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## Tackle China's Economic Complexities by Deepening Reform and Opening Up: Macroeconomic Outlook, Policy Simulations, and Reform Implementation—A Summary of the Annual SUFE Macroeconomic Report (2018–2019) <sup>1</sup>

**Abstract** Faced with complicated external and internal challenges, China's economy continues to see sluggish growth in 2018. Rapid accumulation of household debts, exacerbation in income inequality, tightened real sector liquidity, escalated trade tensions with the US, and weakened external demand pose key problems in China's macroeconomic landscape. The status quo is exacerbated by soaring uncertainty and weakening confidence in the face of

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<sup>1</sup> This article summarizes the main findings from a similarly titled annual report (2018–2019) released in December 2018 by the China Macroeconomic Analysis and Forecast Team at the Institute for Advanced Research (IAR) in Shanghai University of Finance and Economics (SUFE). Established in 2009, the research team has developed a quantitatively oriented, semi-structural framework (IAR-CMM) that combines unique Chinese characteristics with general international experiences to unify the analyses of prominent short-, medium-, and long-term issues facing the transitional Chinese economy in an internally coherent manner. Reports on the most critical results obtained from the analyses have been released on quarterly, semiannual, and annual bases and have attracted increasing attention from the private sector, policymakers, popular press, and general public. Other members of this research team include Xudong Chen, Yuanyuan Chen, Ning Fu, Jian Gong, Youngsoo Jang, Qian Li, Shuangjian Li, Run Liang, Ligu Lin, Zixi Liu, Lei Ning, Songcheng Sheng, Rongsheng Tang, Xiaowen Wang, Huabin Wu, Yibo Yang, Tongbin Zhang, Lin Zhao, Xuxia Zhao, and Mei Zhu.

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persistent resource misallocations and institutional distortions, which cast more shadow on the already dampened consumer sentiment, sluggish private investment growth, and fallen foreign reserves. This summary report highlights the urgency of deeper structural reforms for tackling the various internal and external problems. Based on the IAR-CMM model, with both cyclical and secular factors taken into consideration, our baseline forecast of real GDP growth rate is 6.4% (6.1% using more reliable instead of the official data) in 2019. Alternative scenario analyses and policy simulations are conducted to assess the consequences of possible downside risks and the corresponding policy options needed to ensure the assumed growth targets. These analyses lead us to conclude that comprehensively deepening reform and opening up, which should be both rule-of-law based and market-oriented, with well-designed and well-conceived strategies that properly weigh short-, medium-, and long-term benefits and costs, should continue to be set as the guidance for China's transformation into a phase with sustainable and high-quality growth.

**Keywords** macroeconomic outlook, alternative scenario analysis, policy simulation, risk, reform, complex status-quo, resource misallocations, market-oriented

**JEL Classification** E01, E17, E27, E37, E47

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## 1 Introduction

The year of 2018 saw mixed performance of China's economy. On the one side, the economy experienced rapid growth in industrial firms' profits, stable labor market, mild inflation, and gradual recovery in manufacturing investment, while on the other side, it was in a situation that could not be more complicated, evidenced by rapid accumulation of household debts and exacerbation in income inequality, as already emphasized in our previous reports, let alone drastically declined infrastructure investment and escalated trade tensions with the US, in tandem with persistently declining consumption growth and sluggish investment growth. The year also saw rising instability around the world, alongside weaker global growth prospect and resurgence in anti-globalization/trade protectionism. These external factors exerted downward pressures on the China's economy, where its current account surplus evaporated, RMB exchange rate volatility hiked, and foreign exchange reserves diminished. Looking into year 2019, stagnant domestic demand entangled with weakening external demand may

continue to weigh on China's economic growth.

Special attention should be paid to spillover weakening effects between real and financial sectors. Tightening firm liquidity constraint in the face of sluggish real economic activity went side by side with deleveraging and strengthening regulation and supervision in financial sector, notwithstanding long-term benefits of the latter. As a result of this and of rising uncertainty related to trade tensions, credit risk in bond market hiked, stock market slumped, and commercial banks' nonperforming loans (NPL) ratio rebounded. Commercial banks' tail risk is still hanging on a high level, and risk spillover ratios are soaring. We call attention to these financial sector risks.

We have obtained the above assessments based on IAR-CMM model developed by the Institute for Advanced Research (IAR) at Shanghai University of Finance and Economics (SUFU), taking both cyclical and secular factors into consideration, and respecting various internal structural imbalances and external uncertainties. Thus our analyses provide a unified framework for addressing China's short-, medium-, and long-term issues in an internally coherent manner. Our baseline projection suggests that China's economic growth will continue on a downward trend in 2019, with a real GDP growth rate of 6.4%, or 6.1%, based on more reliable rather than the official data. Alternative scenario analyses on various internal and external risks and uncertainties lend support to the robustness of our main conclusions.

In addition to providing the baseline forecasts and alternative scenario analyses, we have also conducted policy simulations under various scenarios to configure a menu of policy options that may help achieve a target growth rate for maintaining a smooth transition. We show that this kind of stimulus packages should be used cautiously in light of their side effects, especially from a long-term perspective.

This annual report also extends several earlier special-topic analyses released in previous quarterly and semi-annual reports. In relation to the persistent softening in domestic demand, we emphasize slow exit of zombie firms and slow improvement in social security and social safety net, both contributing to persistent misallocations and distortions in China's economic system. We show specifically that, zombie firms, especially state-owned zombies, seized too much scarce resource and crowded out employment creation by more efficient firms.

On the other hand, weak social security and social safety net, in conjunction with lackadaisical labor market and rapid growth in education and medical spending, reduced households' consumption affordability, accelerated their front-loading incentives in savings for education and/or medical care, and amplified their precautionary saving motives in order to buffer downside risks. All of these exert downward pressures on domestic demand. Thus, deeper structural reforms, aimed at removing misallocations or distortions, should be given top priority in order to maintain sustainable and high-quality growth.

We study the role of deeper structural reform in reducing institutional distortions and resource misallocations by also examining the issue at a dis-aggregate level. We construct specifically a three-sector model, including a service sector and a secondary sector divided into food and non-food sectors, to evaluate the effects of sectorial total factor productivity (TFP) differentials on economic growth and social welfare. For the period 1981–2014, we find that misallocation of resources amongst sectors, on average, accounted for only 0.73% difference in annual TFP growth in the service sector, lower than that for the food and non-food sectors. Hence, the contribution of food and non-food sectors' TFPs to economic growth and social welfare is greater than that of service sector TFP. Moreover, resource misallocation across ownership structure widened TFP differential between state and non-state owned industrial enterprises and weighed on economic growth in recent years.

Confronted by the profound and ever complicated challenges both internally and externally, it is imperative, we conclude, as we have urged in our previous reports, that rule-of-law based and market-oriented structural reforms and opening up, with well-designed and well-conceived strategies that properly weigh short-, medium-, and long-term matters, should continue to be set as the fundamental guidance for China's transformation into a phase with sustainable and high-quality growth.

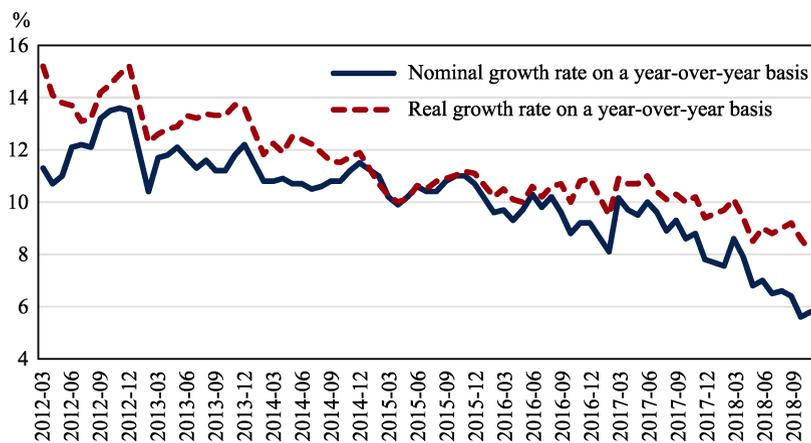
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## **2 Macroeconomic Outlook and Major Risks**

### **2.1 Falling Consumption Growth and Affordability/Willingness to Consume**

As discussed in our quarterly and semi-annual reports, consumption growth

continued facing headwind in 2018 (see Figure 1). Cumulative growth in total retail sales of social consumer goods over the first 11 months of 2018 is 6.8%, 2.4 percentage points lower than that for the same period in 2017. Different from previous years, online shopping, accounting for one quarter of total retail sales of social consumer goods and viewed as the most powerful growth engine for consumption, increased by 23.5% for the first 11 months in 2018, marking a 16.8% decline from that in 2017, and resulting in a 4% reduction in total consumption growth. Meanwhile, the growth rate of auto sales registered a negative number for the first time in 28 years, while those of traditional Chinese and western medicines, and sports and cultural goods, the main commodities reflecting consumption structure upgrading, are decelerating as well. These are partly due to recent economic downswing, slump in stock market, cooling down of housing market, and accumulation in household debt. But these also reflect some fundamental imperfections of the national social-economic system, such as the lack of public services and the social security and social safety net.



**Figure 1** Growth of Total Retail Sales of Social Consumer Goods

Source: NBS, 2012–2018.

Thanks to strengthening regulations and cooling down in the housing market, households' long-term debts exhibited only moderate growth in 2018. That said, the accumulation of households' short-term debts accelerated, and household

leverage reached a historical peak as a result.<sup>2</sup> As emphasized in our previous reports, risen households' debt overhang and fallen income growth reinforced to tighten households' liquidity constraint and eroded their consumption affordability. Also, owing to weak social security and social safety net, a “too-anxious-to-consume” mood intensified. This is another factor behind the consumption growth slowdown.

On a more secular basis, an aging workforce has brought with it demographic headwinds, particularly reflected by a risen number of households incurring large medical expenses and increased average medical expenditure of inpatients. In face of impending medical and education expenditure hikes, a grown number of households have reduced their consumption and saved more for the rainy days. In the meantime, increased labor market uncertainties, especially the adverse consequences of zombie firms (to be discussed in detail in Section 1.8),<sup>3</sup> have made households' precautionary saving motives stronger than ever. This kind of incentives to buffer downside risks is yet another factor weighing on consumption growth. This suggests that one way to bolster consumption growth lies with enhancing social security and social safety net. A key to accomplishing this has to do with deeper structural reforms.

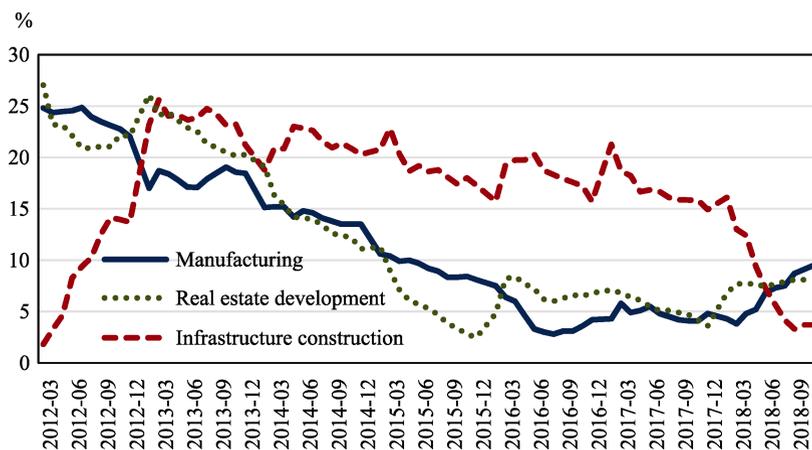
## 2.2 Falling Investment Growth with Transitory Contraction in Sectorial Divergence

Due to the drastic drop in the growth rate of infrastructure construction (see Figure 2), cumulative growth of nominal investment for the first 11 months of 2018 is only 5.9% and the growth rate of real investment for the first 3 quarters of the year is -0.2%, 1.3 and 1.6 percentage points lower than those for the same periods in 2017, respectively.

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<sup>2</sup> According to the data provided by the Bank for International Settlements (BIS), by the end of June 2018, the credit to households and non-profit institutions serving households (NPISHs) from all sectors at market value amounts to USD6.582 trillion in China, which is 50.3% of China's GDP, the highest level in record.

<sup>3</sup> Following Caballero et al. (2008) and Fukuda and Nakamura (2011), we identify a firm as a zombie in year  $t$  if all of the following conditions are satisfied: (1) its leverage in year  $t$  is larger than 50%; (2) its debt in year  $t$  is larger than that in year  $t-1$ ; (3) it receives subsidized credit in year  $t$ , i.e., its actual interest expense is less than hypothetical risk-free interest payment.



**Figure 2** Cumulative Growth Rates of Fixed Asset Investment in Three Major Categories  
Source: NBS, 2012–2018.

In contrast to the sharp decline in infrastructure construction growth, the growth rate of private investment by real estate development and manufacturing firms somewhat rebounded in 2018. The growth rate of real estate development rose by 4.7%, though this was inflated by increased land acquisition costs and hence might not indicate a recovery of real estate market. The manufacturing sector saw a 9.9% increase in its investment growth, though this is mainly due to the persistently improved profitability of upstream firms (composed mostly of monopolistic state-owned enterprises (SOEs)) amid the supply-side structural reforms. Contraction in sectorial investment growth divergence and recovery in private investment growth experienced in 2018 are likely to be transitory so unlikely to persist in 2019. Indeed, real estate firms' budget constraints tend to be tightened with tightened housing market regulations and reduced cash compensation share of shantytown redevelopment, while the profit growth of manufacturing firms (especially upstream monopolistic firms) may slow down as the producer price index (PPI) already entered into a weak trajectory in the second half of 2018.

Therefore, whereas we do expect (the much government-directed) infrastructure investment to pick up in 2019, noting that the issuance of special-purpose local government bonds has fully recovered since Q3 2018 and a number of infrastructure construction projects have been approved since December 2018, we also have doubts concerning how large and/or persistent such pick-up may be. In

fact, categorizing investments according to their purposes, we notice that the growth rates of new construction and expansion were exceeded by that of reconstruction in 2018, revealing limited production capacity expansion and/or weak labor demand in 2019.

All in all, as infrastructure investment is taking over the growth engine again in 2019 amid local government deleveraging slowdown, worries about local government debt burden are striking back as well. Thus, local governments are still in the dilemma of how to avoid a drastic drop in growth without worsening their debt hangovers.

### 2.3 Balanced Current Account with Declining Surplus in Goods Trade and Widening Deficit in Service Trade

Over the first 11 months of 2018, imports and exports both exhibited steady growth, but more so did the former than the latter. This resulted in a decline in trade surplus, to USD299.6 billion, USD66.1 billion below the level for the same period of 2017 (see Figure 3). Specifically, the rising price indices were the result of RMB depreciation and tariff increases. The increase in export growth mainly came from growing exports to advanced economies, and the increase in import growth mainly came from growing imports from emerging markets, mostly of commodities such as mining products.

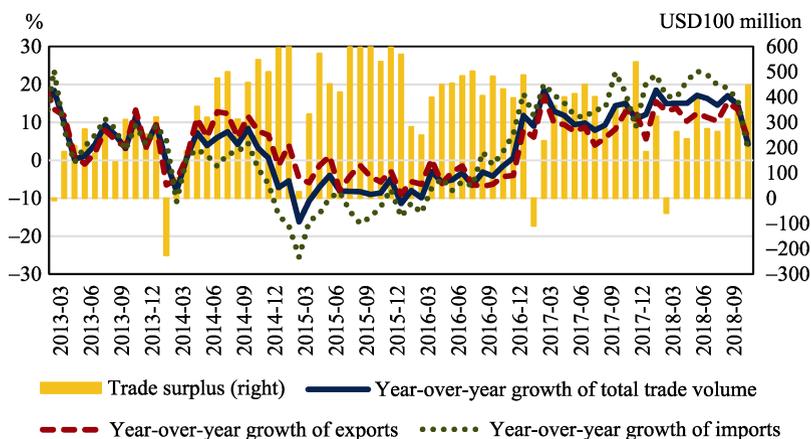


Figure 3 Major Indicators of Trade

Source: China’s General Administration of Customs.

Over the first 11 months of 2018, the growth rates of service imports and exports were generally stable, with the former continuing to be higher than the latter. This resulted in a widening in service trade deficit, to USD269 billion, USD34.2 billion above the level for the same period of 2017. This was mainly contributed by tourism, transport, intellectual property usage and insurance services. Similar to previous years, tourism service imports accounted for the majority of the service trade deficit.

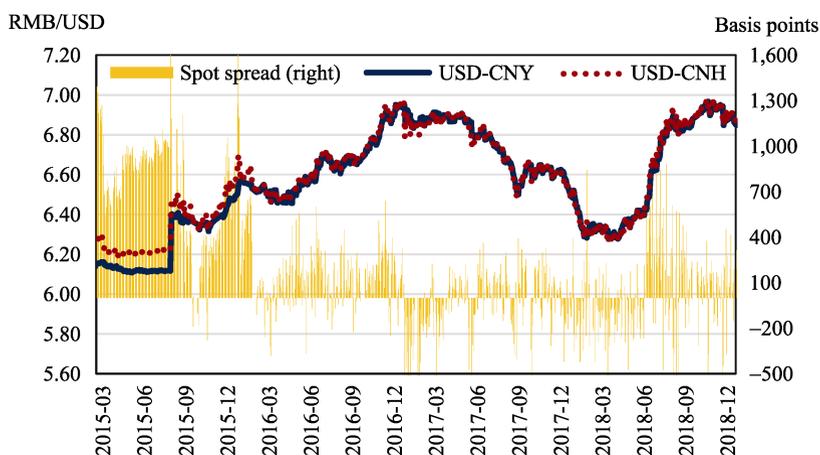
Given that total trade surplus was merely USD79.2 billion, and there was a persistent deficit in primary and secondary income, the current account was generally balanced in 2018. Stagnant improvement in the structure of service trade limits its growth because it is concentrated on low value-added industries, such as tourism, transportation and processing services. This, however, represents both challenges and opportunities. For example, the current Chinese economy sees large demand-supply gaps in medical care and education services, as pointed out by President Xi Jinping in his keynote speech at the first China International Import Expo in 2018. This suggests that high value-added industries can play a great role in structural upgrading to enhance growth potential if related regulations and restrictions can be relaxed gradually in the future. All of these rely on deepening reform and opening up.

#### 2.4 Declining Foreign Exchange Reserves with Roaring Exchange Rate Volatility

With the federal funds rate hiked four times and by totally 100 base points in 2018, RMB exchange rate depreciated by 10% during the rest of year after appreciating by 3.6% in the first quarter, a historically large volatility since the “8·11” exchange rate regime reform in 2015 (see Figure 4). Notably, the People’s Bank of China (PBoC) did not raise the primary interest rate to maintain the interest rate spread between RMB and USD to stabilize the exchange rate.

We believe that differences between the US and China’s economic fundamentals were the primary reason why PBoC chose alternative measures rather than raising the primary interest rate to strengthen RMB. Boosted by fiscal stimulus, the US economy recovered well; while, in contrast, China’s economic growth continued a downward trend, owing many to structural adjustments and financial sector deleveraging, which resulted in excessive liquidity drainage from

non-financial firms, especially small and medium privately owned firms (SMPs). Because of the excessive liquidity drainage, entangled with weakened market sentiments arisen from intensified trade tensions with the US, a risen number of SMPs were running deficits, going through bankruptcy, or relocating overseas, let alone creating more jobs or keeping strong demand. In response, PBoC conducted several alternative measures, such as raising the reserve requirement for foreign exchange forward trading, from 0% to 20%, resuming the counter-cyclical factor, issuing RMB20 billion of bills in Hong Kong for the first time, reminding short-sellers via media, etc. These measures together led to a hike in the exchange rate intervention index<sup>4</sup> and reduction in foreign exchange reserves. These are short-term measures that can hardly take effect without losing foreign exchange reserves so may not be sustainable. A key to stabilizing exchange rate and foreign exchange reserves is to enhance firms' profitability and economic fundamentals.



**Figure 4** Onshore RMB Market (CNY) and Offshore RMB Market (CNH)

Source: Wind; IAR, SUFE (2018).

## 2.5 Stable CPI and PPI Growth

Consistent with the predictions of our previous reports,<sup>5</sup> both CPI and PPI

<sup>4</sup> The index is constructed by IAR SUFE.

<sup>5</sup> See Annual SUFE Macroeconomic Report (2017–2018) and Semiannual SUFE Macroeconomic Report (2018).

exhibited stable trends and fluctuated in a moderate range (see Figure 5). In particular, risen prices of food, especially vegetable and pork, caused by large scale flooding in the summer of 2018 and the outbreak of African swine fever in most provinces, pushed the year-over-year CPI growth back to 2.2% for the first 11 months of the year, while core CPI, excluding foods and energy, remained below 2% in the second half of 2018. Other factors behind the sluggish core CPI, aside from a base effect for the price of medicines, include deceleration in prices of services, especially health care services. On the other hand, PPI growth continued a downward trend and declined by 2.6% over the year, even though it reached a peak of 3.8% in November 2018, due in part to a base effect, but also to weakened demand for upstream products related to infrastructure construction and real estate development.

Alongside the tame CPI and declining PPI growth, the GDP deflator continued growing more slowly in 2018 (see Figure 5). These, together with the fallen real consumption growth, suggest that lackadaisical demand, by households and/or firms, is a key factor behind the downward pressures. In the short to medium terms, CPI growth may still fluctuate around 2% due to uncertainties in weather conditions (and given the large share of food price in CPI) and international commodity prices, while PPI growth may decline further unless households and firms increase their demand for goods and services significantly.

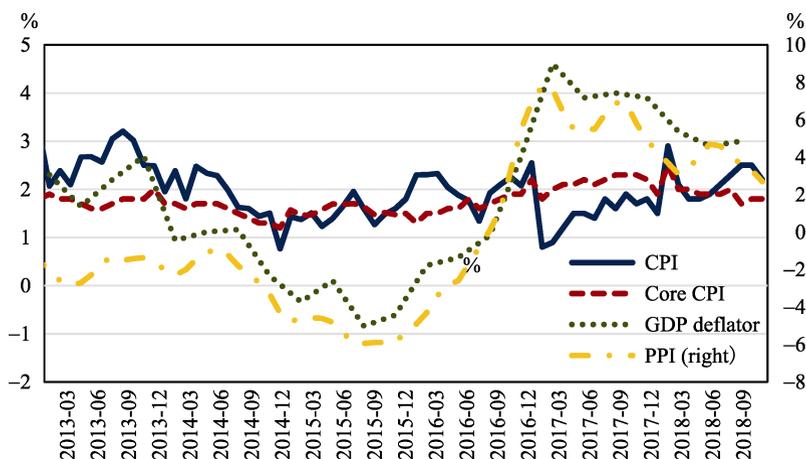
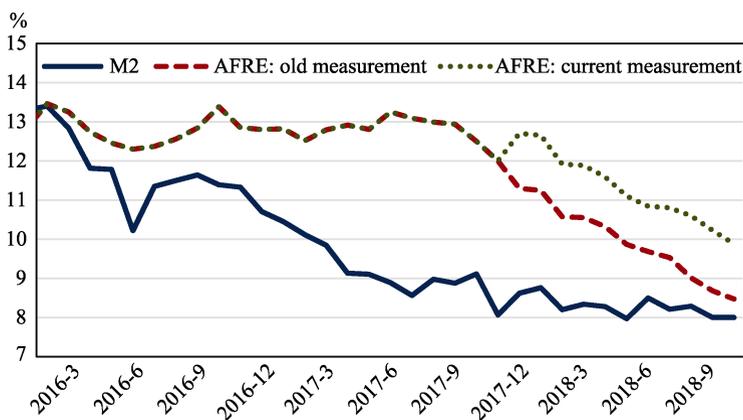


Figure 5 Price Change

Source: NBS, 2013–2018; IAR, SUFE (2018).

## 2.6 Soaring Risk Premium amid Deceleration in the Growth of Money Supply and Aggregate Financing to Real Economy

In consequence of deleveraging and strengthening regulation/supervision in financial sector that started in 2017, financing via shadow banking became almost impossible in 2018. This reinforced the gradual slowdown in the growth of money supply and led to a sharp drop in Aggregate Financing to the Real Economy (AFRE) (see Figure 6). Specifically, the M2 measure of money supply increased by 8%, 1.1 percentage points lower than that in 2017, while the growth rate of the stock of AFRE decreased, from 12% in 2017 to 9.9% in 2018.<sup>6,7</sup> While the rigorous measures may have medium- and long-term benefits, these benefits may come at some short-term costs in terms of their adverse effects on economic vulnerability in the short run.



**Figure 6** Year-over-Year Growth Rate of Money Supply and Aggregate Financing to the Real Economy (AFRE)

Source: People’s Bank of China; IAR, SUFE (2018).

<sup>6</sup> PBoC refers Aggregate Financing to the Real Economy (AFRE) to the outstanding of financing provided by the financial system to the real economy at the end of a period. Before July 2018, AFRE included RMB loans, foreign currency-denominated loans (RMB equivalent), entrusted loans, trust loans, undiscounted bankers’ acceptances, net financing of corporate bonds, and equity financing on the domestic stock market by non-financial enterprises. Since July 2018, PBoC has improved the statistical method for AFRE, and incorporated in it “Asset-backed Securities of Depository Financial Institutions” and “Loans Written off,” which are summarized into a sub-item of “Other Financing.” Since September 2018, PBoC has incorporated “Local government special bonds” into AFRE, which is recorded when claims and obligations are registered at depositories.

<sup>7</sup> The year-over-year growth rate of AFRE is 9.9% by the current measurement in 2018, while it is only 8.5% in the old measurement.

For one of such short-term costs, tightened firm liquidities resultant from slow credit growth amplified credit risk in bond market, and in tandem with risen uncertainty related to trade tensions with the US, resulted in a slump in stock market and a rebound in commercial banks' nonperforming loans ratio.<sup>8</sup> In response to these short-term implications, PBoC shifted to a more accommodative stance by lowering the reserve requirement ratio three times and by totally 250 base points to lower the financing cost and to enhance credit availability to real sectors, especially SMPs. The PBoC's policy responses significantly increased money market liquidity and pulled down money market interest rate in the second half of 2018. That said, due to soaring risk premium in real economy and poor credit rating system, the pass-through from money market to loan and/or bond markets did not take effect. As a result, firms and households' liquidity constraints were not relaxed in time, their debt burdens were not reduced effectively, and aggregate demand was not strengthened. These then fed back to form a vicious circle and economic vulnerability and risk premium rose in turn. Policy responses aimed at breaking such vicious circle must be an integrated part of a well-conceived policy design that is rested upon deepening reform and opening up in financial sector to establish market-based credit allocation.

## 2.7 Zombies, Ownership Distortions, and Rebounding Firm Leverage

The first 10 months of 2018 saw a profit growth of 13.6% for Chinese industrial firms, 9.7 percentage points below that for the same period in 2017, and characterized by widening profitability differentials across firms. Most strikingly, even though SOEs, which are concentrated in monopolistic upstream sectors, absorbed only a small fraction of the labor force, their 20.6% profit growth, mainly resultant from risen PPI and supply-side structural reforms, far exceeded the 9.3% profit growth for non-SOEs, which competed with each other in downstream sectors and created most employment but suffered from lackadaisical demand.

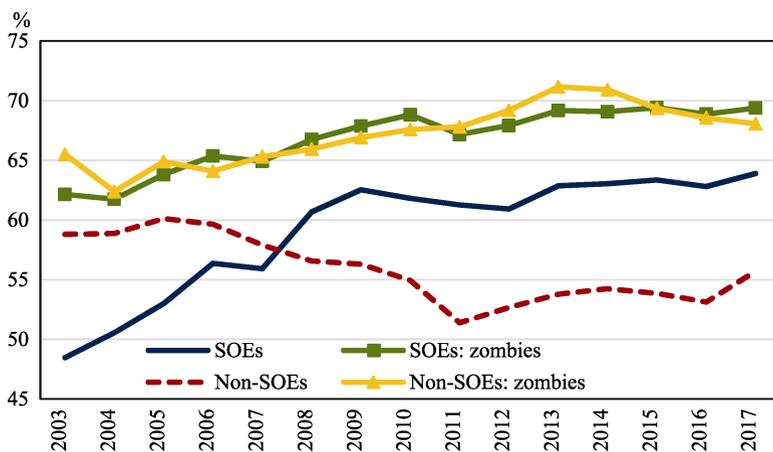
The efficiency-profitability mismatch highlighted above, with stagnant profit growth for the non-SOEs which absorbed most of the labor force, may have adverse implications for the growth potential of the aggregate economy. It led to,

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<sup>8</sup> The number of defaulted corporate bonds is 133 and the total amount is RMB121.8 billion in 2018. The Shanghai composite index decreased by 22%. The nonperforming loans ratio is 1.87% by the end of Q3 2018, 0.13 percentage points higher than in Q4 2017.

for instance, rising income inequality and slowing income growth, as well as low growth in private investment, especially R&D investment, for the future, which is a key to determining economic growth potential in the medium to long runs.

Slow profit growth also forced firms to increase short-term borrowings to help stay in business. This not only tightened firms' liquidity constraints and exacerbated the vulnerability of their balance sheets, but also amplified financial sector risks. This was emphasized in our semi-annual report as well. In fact, with the slowdown in firms' profit growth, the leverage of all listed A-share non-financial firms has rebounded since 2017. The lifted leverage was indeed driven by risen short-term loan growth as the growth in long-term loans continued a downward trend. This was the case not only for still performing firms but also for SOE zombies, whereas non-SOE zombies' leverage has remained on a downward trajectory (see Figure 7).



**Figure 7** A-Share Listed Non-Financial Firms' Leverage

Source: Wind; IAR, SUFE (2017).

Thus more conspicuous issues take root in the recent rebound of firms' leverage. On the one hand, the rebound in SOE zombies' leverage reveals their reluctance to exit and their ability to stay “thanks to” ownership discrimination. This drains resources from healthy firms and exerts adverse effects on economic growth. On the other hand, the rebound in the leverage of still performing firms may increase their risks of becoming zombies, and create barriers to supply-side structural reforms.

## 2.8 A Spiral between Zombies, Resource Misallocations, and Weak Labor Market

Declining profitability and rebounding leverage of firms, especially of SOE zombies, had negative spillover effects on labor demand and were responsible for the lackluster labor market in 2018. As discussed above, evergreen lending to zombies crowds out resources that could otherwise be made available to healthy or still performing firms. Our analyses in this report discover a spiral between zombies, resource misallocations, and weak labor market condition.

This is a nontrivial finding because zombies may have two countervailing effects on employment. Firstly, one motivation for keeping zombies in business is to keep hold of their employment, which is important for maintaining social stability in China. Secondly, zombies drain scarce resources, especially financial resources, away from healthy and still performing firms, which are then forced to take on higher tax burden,<sup>9</sup> lower investment growth,<sup>10</sup> smaller R&D expenses, consequently slower productivity growth<sup>11</sup> and less employment creation.

Our analyses show that the latter effect dominates the former. Using A-share data on listed non-financial firms,<sup>12</sup> we constructed our sample on percentages of resources taken up by zombies at provincial level,<sup>13</sup> and matched it to household-level survey data,<sup>14</sup> to help identify relationship between labor market activities (gauged by labor force participation ratio and unemployment rate) and resources soaked by zombies.

Figure 8 illustrates our results. As can be seen from the figure, on average, as resources allocated to zombies increase by 1%, labor force participation ratio declines by 0.05% while unemployment rate rises by 0.05%, controlling for individual, provincial, and year fixed effects. We further verified that these results stem mainly from the effects of SOE zombies which are highly significant and robust to alternative measures of shares of resources taken up by zombies,

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<sup>9</sup> See Li, Lu and Jin (2018).

<sup>10</sup> See Tan, Tan, Huang and Woo (2017).

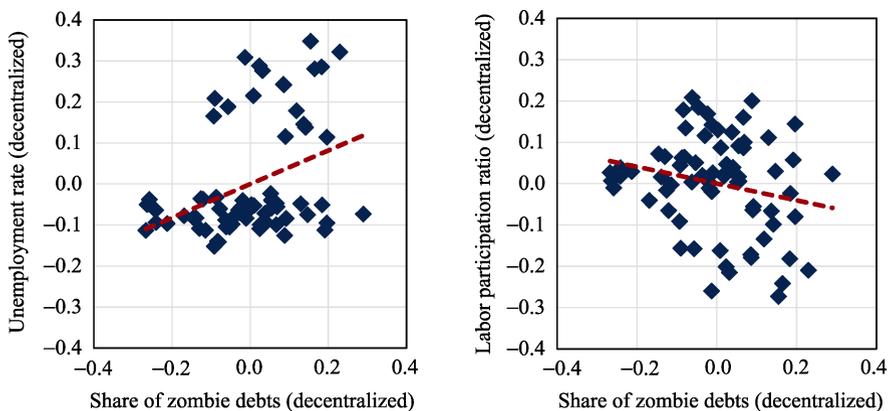
<sup>11</sup> See Wang, Li and Dai (2018).

<sup>12</sup> Western provinces are excluded because the numbers of listed firms in these provinces are too small to capture zombies' characteristics within each province.

<sup>13</sup> We constructed three indicators to measure the fraction of resources taken up by zombies for each of the provinces, i.e., the share of total debts taken out by zombies, the share of long-term loans taken out by zombies, and the share of short-term loans taken out by zombies.

<sup>14</sup> The data set is taken from China Family Panel Studies (CFPS).

while the effects of non-SOE zombies are economically and statistically insignificant. Put in other words, it is the SOE zombies that exert negative externalities on employment, and thus their exit is a key to alleviating resource misallocation and enhancing labor market condition.



**Figure 8** Relationships between the Share of Zombie Debts and the Unemployment Rate (Labor Participation Ratio)

Source: Wind; CFPS; IAR, SUFE (2017).

We further identified heterogeneity in these effects of zombies across regions. In the middle and northeastern regions, a 1% increase in resources allocated to zombies results in a 0.1% decrease in labor force participation ratio and a 0.15% increase in unemployment rate, while in the eastern region such negative effects are insignificant. This suggests that the negative externalities of zombies on labor market condition tend to be more significant in regions with more intensive government interventions, less competitive markets, or less developed financial systems. In the eastern region, the two countervailing effects of zombies on labor market cancel out each other, whereas in the middle and northeastern regions the latter more than offsets the former just as observed at the aggregate level.

To take our understanding of this heterogeneity to a next level, we investigated the effects of zombies on migration across regions based on individual-level data.<sup>15</sup> We find that more resource allocation to zombies leads to more population outflow in the middle and northeastern regions, but less population inflow in the eastern region. This further explains our finding summarized in the

<sup>15</sup> The data is taken from China Migrants Dynamic Survey (CMDS).

preceding paragraph. Therefore, resource misallocations caused by zombies not only weaken aggregate labor demand, but also exacerbate regional disparities owing to unbalanced regional developments.

All in all, these suggest that deeper structural reform that is aimed at mitigating resource misallocation and improving labor market condition should take into account the heterogeneous effects of zombies in relation to unbalanced regional developments.

## 2.9 Greater External Uncertainty amid Internal Industrial Upgrade

While the recovery momentum in advanced economies is still strong and the growth prospects in emerging markets and developing economics still promising, we foresee greater external risks for China in 2019, associated with greater export uncertainties related to weaker global growth expectations and persistent trade tensions. Indeed, several institutions have revised down their projections on global growth in 2019,<sup>16</sup> suggesting weakening external demand for the Chinese economy in the year.

Our own analyses broadly conform to these projections. In particular, our model based forecast assigns a 20%–40% probability for the U.S. economy to fall back into a recession within the next 12 months. A recession in the US if occurring may reduce China's exports and appreciate its RMB exchange rate relative to the weakening USD. All of these may result in adverse consequences for China's balance of trade and foreign exchange reserves.

More generally, whether a recession in the US will occur or not, trade frictions between China and the US are likely to persist in 2019, and may even become a normal mode going forward. We reached this view based on our assessment of the discrepancies between the two countries concerning their economic fundamentals, such as market accessibility and technology transfer, and their rising competition and diminishing complementarity in international trade and global value chains. We hold this view, even though both the U.S. and Chinese governments have agreed not to lift tariffs on imports from each other until March 2019, because it can be challenging to have those fundamental factors

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<sup>16</sup> For example, the IMF downgraded its projection on the global growth rate in 2019 by 0.2 percentage points in the WEO Update, January 2019, and the World Bank's forecast of the global growth rate is 0.1 percentage points lower than that in June 2018.

harmonized in the near future.

Parallel to the external issues are key internal challenges facing China's economy. For one, the soaring labor and financing costs have already triggered relocation of low value-added, labor-intensive manufacturing firms to the low-cost Southeastern Asia. This led to sharp declines in export growth and in labor demand, especially in demand for low-skilled workers. Aggregate demand fell in consequence. A key in meeting this challenge is to develop high value-added firms to upgrade China's manufacturing industry and to improve Chinese firms' positions in global supply chains.

In sum, these internal and external challenges call for deepening structural reform and orderly opening up to the global economy to deal with.

## 2.10 Prolonged Systemic Risks

Persistent downward pressure and uncertainty about internal and external conditions continued to expose China's economy to likely financial instability and systemic risk in 2018, even with deleveraging and strengthening regulations and supervisions in the financial sector under way. The systemic risk is reflected by the adverse spillovers between financial and real sectors.

Looking at household sector first, rapid accumulation of short-term household debts pushed households' leverage to a historical peak in 2018. Importantly, the discrepancy between the accelerated growth in households' short-term debts and the decelerated growth in consumption suggests that the borrowing households might have invested their short-term borrowings in some risky business like housing. Their default probability can be higher than what the official data may suggest as a result. Turning to firm sector, non-financial firms' short-term loans also rebounded in 2018, and firms' liquidity constraints significantly tightened in consequence, raising their default likelihood as well. As for external sector, persistent trade tensions together with risen short-term debts added significant uncertainty to financial system. Finally, for government sector, our model-based analysis shows that the amount of risk that commercial banks undertake increases as the economic policy uncertainty index rises. Such policy-induced risk-taking behavior of banks is reflected in banks' balance sheet. In particular, the NPL ratio increased by 1.87% near the end of Q3 2018, 0.13 percentage points higher than in Q4 2017, in response to an EPUI hike.

These sectoral feedback externalities were elaborated in the previous sections and they are reiterated here to help make the point that prevention of systemic risk should still be a primary mission of monetary and macro-prudential policies in 2019. To this end, it is also useful to examine within the financial sector to identify systemically important financial institutions. We tested financial system's stability and identified systemically important banks using a CoVaR model and a network model. Our analysis based on the CoVaR model<sup>17</sup> indicates that the four biggest state-owned banks<sup>18</sup> have maintained their systemically important positions; and, while they have remained less vulnerable than other commercial banks to exposure of systemic risks, their risk spillover ratios have increased since 2017. Our analysis based on the network model reaches a similar conclusion, with the exception that one additional bank, Bank of Communications,<sup>19</sup> is also identified as a systemically important bank. These analyses together suggest that the key to maintaining the stability of China's banking system is to ensure the soundness of the five biggest state-owned banks.

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### **3 Near to Medium Term Forecasts and Policy Simulations**

Our semi-structural forecasts, counterfactual analyses, and policy simulations are based on our quarterly IAR-CMM model. Table 1 displays the baseline growth projections for major macroeconomic indicators for Q4 2018, and for each of the four quarters in 2019, along with the realizations of these variables in the first three quarters of 2018.<sup>20</sup> Four major assumptions about external environments underlying the baseline forecasts are summarized below.

(1) Global recovery assumptions for major developed economies are taken from IMF October 2018 and Goldman Sachs November 2018. Rates of economic growth in 2019 are projected to be 2.5% for the US, 1.7% for the Eurozone, 1.0% for Japan, and 4.7% for emerging market economies, all of which are slower than in 2018;

(2) Two 25 base point federal funds rate hikes in 2019;

(3) The exchange rate of RMB against USD is expected to fluctuate around 6.9

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<sup>17</sup> The data used for the CoVaR study are the daily transaction data of 16 listed commercial banks for the period 2011–2018.

<sup>18</sup> The four biggest state-owned banks are: Industrial and Commercial Bank of China, China Construction Bank, Bank of China, and Agricultural Bank of China.

<sup>19</sup> Bank of Communications is the fifth largest bank in China.

<sup>20</sup> The projections reported here were obtained at the end of 2018.

before China's trade negotiation with the US in March 2019, and then depreciate to 7.0 in the second half of 2019;

(4) The influence of trade tensions is to remain but without contagion.

**Table 1** Near to Medium Term Baseline Forecasts of Yearly Growth Rates<sup>21</sup>

	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2018	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2019
GDP	6.8	6.7	6.5	6.4	6.6	6.3	6.4	6.5	6.5	6.4
GDP (adjusted) <sup>22</sup>	6.5	6.4	6.2	6.1	6.3	6.0	6.1	6.2	6.2	6.1
Investment	7.5	6.0	5.4	6.1	6.1	6.5	6.9	6.8	6.9	6.9
Consumption	9.8	9.0	9.0	8.2	9.0	7.9	7.6	7.3	7.7	7.6
Export	13.8	11.5	11.8	9.6	11.5	3.8	2.7	2.3	-0.1	2.2
Import	19.4	20.6	20.5	11.5	17.8	7.1	5.6	3.9	6.8	5.9
CPI	2.2	1.8	2.3	2.2	2.1	1.7	1.8	1.9	1.9	1.8
PPI	3.7	4.1	4.1	2.7	3.6	2.5	2.5	1.3	-0.1	1.6
GDP deflator	3.2	2.9	3.0	2.5	2.9	2.1	2.2	1.6	1.1	1.7

Source: IAR, SUFE (2018).

There are also six baseline assumptions concerning internal environments.

(1) Household leverage is expected to rise by 3% in 2019, which will pull down consumption growth as a result;

(2) Deepening the Business Tax to Value-added Tax (VAT) Reform and enacting the Individual Income Tax Law beginning on January 1, 2019;

(3) Recovery of infrastructure construction, a slowdown in manufacturing investment, and a dramatic drop in real estate development;

(4) Poor profitability and liquidity shortage in real sector push commercial banks' NPL ratio up to 1.9% by the end of 2019;

(5) Fiscal policy is expected to remain stimulative, with the deficit rate kept at 3%, and the government budget deficits grow to RMB3 trillion by the end of

<sup>21</sup> The statistics reported in the table are based on the real measure for GDP but nominal measures for the other variables. The yearly growth rate is cumulative for investment but noncumulative for other variables.

<sup>22</sup> Adjusted GDP data are constructed by appropriately correcting the official statistics based on information embedded in the total electricity consumption, national railway freight volume, and medium- and long-term loans, which, as widely believed, may provide more accurate measures of China's real economic activities.

2019;

(6) Monetary policy is expected to remain prudent in 2019. The fact that monetary policy practice needs to balance multiple objectives, including economic growth, structural adjustments, risk management, and exchange-rate stabilization, limits the scope of policy easing by PBoC without additional instruments invented. Therefore, we postulate the most likely monetary policy stance in 2019 to be a combination of a 50 basis point reduction in the required reserve ratio (RRR) and a 25 basis point reduction in the benchmark interest rate.

The take-home message from the baseline forecasts, as can be seen from the first two rows of Table 1, is that growth deceleration will continue in the near to medium terms, with the annual real GDP growth rate declining to 6.4% (6.1% using more reliable instead of official data) in 2019.

In light of various aspects of the complex status-quo outlined in the economic outlook, we have examined alternative scenarios to explore the implications of different forecast assumptions. Specifically, we have studied six alternative scenarios to accommodate the various internal and external uncertainty factors discussed in previous sections. Dividing them into three groups, with each highlighting a particular risk or uncertainty factor, we report below the major assumptions and results for each of the alternative scenarios.<sup>23</sup>

The first group includes two scenarios with relatively pessimistic outlooks on global growth and prolonged trade tensions, which are labeled as Conservatively Pessimistic Scenario 1 and Pessimistic Scenario 1, respectively. In Conservatively Pessimistic Scenario 1, because of the weakening external demand, total export is assumed to be 3 percentage points lower than the baseline projection, which results in a reduced annual real GDP growth rate of 6.4% (6.1% using more reliable instead of official data) in 2019. In Pessimistic Scenario 1, because of the drastically declining external demand, total export is assumed to be 5 percentage points lower than the baseline projection, which results in a reduced annual real GDP growth rate of 6.3% (6.0% using more reliable instead of official data) in 2019. Moreover, in both scenarios, CPI would not change much more than the baseline projection, while PPI would be reduced quite significantly relative to the baseline projection.

The second group includes two scenarios with other relatively more

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<sup>23</sup> For brevity, we only report the assumptions that differ from those for the baseline scenario. The rest of assumptions are the same as those in the baseline scenario if not elsewhere stated.

pessimistic outlooks on investment performance, which are labeled as Conservatively Pessimistic Scenario 2 and Pessimistic Scenario 2, respectively. In Conservatively Pessimistic Scenario 2, the growth rate of investment is assumed to be 4.4%, 2.5 percentage points lower than the baseline projection, leading to a reduced annual real GDP growth rate of 6.2% (5.9% using more reliable instead of official data) in 2019. In Pessimistic Scenario 2, the growth rate of investment is assumed to be 1.9%, 5 percentage points lower than the baseline projection, leading to a reduced annual real GDP growth rate of 5.9% (5.6% using more reliable instead of official data) in 2019. In addition, in both scenarios, the pass-through from investment to consumption and imports would lead to a moderate drop in consumption growth, a dramatic drop in import growth, and a drastic decline in PPI growth.

Alongside the aforementioned relatively more pessimistic outlooks, we consider in the third group two other scenarios with relatively more optimistic outlooks on tax cuts, which are labeled, respectively, as Conservatively Optimistic Scenario and Optimistic Scenario. In the Conservatively Optimistic Scenario, the increase in individual tax deduction and the decrease in the tariff on U.S. automobiles are assumed to push up the growth rate of consumption by 0.5 percentage points beyond the baseline projection, resulting in an annual real GDP growth rate of 6.5% (6.2% using more reliable instead of official data) in 2019. In the Optimistic Scenario, the increase in individual tax deduction, the reduction in marginal individual tax and the tariff exemption of U.S. automobiles are assumed to push up the growth rate of consumption by 1 whole percentage point beyond the baseline projection, resulting in an annual real GDP growth rate of 6.6% (6.3% using more reliable instead of official data) in 2019. In these alternative scenario analyses, it is postulated that higher import growth promotes consumption growth without affecting the price level.

In addition to providing the baseline and alternative forecasts, and given that some minimal growth rate in 2019 would be needed in order to meet the longstanding goal of doubling the gross domestic product and income in the second decade of the 21st century, it is also fitting to explore a menu of monetary and fiscal policy options that may help achieve that minimal growth rate. We consider a growth rate of 6.5%, or 6.2% in terms of adjusted data, for 2019. We do not discuss the two scenarios with relatively more optimistic outlooks,

because in those scenarios this growth rate would already be achieved or even exceeded without additional policy stimuli. Therefore, we restrict our discussion to the Baseline Scenario, Conservatively Pessimistic Scenarios 1 and 2, and Pessimistic Scenarios 1 and 2. Table 2 summarizes the combinations of monetary and fiscal policy options that may help to achieve the assumed growth in 2019 in these scenarios.

**Table 2** Alternative Forecasts and Policy Simulations (for 2019)

	Baseline	Pessimistic 1	Conservatively Pessimistic 1	Pessimistic 2	Conservatively Pessimistic 2
Yearly growth rate	6.4%	6.3%	6.4%	5.9%	6.2%
Yearly growth rate (adjusted)	6.1%	6.0%	6.1%	5.6%	5.9%
Imputed growth rate	6.5%	6.5%	6.5%	6.5%	6.5%
Imputed growth rate (adjusted)	6.2%	6.2%	6.2%	6.2%	6.2%
Monetary policy easing	-	50 BP reduction in RRR	-	50 BP reduction in RRR, 3 times	50 BP reduction in RRR, twice
Fiscal deficit expansion (billion yuan)	552.5	1473.4	736.7	4420.1	2210.1
Fiscal deficit expansion rate	1.84%	4.91%	2.46%	14.73%	7.37%
Deficit ratio	3.12%	3.21%	3.14%	3.51%	3.29%

Source: IAR, SUFE (2018).

(1) Under the Baseline Scenario: No further monetary easing relative to the benchmark, but a RMB55.3 billion increase in fiscal deficit, or, a 1.84% increase from the 2018 budget, is needed.

(2) Under Conservatively Pessimistic Scenario 1: No further monetary easing relative to the benchmark, but a RMB73.7 billion increase in fiscal deficit, or, a 2.46% increase from the 2018 budget, is called for.

(3) Under Pessimistic Scenario 1: A reduction of 50 basis points in the required reserve ratio, and a RMB147.3 billion increase in fiscal deficit, or, a 4.91% increase from the 2018 budget, are required.

(4) Under Conservatively Pessimistic Scenario 2: Two reductions in the required reserve ratio, 50 basis points each, and a RMB221 billion increase in fiscal deficit, or, a 7.37% increase from the 2018 budget, are needed.

(5) Under Pessimistic Scenario 2: Three reductions in the required reserve ratio, 50 basis points each, and a RMB442 billion increase in fiscal deficit, or, a 14.73% increase from the 2018 budget, are called for.

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## 4 China's Growth Slowdown—Some Structural Views

In the past 40 years, China has experienced a phase of astonishing growth, but deep-rooted institutional distortions still exist, whose negative effects on economic development were dominated by the huge dividends from various internal and external opportunities before 2010. With the law of diminishing returns at working, those negative effects have gradually become more prominent in recent years and, when exacerbated by cyclical factors, have yielded a persistent slowdown in China's economic growth since 2010. In our 2016–2017 annual report, we showed that the annual real GDP growth rate would be over 7% over the period 2016–2020 if the distortions between agriculture and non-agriculture sectors and between state and non-state sectors could be fully removed in a short period of time. In our 2017–2018 annual report, we found that the most severe consequence of those distortions is the widening TFP differentials between secondary and tertiary sectors, which delayed the transformation from export- and investment-driven growth to consumption- and services-led growth, and slowed aggregate economic growth in recent years. Thus, a key to keeping a sustainable high quality growth is to contract TFP gaps between secondary and tertiary sectors by eliminating sectorial distortions.

To assess the importance of sectorial TFPs, we constructed a three-sector general equilibrium model, consisting of a service sector and a secondary sector divided into a food sector and a non-food sector, to capture what we think may be the most important sectoral characteristics in the transitional Chinese economy. We found that, as reported in Table 3, TFP growth in the non-food sector was the biggest contributor to China's economic growth from 1981 to 2014. Had TFP growth in the non-food sector during this period been set to zero, as we found through a counter-factual experiment, real GDP growth would have been 5 percentage points lower per year for this period, while labor shares in the food and service sectors would have been changed by 2% and –3.4%, respectively; and, total social welfare would have been reduced by 7.1%.

**Table 3** Counterfactual Experiments, 1981–2014

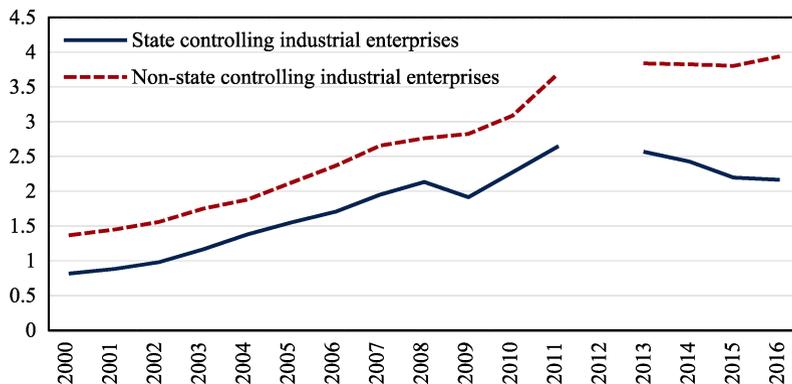
1981–2014	Change of annual growth rate of output (%)			Change of annual growth rate of GDP (%)	Effects on economic structure (%)		Welfare change (%)
	Food	Non-food	Service		Change of labor share in the food sector	Change of labor share in the service sector	
No TFP change in the food sector	-4.11	-1.09	-0.93	-0.96	4.97	-3.23	-7.29
No TFP change in the non-food sector	-1.43	-4.92	-2.83	-4.99	1.94	-3.39	-7.09
No TFP change in the service sector	-0.23	-0.26	-1.49	-0.48	0.46	-1.04	-1.82
No TFP change in all sectors	-5.42	-6.16	-5.71	-6.44	12.53	-12.61	-15.85

Source: IAR, SUFE (2016).

Furthermore, and as discussed in our semi-annual report, over 75% of fixed assets in the tertiary sector are possessed by firms in those industries dominated by SOEs, including real estate, transportation, storage, and utilities. TFPs of SOEs are among the lowest in the tertiary sector. With severe misallocation of resources, the service sector experienced a low average annual TFP growth rate, only 0.73%, for the period 1981–2014, much lower than those in the food and non-food sectors for the same period, which are 2.81% and 1.21%, respectively. Consistently, growth in the service sector TFP accounts for only 0.48% of the economic growth and only 1.82% of total social welfare improvement during this period, much less than the contributions by in the food and non-food sector TFP growths. Thus, China's economic growth potential would be further released by removing resource misallocations in the tertiary sector, but more importantly, between the food and non-food sectors.

While the falling TFP growth in non-food sector, composed mainly of industrial enterprises, pulls down economic growth in the recent years, the major culprit for the falling TFP growth in industrial enterprises is the widening TFP differential between SOEs and non-SOEs, owing much to within-sector resource misallocation, which is evidenced by the contrast between the declining share of industrial SOEs' value-added and the persistently large and stable share of industrial SOEs' fixed assets. As shown in Figure 9, among industrial firms, the

TFP of non-SOEs is consistently higher than that of SOEs, and the ratio of the two is 1.7 in 2016, a record high.



**Figure 9** TFP of Industrial Enterprises above Threshold by Ownership<sup>24</sup>

Source: NBS, 2000–2016; IAR, SUFE (2016).

The discussions above suggest that one root cause of China's economic growth slowdown in recent years is resource misallocation, both across sectors and within. Such misallocation of resources is due largely to institutional distortions. For instance, a GDP-based performance evaluation system for local government officials under a fiscally decentralized institutional arrangement generates strong motives for the local officials to maintain a high growth rate, usually by borrowing from state-owned banks to invest in infrastructure or to subsidize SOEs, especially when the local economy is faced with downward pressures. The accumulation of local government debts as a result increases banks' vulnerability to risks and forces them to overemphasize borrowers' collaterals as opposed to growth potential when making lending decisions. In consequence, scarce resources, especially financial resources, are inefficiently allocated to less efficient sectors that are dominated by large capital intensive SOEs. This is bound to slow down aggregate economic growth. To break the spiral between resource misallocation and economic slowdown, deepening reform and opening up should be aimed at removing institutional distortions both across and within sectors to promote market-oriented and rule-of-law governed institutional transformations.

<sup>24</sup> Due to data limitation, TFP estimates for 2012 are not provided.

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## 5 Reform and Governance—Long Run Standpoints

In the face of persistent deceleration in economic growth surrounded by various external uncertainties, the annual Central Economic Work Conference, held in December 2018, stressed that tasks in 2019 are “... promoting steady growth, promoting reform, adjusting economic structure, improving people’s livelihood, preventing risks in a coordinated way, keeping a reasonable range of economic growth, and stabilizing employment, the financial sector, international trade, foreign investment, domestic investment, and market expectations in a further step ...”.

Expansionary fiscal policy and accommodative monetary policy are expected to be implemented to help accomplish these tasks. Yet, as we have urged consistently over the years, the long-run costs of such stimulative policies that are aimed for short-run stabilization should be examined carefully. Many of these long-run costs were discussed in our previous reports and we intend to leave further and more quantitative investigations of these issues to future reports.

Here, to end this report, we focus on elaborating reform and governance that have direct long-run implications. History is the best teacher for this purpose. The history of China’s economic reform and remarkable growth in the past 40 years is at large a history of removing institutional distortions and opening up to the world. In the course of this process, more than seven hundred million Chinese people have been uplifted above the poverty line while the economy has also become the world’s second largest after the long march. Eliminating institutional distortions to invigorate factor mobility to improve resource allocation is vital for achieving this miracle in human history.

China now has entered into a new era of development where dividends released from previous reforms have diminished so comprehensively deepening reforms and orderly opening up become indispensable for its ultimate transform into a modern free market economy and regulatory state. These reforms are deeper and more challenging than ever, because fundamental distortions, such as ownership discrimination against non-SOEs in accessibility to key markets and public resources, must be confronted. The challenge is only made more complicated by worsening endowment structure and constraints, like aging population, depleting natural resources, and slower productivity growth, as well as risen internal and external uncertainties. The difficulty in meeting the

challenge is behind the procrastination of the fundamental reform that we show in our reports has generated significant resource misallocations, which are hampering not only the sustainability and quality of economy growth, but also social stability.

Therefore, no matter how challenging it is, the Chinese people and government should be decisive to establish a market-based resource allocation system that is key to rebalancing China towards a more sustainable and high-quality growth trajectory. The government has a long way to go on the path to such a market-based economy. But, first, it should adjust its roles in the economy, to ensure ownership neutrality and competition neutrality, to limit its intervention and power on business activities, and ultimately become a service-oriented government. To this end, it is imperative that the performance evaluation system for government officials, especially local government officials, is switched from a GDP-based one to one based on people's livelihood. It is equally exigent that government boundaries are clearly established, institutionalized, and legalized, to eliminate uncertainties for various entities, especially entrepreneurs, and boost market confidence. Further, but not the last, the government should make more efforts to improve social security and social safety net, and remove remaining barriers to factor mobility.

To summarize, our analyses in this report suggest that a key to tackling the current complexities faced by China's economy lies with deepening structural reform and orderly opening up targeted on eliminating institutional distortions, establishing a market-based resource allocation system, reducing administrative interventions with business activities, enhancing sectorial compatibility, and improving social security and social safety net. All of these are crucial elements, judged from both the development logic and the governance logic, for a successful transition of the Chinese economy into a high-quality growth mode at a steady pace.

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