming loan ratios are on the rise. The government has been encouraging a smooth deleveraging process with continued growth, but at a slower rate than nominal GDP growth. The smooth deleveraging process will be critical to avoiding a hard landing in the near term. Policymakers should focus on reforming the SOEs and providing a fair playing field for private players first. If credit and investment flows continue to respond to short-term policy targets or state

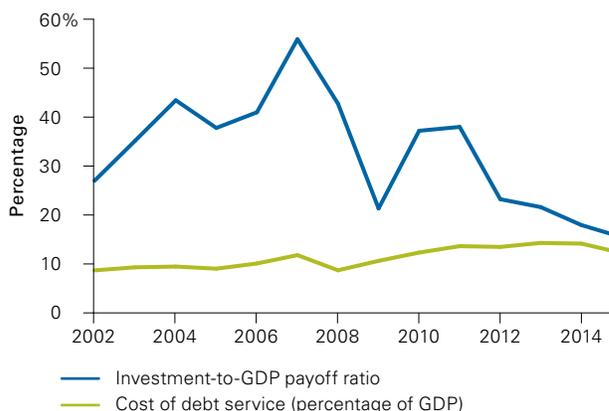
Figure 7. It is not China's level of debt but the pace and concentration that are worrisome



Note: Local government includes direct debt and contingent debt (calculated using 100% coverage ratio).

Sources: CEIC, Ministry of Finance of China, Bank of International Settlement, and Vanguard.

Figure 8. Investment efficiency has fallen, while debt-servicing cost increases



Note: Investment-to-GDP payoff ratio is the incremental change in annual GDP divided by the previous year's capital formation, a measure of investment efficiency.

Sources: CEIC, World Bank, and Fitch.

controls, rather than market signals, productivity growth could slump further, and the elevated financial risk would continue to rise.

The elevated risks in the financial system have not increased the likelihood of a typical emerging-market (EM) crisis involving significant capital flight in the near term, because China’s debt is largely domestically owned.

Indeed, as shown in **Figure 9**, China’s external debt is only 13% of GDP, while the EM average is 43%. China has a strong policy buffer (that is, a “macro policy cushion”), including hefty FX reserves, abundant room for monetary and fiscal policy maneuvering, and flexible and adaptive macroprudential policies. (See the box on page 10.) That would help mitigate the risk of a credit crunch from a sharp contraction in domestic liquidity.

Figure 9. China’s debt is contained domestically and has a sufficient near-term policy cushion

	External vulnerability				Domestic policy cushion			
	External debt (% of GDP)	Total reserves (% of GDP)	Current account balance (% of GDP)	Currency peg	Nominal policy rate (%)	Inflation (%)	Fiscal balance (% of GDP)	Government debt (% of GDP)
Average during past emerging markets crises	42.8	7.7	-2.5	Yes	27.5	20.6	-1.8	57.8
Worst 25th percentile	52.0	4.0	-3.7	Yes	16.0	16.9	-4.1	71.2
China today	12.9	30.0	2.4	No	1.5	2.3	-3.4	43.5

Notes: EM crises and years are: Brazil in 2002, Hungary, Malaysia, South Africa, Turkey, Indonesia, and South Korea in 1997, Mexico in 1994, Argentina in 2001, and Russia in 1998. Fiscal balance data for Turkey are for 1998. Malaysia central government debt data are for 1995. China nominal policy rate is one-year deposit rate. China fiscal deficit is central government fiscal deficit. IMF forecasts the augmented deficit to be 10% of GDP, including 6% of GDP (4.1 trillion renminbi) in LGFV financing recorded in total social financing. China government debt includes central government debt, local government direct debt, and contingent debt (calculated using a 20% coverage ratio).

Sources: World Bank, national central banks, national government websites, and Vanguard.

China's policy toolbox is still deep

The Chinese government has a deep pocket for monetary, fiscal, and regulatory tools to cushion the slowdown or protect itself from a potential policy mistake. China's policy agenda is under a "fighting retreat" mode: The government accepts that the growth will need to slow down, but at a gradual pace. If the deceleration is gradual, the government will not intervene and instead will focus on reforms and financial stability; but when the pace is rapid and creates market panic, the government will fight against the trend to stabilize the growth. This will allow the government to engineer a smooth deleveraging process and soft landing. The macro policy cushions include:

- **FX reserve cushion:** China has \$3 trillion FX reserves, which can cover imports for two years, and the debt ratio of FX reserves to short-term external debt is low.
- **Monetary policy cushion:** The central bank balance sheet remains solid, and the reserve requirement ratio is much higher than the average level prior to the Global Financial Crisis.
- **Fiscal policy cushion:** Although a 2008-style stimulus package is unlikely, the central government's budget deficit is low as a percentage of GDP and allows room for increased fiscal spending, particularly in the infrastructure sector.
- **Others:** The Chinese government is implementing reforms to reduce tax and fee burdens for corporations. Policy restrictions on the property market could be reduced again, should the housing sector slow more than expected. The government can manage capital account restrictions temporarily to avoid capital flight and sharp depreciation on the renminbi. (See **Appendix II**, page 25.)

The true risk lies in the medium term to long term. Without effective market-oriented structural reforms, higher financial risk will be pushed into the future, and policymakers' ammunition will gradually be exhausted. Chinese policymakers' risk management capacity is ultimately constrained by the impossible trinity. Although accommodative monetary policy is essential for the central bank to avoid a painful deleveraging and a hard landing, an easy monetary environment will increase currency depreciation and capital outflow pressure,

especially when U.S. Treasury rates rise. A continued growth slowdown, limited onshore investment channels, and high household savings could suggest large and persistent capital outflows if the capital account is liberalized. In the short term, China has chosen to tighten control on capital outflows, but this does not offer a permanent solution. Opening up the capital account to improve the allocation of capital remains a crucial part of China's structural reforms.

Part II: The tough balance between the pace and quality of growth

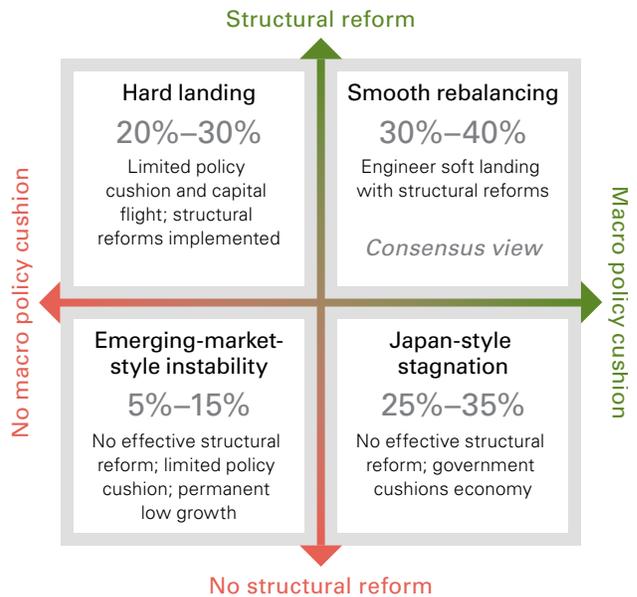
We believe four potential scenarios exist for the future of China’s economy. These scenarios will be shaped by two main domestic forces: structural reform progress and macro policy cushions (see Figure 10).

The first factor is short-term in nature: Can China skillfully utilize policy cushions to engineer a soft landing, or will it fail, resulting in an economic crisis, as in 1998? We still see an above-50% chance that China will be able to avoid a hard landing or systematic financial crisis, even though the market may suffer from a confidence crisis in the ability of Chinese authorities to maintain balance given domestic headwinds and unfavorable external conditions.

The second factor is in the medium term to long term: Can China implement structural reforms to push itself out of the middle-income trap and revive its long-term competitiveness? (See Appendix I.) Despite ongoing policy debates, we expect an above-50% probability that the government will successfully push for structural reforms in a timely manner.

It is challenging—but also critical—for policymakers in China to maintain a subtle balance between these two factors as they attempt to achieve their desired outcome. A supportive macro policy cushion and, hence, a stable growth environment could buy China time to implement painful structural reforms. However, if maintained for too long, these policy cushions could weaken the incentive for reforms and sow the seeds of future volatility. In our view, the ongoing tension between the short-term policy cushion and the long-term necessity for structural reforms could easily tip China from one scenario to another.

Figure 10. Four scenarios for China’s medium-term growth outlook



Source: Vanguard.

Four scenarios explained

Smooth rebalancing is the most bullish scenario. We assign a probability of 30%–40%.

Under this scenario, China uses policy tools to engineer a soft landing, while unleashing long-term growth potential by implementing timely, effective structural reforms.

GDP growth gradually decreases to about 4% then rebounds to about 5% as productivity and capital stock growth gradually rise after the reforms (see Figure 11).

Hard landing involves a sharp fall in growth but with a brighter future. We assign a probability of 20%–30%.

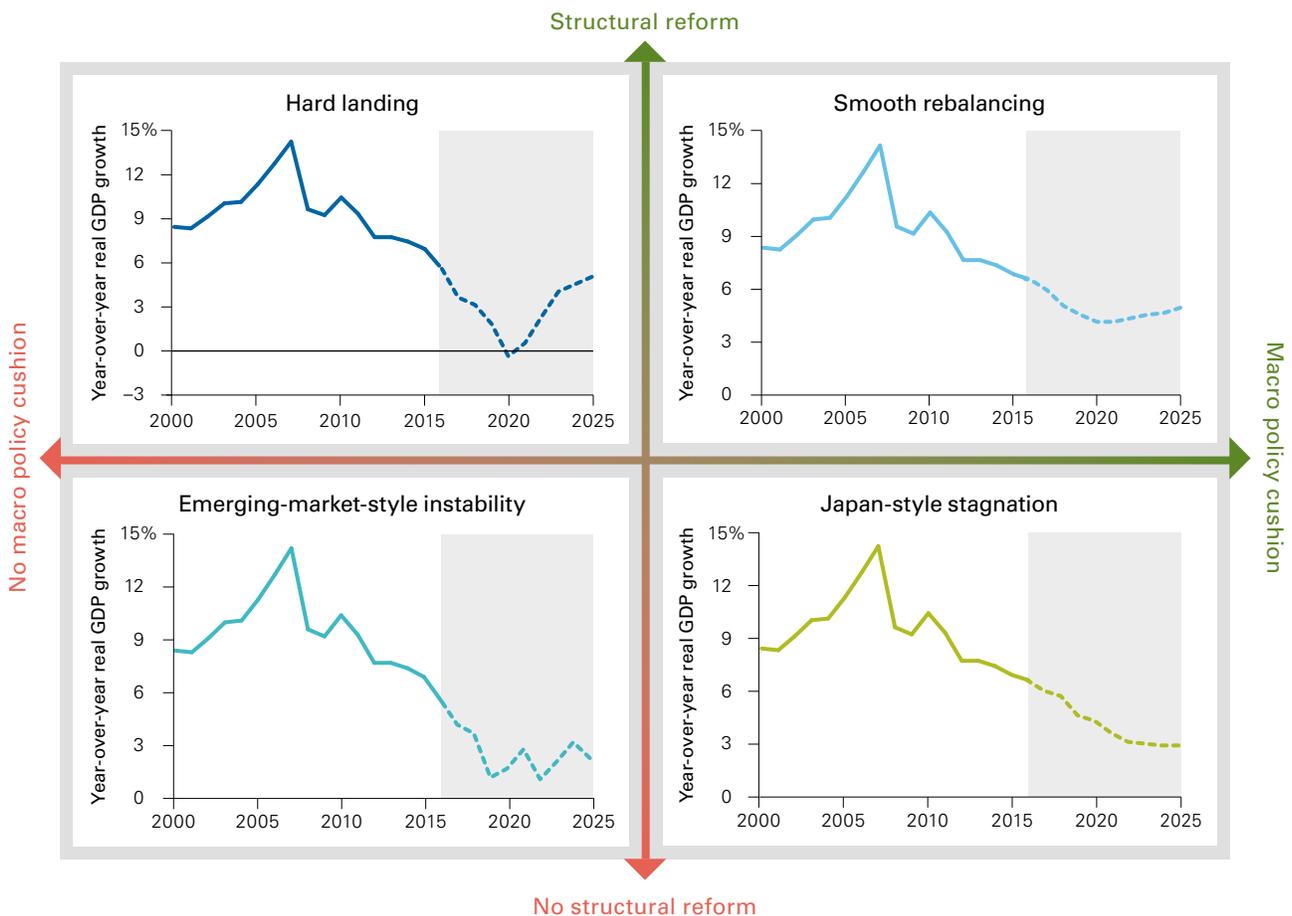
In this scenario, an economic hard landing and sharp deleveraging are triggered when the macro policy cushion is insufficient. Social instability could rise. However, the

crisis provides the government strong incentive to conduct aggressive structural reforms and thereby revive the long-term growth potential.

China experiences a very low growth rate or even an outright recession, followed by a long-term economic rebound. GDP growth rate rebounds to 5% with stronger investment and productivity growth after most bad debts and inefficient economic models are reshuffled (see Figure 11).

Note that the hard-landing scenario occurred in China in the late 1990s, after the Asian financial crisis. Although the crisis was painful in the short term, subsequent aggressive SOE and bank reforms contributed to China’s boom in the following decade. Nonetheless, the growth rebound in this scenario is unlikely to be as strong this time, because the global environment is less supportive.

Figure 11. GDP growth under the four scenarios



Sources: NBS and Vanguard forecast.

Japan-style stagnation means a persistently subdued growth trajectory in the long run. We assign a probability of 25%–35%.

Under this scenario, the government is overly protective and delays necessary structural reforms. The economy is stuck in a “Japan-style” stagnation, though at a much lower wealth level.

The continued increase in credit expansion and the implicit government guarantee help with near-term stability but also allow many loss-making companies to survive. Such a slow-burn scenario makes China lose long-term competitiveness and fail to escape the “middle-income trap” with stagnant GDP and productivity growth, while capital investment continues to decelerate because of the gloomy long-term prospect. GDP growth is likely to gradually drop to about 2%–3% by 2025 (see Figure 11).

Emerging-market-style instability is the most bearish scenario but also the least likely, with a probability of 5%–15%.

In this scenario, the government fails to engineer a soft landing, while structural reforms are too painful because of pressure from vested interest groups. Economic and social instability persists in the medium term.

GDP growth falls sharply, to the low single digits or even negative. In the long term, China loses its shine, and GDP growth decreases to 2%–3% by 2025, with falling productivity growth and lower capital investment (see Figure 11).

Domestic and external developments will influence the probability of each scenario

Although we remain hopeful about China’s future in the long term, the outlook for its economy will be a consequence of many complex factors on both the domestic and external fronts. These factors are interconnected and dynamic, and their development will lead to an increasing or decreasing probability of each scenario occurring.

However, as Figure 12 shows, specific signals will provide more clarity on those developments. For example, if China is able to deliver on SOE reform, the probability of the smooth rebalancing and hard-landing scenarios increases. On the other hand, if leverage continues to surge, or if capital outflow or trade friction with the United States intensify, the probability of the hard landing and emerging-market-style instability scenarios rises. As China’s transition continues, we will closely monitor these signals to gauge which scenario is likely.

Figure 12. Signals pointing to an increasing or decreasing probability of each scenario

Signals	Scenarios			
	Smooth rebalancing	Hard landing	Japan-style stagnation	Emerging-market-style instability
Near-term macro stability				
Corporate defaults rise	▼	▲	▼	▲
Leverage surges	▼	▲	▼	▲
Capital outflow intensifies	▼	▲	▼	▲
Long-term structural reforms				
Capital market matures	▲	▲	▼	▼
Capital account liberalizes	▲	▲	▼	▼
SOE reform progresses	▲	▲	▼	▼
Global factors				
Global recession occurs	▼	▲	▼	▲
Global liquidity tightens	▼	▲	▼	▲
Protectionism increases	▼	▲	▲	▲

Notes: A hard-landing scenario means a V-shape growth trajectory. The economy will bounce up after the economic hard landing, with structural reforms successfully launched. Source: Vanguard estimate.

Comparing China and Japan

The current state of China's economy has prompted many comparisons to Japan in the late 1980s. In Japan, the 1980s were followed by the "lost decades," with a sharp downturn in GDP growth, a deflationary spiral, and an asset price bubble burst. Japan ended up with many evergreen loans,¹² zombie companies, and zombie banks.

Indeed, the two economies share some similarities, including their financial imbalances, savings and investment dynamics, and a general structural downward trend. Both

countries enjoyed three decades of fast economic growth with rising financial and structural risks buried behind the glorious scene. However, compared with Japan in the late 1980s, China has more policy leeway and buffers to deal with a potential economic or financial crisis, as well as more growth potential for long-term development, given the low urbanization rate and capital stock level. As such, we remain hopeful about China's future as long as timely structural reforms can be implemented to capture the opportunity window for a successful economic rebalancing.

Figure 13. Comparing China today to Japan in the late 1980s

Similarities	Indicators		
		China Latest	Japan 1989
Fast growth	Average GDP growth in past 30 years	9.5%	6.2%
High investment	Investment as percentage of GDP	44%	32%
High savings	Savings as percentage of GDP	47%	34%
Low external debt	External debt as percentage of GDP	13%	29%
Unfavorable demographics	Dependency ratio	36%	43%
Financial imbalances	Nonfinancial corporate credit to GDP	168%	140%
	Increase in ten years	67 percentage points	63 percentage points
Asset-price appreciation	Real housing price average growth in ten years (year-over-year percentage)	6.3%	6.4%
	Equity market change in ten years	430%	490%
Differences			
Income level	GDP per capita (nominal U.S. dollars)	8,141	24,506
Urbanization level	Urbanization ratio	54%	77%
Nonagricultural employment	Nonagricultural employment/total employment	66.4%	94.7%
Policy flexibility	—	High	Low
Technological innovation	—	Low	High
Financial openness	Chinn-Ito Index	-1.2	2.4

Notes: Japan external debt is available from 2003. The China equity market has already collapsed, with a peak in October 2007; the ten-year equity market appreciation is calculated between October 1997 and October 2007. The Chinn-Ito Index tracks the financial openness of an economy; the higher the number, the more open the economy.

Sources: World Bank, IMF, Bank of International Settlement, NBS, Bloomberg, and Vanguard calculations.

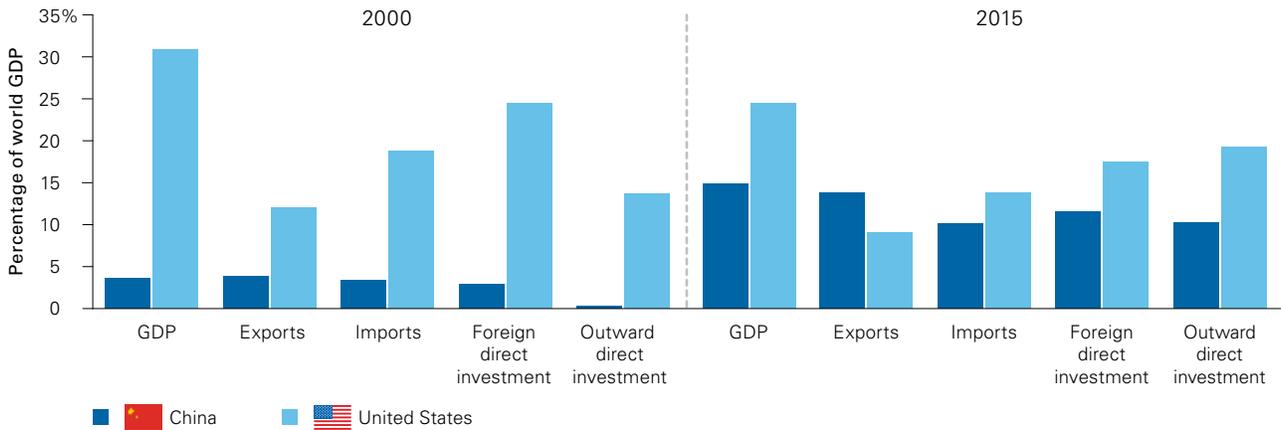
¹² Evergreen loans refer to short-term lines of credit that are routinely renewed, leaving the principal outstanding for the long term.

Part III: China's global impact

China is the world's second-largest economy and has become deeply intertwined in the global market. From 2000 to 2015, China has grown from 3.6% of global GDP to 14.9%, while the United States has shrunk from 30.9% to 24.4% (see Figure 14). China plays a prominent role in the global economy on multiple fronts, including trade, foreign direct investment, and even outward direct investment. Given these realities, policymakers, economists, and investors worry that a slowdown in China may have detrimental effects on the rest of the world.

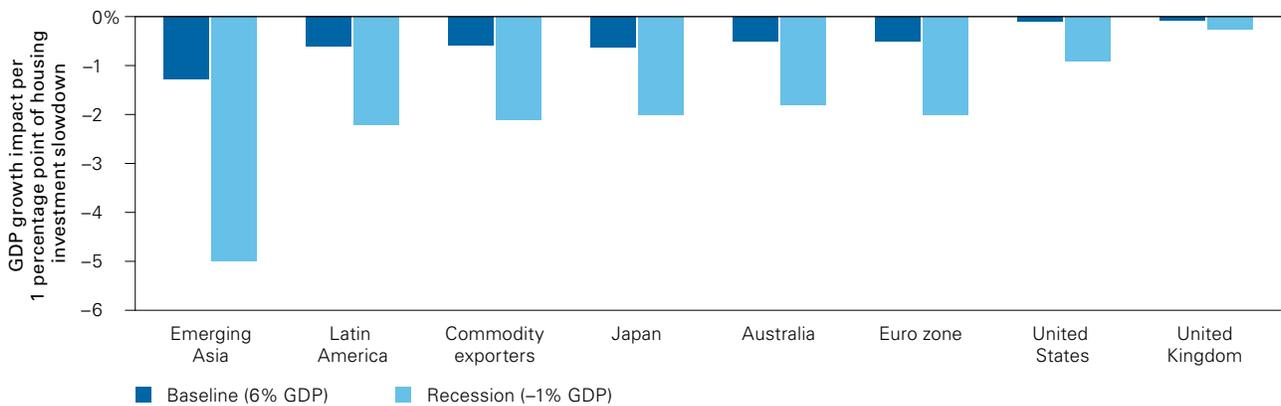
Our estimation indicates that the slowdown in China's growth should have relatively small spillover effects for the developed markets (see Figure 15). For most, exports to China are a relatively small portion of GDP (around 2% on average). In the United States, exports to China are less than 1% of GDP. Most developed economies have a domestic market that is deep and wide enough to be self-sufficient. However, countries that are heavily exposed to China's demand, including commodity exporters such as Australia, Brazil, and South Africa, and Asian EM neighbors such as South Korea and Taiwan, could feel more pain as China's rebalancing and transition proceeds.

Figure 14. China's quick integration into the world economy



Sources: IMF, World Bank, and Vanguard.

Figure 15. Global spillovers from a slowdown in China will be contained to the developed world



Notes: Chart depicts simple regression based on the direct impact of China's trade linkages, ignoring second-order effects. It assumes that Chinese GDP growth slows from the reported 7% to the rates stated in parentheses for the two scenarios. The euro zone is represented by GDP growth impact on Germany. Commodity exporters are represented by Canada, Chile, and Australia.

Sources: Vanguard calculations, based on data from the IMF 2012 Spillover Report.

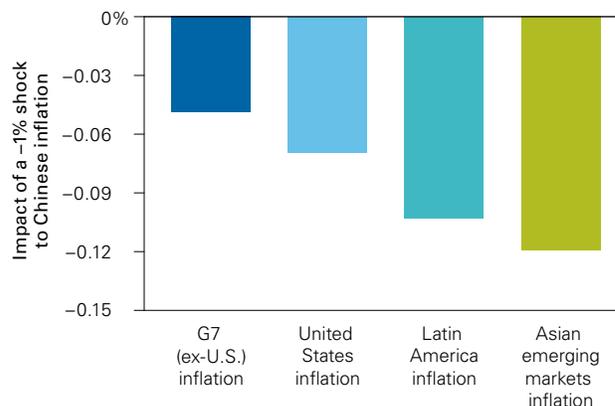
The spillover effects, however, are much broader than trade and GDP. There are many channels through which China could impact the global economy, such as inflation, exchange rates, trade, and confidence. As China's growth slows, there likely will be global deflationary pressure, through both lower import prices and commodity prices. Our calculation suggests that such spillover effects in developed markets (DM) will be small. We estimate that every 1 percentage point decrease in China's inflation would result in a decrease of about 0.07 percentage point in the U.S. inflation rate (see **Figure 16**). Nonetheless, China's neighbors in EM Asia are more sensitive because of the tighter trade links. While unlikely, a Chinese demand shock could cause a sharp dampening of commodity prices and spread deflationary pressure globally.¹³

As the renminbi becomes a more globally recognized currency, its exchange-rate fluctuation will impose more significant impacts on other currencies (see **Figure 17**). A weaker renminbi could trigger competitive devaluation in many export-oriented economies, but it could also be perceived as a signal of China's economic weakness and spark a global risk-off sentiment that will weigh on EM currencies and assets.

A slowdown that is accompanied by declining FX reserves could impose sell-off pressure on China's asset holdings. China could sell its assets during an economic downturn to stabilize the currency when depreciation occurs too quickly. Many investors worry that if China is forced to rapidly dispose of its U.S. securities, it could pose problems for the U.S. Treasury market. However, we estimate that China's official holding of U.S. Treasuries is only about 8% of the deep U.S. Treasury market as of October 2016 (see **Figure 18**). A Chinese sell-off to prevent rapid depreciation of its currency alone is unlikely to cause major reverberations, given the Treasury market's high liquidity and depth.

Although the world is not exempt from the risks of China's transition, our analysis suggests that the impact on global growth is sensitive to which scenario occurs. In addition, the magnitude of the impact on individual

Figure 16. Impact of a Chinese deflationary shock on global economies: More on EM, less on DM



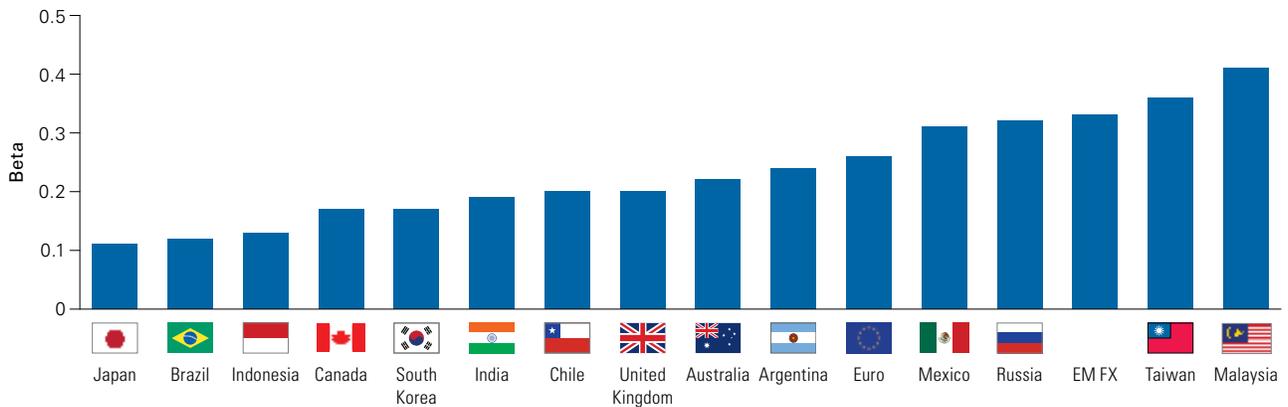
Notes: Figure depicts the average impulse-response functions of different regions' (GDP-weighted) inflation over six months following a shock in Chinese inflation. Asian emerging markets include Malaysia, South Korea, Indonesia, and Taiwan. Latin America is defined as Brazil, Colombia, Ecuador, and Chile. Other than the United States, the G7 countries are the United Kingdom, Italy, Japan, Germany, France, and Canada. Vector autoregression is estimated over the period May 1991 to May 2016.

Sources: Vanguard calculations, using data from Bureau of Labor Statistics, U.S. Department of Labor; Department of Statistics Malaysia; Directorate-General of Budget, Accounting and Statistics, Executive Yuan, Taiwan; U.S. Federal Reserve; Federal Statistical Office, Germany; Instituto Brasileiro de Geografia e Estatística; Instituto Nacional de Estadística y Censos, Ecuador; Statistics Korea; Ministry of Internal Affairs and Communications, Japan; National Administrative Department of Statistics, Colombia; National Bureau of Statistics of China; National Institute of Statistics and Economic Studies, France; National Statistics Institute, Chile; National Institute of Statistics, Italy; Office for National Statistics, United Kingdom; Statistics Canada; Statistics Indonesia; Thomson Reuters Datastream; and World Bank World Development Indicators.

countries depends on their exposure to different sectors of the Chinese economy. If China achieves a gradual slowdown, the impact on overall global growth should be limited. Factors outside of China, such as continued recovery in Europe and the United States, and rising policy and political risks across the world, will be more critical to global economic health in the near term. In the long term, if China makes a successful transition and revives growth, there could be a positive spillover to the rest of the world, especially to countries that benefit from the stronger consumer power in China.

¹³ Demand by China, one of the key commodity consumers, has accounted for roughly half of global demand for iron ore, nickel, thermal coal, and aluminum in recent years.

Figure 17. EM currencies tend to have a strong positive relationship with the renminbi exchange rate

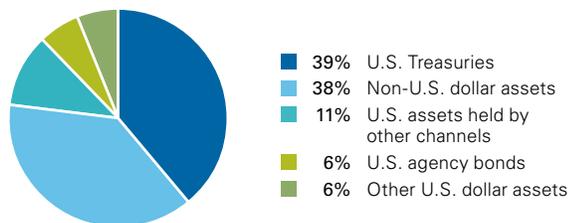


Notes: The beta is calculated as the slope of an ordinary least squares regression on the z-score of monthly return of each currency against that of the Chinese yuan. EM FX return is measured using the JP Morgan Emerging Market Currency Index. Data are calculated from January 2005 to December 2016.

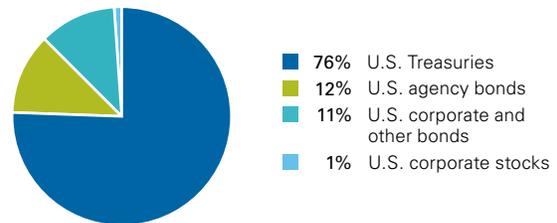
Sources: Bloomberg and Vanguard.

Figure 18. China's FX reserves and holdings of U.S. public and private securities

a. Estimated composition of China FX reserves



b. China FX reserves' direct holding of U.S. dollar assets



Sources: U.S. Treasury, State Administration of Foreign Exchange, NBS, IMF, and Vanguard estimates.

Part IV: China's integration into global financial markets

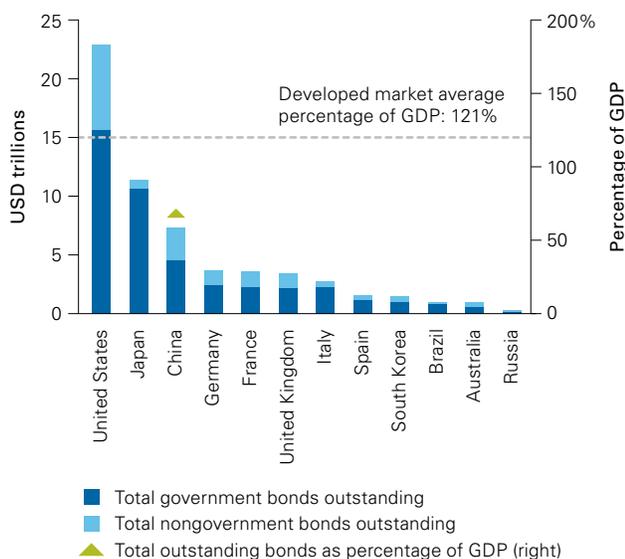
Exposure to China will be important for global investors

As of January 2017, China had the third-largest bond market, after the United States and Japan, with a total outstanding bond amount of \$9.2 trillion. It also had the second-largest equity market after the United States, with an actively traded market capitalization of \$6.6 trillion. However, as a percentage of GDP, China's bond and equity markets fall considerably behind the average of those of developed markets, as shown in Figure 19.

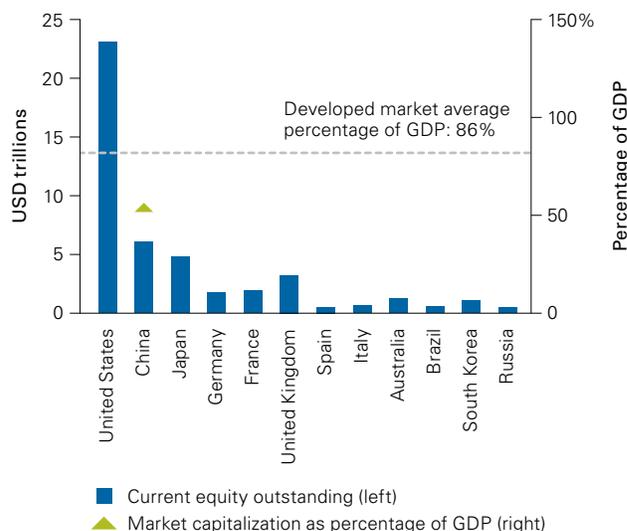
In the A-share (onshore) market, total capitalization has grown by 480% since the beginning of 2007, while the floating share has become more dominant. In recent years, the market has exhibited elevated volatility. However, investors must remember that China is an emerging-market country and experiences volatility in line with that of other emerging-market countries (see Figure 20a). The government has proposed a series of reforms to promote the healthy development of the stock market (See Appendix 1), such as developing a registration-based initial public offering (IPO) system, improving derivative market liquidity, further opening up to foreign investors, and cultivating institutional investors.¹⁴

Figure 19. China's capital markets remain underdeveloped

a. Bond market as of January 2017



b. Equity markets as of January 2017



Sources: Bloomberg, IMF, Wind, and Vanguard.

¹⁴ Institutional investors' ownership is only about 15% of total market capitalization in China, while retail investors account for the remaining 85%.

In our view, the A-share market offers diversification benefits in a global portfolio and exhibits a much lower correlation with the rest of the global equity market, adding further value as a diversifier in a portfolio (see **Figure 20b**). Our research has found that in the long run, the equity market return has little correlation with economic growth. Hence, the A-share market return and its diversification benefit in a global portfolio in the long run should be independent of the future economic growth scenario.

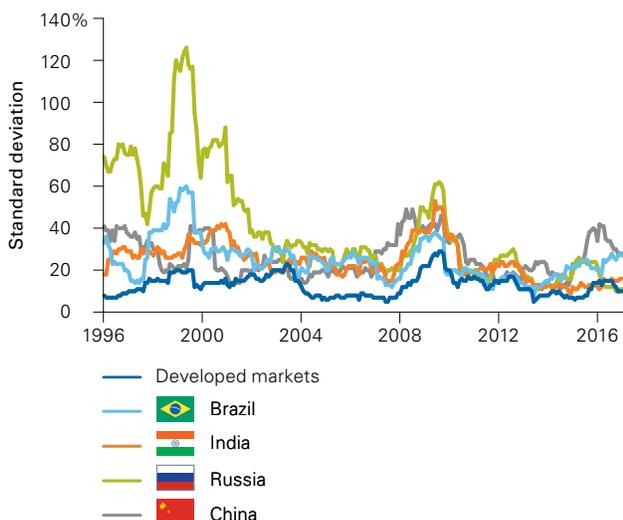
Likewise, China’s bond market (both corporate and municipal bonds) has grown dramatically, although bank lending remains the dominant debt-financing channel. China’s bond market historically was dominated by central government bonds and other sovereign-equivalent bonds, but the government has been promoting more bond financing for corporations and local governments to continue developing the bond market structure. By the end of 2016, credit bonds, including both financial and nonfinancial bonds, accounted for about 36% of total

bonds outstanding, compared with only 9% in 2007. The municipal bond market has also expanded at a remarkable pace, driven by the local government loan-to-bond swap program.¹⁵ Credit bonds will continue to become more important.

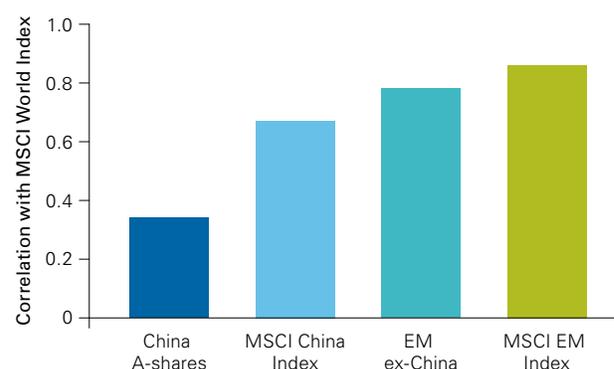
China’s bond market is still in its early stage of development. It will be essential for China to develop a market-based yield curve, ensure appropriate pricing for corporate risks, expand derivative and risk management tools, and cultivate institutional and foreign investors. Future capital account liberalization, introduction of international credit rating standards, growth of China’s pension fund business, and the increasing size and diversity of the sovereign bond market (for example, the buildup of the municipal bond market) will help to address the challenges. China has recently opened up the onshore bond market to foreign institutional investors, which bodes well for its development. Foreign ownership, currently less than 2%, could increase as China’s bond market gradually matures.

Figure 20. China’s equity market is a critical diversifier

a. A-share volatility is in line with that of other emerging markets



b. Correlation with the world equity market is low



Notes: MSCI China Index includes total China equity except onshore listed equity. China A-shares are represented by the CSI 300 Index. Data are as of December 31, 2016.
Sources: Bloomberg, MSCI, and Vanguard.

¹⁵ The Chinese government launched the local government loan-to-bond swap program in June 2015, with a target of 2 trillion renminbi, and later expanded it to 3.2 trillion. The program aims to swap bank loans mainly financed by LGFVs to bonds. The purpose is to make the local government debt more transparent, extend the debt’s maturity, lower local government’s debt servicing cost, and gradually build up the municipal bond market in China.

China's capital outflow matters to global markets in the long term

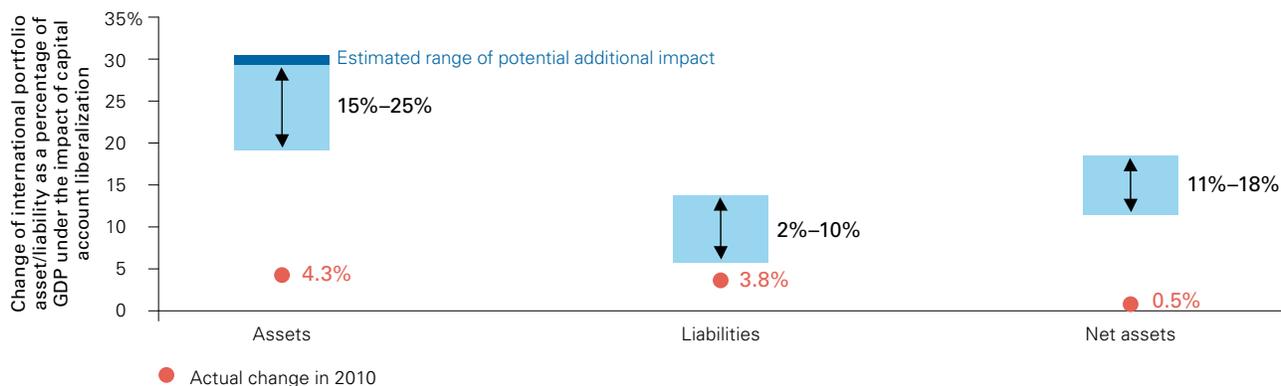
We believe China will continue to liberalize the capital account in the long run. This would lead to rising outward investment as domestic corporations and households aim to diversify their investment portfolios.

The increase in Chinese assets abroad would be positive for the global market. The IMF projected that full capital account liberalization in China may be followed by an increase in Chinese assets abroad of 15%–25% of GDP and a smaller increase for foreign assets in China of

2%–10% of GDP (IMF 2016). As **Figure 21** shows, the net accumulation of Chinese international assets, including both debt and equity assets, would amount to 11%–18% of GDP.

The accumulation of international portfolio assets by Chinese residents upon further capital account liberalization could have significant repercussions for global asset prices. If allocated along MSCI portfolio shares, this accumulation would account for up to 3% of global financial markets, or up to a quarter of financial markets in emerging-market economies.

Figure 21. Capital account liberalization would result in a huge increase in Chinese portfolio investment abroad



Sources: IMF and Vanguard.

Conclusion

China is undergoing a remarkable transition and rebalancing from a manufacturing and export-based economy to one based more on service and consumption. This transition will not be without risk and pain. The alarming amount of leverage, growing overcapacity in certain industries, and increasing policy uncertainty amid the inevitable trend growth slowdown pose a rising macro tail risk. Although the near-term risk of a hard landing is relatively low given the government's deep pocket of policy tools, the true risks lie in the medium to long term. We offer four scenarios for China's growth in the medium term: smooth rebalancing, hard landing, Japan-style stagnation, and emerging-market-style instability. We expect an above-50% chance that China will be able to avoid a hard landing or a systematic financial crisis down the road and an above-50% probability that the government will successfully push for structural reforms.

Slower growth in China could have negative ramifications for the rest of the world; however, the magnitude of the impact rests heavily on the medium-term scenario. A continued, gradual slowdown in the Chinese economy would have a modest but protracted impact on the global economy. But a sharp fall in headline growth would hurt Asian economies and commodity exporters more significantly than it would developed countries.

The importance of China's capital market has risen with increasing market capitalization and easier access for foreign investors. We believe that investing in China enables investors to gain exposure to a growing share of world GDP and helps them capture the associated diversification benefit in a global portfolio, regardless of future growth scenarios.

Appendix I: Structural reforms in China

In addition to technology advancement, structural reforms are key to helping China shore up long-term growth potential and rise out of the so-called middle-income trap. A comprehensive structural reform blueprint was

proposed in the Third Plenum of the 18th Chinese Communist Party Congress in 2013 to make the economy more market-oriented. The progress so far has been gradual, particularly in difficult areas such as SOE reform, fiscal reform, and land reform (see **Figure A-1**).

Figure A-1. Structural reform blueprint, progress, and potential benefits

Reform areas	Reform target	Progress	Benefit
Financial reform			
Lower entry barrier	Allow private capital and introduce competition	Banking sector gradually opened to private capital	Lower cost of capital; improve service quality in financial sectors
Interest rate liberalization	Introduce certificates of deposit; introduce deposit insurance system; liberalize deposit rate	People's Bank of China (PBoC) removed deposit rate ceiling, completing interest rate liberalization	Intensify competition in banking sector; push banks to upgrade and diversify their business
More market mechanism for exchange rate	Widen trading band; expand role of renminbi (RMB) in international trade settlement	PBoC widened trading band to $\pm 2\%$; RMB now included in IMF Special Drawing Right (SDR) basket; PBoC introduced new pricing mechanism of the daily fixing rate; PBoC launched Chinese yuan (CNY) China Foreign Exchange Trade System Index	Provide more transparent and market-based FX rate mechanism; allow more flexible exchange rate to cushion external shocks
Capital account liberalization	Expand cross-border portfolio investment schemes such as Qualified Domestic Institutional Investor (QDII) and Qualified Foreign Institutional Investor (QFII); relax rules on cross-border financing	PBoC allowed more qualified foreign institutions to invest in domestic bond market	Promote RMB internationalization; help Chinese corporations go global
Capital market deepening	Foster development of equity, bond, and derivatives markets; revamp IPO regulations; strengthen risk management and regulation	National People's Congress approved proposal for registration-based IPO system; progress is gradual	Help ease companies' funding difficulties; lower capital costs; reduce risks of financial system

(Continued on page 23)

Figure A-1. (Continued). Structural reform blueprint, progress, and potential benefits

Reform areas	Reform target	Progress	Benefit
Fiscal and tax reform			
Fiscal distribution and responsibility	Redefine central-local government responsibilities: centralize spending on basic pension, public security, public health, and food administration	No significant progress, but plan to unveil guidelines	Reduce fiscal burden on local government; improve fragmented social security system; establish fair and efficient fiscal planning system
Tax reform	Expand value-added tax (VAT) and resources tax; expand property tax; adjust consumption tax	VAT extended to four service sectors; property tax in early pilot phases in Chongqing and Shanghai	VAT reform reduces the cost of companies; property tax will increase the source of local government's revenue and promote development of property market
Budget management	Produce detailed budget and financing plan; compile government balance sheet; compile consolidated budget, including implicit guarantee	Revised budget law put government income and spending into more stringent legal constraint	Establish more comprehensive, efficient, and transparent budget system
Local government financing	Develop local and municipal bond markets	CNY 3.8 trillion in municipal bonds issued in 2015 through debt for bond swap and new issuance	Ease debt burden on local government by extending maturity date and lowering interest rate
Service and factor price liberalization			
Service sector liberalization	Lower entry barriers and introduce competition by allowing private/foreign capital into fundamental and service sectors	Entry barriers lowered for private/foreign capital in electricity, banking, and financial industries	Greater competition to improve quality and growth of service investment
Establish market-based pricing mechanism for key factor prices	Introduce more competitive pricing for electricity, water, and other utility tariffs; further liberalize petroleum and natural gas prices	Price controls over basically all goods and services in competitive sectors to be lifted in 2017	Encourage competition; optimize allocation of resources
Land reform			
Land rights	Define and register land rights for rural residents	Plan unveiled to improve rural land system by 2020; reforms will be rolled out as pilot programs	Promote transfer of lands in primary and secondary markets; in particular, rural areas
SOE reform			
SOE restructuring	Finish restructuring of SOEs; establish state asset management funds	Trials in mergers, restructuring, mixed ownership, differentiated salaries, employee shareholding, professional manager system, and state-owned asset investment companies	SOEs will be made more competitive; transparency will be increased

(Continued on page 24)

Figure A-1. (Continued). Structural reform blueprint, progress, and potential benefits

Reform areas	Reform target	Progress	Benefit
Others			
Household registration (hukou) reform	Expand household scoring system in major cities; further relax registration restrictions in lower-tier cities	29 province-level regions unveiled official plans to reform housing registration system	Promote free flow of labor; expand labor market by allowing and encouraging more rural surplus laborers to reside and work in cities
One-child policy	Further relax one-child policy	Fifth Plenum approved adoption of universal two-child policy	Cushion slowdown in labor forces and labor participation rates; reduce intergenerational dependency and pension gaps; help reduce household saving ratio and promote consumption
Judicial system	President Xi Jinping pledged reform to ensure independent, fair judicial system in fourth plenary session in 2014	During 2014–2015, 13 of 19 plenary sessions held by the Central Leading Group for Deepening Overall Reform involved judicial reform; 27 judicial reform documents adopted	Increase judicial independence and curb judicial corruption
Reduce administrative approval and direct intervention	Remove or reduce administrative approvals; streamline approval procedures	Government cut more than a third of 1,700-plus administrative approval items conducted under the State Council	Increase government efficiency; attract more private investment

Sources: PBoC, NDRC, State Council, Ministry of Finance, and Vanguard.

Appendix II: China's capital account liberalization

China's capital account liberalization process has been gradual. Of the 40 capital account transaction items defined by the IMF, 36 are mostly or partly completed, and four are not completed. In particular, portfolio investment is still under quota controls. In 2015, China accelerated its capital account liberalization, especially on the FX regime and capital market fronts, in order to achieve its targets in the 12th five-year plan and gain inclusion in the

SDR basket (see **Table A-2**). Capital account liberalization has been the subject of heated debate recently, especially amid rising capital outflow pressure during the economic downtrend. In the near term, the government has temporarily tightened capital control for outward flows. However, in the long term, the process could help achieve more efficient allocation of credit and investment flows and revive China's competitiveness.

Table A-2. Recent capital account opening progress

Date	Action
December 2016	Shenzhen-Hong Kong Stock Connect officially launched
August 2016	Shenzhen-Hong Kong Stock Connect announced
February 2016	PBoC opened up interbank money market to foreign institutional investors
November 2015	IMF approved RMB to be included in SDR basket
August 2015	PBoC improved pricing mechanism of daily fixing rate, with reference to previous day's closing rate, as well as took into account FX market supply-demand and major global currency movements; USDCNY fixing price is higher by 1.9%
July 2015	State Council announced plans to expand daily renminbi trading band <hr/> PBoC further opened up interbank bond market to foreign intuitions by introducing filling system and quota limit removal; it also allowed more tradable products and expressed intention to further opening of domestic bond market
May 2015	FTSE Russell announced plans to include A-shares in global indexes with 5% weight
March 2015	QDII2 expected to be launched in the Shanghai free-trade zone (FTZ)
December 2014	By end of 2014, RMB clearing banks set up in eight countries: Australia, Canada, Qatar, Luxembourg, France, Korea, Germany, and the United Kingdom <hr/> By end of 2014, PBoC expanded the renminbi QFII pilot to ten, with total investable quota of 870 billion Chinese yuan; PBoC also set up bilateral currency swap agreements with 28 central banks, with total of about \$500 billion
November 2014	Shanghai-Hong Kong Stock Connect launched
June 2014	Free-trade account in the Shanghai FTZ launched
March 2014	U.S. dollar/Chinese yuan daily trading band widened from +/-1% to +/-2%
September 2013	Shanghai FTZ officially launched as testing ground for economic reforms

Sources: PBoC, China Ministry of Finance, and Vanguard.

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