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Through the looking glass: China in 2030

- **This research note is extracted from the latest edition of the quarterly series *J.P. Morgan Perspectives: Made in China 2025 – A New World Order?* published on January 31st by Loeys, Chang et al.**
- **China's growth potential will slow from the current 6.5% level to 5.5% in 2021-25 and 4.5% in 2026-30.**
- **This means that China will remain the second largest economy much longer than expected.**
- **The transition to slower potential growth could be volatile and requires balancing reforms to move to a more domestically driven growth model with deleveraging and public-sector restructuring.**
- **This will reshape China's role in the global economy**
- **China's high debt remains a key risk factor and without accelerated disposal of zombie public-sector firms, the economy could be forced to adopt a zero interest policy.**

China's inexorable economic rise is not inevitable

The rise of China as the new economic powerhouse is the most remarkable change in the global economy in the last 40 years. But this was not inevitable. In the aftermath of the ravages of the Cultural Revolution it was almost unimaginable that within the next three decades China would emerge to be the second-largest economy in the world. China's successful transformation was largely a result of hard reforms and some luck. The reforms of the 1980s and 1990s liberalized a tightly-controlled extant economy and opened the door to a market economy. They came at a very high cost before their rewards spread through the economy. A critical element behind China's success was its entry into the WTO and the global trading system in the early 2000s that coincided with the rise in the globalization of manufacturing. Over the next two decades China not only took full advantage of the expansion in global supply chains to become the fastest growing economy in the world but continued with reforms across the economy, albeit at a more incremental pace than in the past, to safeguard and enhance the hard-earned economic gains.

As the economy expanded, the labor force aged, and global trade slowed after the global financial crisis, China's growth declined from the double-digit average of the previous three decades. At the same time, with the rapid rise of the Chinese economy there has been growing uneasiness in the DM world regarding the favorable status extended to China at the time of entering the WTO, including industrial policies and market access restrictions. The current trade and non-trade tensions between China and the US are a reflection of such concerns. But more importantly, even the declining growth in the last decade has been driven less by productivity gains and more by leveraged investment that has resulted in debt ballooning to over 260% of GDP. China has embarked on rebalancing the economy away from its over-dependence on exports towards more domestic sources of demand through reforms to expand the role of the private sector, restructure state-owned enterprises, raise productivity, and reduce the economy's leverage.

We expect China's potential growth to slow from the current level of 6.5% to 5.5% in 2021-25 and then further to 4.5% over 2026-30. But a smooth transition is not inevitable. It will require continued reforms that shift the sources of growth on the demand side to consumption and on the supply side to higher productivity by restructuring the public sector and increasing private sector participation, while reducing leverage to a more sustainable level, changing its industrial policies, and increasing market access to foreign competition. These are all doable and as China has proven in the past it is capable of implementing hard reforms and bear their attendant costs. However, there is still the question of balance and timing. For example, a slower pace of reforms could force growth to be supported by more leveraged investment instead of productivity thereby worsening China's debt burden and intensifying investor concerns. Similarly, while the US-China trade tensions appears prima facie as a bilateral issue, China's continued reliance on industrial policies to buoy public enterprises and curbing market access to foreign manufacturing and services could well intensify and expand into a global concern.

Where China stands today in the global economy

Despite slowing down in the last few years, since the start of economic liberalization in 1978 China's growth has averaged 9.6% in the past 40 years, and China's share in the global economy increased from 1.8% in 1978 to 15.2% in 2017 (Figure 1).

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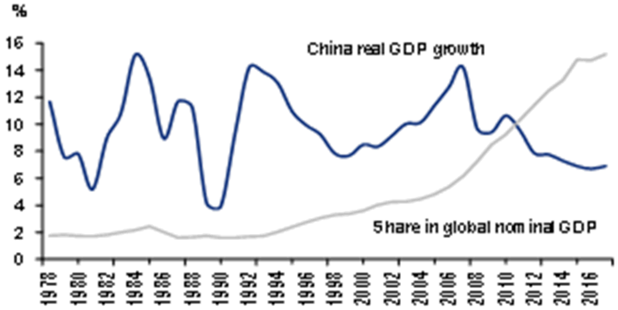
Figure 1: China's economic growth and share in global economy



Source: World Bank, J.P. Morgan

There were three supercycles in China's economic growth in the past 40 years. The first cycle was between 1978-90, when the growth picked up from 5-8% and peaked at 15.1% in 1984, then declined to ~4% in 1989-90. The first wave of strong economic growth was due to reform in the agriculture sector and in developing township enterprises. The second cycle over 1991-99 saw growth first accelerate to 14% in 1992-93, benefiting from domestic policy stimulus (in response to the DM sanctions in the aftermath of Tiananmen Square events in 1989), and then slow to 7-8% in late 1998-99. During this period China experienced the 1994 reform (including SOE reform, exchange rate reform, fiscal reform, etc.) and Asia Financial Crisis. The third cycle was after 1999, with 2007 as the peak year. Growth accelerated from 7.7% in 1999 to 14.2% in 2007, benefiting from the 1998 housing reform, WTO access in 2001, and urbanization (land financing and industrial park model). Growth has slowed thereafter, particularly post-GFC to 6.5-7%.

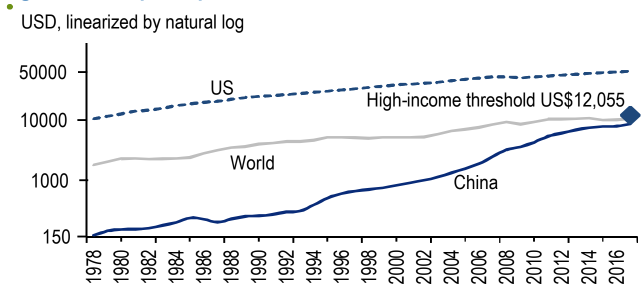
Despite the economic slowdown in the past decade, China's contribution to global economic growth stands at around 30% and it became the second-largest economy in 2010. Relative to the US economy, China has increased from 11.8% in 2000 to 63.1% in 2017 (Figure 2).

Figure 2: China's catch-up with the US

Source: World Bank, J.P. Morgan

The catch-up process was in part driven by higher nominal GDP growth and in part due to currency appreciation (cumulative 21.1% appreciation over 2000-17, especially in 2005-13 when CNY appreciated by 26.3% against the USD). This catch-up appears more dramatic when set against the average global per capita income (Figure 3).

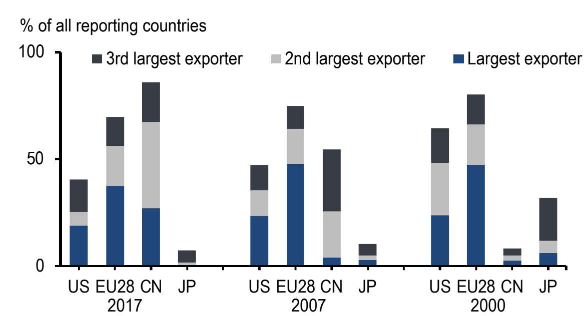
Figure 3: GDP per capita



Source: World Bank, J.P. Morgan

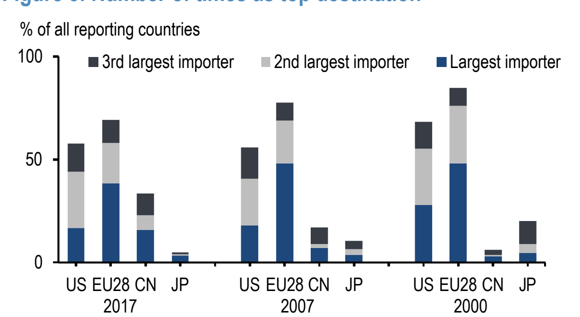
Much of this rise has been due to expansion in trade. In 2017, China was the number one source of imports in 27% of the countries in the world increasing from 2.3% in 2000 and was among the top three importing sources for 86% countries. China was also the number one destination for exports for 15.6% countries in 2017 (versus 3% in 2000) and among the top three destination for 33.5% countries in 2017 (Figures 4 and 5).

Figure 4: Number of times as top origin



Source: UNComtrade, J.P. Morgan
Note: Data points where EU members reporting EU as the largest partner are excluded

Figure 5: Number of times as top destination



Source: UNComtrade, J.P. Morgan
Note: Data points where EU members reporting EU as the largest partner are excluded

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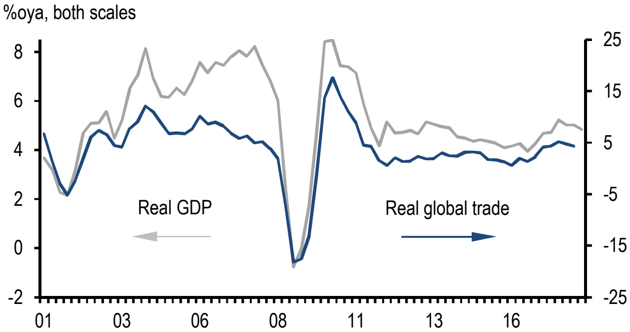
Key medium-term changes

China's success in economic growth has benefited from both external (globalization) and domestic (market-oriented reform and open-up policy) reasons. These factors have changed in recent years and have affected China's growth dynamics, and such an impact will continue to exist in the medium term.

First, globalization has slowed markedly since the GFC and political support for further expansion has waned significantly across DM economies. Despite recovering since 2015, world trade growth has floundered in recent years and with that the fortunes of EM economies waning in general and export-oriented economies like China in particular (Figure 6).

Figure 6: EM growth and global trade

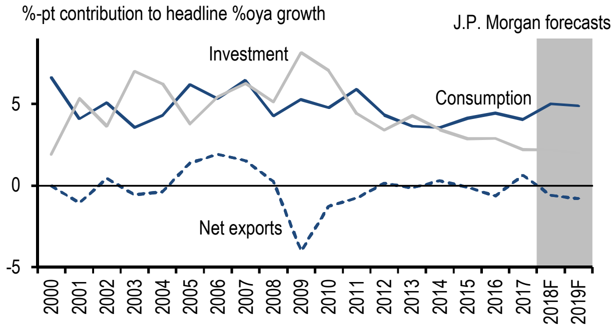
%oya, both scales



Source: National sources, CPB, and J.P. Morgan

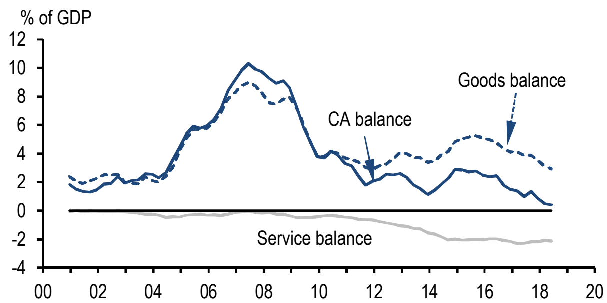
Second, China has been a current account surplus (CAS) country since it joined the WTO in 2001. For many years, net exports have been a key contributing factor to China's fast growth (Figure 7). It peaked in 2007 with CAS at 9.9% of GDP (Figure 8), with net exports contribution to GDP growth at 1.5%-pts. Since then, China's CAS has continued to decline, falling to 1.3% of GDP in 2017 and most likely below 0.5% of GDP in 2018. In the next one to two years, it is very likely that China will turn from a CAS country to a current account deficit (CAD) country (our forecast is a CAD of 0.3% of GDP in 2020). Such a change has two-sided implications. On the one hand, China will need to increasingly rely on domestic demand, while on the other hand, China's role in the global economy will shift from supply side (biggest exporter) to the demand side as one of the fastest expanding consumption markets.

Figure 7: Contribution to headline GDP growth



Source: NBS, J.P. Morgan

Figure 8: China current account balance



Source: SAFE, J.P. Morgan

Third, on the domestic front, there will be continuing effort to transform from an investment to a consumption driven growth model. In the aftermath of the GFC, China rolled out a large-scale stimulus plan, mainly via investment. Excessive investment has led to a decline in investment efficiency and other structural problems. But a fundamental problem is that high investment, high output, but low domestic consumption cannot coexist with relatively weak global demand. Therefore, the transformation from investment to consumption is a necessary part of China's rebalancing.

Fourth, as the economy shifts from being a CAS to a CAD economy, China will move from an excess-savings economy to a deficit-savings economy despite the likely decline in investment (Figure 9). This decline in the savings rate will be felt across both households and corporates. The adjustment has already started in recent years and will continue going forward ("China's saving rate", H. Zhu, G. Ng and M. Chen, 1 July 2016). Part of the decline, of course reflects the ageing of China's population, which will become more severe in the coming decade (Figure 10, also see below discussion).

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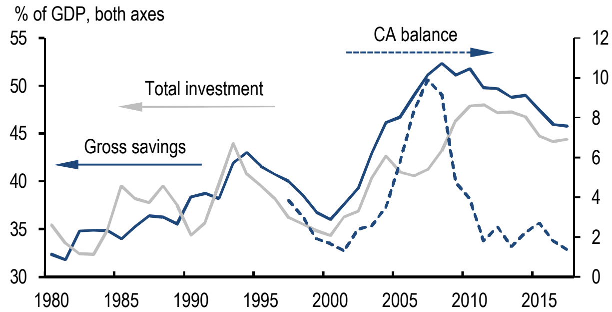
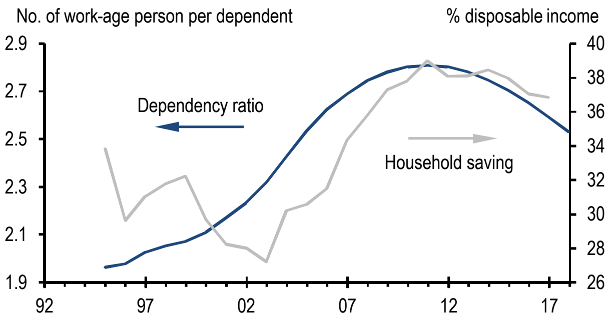
Figure 9: China savings, investment and current account



Source: IMF-WEO, J.P. Morgan

Figure 10: Dependency ratio and household savings



Source: J.P. Morgan

China growth potential will further slow down to 4-5% in next 10-15 years

In 2013, we forecasted that China's potential growth would slow down to 6.5% by 2020, which is pretty close to the actual economic developments (*China's growth trend to slow below 7%*, H. Zhu and G. Ng, 1 Feb 2013). An updated analysis (using both statistical—HP filter—and analytical—production function—methods) suggests that China's potential growth has indeed declined from 11-12% in 2007 to currently around 6.5% (Figure 11).

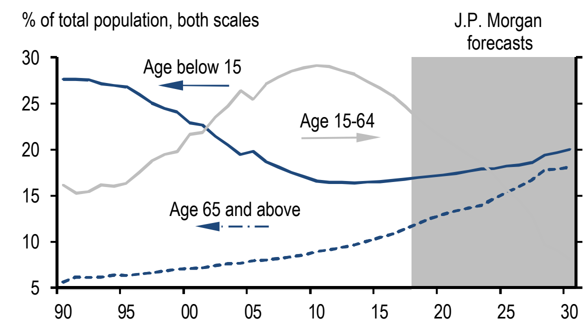
Figure 11: China's economic growth

Source: NBS, J.P. Morgan

We use the production-function based approach to forecast China's growth potential in the long run (2018-2030). Overall, we estimate China's growth potential will slow from the current level of 6.5% (over 2016-20) to 5.5% in 2021-25 and 4.5% in 2026-30. This decline reflects a number of factors that are enumerated below.

Population ageing. China's one-child policy, introduced in the 1980s, has had a major impact on demographics. China's large population base, especially in rural areas, has been a key contributor to China's economic miracle in the past decades. However, since 2011 the working-age population has been gradually on the decline. Despite the relaxation of one-child policy to two-child policy in recent years, the birth rate has stay at low levels (1.2-1.3%) in recent years. We expect the birth rate will rise modestly to 1.6% by 2030, but China's total population may peak at around 1.5 billion in 2027 and then start to decline. In addition, the ageing of the population has become more severe. The share of the population aged 65 and above rose from 5.6% in 1990 to 11.4% in 2017, and is expected to further increase to 18.1% by 2030 (Figure 12). As a reference, the United Nations defines an ageing society as one in which more than 7% of the population is over the age of 65.

Figure 12: China's demographic structure

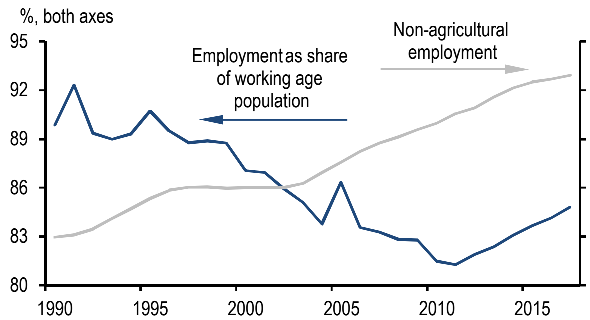


Source: NBS; J.P. Morgan estimates

Shrinking labor dividend. Labor input contribution in the production function-based approach refers to total employment in the non-agriculture sector, hence it depends on three factors: 1) total number of working-age population; 2) employment ratio in working age population; and 3) the ratio of non-agriculture employment in total employment As discussed above, the total number of working-age population has started to decline in China, and will likely continue to be a drag going forward. The low birth rate will likely lead to further relaxation in the "two-child" policy, and retirement age will be postponed to increase the scope of economic active population. In terms of employment ratio in working-age population (similar to labor force participation ratio), the ratio gradually came down from around 90% in the 1990s to 80-85% in recent years (Figure 13), and we expect it will be around 80% until 2030. Support for the labor dividend mainly comes from the urbanization process, i.e., increasing ratio of non-agriculture employment in total employment. Over the years, the ratio moved up from about 40% in 1990 to 73% in

2017. We expect the pace of urbanization will slow down, but the urbanization process will continue, and the ratio of non-agriculture employment will rise to 80% by 2025 and 82% by 2030. Taking all factors together, labor contribution to China's GDP growth was on average 1.6%pt in 2000-15, and will come down to 0.8%pt in 2016-20, 0.4%pt in 2021-25, and 0.1%pt in 2026-30.

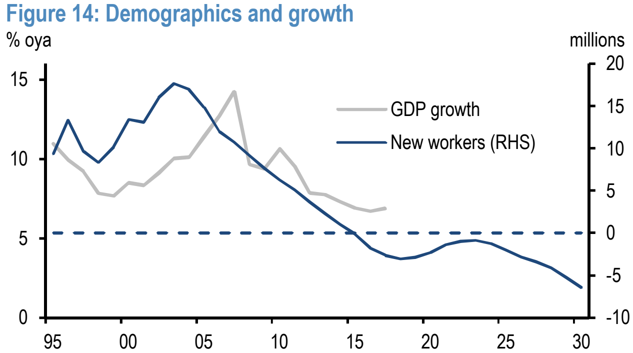
Figure 13: China's employment



Source: NBS, J.P. Morgan

At the same time, the decline in the labor force provides China's policymakers the space to tolerate a lower growth rate without having to worry about creating a vast number of jobs every year. In popular discourses, it has often been argued that China cannot afford to slow growth as it needs to create millions of new jobs to employ new workers entering the labor force each year and, in turn, maintain social stability.

Figure 14: Demographics and growth

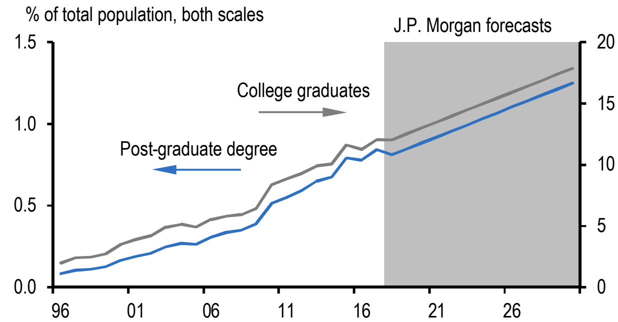


Source: UN Population statistics and NBS

As Figure 14 shows that this was the case in the 2000s when 9-10 million new workers entered the workforce each year (measured as change in the working age population). But that is no longer the case. Since 2015, the net addition to the workforce has been negative and will likely to be so in the coming decades. Clearly, the need to create jobs, especially higher paid ones, will be there as in any other country. But the pressure to keep growth up just to maintain social stability is now much less.

Human capital. Human capital is measured as the average schooling level, which has generally improved and is a stable contributing factor to China's GDP growth. The share of college (and above) graduates was only 2% of total population in 1996, and surpassed 10% in 2013 and reached 12.9% in 2017. We expect the ratio will continue to rise to 19 % by 2030, and its contribution to GDP growth will be pretty steady at 0.7%pt in 2021-30.

Figure 15: China's human capital



Source: NBS; J.P. Morgan estimates

Capital input. Investment has been the most important growth engine in China, especially after the GFC. Capital input on average contributed 4.8%pt to China's GDP growth in 2008-15. In recent years, with the efforts for economic rebalancing, especially with the progress in supply-side structural reform that focused on overcapacity reduction and constrained investment in overcapacity industries, investment growth has continued to slow down. But overall, the pace of economic transformation has been gradual: according to the IMF, investment still accounted for 44.4% of China's GDP in 2017 (versus the peak of 48% in 2011), and will stay at 41.5% in 2023, still one of the highest in the world (Figure 16).

Figure 16: China total investment

Source: IMF-WEO, J.P. Morgan

From a stock perspective, China's capital stock (measured as a percent of GDP) started from a low level (150% in the early 1980s) but has risen rapidly. In 2012, China's capital stock exceeded 250% of GDP. We estimate that China's capital stock further increased to 308% of GDP in 2017, the same level as Japan (Figure 17). The rapid increase in investment has led to excessive investment and the necessity for economic rebalancing. In our forecast, we expect China's capital

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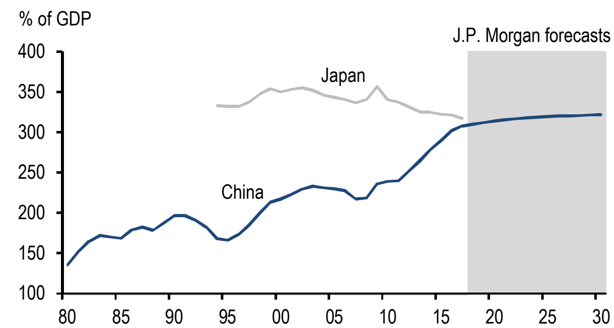
stock will further increase to 320% of GDP by 2030, and the investment/GDP ratio will come down to 42% by 2020 and 36% by 2030. Based on these assumptions, the capital input contribution to growth will average 3.3%pt in 2016-20, 2.2%pt in 2021-25, and 1.7% in 2026-30.

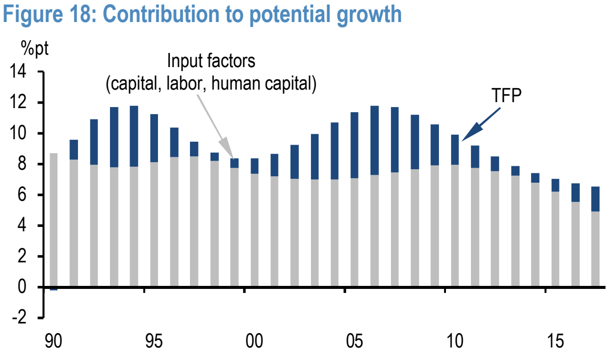
Figure 17: Capital stock



Source: NBS, Economic and Social Research Institute, J.P. Morgan

Productivity. The decline in total factor productivity (TFP) since the GFC has been the main contributor to the decline in China's potential growth. In particular, the TFP contribution fell from 2.7%pt in 2000-07 to 2.0%pt in 2008-15 and around 1.5%pt in recent years. The good news is that TFP contribution seems to have stabilized in recent years (Figure 18). If China sticks to the reform agenda as laid out in the 3rd Plenum Session of the 18th CPC Party Congress, TFP contribution could pick up again in the coming years. Our baseline scenario assumes that TFP contribution will gradually pick up to 2%-pt by 2030 (from the current 1.5%pt). It is unlikely to move back to the 3%pt range as observed in 2000-07 because further productivity upgrades will take more effort than in earlier stages, and China will most likely continue to adopt a gradual-reform strategy going forward.

Figure 18: Contribution to potential growth



Source: J.P. Morgan estimates

Looking back, there were two episodes when TFP increased notably (to above 4%-pt) – one in 1993-95 and the other in 2002-07. Reforms played a critical role in both episodes. In the first episode, in response to very weak economic growth in 1989 and 1990 (4.2% and 3.9%, respectively) and sanctions from major industrialized economies, Deng Xiaoping made his famous south China tour speech in early 1992 and reaffirmed the reform program. In the years after, the government implemented fiscal reform, financial reform, and exchange rate reform, and encouraged non-SOE developments, and tackled the SOE problems. The SOE reform and factor reforms significantly improved efficiency in the economy. In the second episode, the WTO access by China in 2001 opened the gate for China to participate in the wave of globalization, supplemented by domestic policies to improve infrastructure and promote industrialization.

Possible sources of further productivity growth could come from the following areas. First, China's urbanization process is still incomplete. The urbanization rate was 58.5% in 2017, and the *hukou* population is only 42.4%. The new urbanization process, which focuses on the settling of rural workers in urban areas not only as workers but also as citizens (with social security coverage) and consumers, will have major potential to increase consumption and investment demand. Rural land reform could be critical in addressing funding for the new urbanization process. Second, China has a comprehensive manufacturing structure and a skilled labor force, which can support innovations and industry upgrade if the government continues market-oriented reforms. Third, the large domestic market itself enables China to develop deeper trade ties, and reforms to unify the domestic market should also improve efficiency.

To sum up, we estimate that China's growth potential will slow down further in the next decade (Table 1 and Figure 19). For a country that has experienced an average growth rate of 9.6% in the past 40 years, a growth rate in the range of 4-5% might be disappointing. But for the second-largest economy in the world, we see such a growth rate as healthy and encouraging. Moreover, we estimate China's GDP per capita will increase to close to $20,000 by 2030.

Table 1: China's growth potential

	TFP	Capital	Labor	Education	Growth potential
2000-2007	2.7	4.7	1.7	1.1	10.1
2008-2015	2.0	4.6	1.6	0.8	9.0
2016-2020	1.6	3.4	0.8	0.8	6.6
2021-2025	1.9	2.3	0.4	0.8	5.4
2026-2030	2.0	1.7	0.1	0.7	4.5

Source: J.P. Morgan estimates

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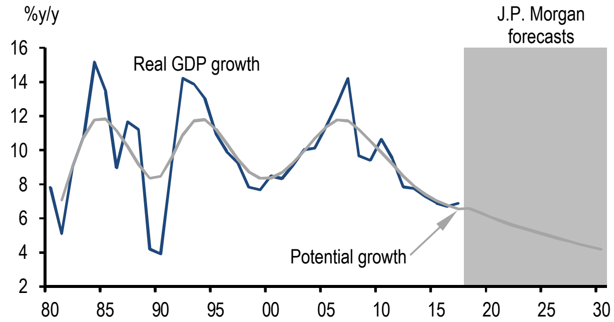
Figure 19: China's economic growth



Source: NBS, MOHRSS, Ministry of Education, J.P. Morgan

How will the economy look in 2030?

First, it will take longer than expected for China to surpass the US to become the largest economy in the world. Many investors expect it will happen over the next 5-10 years, based on the rapid catch-up since 2000. Going forward, the pace of the catch-up process will depend on three factors: growth differential (in real terms) between China and the US, GDP deflator differentials, and USD/CNY exchange rate movements. In our baseline scenario, if China's growth gradually slows down to 4-5% (while the US economy grows by 1.5-2% in the long run), the GDP deflator stays at around 3% (versus 2% on the US side), and the CNY depreciates against the US by about 10% (cumulatively), China's economy will continue to catch up with the US, but likely reach 90% of the latter's size by 2030.

Second, China's economic structure will become more consumption-oriented. We expect the share of consumption in China's GDP will exceed 60% before 2025 and will likely increase to around 65% by 2030, in line with the rest of the world. By contrast, the share of capital formation in GDP will gradually decline to 36% by 2030.

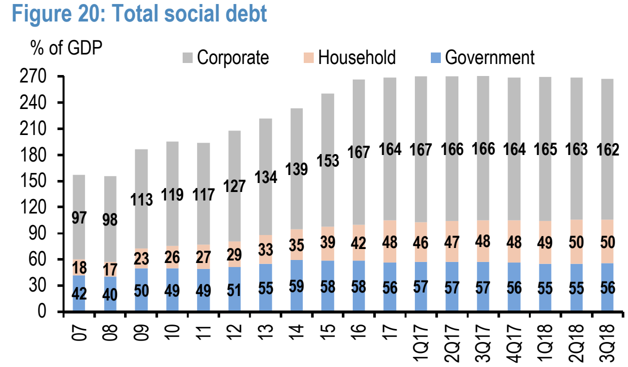
Third, China will become a major source of global demand, not only in commodity demand but also in other products. This is driven by the change in current account balance and the shift in domestic demand. On the one hand, China's global share in exports will likely peak off but its global share in imports will further increase. On the other hand, the shift from investment to consumption-driven growth model suggests that China's demand will shift from investment-related commodity products to service-related products.

China's debt problem

Our analysis has so far not addressed the possibility of a major financial or economic crisis for China, which should not be ruled out ex-ante. Over the years, the biggest concern regarding financial stability and the sustainability of economic growth has been China's ballooning debt problem, especially in the corporate sector. Since late 2016, the government has taken deliberate steps to encourage deleveraging. Since then, the debt level in the non-financial sector has started to stabilize at around 265-270% of GDP, and also encouragingly the regulatory loopholes in shadow banking activity has been addressed and new rules on asset management products and wealth management products are introduced to end irregular practices (e.g., implicit guarantee, maturity mismatch, etc.).

China's debt problem, however, is largely structural (Figure 20). Corporate debt is among the highest in the world at 162% of GDP, and concentrated in SOEs, local government related entities (not officially recognized as local government debt), and a few sector dominated by non-SOEs (e.g., real estate and mining industries). In some cases it is ambiguous to draw a line between corporate debt (SOE and local government related entities) and government debt, because of prevalent implicit guarantees especially from local governments. By contrast, central government debt is healthy at 16% of GDP. Household debt has also climbed up quickly in recent years, from 17.5% of GDP in 2008 to the current level of around 50%, in line with the world average but higher than the average in emerging market economies.

Figure 20: Total social debt



Source: PBOC, NBS, J.P. Morgan

The biggest dilemma to address the debt problem comes from the tradeoff between debt sustainability, growth and monetary policy. At the current debt level, average annual interest repayment burden of non-financial sector (using average bank lending rate) is equivalent to 70% of annual total social financing (TSF flow, Figure 22). This implies that only 30% of new TSF flow can be used to support new economic activity, which is a key reason why credit policy transmission has been weakened in recent years. In addressing the debt problem, policymakers should avoid a debt-deflation cycle in which tight monetary policy and debt reduction jointly leads to slowdown in economic activity and increases disinflationary and deflationary pressures. If this were to occur, then the debt/GDP ratio will continue to climb despite deleveraging efforts, which, in turn, will force further policy tightening, worsening the situation. On the other hand, an accommodative credit policy (i.e., credit growth significantly above nom-

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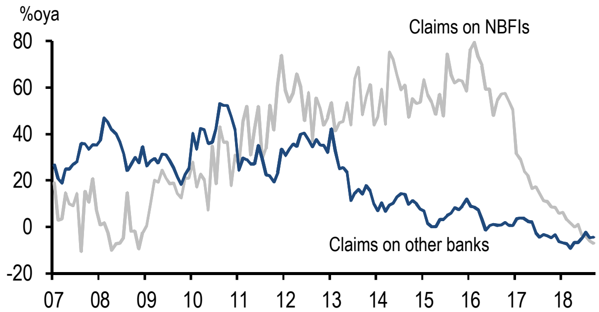
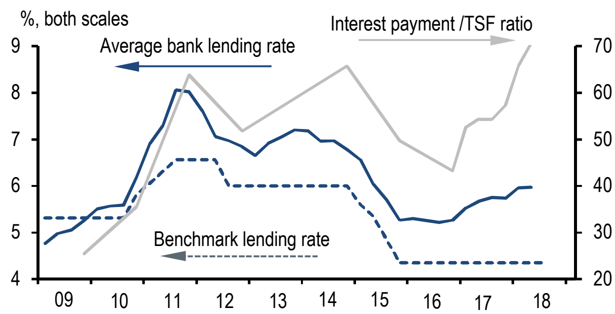
inal GDP growth) will be growth supportive but runs the risk of fueling leverage (Figure 23).

Figure 21: China interbank assets



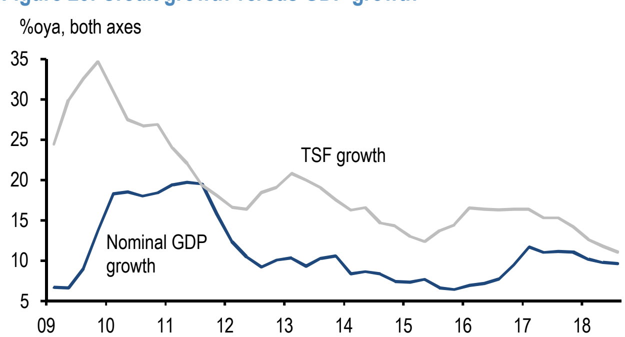
Source: PBOC, J.P. Morgan

Figure 22: Interest payment burden of China's debt



Source: PBOC: J.P. Morgan

Figure 23: Credit growth versus GDP growth

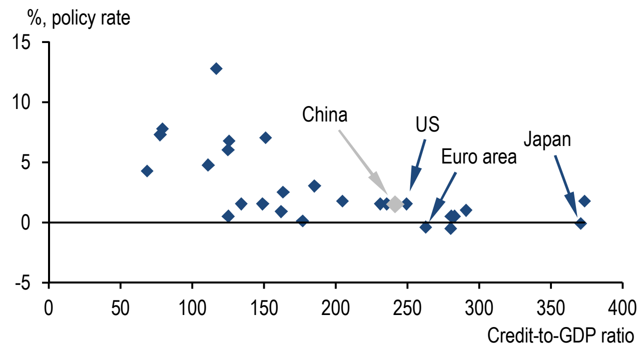


Source: PBOC, J.P. Morgan

In our view, the right policy combination should include low rates (to reduce interest rate burden), prudent credit policy (to reduce or at least stabilize the debt level), tightened credit standards and accelerated disposal of bad debt (to improve credit efficiency). All three elements are important. Since 2017, China has kept interest rates at historically low levels and tightened credit policy; meanwhile, the write-off of bad debt has somewhat been accelerating. The pace of bad debt disposal is still lagging; in particular, the continued prevalence of implicit guarantees for SOEs has been a major distortion in the credit market (a key reason why banks prefer to provide credit to the public over the private sector). This protection of "zombie" SOEs should be removed and the proper bankruptcy scheme (legal based and market oriented) should be established to help an orderly restructuring of such firms.

The longer China continues to delay the disposal of zombie SOEs, the more it risks amplifying market distortions and reducing productivity growth. In addition, it is not by coincidence that countries with the highest debt levels generally have low interest rates (or even negative interest rates, Figure 24). The PBOC may become the next major central bank to move towards zero interest rate policy, before the debt problem goes out of control sending the economy into a crisis.

Figure 24: Policy rate and debt level



Source: BIS, J.P. Morgan

More generally, reforms that induce higher productivity should not be delayed because of the adjustment costs that these might entail. It is important for China to increasingly promote and pursue productivity gains as a source of growth. Not doing so will exert pressure to keep growth buoyed by increasing investment through easy credit that will worsen the debt problem further raising investor concerns. The path to a smooth transition of the economy is not guaranteed. It requires balancing reforms to rebalance the economy towards greater reliance on domestic sources of demand, restructure SOEs to increase efficiency and reduce leverage, and allay the global community's concerns over unjustified use of industrial policies and curbs on market access.

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