In 2019, the weakening of global trade expansion and the escalation of trade frictions between China and the US have restrained the growth of private investment in Chinese manufacturing industry, and the decline in investment growth has become the main pressure on economic growth. The gross domestic product (GDP) grew by 6.1% in real terms, a decline of 0.6 percentage points over the previous year.

In 2020, the signing of the first phase of the economic and trade agreement between China and the US laid a good foundation for the two sides to ease and eventually eliminate trade frictions. At the same time, the implementation of loose monetary policies in many countries is likely to lead to the rebound of global trade, and is expected to drive the investment growth in Chinese export-oriented private manufacturing industry. The outbreak of COVID-19 pandemic in the first quarter, however, has inevitably affected the growth of Chinese economy and the global economy.

2020 is the key year of Chinese building a moderately prosperous society in an all respects and the end year of the 13th five-year plan, the last year of the “three major battles” against poverty, pollution, and potential risk. In the long run, the trend of Chinese economic stability to be good has not changed. However, in the short run, the downward pressure on the economy is still large.

In 2019, in order to cope with the downward pressure of economy, the Chinese government strengthened and improved macro-control. While continuing to implement prudent monetary policies, the financial policy increased efforts to promote tax reduction and fee reduction. Through a series of policy and measures such as improving the business environment and supporting the development of the real economy, China promoted the adjustment of investment structure and improved investment efficiency, ensuring the overall stable operation of the national economy. The improvement of development quality has laid a solid foundation for building a moderately prosperous society in all respects by 2020. However, the impact of the COVID-19 pandemic has brought greater challenges to concentrate on ensuring stability on the six fronts and security in the six areas.
In order to achieve the goal of “doubling the GDP and doubling the per capita income of residents compared with 2010” put forward by the Party, the GDP growth rate in 2020 must reach a targeted value of 5.62%\textsuperscript{1}. The growth rate of the GDP must be not less than 5.62% in 2020, but the predicted value is less than 5.62%. Based on this, if the policy focus of the first quarter is to boost the resumption of work, production, and business activities, expand production capacity, and ensure that the COVID-19 pandemic is fully controlled, then, in the rest of the year, coordination of monetary and fiscal policies are needed to stabilize economic growth.

Our research team believes that in terms of the monetary policies, China should continue to strengthen the fundamental requirements of financial services for the real economy, to deepen the structural reform of the financial supply side, to dredge the transmission of the monetary policies, and to improve the transmission efficiency of the monetary policies. In 2020, it is an important part of deepening the reform of interest rate marketization to improve the formation mechanism of the loan prime rate (LPR). From the perspective of supply side, the LPR reform with the reduction of the interest rate of loan for the enterprises, not only help to improve the efficiency of market allocation of credit resources, but also promote the adjustment of investment structure and improve investment efficiency; from the perspective of demand side, the LPR reform will help to reduce the interest burden of residential housing stock loans, and then increase the income and consumption of residents. In terms of the fiscal policies, it is necessary to increase the incentive of the demand side to the residential sector, and stabilize the income growth of residents, especially the income growth of rural residents, through tax reduction, expansion of transfer income to residents and stabilization of the employment market. Therefore, it is necessary to make full use of government bonds and all kinds of expenditure tools, appropriately increase the ratio of fiscal deficit to GDP. With a combination of the monetary and the fiscal policies, it is expected that in 2020, while stabilizing growth and achieving the goal of doubling, China will vigorously promote economic restructuring and improve growth efficiency.

Based on the above analysis, our research team analyze the effects on macro economy of the LPR reform and the fiscal expenditure expansion.

### 3.1 Background

The People’s Bank of China (PBOC) started an interest rate reform on Aug 20, 2019, which we regard as a pragmatic start to unifying the “dual tracks” of interest rates—one for rates in the money market and the other for lending rates. Under the

\textsuperscript{1}In 2010, China’s GDP was about 41.21 trillion yuan. To achieve the goal of doubling the GDP, the GDP calculated at 2010 prices will reach 82.42 trillion yuan in 2020. Using the published annual real growth rates of GDP after 2010 (9.6, 7.9, 7.8, 7.4, 7.0, 6.8, 6.9, 6.7 and 6.1%, respectively), we can get a GDP of about 78.04 trillion yuan calculated at 2010 prices in 2019. Then, in order to achieve the goal of doubling, it is necessary to maintain the real growth rate of GDP at 5.62% or above in 2020.
reform, the PBOC has improved the formation mechanism of the loan prime rate (LPR)—the price of loans banks offer their best clients—and use the LPR as the reference rate for business and household loans. The earlier reference rate, the one-year benchmark lending rate, will be replaced in the future. As the start in interest rate unification, the reform can help ease the financing woes faced by small and medium-sized enterprises (SMEs), act as a prelude to more interest rate reforms, and give clues to China’s macro policy-setting pattern. The reform served as a timely measure to tackle such economic downward pressure, especially considering that traditional monetary policy tools have limited wriggle room as inflation pressure and macro leverage stay high.

Statistics show that as of the fourth quarter of 2019, the total loans of Chinese financial institutions was about 153.1 trillion yuan. Among them, the total amount of personal housing loans was about 30.1 trillion yuan, accounting for about 19.6% of the total loans, an increase of 0.7 percentage points over the same period in 2018; the total amount of corporate loans was about 90.0 trillion yuan (see Fig. 3.1).\(^2\)

With the promotion of the LPR reform, the interest rate of outstanding loans of enterprises as well as residents would be reduced (see Fig. 3.2).

\(^{2}\)Due to the lack of data on the total amount of corporate loans, here, we make the following calculation: using the proportion of corporate loans in the total loans in the fourth quarter of 2018 (59.5%), considering the increase in the proportion of personal housing loans (0.7%), to estimate that the total amount of corporate loans in the fourth quarter of 2019 is about 90.0 trillion yuan.
3.2 Scenario Design to Simulate Policy Effect

In order to analyze the effect on macroeconomy of the policy combination of LPR reform and fiscal expenditure expansion, our research team designed two simulation scenarios to simulate the macroeconomic effects.

**Defining the benchmark scenario: with the reform of LPR but without further expansion of fiscal expenditure.** It is assumed that the one-year and five-year LPR interest rates at the end of 2020 will drop 20 basis points compared with the end of 2019, reaching 3.85 and 4.55% at the end of the 2020, and keep unchanged to the end of 2021. At the same time, the growth rate of fiscal expenditure in this year and next will maintain the same level of 2019, reaching 8.2%. Under this benchmark scenario, compared with the old interest rate mechanism, the interest expense of enterprise is expected to decrease by 90, 135, 185 and 225 billion yuan respectively in the each of the four quarters of 2020; the interest burden of enterprises can be further reduced in each quarter of 2021. On the other hand, in 2020, the interest burden of residents can be reduced by 75.25 billion yuan in each quarter of 2021.

**Defining the simulation scenario 1: without the reform of LPR and without further expansion of fiscal expenditure.** Assuming that LPR reform has not been promoted by the end of 2019, the old interest rate mechanism based on RMB basic loan interest rate is still maintained. Compared with the benchmark scenario, the interest burden of enterprises and residents is relatively heavier. With the comparison
between the scenario 1 and the benchmark scenario, we can depict the effects of promoting LPR reform.

**Defining the simulation scenario 2: with the reform of LPR as well as with further expansion of fiscal expenditure.** As in the benchmark scenario, assuming LPR reform, the interest rate will be reduced by **20 basis points**. In order to keep the GDP growth rate at 5.62% in 2020, then the growth rate of fiscal expenditure increase to 15.8%

In addition, on the basis of simulation scenario 2, to analyzes the substitution effect and structural change effect between interest rate reduction and fiscal expenditure growth, our research team also assumes that the one-year and five-year LPR interest rates at the end of 2020 will drop **60 instead of 20 basis points** compared with the end of 2019. Then, under the premise of maintaining GDP growth rate of 5.62%, with a greater interest rate cut, we can analyze the substitution effect between interest rate reduction and fiscal expenditure expansion.

### 3.3 Analysis of the Impact of Policy Simulation

#### 3.3.1 The Effect on Macro Economy of LPR Reform

First, the LPR reform with a reduction of market interest rate will help to increase the growth rate of GDP. Compared with the simulation scenario 1, the LPR reform under the benchmark scenario will increase GDP growth by 0.27 and 1.12 percentage points respectively in 2020 and 2021 (see Fig. 3.3). It shows that the reduction of market interest rate has obvious incentive effect on economic growth. However, the effect

![Fig. 3.3 The growth rate of GDP. Note Baseline represents the benchmark scenario. Source CQMM team calculations](image-url)
is weaker in 2020 compared with in 2021. Therefore, the earlier the LPR reform is carried out, the better the recovery of economic growth will be.

Secondly, the LPR reform with a reduction of market interest rate has an obvious incentive effect on the growth of investment, especially private investment. Compared with the simulation scenario 1, the growth rate of urban fixed asset investment under the benchmark scenario can be increased by 0.54 and 4.32 percentage points respectively in 2020 and 2021 (see Fig. 3.4); among them, the growth rate of private investment can be increased by 1.55 and 9.06 percentage points respectively (see Fig. 3.5). The LPR reform has three channels to stimulate investment: first, the “price effect”, which directly reduces the financing cost of enterprises, especially private enterprises, and encourages them to expand investment; second, the “cost effect” of enterprises, which reduces the interest burden of enterprise; third, “cost effect” of residents, which reduces the interest burden of housing loans. Based on the simulation results, the private investment is more sensitive to the market interest rate.

Third, the growth rate of residential consumption increased slightly, which benefited from the acceleration of economic growth and the reduction of interest burden on housing loans. Under the benchmark scenario, the growth rate of resident consumption calculated by the comparable price can be increased by 0.02 and 0.16 percentage points respectively in 2020 and 2021 compared with the scenario 1 (see Fig. 3.6).

Finally, the acceleration of investment and consumption will increase the growth rate of imports and exports. Under the benchmark scenario, the export growth rate will increase by 0.01 and 0.1 percentage points respectively compared with the simulation.

**Fig. 3.4** The growth rate of urban fixed asset investment. *Note* Baseline represents the benchmark scenario. *Source* CQMM team calculations
3.3 Analysis of the Impact of Policy Simulation

Fig. 3.5 The growth rate of private investment. Note Baseline represents the benchmark scenario. Source CQMM team calculations.

Fig. 3.6 The growth rate of residential consumption. Note Baseline represents the benchmark scenario. Source CQMM team calculations.
scenario 1 in 2020 and 2021; the import growth rate can increase by 0.66 and 1.83 percentage points respectively in 2020 and 2021.

To sum up, the LPR reform with the reduction of market interest rate will help to increase economic growth, stimulate the investment growth of enterprises, especially private enterprises, and promote the growth of residential consumption and imports and exports. Due to time lag, the effect on economy in 2021 is stronger than that in 2020.

### 3.3.2 The Policy Effects of LPR Reform and Expansion of Fiscal Expenditure

In order to achieve the goal of doubling GDP in 2020 over 2010, the growth rate of the GDP must be not less than **5.62%** in 2020, but the predicted value is less than 5.62%. Although the Chinese government has issued and implemented a number of policies in the first quarter to boost the resumption of work, production, and business activities, and expand production capacity, it is still necessary to coordinate monetary and fiscal policies for the rest of the time after the COVID-19 pandemic is fully controlled.

To analyze the effects, our research team made two assumptions to increase GDP growth. **Assumption 1**: the market interest rate will fall by 20 basis points, and fiscal expenditure increase by 15.8%; **Assumption 2**, the market interest rate will fall by 60 basis points, and fiscal expenditure increase by 15.3%. The policy effects under the two assumptions are shown in Table 3.1.

| Growth rate                              | Policy 1 | Gap 1 | Policy 2 | Gap 2 |
|------------------------------------------|----------|-------|----------|-------|
| Real GDP                                 | 5.62     | 0.53  | 5.62     | 0.53  |
| Real consumption                         | 4.52     | 0.05  | 4.52     | 0.05  |
| Nominal retail sales of consumer goods    | 7.63     | 0.05  | 7.64     | 0.06  |
| Real comparable capital formation        | 3.52     | 0.12  | 3.45     | 0.05  |
| Nominal urban fixed asset investment     | 6.77     | 0.17  | 6.82     | 0.22  |
| Investment of state-owned and state-holding enterprises | 7.74 | 0.46 | 7.32 | 0.04 |
| Private investment                       | 6.19     | 0.01  | 6.56     | 0.38  |
| Total export (current price, USD)        | 4.46     | 0.01  | 4.46     | 0.01  |
| Total import (current price, USD)        | 7.33     | 1.00  | 7.32     | 1.00  |
| Share of public expenditure in GDP       | 7.1      |       | 7.0      |       |

**Note** Policy 1 is the policy combination of an LPR reform with a reduction of interest rate by 20 basis points and an increase of fiscal expenditure by 15.8%. Policy 2 is the policy combination of an LPR reform with a reduction of interest rate by 60 basis points and an increase of fiscal expenditure by 15.3%. Gap 1 is the between the policy 1 and the baseline, gap 2 is the between the policy 2 and the baseline. **Source** CQMM team calculations
3.3 Analysis of the Impact of Policy Simulation

Under the assumption 1, in order to achieve the targeted growth rate of GDP at 5.62%, additional fiscal expenditure of 1814.5 billion yuan should be added in 2020, increased by 15.8%. If the growth rate of fiscal revenue remains unchanged, the proportion of fiscal deficit in GDP has to increase to 7.1% in 2020, up 2.1 percentage points over the previous year.

Under assumption 2, in order to achieve the targeted growth rate of GDP at 5.62%, additional fiscal expenditure of 1719 billion yuan should be added in 2020.

Under the two assumptions, the difference of extra fiscal expenditure is small, which may be due to the fact that the economic stimulus effect of LPR reform with a reduction of the interest rate has a time lag, so the substitution effect between interest rate reduction and fiscal expansion is not obvious.

Under the assumption 1, with the reduction of the interest rate by 20 basis points, the growth rate of private investment can be increased to 6.19%, 0.01 percentage points higher than that of the benchmark scenario; Under the assumption 2, with the reduction of the interest rate by 60 basis points, the growth rate of private investment can be increased to 6.56%, 0.38 percentage points higher than that of the benchmark scenario. A bigger interest rate reduction has a significant effect on private investment in 2020, because private investment is more sensitive to interest rate. Besides, the expansion of fiscal expenditure can further improve the growth rate of private investment by reducing enterprise costs from the supply side, reducing residential tax burden from the demand side, and expanding the transfer income to residents so as to increase residential consumption.

By contrast, under the assumption 1, the investment growth rate of state-owned and state-holding enterprises is faster than that of the benchmark scenario. It shows that a larger interest rate reduction can not only stabilize economic growth, but also effectively stimulate the growth of private investment. This not only drives the recovery of investment growth (gross effect), but also promote the adjustment of investment structure and improve investment efficiency (structural effect).

Due to the timing of LPR reform, the interest rate of outstanding housing loans will not change in 2020. However, the acceleration of the growth of fiscal expenditure can promote the growth of residential consumption through such channels as the reduction of residential tax burden, the increase of transfer income of residents and the expansion of employment security expenditure. Compared with the benchmark scenario, the real growth rate of residential consumption can be increased by 0.05 percentage points, and the nominal growth rate of total retail sales of consumer goods can be increased by 0.05–0.06 percentage points.

Finally, thanks to the growth of private investment and the slight pick-up of consumption growth, in 2020, in terms of the current dollar price, the export growth rate remained stable, 0.01 percentage points higher than that under the benchmark scenario; the import growth rate is expected to increase by 1.0 percentage points.

In conclusion, the COVID-19 pandemic in the first quarter of 2020 will inevitably have a significant negative impact on Chinese economy. Even in the benchmark case, the GDP is expected to increase by 5.09% in 2020, which is 0.53 percentage points lower than the targeted growth rate of 5.62%. Although the Chinese government has
issued and implemented a number of policies in the first quarter to boost the resumption of work, production, and business activities, and expand production capacity, it is still necessary to coordinate the monetary and fiscal policies throughout to stabilize economic growth. The main suggestions are as follows.

First, with the reduction of the interest rate by 20 basis points, and the increase of fiscal expenditure by 15.8%, the proportion of fiscal deficit in GDP will increase to 7.1% in 2020, assuming that the growth rate of fiscal revenue remains unchanged. Under the LPR reform with a reduction of the interest rate by 60 basis points, and the growth of fiscal expenditure by 15.3%, the proportion of fiscal deficit in GDP will increase to 7.0% in 2020, assuming that the growth rate of fiscal revenue remains unchanged.

Second, the implementation of different policy combinations not only improve economic growth (total expansion effect), but also improve investment structure and efficiency (structural adjustment effect). From the supply side, the LPR reform with a reduction of interest rate can effectively stimulate the growth (price effect) of private investment, which is more sensitive to the change of interest rate. At the same time, the reduction of interest burden will help to expand the investment (cost effect) of private enterprises. From the demand side, the reduction of market interest rate in 2020 can reduce the interest burden (cost effect) of the outstanding housing loans in 2021, thus strengthening the residential expectation on income growth. It is expected to stabilize the growth of the real income of residents by coordinating with the fiscal expenditure policies such as reducing the tax burden of residents, increasing the transfer income to residents and stabilizing the employment market, so as to drive the growth of the consumption of residents, and finally promote the growth of investment from the demand side. The policy combination can effectively stimulate the growth of private investment while stabilizing economic growth, and then promote the adjustment of investment structure and improve investment efficiency.

It should be noted that the results of the above policy effect simulation are subject to the model setup and the assumptions of exogenous variables. An important significance of policy simulation is that it can quantify the change direction of aggregate effect and structural effect, so as to provide a reference for policy decision-maker.