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Promote Competitive Neutrality to Facilitate China's Economic Development: Outlook, Policy Simulations, and Reform Implementation—A Summary of the Annual SUFE Macroeconomic Report (2019–2020)¹

Abstract Twenty nineteen (2019) marked another year of lethargic growth in the Chinese economy amidst escalated internal and external complexities. Internally, the country's macroeconomic landscape was overcast continuously by fallen consumption growth, plunged growth in manufacturing investment, rapid accumulation of household debt, risen income inequality, and the overhang of local government debt. The nation's external conditions did not fare any better, with drastically declined growth in imports and exports, continued trade tensions with the US, and weakened external demand. Based on the IAR-CMM model, which takes account of both cyclical and secular factors, the baseline real GDP

¹ This article summarizes the main findings from a similarly titled annual report (2019–2020) released in December 2019 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, Guan Gong, Jian Gong, Youngsoo Jang, Helu Jiang, Hyeyon Ok Lee, Qian Li, Shuangjian Li, Liguo Lin, Lei Ning, Shengliang Ou, Songcheng Sheng, Rongsheng Tang, Xiaowen Wang, Huabin Wu, Jiawen Xu, Youzhi Yang, Yibo Yang, Tongbin Zhang, Lin Zhao, Xuxia Zhao, and Mei Zhu.

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growth rate is projected to be 6.0% in 2020 (5.9% using more reliable rather than the official data), with a downside risk. Alternative scenario analyses and policy simulations are conducted, in addition to the benchmark forecast, to reflect the influences of various internal and external uncertainties. The findings emanated from these analyses lead us to stress the importance and urgency of deepening reform to achieve competitive neutrality for China's transformation into a phase with sustainable and high-quality development.

Keywords macroeconomic outlook, alternative scenario, policy simulation, competitive neutrality, reform, systemic risk, resource misallocation

JEL Classification E01, E17, E27, E37, E47

1 Background

China's economy experienced continued downward pressures in the year 2019 with a significant risk of sliding further down in 2020. Persistently fallen consumption growth, plunged investment growth in manufacturing sector, weakened labor market condition, soared household debt and risen income inequality, in conjunction with local government debt overhang and resource misallocation, presented some of the major internal challenges that we had already emphasized in our previous reports. The country's external environment was even less favorable, in the midst of weak global economic outlook and resurgence in anti-globalization and trade protectionism, with drastically declined growth of imports and exports and volatile RMB exchange rate in the face of fallen external demand and continued trade tensions with the US. Looking into the year 2020, stagnant domestic demand entangled with weakening external demand may continue to weigh on China's economy.

This annual report highlights both cyclical and secular factors behind the lackluster internal and external demands, and various supply-side distortions deeply rooted in the frictions and impediments associated with China's transition and restructuring. We present key empirical evidence on important general-equilibrium interactions amongst households, firms, the nation's financial system, and its government, attributable to the factors that have fostered considerable systemic risks in China's macroeconomic landscape. Our study identifies a vicious circle in the structural-deleveraging attempts aimed at shifting indebtedness from Chinese enterprises to households. We discuss the general-

equilibrium mechanism behind the failure of such attempts. We explain how this predicament is exacerbated by the rising default risk of local government debt. We call a special attention to the role of the five biggest state-owned banks², which we continue identifying as systemically important, in preventing and tackling the systemic risks that we argue should stay on top of the nation's priority list in 2020.

The assessments above are based upon our simulations of the IAR-CMM model developed by Institute for Advanced Research at the Shanghai University of Finance and Economics, with both cyclical and secular factors being taken into account. Our baseline forecast indicates that China's economy will likely to witness a real GDP growth rate of 6.0% in 2020, or 5.9% based on more reliable data. The more reliable data are constructed by appropriately correcting the official statistics based on information embedded in total electricity consumption, national railway freight volume, and medium- and long-term loans, which may provide more accurate measures of China's real economic activities. Alternative scenario analyses concerning various internal and external uncertainties lend support to the robustness of our main conclusions.

In addition to providing the forecasts with the baseline and the alternative scenarios, we have also conducted policy simulations under various uncertainties to configure a menu of policy options that may help achieve the imputed growth rate needed for ensuring social stability. We have studied in depth four major uncertainties, in their macroeconomic effects and in the potential policy's responses. These are concerned with three internal conditions, about household indebtedness and income inequality, local government debt, and systemic banking-sector risks, alongside the country's external conditions. We stress that these kinds of stimulus packages should be used with caution in light of their side effects, especially from a long-run standpoint.

As we have advocated persistently for many years, this annual report emphasizes both the importance and the urgency of implementing structural reforms towards achieving competitive neutrality. As we have explained in our previous reports, such reforms should be both rule-of-law based and market-oriented, with well-designed and well-conceived strategies that balance short-, medium-, and long-term matters. The most recent developments in

² The five biggest state-owned banks are: Industrial and Commercial Bank of China, China Construction Bank, Bank of China, Agricultural Bank of China, and Bank of Communications.

China's internal and external conditions lead us to propose that such reforms should be elevated to the very top of the country's agenda, as they pertain critically to the success of China's transformation into a phase with sustainable and high-quality development.

2 Macroeconomic Outlook and Major Risks

2.1 Continuing Decline in Consumption Growth

Cumulative growth in total retail sales of social consumer goods in 2019 continued the falling trend started in 2009 (see Figure 1), although cosmetics, sports and cultural goods showed powerful growth, indicating possible consumption structure upgrade. The year-over-year cumulative real growth rate over the first 11 months of 2019 registered 8.0%, 1.1 percentage points below that in 2018. This is due in part to the recent economic downswing, stock market turbulence, and tightening housing regulation. Moreover, both the slowdown in household disposable income growth and the liquidity constraints induced by household debt overhang drag down household consumption. Burgeoning overseas shopping and purchasing also drained resources from domestic demand, right in the face of lackadaisical foreign demand. Additionally, due to some fundamental imperfections of the country's social-economic system, such as lack

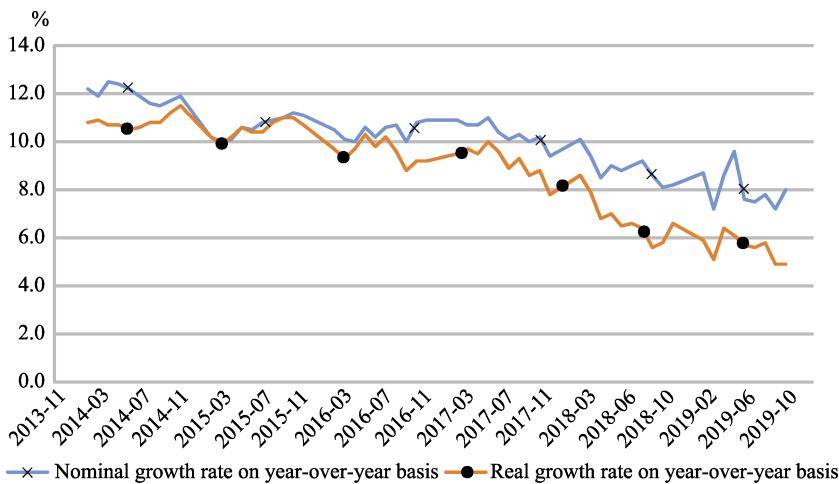


Figure 1 Growth of Total Retail Sales of Social Consumer Goods

Source: National Bureau of Statistics of China, 2019.

of public services, social security, and social safety net, households tend to strengthen their precautionary saving motives. All of these make consumption unlikely a major source of growth in the near to medium term. The consumption deceleration is likely to continue until some “People First” policies are implemented to improve household liquidity and reduce incentives for precautionary saving.

2.2 Edging-up Infrastructure Investment but Plunging Manufacturing Investment Growth

Growth in national fixed asset investment decreased continuously, with cumulative growth over the first 11 months of 2019 falling to a record low of 5.2%. The comparison in the annual growth rate against that in 2018 is pretty dramatic, featuring a huge reduction in manufacturing investment growth, dropping by 7 percentage points, to merely 2.5%, coupled by moderate increases in the growth rate of real estate development and infrastructure construction (see Figure 2). The plunging manufacturing investment growth reflects declined business activity of private owned enterprises. Internal and external lackadaisical demands, and rising financing costs, contribute to the reduction in annual investment growth rate. The dynamics of real estate development is more secular than cyclical, and the trend is unlikely to revert in the foreseeable future given

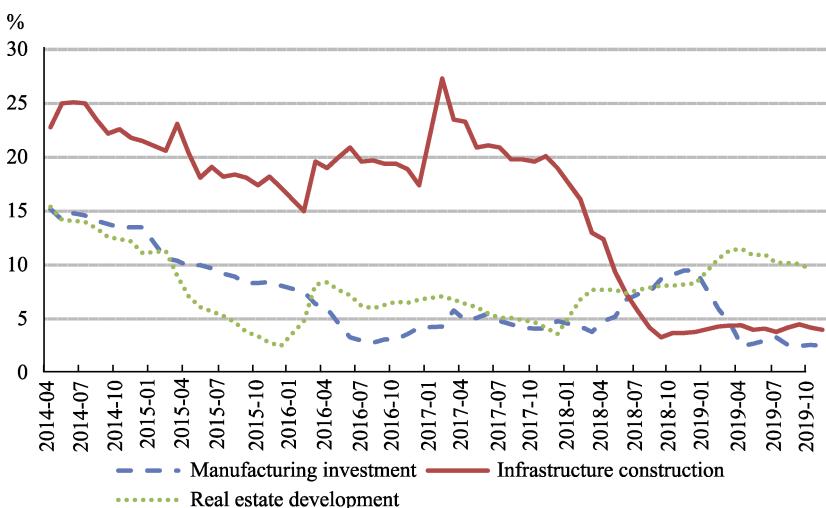


Figure 2 Cumulative Growth Rates of Fixed Asset Investment in Three Major Categories

Source: CEIC; IAR, SUFE.

the tightening housing market regulation. Moreover, since the Ministry of Finance has announced its plan to issue a relatively large amount of specific bonds for particular programs, investment in infrastructure construction is likely to see some growth in the year 2020. Structural reforms towards achieving competitive neutrality, as we have long advocated, should be conducted to remove institutional barriers and introduce competitive mechanisms, which is the key to remedy resource misallocations within the manufacturing industry.

2.3 Plunging Imports and Exports Growth but Rising Trade Surplus

Plunging exports and imports growth characterized China's international trade for the entire year of 2019, with imports growth declining faster than exports growth, resulting in an increased trade surplus in the year (see Figure 3). Year 2019 witnessed an 2.2% reduction in yearly growth rate of total volume of exports-imports, amounting to USD4.14269 trillion, of which USD2.26014

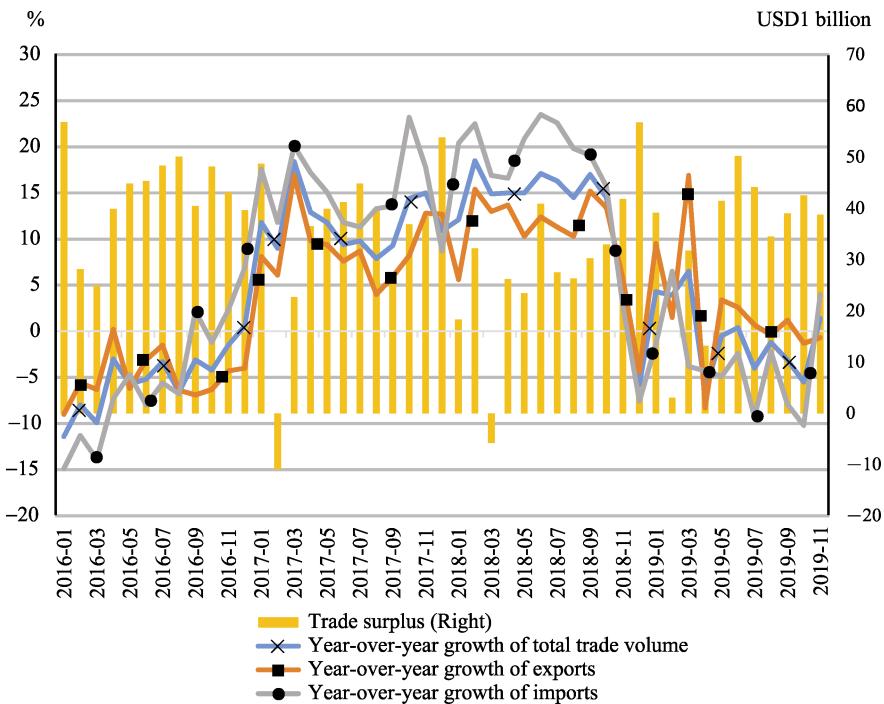


Figure 3 Major Indicators of Trade

Source: The General Administration of Customs of the People's Republic of China.

trillion were exports and USD 1.88255 trillion were imports, down by 0.3% and 4.5% respectively from the previous year in their yearly growth rates, implying a trade surplus of USD377.6 billion, USD82.89 billion more than in 2018. The on-going trade tensions between the US and China, additional to a weakening internal and external demands, influenced imports and exports growth prospect dramatically. As to service trade deficits, over the first 10 months in 2019, the growth rate of service exports was higher than the growth rate of service imports, resulting in a shrinkage in service trade deficits, USD28.813 billion below the level for the same period of 2019. This is the first time seeing a reduction in service trade deficits since year 2007, due mainly to tourism, transport, intellectual property usage and insurance services. Similar to previous years, tourism service imports accounted for the majority of the service trade deficits. We propose that the Chinese government should deepen reforms, especially in the service industry, which could facilitate consumption upgrading and promote new engines of development.

2.4 Steady Foreign Reserve and Floating RMB Exchange Rate

Foreign reserve remained relatively steady around the level of USD3.1 trillion, with risen RMB exchange rate fluctuations in both directions in 2019 (see Figure 4). August 2019 is the first time when RMB exchange rate against the USD broke a certain point “7” after May 2008. In the short-term, hopeful alleviation of trade tensions with the US and advancements in Brexit contributed to a stable RMB exchange rate or even slight RMB appreciation. However, in the medium-to long-term, a weak global economic outlook, resurgence in anti-globalization and trade protectionism, and downward pressures on the Chinese economy, exert pressures on RMB depreciation. Inferring from the recent dynamics in the exchange rate intervention index,³ we note that the People’s Bank of China (PBC) tended to intervene the foreign exchange market as RMB faced great depreciation pressures.⁴ We point out that rapid RMB depreciation and enormous capital outflows are a small-probability event. Our analyses show that

³ The index is constructed by IAR SUFE.

⁴ The U.S. Department of the Treasury says China is no longer a currency manipulator on January 13, 2020. Intervention is different from manipulation. Active market intervention is widely used by the central banks in advanced countries when there is a sudden and substantial fluctuation in the foreign exchange market.

in the year 2020 RMB exchange rate against the USD will fluctuate around 7 in a not-too-wide band. That said, there is a risk of a black-swan event if trade tensions between China and the US deteriorate significantly; in that case, RMB exchange rate against the USD may depreciate to approximately 7.3. Moreover, the PBC needs to pay more attention to the spillover effects of the global monetary policy, and maintain monetary independence in order to prevent systemic risks.

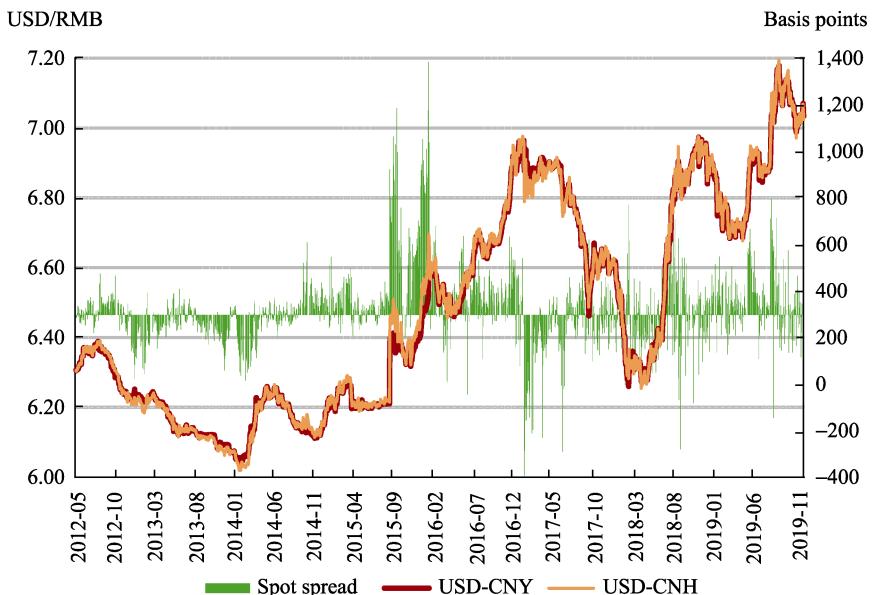


Figure 4 Onshore RMB Market (CNY) and Offshore RMB Market (CNH)

Source: Wind.

2.5 Widening Gap between CPI and PPI

The year 2019 witnessed a widened gap between CPI and PPI. Consistent with the prediction of our previous reports,⁵ over the first 11 months of 2019, the year-over-year CPI growth registered a 2.8% rate, increased by 0.7 percentage points from the same period in 2018, while the core year-over-year CPI growth rate, excluding food and energy, increased by 1.7%, lower than that in 2018 (see

⁵ See Annual SUFE Macroeconomic Report (2018–2019) and Semiannual SUFE Macroeconomic Report (2019).

Figure 5). Our estimates indicate that food and service prices accounted for 20% and 35% of CPI, respectively. Given the sluggishness in pork production recovery and crude oil price uncertainties, we predict that the growth rate in CPI will reach its peak in the first quarter of 2020, to be followed with a downward trajectory. The base effect, international political and commodities price uncertainties, and internal lackadaisical demand, plunged PPI over the first 11 months of 2019. The GDP deflator is relatively stable. The widened divergence between CPI and PPI manifests the increased pressures on the profit margins faced by industrial enterprises. Looking forward into the short and medium terms, the deflation scare discussed in our previous annual and quarterly reports has largely receded.

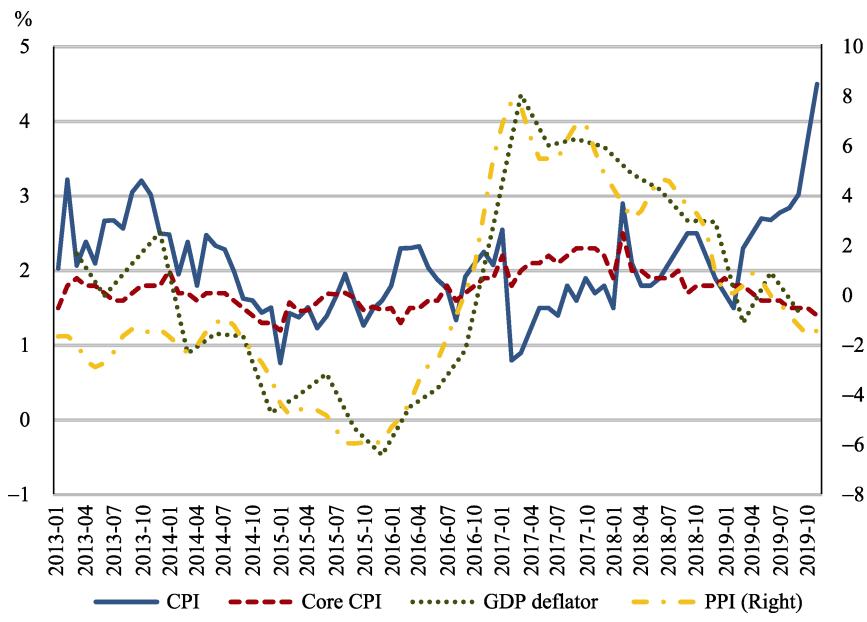


Figure 5 Price Change

Source: National Bureau of Statistics of China; IAR, SUFE.

2.6 Steady Money Supply and Real Sector Financing

The deleveraging and strengthening regulation and supervision in the financial sector that started in 2017 have made shadow banking financing increasingly difficult. This led to a sharp drop in aggregate financing to the real economy

(AFRE) in year 2018. Concurrent with the tightening regulation was a steady growth of money supply and AFRE in 2019 (see Figure 6). Specifically, the M2 measure of money supply increased by 8.2%, 0.22 percentage points higher than that in 2018. The growth rate of the stock of AFRE registered 10.75%⁶, increased by 0.79 percentage points compared to year 2018.⁷ Moreover, by the end of the third quarter of 2019, the weighted average interest rate of all loans was 5.62%, increased by 0.23 percentage points on a year-over-year basis. Among them, the weighted average interest rates of ordinary loans, mortgage loans, and negotiable instruments were 5.96%, 5.5%, and 3.33%, respectively. Thus, at the face value, the financing costs of real economic activities measured by the interest rates of ordinary loans seemed to have edged down. On the other hand, there was a substantial increase in both the quantity and the fund size of the postponed/

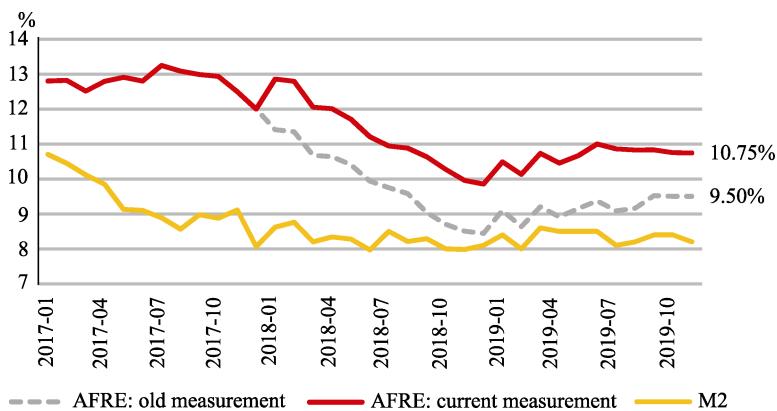


Figure 6 Year-over-Year Growth Rate of Money Supply and Aggregate Financing to the Real Economy (AFRE)

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

⁶ The year-over-year growth rate of AFRE was 10.75% by the current measurement in 2019, while it was only 9.5% in the old measurement.

⁷ PBC 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, PBC 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, PBC has incorporated "Local Government Special Bonds" into AFRE, which is recorded when claims and obligations are registered at depositories.

cancelled/failed bond issuance, which could shed some light on the risen financial difficulties, calling attention to further financial market openness.

2.7 Default Risks of Local Government Debt

The default risks of local government debt can hardly be ignored. Over the first three quarters of 2019, debt-to-GDP ratio was estimated to be approximately 38.3%, increased by 1.3 percentage points from the same period in 2018. The overall local government debt was found to be RMB21.1 trillion at the end of 2019, which, when added with local government contingent liabilities, amounted to RMB 28.9 trillion, taking up 46.3% of GDP. The pressures on the repayment of local government debt has been significantly mitigated by the debt-for-bond swap program introduced in 2015, which has delayed the repayment and reduced the present credit risk. But it has not eliminated the risk, but postponed it with more rollover repayment pressures on local governments in the coming years. Moreover, the proportion of long-, and super long-term local government bonds has increased tremendously, from 7.9 years in January 2019 to 16.3 years in November 2019 (see Figure 7). Considering the invisible debt burden of local governments, the latent default risks of local government debt can be immense.

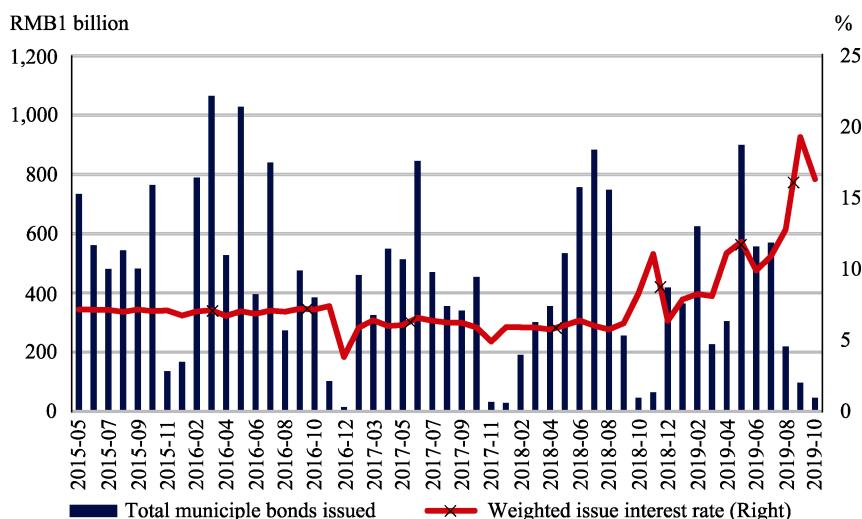


Figure 7 Issuance Scale and Interest Rate of Local Government Bonds

Source: Wind; IAR, SUFE.

Looking into the year 2020, China's economic downward pressures, immense local government debt repayment pressures, and normative local government fiscal policies all seem to require an enormous increase in total issuance of local government bonds in order to meet an implicit growth target.

2.8 Household Debt Accumulation and Income Inequality

The year 2019 saw continued household debt accumulation exacerbated by increased income inequality. While the rapid growth of total household debt is already alarming, focusing solely on the aggregate figure can significantly underestimate the true risk and mask the severity of the problem. As we showed in our previous reports using micro-level data, underlying the soared household indebtedness is a significant degree of heterogeneity, which should be even more worrisome. In this report, we continue finding that the biggest burden and greatest risk lie with low- and (to a large extent) middle-income households and young families, who are the most liquidity constrained and most vulnerable to adverse shocks. As we emphasized in our previous reports, and as we reiterate here, these are the weakest link concerning the household sector risk. These aggregate and distributional factors reinforced to further tighten household liquidity constraint, crowd out household consumption, and drain aggregate demand.

As in our previous reports,⁸ we show here that a lackluster demand slowed down real economic activities and boosted systemic risks by reducing firm profit and increasing firm leverage ratio. Tightened regulations in housing market reduced the growth in household loans in short, medium, and long terms, with the latter two amounting to RMB4.97 trillion, lower than the peak in 2016 (RMB5.26 trillion), but still exceeding that in 2018 (see Figure 8). Moreover, consistent with what was shown in Annual SUFE Macroeconomic Report (2017), additional to household indebtedness, income inequality exacerbated household consumption demand. Our study using the household level data from China Family Panel Studies (CFPS) finds that, although the Gini coefficient registered 0.51 in 2018, slightly declined by 0.05 percentage points from that in 2016, log income variance, an alternative measure of income inequality, rose continuously.

⁸ See Semiannual SUFE Macroeconomic Report (2017) and Semiannual SUFE Macroeconomic Report (2018).

This provides an evidence for a widening divergence in income between high-income population and low-income population. We call attention to refinement in household tax policies and improvement in social security and social safety net as a means to stimulate household aggregate demand via enhanced household liquidity, so as to promote China's transformation into a phase with sustainable and high-quality growth and development.

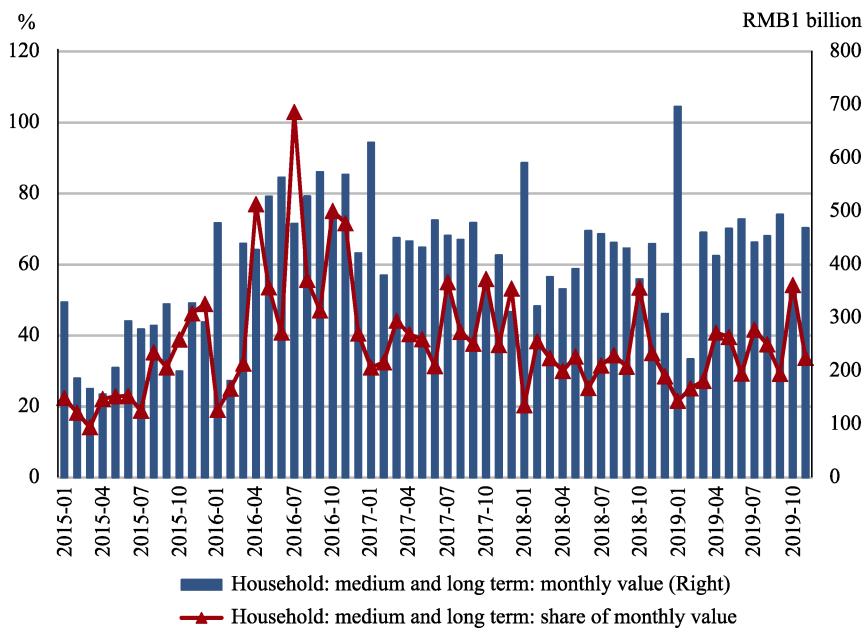


Figure 8 Growth Rates of New RMB Loans

Source: IAR, SUFE.

2.9 External Uncertainties

IMF and OECD have stated that the global economy recovery will be weaker in year 2020, suggesting weakening external demand for the Chinese economy in that year. Though China and the US have reached a phase-one trade deal in mid-December 2019, trade tensions are likely to persist in 2020, and may even become a norm going forward. This may drag down manufacturing investment in particular. We have 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 the global value chains. Furthermore, international political uncertainties, rising geopolitical tensions, such as Brexit, the U.S. presidential election, and the conflict between the US and Iran, put economies in a “precarious” position. Facing severe external challenges, it is necessary and urgent for China to implement structural reforms to discover new growth and development engines.

2.10 Systemic Risks and Systemically Important Financial Institutions

Persistent downward pressures and uncertainty about internal and external conditions continued to expose China’s economy to likely financial instability and systemic risks. The systemic risks can have much to do with adverse spillovers between financial and real sectors. The prevention of systemic risks should remain a primary mission of monetary and macro-prudential policies in 2020. To this end, it is critical to identify systemically important financial institutions. We have tested system stability and identified systemically important banks using a CoVAR model and a network model. Our analysis using the CoVAR model with the daily data from 33 listed commercial banks for the period 2016–2019 indicates that the five biggest state-owned banks have maintained their systemic importance; and, while they have remained less vulnerable than other commercial banks to exposure of systemic risks, their risk spillover ratios have increased significantly in 2019, calling attention to preventing financial risks exposed by these five biggest state-owned banks. Our analysis based on the network model reaches a similar conclusion.

3 Near to Medium Term Forecasts and Policy Simulations

Our semi-structural forecasts, counterfactual analyses, and policy simulations are based on quarterly IAR-CMM model. Table 1 displays baseline growth projections for major macroeconomic indicators for the fourth quarter of 2019, and for each quarter of 2020, along with the realizations of these variables in the first three quarters of 2019.⁹ Four major assumptions about China’s external environment underlying the baseline forecast are summarized below.

- (1) Global recovery assumptions for major developed economies are taken

⁹ The projections reported here were obtained at the end of 2019.

from IMF October 2019. Rates of economic growth in 2020 are projected to be 2.3% for the US, 1.5% for France, 1.0% for Germany, 1.3% for Japan, and 4.8% for the Association of Southeast Asian Nations (ASEAN);

- (2) Federal funds rate remains unchanged in 2020;
- (3) The RMB exchange rate against the USD will be more volatile within a reasonable band in 2020;
- (4) Trade tensions between China and the US will still exist in 2020 but there is no expansion in conflicting industries and fields.

Table 1 Near to Medium Term Baseline Forecast of Yearly Growth Rate¹⁰

	2019				2019	2020				2020
	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
GDP	6.4	6.2	6.0	6.0	6.2	6.0	5.8	5.9	6.2	6.0
GDP (adjusted) ¹¹	6.2	6.0	5.9	5.9	6.0	5.9	5.7	5.8	6.0	5.9
Investment	6.3	5.8	5.4	5.2	5.2	5.5	5.3	5.2	5.4	5.4
Consumption	8.5	8.6	7.6	7.6	8.1	6.7	6.9	7.5	7.2	7.1
Export ¹²	1.0	-1.5	-0.8	-1.7	-0.8	-1.6	-2.7	-4.1	-1.3	-2.4
Import	-4.3	-3.9	-6.4	-1.1	-3.9	0.0	0.1	1.0	4.3	1.3
CPI	1.8	2.6	2.9	4.1	2.9	4.5	3.6	2.7	1.8	3.2
PPI	0.2	0.5	-0.8	-1.3	-0.4	-0.7	-0.1	0.3	0.7	0.1
GDP deflator	1.3	2.0	1.5	1.3	1.5	1.6	1.7	1.8	1.5	1.7

Source: IAR, SUFE.

There are also five baseline assumptions concerning China's internal environment.

- (1) Lackluster consumption demand in the face of continuously rising household debt-to-GDP ratio by 3 percentage points in 2020;
- (2) Infrastructure construction investment resurgence, a slight increase in

¹⁰ The statistics reported in the table are based on real measure for GDP but nominal measures for the other variables. Yearly growth rate is cumulative for investment but noncumulative for the other variables.

¹¹ Adjusted GDP data are constructed by appropriately correcting the official statistics based on information embedded in 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 activity.

¹² The import and export statistics here are all measured in USD and are comparable to those reported by the customs.

manufacturing investment, and a mild decline in real estate development investment in 2020;

(3) Commercial banks' net present value (NPL) ratio rises to 2% by the end of 2020;

(4) Fiscal policy is expected to remain stimulative, pushing the deficit rate up to 3% by the end of 2020;

(5) Monetary policy is expected to remain prudent in 2020 with two 50 basis point reductions in the required reserve ratio (RRR).

The take-home message from the baseline forecast, as can be seen from the first two rows of Table 1, is that economic recovery will not continue in the near to medium term, with annual real GDP growth rate declining to 6.0% (5.9% using more reliable instead of the official data) in 2020.

In light of the uncertainty on the economic outlook, we have considered alternative scenarios to explore the implications for the outlook of alternative forecast assumptions. Specifically, we have studied alternative scenarios to accommodate for the various internal and external economic factors aforementioned. Dividing them into five groups, with each highlighting a particular risk factor, we report below the major assumptions and results for each of the alternative scenarios.

The first group includes two scenarios with relatively pessimistic outlooks due to the macro effect of trade tensions with the US, which are labeled as Conservatively Pessimistic Scenario 1 and Pessimistic Scenario 1, respectively. In Conservatively Pessimistic Scenario 1, exports growth is assumed to be -5.5%, 3 percentage points lower than baseline scenario, resulting in a reduced annual real GDP growth rate of 5.8% (5.7% using more reliable instead of official data) in 2020. In Pessimistic Scenario 1, exports growth is assumed to be -7.5%, declined by 5 percentage points compared to baseline scenario, resulting in a reduced annual real GDP growth rate of 5.7% (5.6% using more reliable instead of official data) in 2020.

The second group includes two scenarios with another relatively pessimistic outlook due to the decline in profit in manufacturing industries, which are labeled as Conservatively Pessimistic Scenario 2 and Pessimistic Scenario 2, respectively. In Conservatively Pessimistic Scenario 2, the growth rate of total fixed asset investment is assumed to decrease to 3.7%, 1.7 percentage points lower than baseline scenario, resulting in a reduced annual real GDP growth rate

of 5.7% (5.6% using more reliable instead of official data) in 2020. In Pessimistic Scenario 2, the growth rate of total fixed asset investment is assumed to be 2.4%, declined by 3 percentage points compared to baseline scenario, resulting in a reduced annual real GDP growth rate of 5.5% (5.5% using more reliable instead of official data) in 2020.

The third group includes one scenario with another relatively pessimistic outlook due to the macro effect of both trade tensions with the US and the decline in profit in manufacturing industries, which are labeled as Extremely Pessimistic Scenario. In Extremely Pessimistic Scenario, exports growth is assumed to be -7.9%, declined by 5.5 percentage points compared to baseline scenario, and the growth rate of total fixed asset investment is assumed to decrease to 1.1%, 4.3 percentage points lower than baseline scenario, resulting in a reduced annual real GDP growth rate of 5.0% (5.0% using more reliable instead of official data) in 2020.

Alongside the aforementioned relatively more pessimistic outlooks, we consider in the fourth group two other scenarios with relatively more optimistic outlooks on internal economic environment, which are labeled, respectively, as Conservatively Optimistic Scenario 1 and Optimistic Scenario 1. In Conservatively Optimistic Scenario 1, both consumption growth and total fixed asset investment growth are assumed to be 0.15 percentage points higher than baseline scenario, resulting in an increased annual real GDP growth rate of 6.1% (6.0% using more reliable instead of official data) in 2020. In Optimistic Scenario 1, both consumption growth and total fixed asset investment growth are assumed to be 0.3 percentage points higher than baseline scenario, resulting in an increased annual real GDP growth rate of 6.2% (6.0% using more reliable instead of official data) in 2020.

The fifth group includes two scenarios with another relatively optimistic outlook on external economic environment, which are labeled, respectively, as Conservatively Optimistic Scenario 2 and Optimistic Scenario 2. In Conservatively Optimistic Scenario 2, exports growth is assumed to be 3 percentage points higher than baseline scenario, resulting in an increased annual real GDP growth rate of 6.1% (6.0% using more reliable instead of official data) in 2020. In Optimistic Scenario 2, exports growth is assumed to be 5 percentage points higher than baseline scenario, resulting in an increased annual real GDP growth rate of 6.2% (6.0% using more reliable instead of official data) in 2020.

In addition to providing the baseline and alternative forecasts, and given that a high enough economic growth rate is needed to meet the longstanding goal of doubling the GDP 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 6.0%, or 5.9% in terms of adjusted data, for 2020. We do not discuss the baseline scenario and the two scenarios with relatively optimistic outlooks, because in those scenarios the target is already met or even exceeded without additional policy stimuli. Therefore, we restrict our discussion to the Baseline Scenario, Conservatively Pessimistic Scenarios 1 and 2, Pessimistic Scenarios 1 and 2, and Extremely Pessimistic Scenario. Table 2 summarizes the combinations of monetary and fiscal policy options that may help achieve the assumed growth in 2020 in these scenarios.

Table 2 Alternative Forecasts and Policy Simulations (for Year 2020)

	Baseline	Conservatively Pessimistic 1	Pessimistic 1 & Conservatively Pessimistic 2	Pessimistic 2	Extremely Pessimistic
Yearly growth rate	6.0%	5.8%	5.7%	5.5%	5.0%
Yearly growth rate (adjusted)	5.9%	5.7%	5.6%	5.5%	5.0%
Imputed growth rate	6.0%				
Imputed growth rate (adjusted)	5.9%				
Monetary policy easing	-	50 BP reduction in RRR	50 BP reduction in RRR	Two 50BP reductions in RRR	Two 100BP reductions in RRR
Fiscal deficit expansion (billion yuan)	-	1457.5	2743.6	4629.8	9002.4
Fiscal deficit expansion rate	0	4.48%	8.44%	14.25%	27.70%
Deficit ratio	3.0%	3.24%	3.36%	3.54%	4.02%

Source: IAR, SUFE.

- (1) Under the Baseline Scenario: No further monetary easing and fiscal deficit expansion relative to the benchmark is needed.
- (2) Under Conservatively Pessimistic Scenario 1: A reduction of 50 basis points in the RRR, and a RMB1457.5 billion increase in fiscal deficit, or, a 4.48% increase from the 2019 budget, is called for.
- (3) Under Pessimistic Scenario 1: A reduction of 50 basis points in the RRR,

and a RMB2743.6 billion increase in fiscal deficit, or, an 8.44% increase from the 2019 budget, are required.

(4) Under Conservatively Pessimistic Scenario 2: A reduction of 50 basis points in the RRR, and a RMB2743.6 billion increase in fiscal deficit, or, an 8.44% increase from the 2019 budget, are required.

(5) Under Pessimistic Scenario 2: Two reductions in the RRR, 50 basis points each, and a RMB4629.8 billion increase in fiscal deficit, or, a 14.25% increase from the 2019 budget, are called for.

(6) Under Extremely Pessimistic Scenario: Two reductions in the RRR, 100 basis points each, and a RMB9002.4 billion increase in fiscal deficit, or, a 27.70% increase from the 2019 budget, are called for.

However, our alternative scenario analyses and policy simulations should not be viewed as suggesting or recommending certain monetary and fiscal stimuli for the government to meet the imputed growth target. Rather, we urge that these kinds of stimulus packages should be used with caution in light of their side effects, especially from a long-run perspective.

4 Deciphering China's Economic Slowdown from Longer Term Perspectives

While China's medium-term development faces challenges from systemic financial risks, rising income inequality, household debt overhang and local government indebtedness, the key culprit behind the slowdown of long-term economic growth, is the decline of total factor productivity (TFP) growth induced by the distortions deep-rooted in China's economic structure. 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. In our 2018–2019 annual report, we found that China's economic growth potential would be further released by removing resource misallocations in the tertiary sector, and most importantly, between the food and non-food sectors.

China's economy faces resource misallocations, which does not only exist among primary sectors, secondary sectors and tertiary sectors, but also exist within a specific sector, resulting in inefficient outcomes. China's economic growth potential would be further released by removing resource misallocations via market-oriented reforms. In this annual report, we further explore quantitatively the impacts of R&D innovation and improvement in resource allocation on China's economic growth potential using a wedge-based growth accounting framework.

Due to data availability,¹³ we choose Shanghai as our study case. As one of the regions with the highest income per capita in China, Shanghai's economic structure is very similar to that of developed countries, representing the frontier of China's economic structure. Examining the impact of R&D innovation and improvement in resource allocation on Shanghai's economic growth potential can be informative for future research at the national level.

We have constructed a two-sector general equilibrium model, consisting of a capital goods sector and a non-capital goods sector. Our results show that from 2013 to 2017, with an increased emphasis on the importance of R&D innovation, TFP of the capital goods sector grew at an average annual rate of 1.24%, contributing to almost 30% of the growth of total output in that sector, while there is almost no change in TFP in the non-capital goods sector. In this progress, accumulation of household indebtedness crowded out household non-capital goods consumption. In the benchmark scenario, Shanghai's economic growth potential during the period of "14th Five-Year Plan" is estimated to be around 6.88%. We have further conducted analyses based on two alternative scenarios. Our results show that Shanghai's economic growth potential could be increased if R&D innovation were effectively implemented to improve the TFP of the capital goods sector, or if the proportion of commercial housing appreciation in the non-capital goods sector were lower. In the two alternative cases, Shanghai's economic growth potential during the period of "14th Five-Year Plan" would reach 7.48% and 7.17%, respectively. When these two scenarios are compounded, Shanghai's economic growth potential during the period of "14th Five-Year Plan" will reach 7.78%, 0.9 percentage points higher than the baseline scenario.

Based on our analysis, encouraging R&D innovation, enhancing the

¹³ The data at the national level applied to wedge-based neoclassical growth framework is only available before 2014.

development of high-tech industries, deepening the integration of advanced manufacturing and high-end service industries, and increasing the intensity of R&D investment can be quite effective in promoting the economic growth potential. In addition, improving the efficiency of resource allocation, and preventing the excessive development of the real estate sector from crowding out household consumption, are also critical.

Looking forward, deepening reforms is still essential for eliminating institutional barriers in the factor as well as the financial markets. Effective measures should be taken unswervingly to reduce the resource misallocation between state-owned enterprises (SOEs) and non-SOEs, to promote the marketization and competition in the service sector, to eliminate financing discrimination, and to gradually relax the restrictions on labor mobility associated with the household registration system. All of these reforms are critical for the pursuit of a healthy and sustainable growth path in the long run, while they are also indispensable for a more prosperous society.

5 Reform and Governance: A Long March to Continue

In the face of persistent deceleration in economic growth surrounded by various internal and external uncertainties, the annual Central Economic Work Conference, held in December 2019, stressed that tasks in 2020 are “...promoting the high-quality development of the manufacturing industry, promoting the formation of a strong domestic market, promoting the rural revitalization strategy, promoting coordinated regional development, accelerating the reform of the economic system, promoting all-round opening up, safeguarding and improving people’s livelihood”

At a deeper and more fundamental level, the persistent economic deceleration is only natural given the low-quality and non-sustained development, inefficient public resource distribution, social imbalances and injustice, and the coexistence of overreaction of government and administrative omission. These reveal the dilemma faced by the traditional governance model with a strong government, small market, and weak society. They also suggest the necessity for a well-functioning national governance system of government, market, and society.

Several years ago, China moved from the “old” factor-driven growth model to the “new” innovation-driven growth model after a remarkable period of rapid growth. A key step in this transition lied with promoting economic inclusion to

boost the vitality of various market entities, especially private enterprises. China has a long way to concentrate on improving the property rights system and ensuring the market-based allocation of factors of production. In addition to implementing administrative measures associated with supporting the development of private enterprises, it is necessary to deepen the reform of state capital, eliminate administrative obstacles, and introduce competitive mechanisms in service industries, in order to unleash economic dynamism. All of these institutional reforms are crucial for rebalancing China towards a more sustainable and healthy growth trajectory.

This is not an easy task. To do so, the government needs to change its functions, further streamline administration, delegate powers, and transform itself into a service-oriented government, under the guidance of the idea of a limited government. Specifically, the government should let the market play the decisive role in resource allocation, as long as it works effectively, and intervene only when the market fails. Moreover, instead of acting as a “night-watchman,” the government should be proactive in initiating, directing and coordinating reforms, establishing and improving a modern market system to stimulate innovation and promote development, launch market-enhancement industrial policy and support emerging industry. Even in this moment of intervention, the establishment of institutional arrangements is generally more appropriate than intervening directly.

A take-home from this report is its message about the importance and urgency of deepening rule-of-law based and market-oriented structural reforms aimed at achieving competitive neutrality. Such reforms are critical for facilitating high-quality and sustainable economic growth and development. This calls for a fundamental improvement in institutional arrangement with a new development philosophy.

6 Conclusion

The recent slowdown in China’s economic growth is both cyclical and secular, and the country is entering into a new phase with an emphasis on quality over speed in its economic development. Deepening structural reforms towards achieving competitive neutrality in a timely and orderly manner is crucial for a successful transition into this new phase. This annual report highlights some major obstacles to such a transition and discusses policies that compromise short-,

medium-, and long-term matters for overcoming these obstacles.

7 A Final Remark

As explained in our previous reports, the unique framework that we have developed over the past many years enables us to conduct alternative scenario forecasts and counter-factual analyses, as well as policy simulations, in a semi-structural manner. This is particularly helpful for assessing the impacts of black-swan and grey-rhino incidents. The most pessimistic alternative scenario analysis conducted in this annual report was based on information available up to mid December 2019. The novel coronavirus outbreak that occurred afterwards was totally unanticipated back then. The recent development of this adverse event has been generating a large downside risk on China's near-term economic prospect. With this new piece of information, the most pessimistic alternative scenario in 2020 can be worse than what was described in our annual report released last December.

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