Post-COVID-19 Impact on Household Savings Behavior: Empirical Insights from China

Congquan Huang* and Linhai Mei†

Abstract: This paper takes the end of COVID-19 lockdown in China at the end of 2022 as a quasi-natural experiment. It constructs a double-difference model to explore the impact of the end of the pandemic on residents' savings. The results show that the degree of economic recovery after the end of the pandemic is negatively correlated with the savings of the residents. Subgroup regression shows this impact has different degrees of influence in different recovery areas. The heterogeneity analysis finds that this impact is more significant in rural areas. Mechanism tests indicate that the phenomenon is mainly explained by affecting consumer confidence and investor sentiment. This article provides empirical evidence for the design of policies to stimulate consumption, build consumer confidence, and improve the capital market.

Keywords: *COVID-19; savings behavior; consumer confidence; investor sentiment; double-difference modeling.*

1. Introduction

The outbreak of COVID-19 at the end of 2019 has considerably impacted logistics, consumption, the stock market, and people's living conditions. Savings, as a means of defense against risk for residents, became a risk-averse choice when the other financial assets were risky. According to the traditional theory of precautionary savings, based on the expectation of uncertainty about the future, residents' consumption levels will decline, resulting in precautionary savings. However, things are beginning to change with the end of the COVID-19 lockdown in China at the end of 2022. All aspects of the economy, like consumption, tourism, logistics, housing, and the stock market, are recovering rapidly, and residents' precautionary savings are decreasing. In the first year of full economic recovery, how to stimulate residents' consumption, improve their living standards, and restore demand in foreign markets have become urgent. The recovery of domestic and foreign markets has been proposed as an important strategic direction. Improving residents' saving behavior is essential to stimulate consumption, so studying saving behavior in the post-pandemic era is urgent.

Under the impact of COVID-19, China's savings situation in 2020 was significantly different from that of previous years, and even in the face of setbacks in economic fundamentals, residents'

* Assistant Professor, Economic School of Guangzhou City University of Technology, China; Research Base of Carbon Neutral Finance for Guangdong-Hong Kong-Macao

† Professor, Economic School of Guangzhou City University of Technology, China; Research Base of Carbon Neutral Finance for Guangdong-Hong Kong-Macao

Email: * 1520250475@qq.com

Received on May 9, 2024, accepted after peer reviews on January 31; published online: December 9, 2025

Asia-Japan Research Academic Bulletin, 2025

ONLINE ISSN 2435-306X, Vol.6, SP02

savings still reflected a strong growth trend. Specifically, in January 2020, residents' savings increased by 4,201.52 billion yuan; in March, residents' savings increased sharply by 2,377.56 billion yuan, which is contrary to the grim industrial conditions.

However, after the end of the COVID-19 lockdown, the growth trend of residents' savings deposits declined, and even in April 2023, residents' savings fell by 1,199.57 billion yuan, while in May 2023, residents' savings only increased by 541.82 billion yuan. In addition, according to the questionnaire statistics released by the Department of Surveys and Statistics of the People's Bank of China, 23.2% of the residents preferred to "consume more" in the first quarter of 2023, an increase of 0.5 percentage points from the previous quarter; 58.0% picked to "save more," a decrease of 3.8 percentage points of the prior quarter. From this questionnaire survey of 20,000 urban households in 50 cities across the country, it can be seen intuitively that the end of the COVID-19 lockdown has slightly alleviated the strong willingness of residents to save during the pandemic, returning to normal levels.

This paper uses the end of the COVID-19 lockdown in China as a quasi-natural experiment, and, based on inter-provincial panel data from 2022q1 to 2023q2, specifically including data about residents' savings, economic indicators, and the recovery status of the pandemic, introduces a variable measure of economic recovery degree after the pandemic into the savings decision model. It systematically examines the impact of economic recovery after the pandemic on residents' savings behaviors and its mechanism. On this basis, we further study the difference in savings decision performance between urban and rural residents affected by the shock.

2. Literature Review

Regarding the determinants of saving, the earliest classical economists considered the interest rate an essential factor influencing savings and later gradually introduced the income level into the decision model. The life-cycle hypothesis broadens current income, pointing out that people make consumption and saving arrangements based on their lifetime income. However, the research on savings decisions does not stop here. Carroll believes that high growth leads to high savings and proposes that forward-looking consumers will save less in a fast-growing economy (Carroll et al. 2000). The mystery of high savings in China has also attracted scholars' attention. Modigliani and Cao attribute China's high savings rate to its demographic structure and income growth. The saving decision theory has also been expanded in recent years (Modigliani and Cao 2004). Wang Hongju and Zhang Huilian argue that the inflation rate and consumer risk preferences can explain the impact on the demand for savings deposits (Wang and Zhang 2006).

There have also been many studies on the economic impact of COVID-19. Research finds that as the rollout of the relevant vaccine continues in the U.S., concerns are alleviated, and the macroeconomy receives a boost, which leads to a significant decline in households' incentives to save precautionarily (Ren et al. 2023). A pandemic research team found that the COVID-19 embargo had a significant adverse impact on Indonesian households' incomes, expectations, and consumption. In the face of falling revenues, families attempted to smooth consumption, which led to a significant increase in budgetary allocations for consumption while reducing the share of debt installments and savings (Ridhwan et al. 2023). Also, some other teams find that economic dislocations in the informal sector in urban South Africa during COVID-19 undermined survival strategies and that covariation of shocks rendered social networks and informal insurance mechanisms ineffective, leading households to liquidate their savings, defaulting on insurance payments and deepening dependence on government subsidies. Some say that the decline in business start-ups during the COVID-19 recession in Spain was concentrated exclusively among

low- and middle-income households and that higher-income families fared relatively well during the COVID-19 recession because of their ability to capitalize on the new business opportunities, thanks to their greater wealth and better access to external financing (Albert et al. 2023). Some Japanese researchers find that Japanese investors anticipate shorter-term SRI returns than U.S. and German investors. Only Japanese investors' SRI decisions were impacted by relationship-oriented social factors, including the environment, diversity, employee rights, and welfare (Murashima 2023). Meanwhile, cost-saving and revenue management strategies were not directly affected but were associated with C.R. and S.V., facilitating SME hotel recovery (Promnil and Polnyotee 2023).

Scholars from various countries have extensively discussed the impact of COVID-19 on the national economy, but there has been less discussion of the relationship between COVID-19 and residents' savings. In the previous literature, only the effects of income, economic growth, credit constraints, etc., on savings have been considered, without exploring how individual savings behavior will behave in the event of an extreme risk event and the mechanism of the impact of this performance. At the same time, existing research focuses on the effects of COVID-19 on the macro level of the economy or the result of COVID-19 on industrial structure and foreign trade, and little literature has empirically examined the impact of COVID-19 on micro-individual savings behavior decisions. Saving is an essential part of the strategy that affects the internal circulation of the Chinese economy, and exploring the impact of extreme risk events such as COVID-19 will help enrich the determinants of saving and, at the same time, is an issue that China practically needs to address.

3. Theoretical Analysis

The savings behavior of residents during periods of economic recovery can also be explained by several economic theories, each offering distinct insights into the decision-making process. These theories, proposed by renowned economists across different periods, shed light on the factors contributing to a potential decrease in savings deposits among individuals. Leland (1968) believed that uncertainty made residents' consumption irregular and put forward the theory of precautionary saving. Under uncertainty, the marginal utility of expected future consumption is more significant than under certainty. The bigger the risk in the future, the greater the marginal utility of expected future consumption and the stronger the consumer's motivation to save.

The Permanent Income Hypothesis (PIH), introduced by Milton Friedman in 1957, suggests that individuals consider their expected average income over an extended period when making consumption and savings decisions. In the context of economic recovery, individuals might anticipate sustained higher future income, leading to a propensity to allocate resources toward immediate consumption, thus potentially reducing their savings. The relative Income Hypothesis, posited by James Duesenberry in 1949, emphasizes the role of relative income in influencing consumption patterns. During an economic recovery, as more of the population experiences income growth, individuals might adjust their consumption behaviors to align with perceived higher societal norms, potentially resulting in decreased savings. Wealth Effect, a concept inherent to Keynesian Economics and introduced by John Maynard Keynes in 1936, proposes that changes in household wealth conditions impact spending behavior. In the context of economic recovery, rising asset values may enhance wealth, decreasing savings as individuals rely on increased net worth for financial security. Consumption Smoothing, advanced by Franco Modigliani in 1954, explains steady consumption and has implications for savings behavior during economic recovery. Individuals confident in a stable future income may allocate fewer resources to savings and increase immediate consumption. The Cash Flow Hypothesis, introduced by Albert Ando and Franco Modigliani in

1963, emphasizes the significance of current cash flow in influencing consumption choices. An improved economic outlook during recovery might lead to increased cash flow, enabling individuals to reduce their savings rate and allocate more funds to consumption.

These theories collectively contribute to a comprehensive understanding of residents' savings behavior during the economic recovery. While each view highlights a distinct aspect of decision-making, their interactions within the broader economic context shape individuals' choices. As economic landscapes evolve, these theories provide a foundation for analyzing and predicting how individuals adjust their savings patterns in response to changing economic conditions.

4. Data and Methodology

(1) Data

This paper selects data from 2022q1 to 2023q2, specifically including data about residents' savings, economic indicators, and the recovery status of the pandemic, with provincial administrative regions as the cross-section. The data come from the National Bureau of Statistics of China, the People's Bank of China, and the CSMAR database. The final 186 sample data were obtained, constituting balanced panel data.

(2) Model Design and Variable Definition

The end of the COVID-19 lockdown in China is a sudden event and an exogenous shock for individuals, which can be regarded as a natural experiment with randomization. Based on previous studies in the literature on the determinants of residents' savings and because the COVID-19 shocks fully covered all provinces, this paper refers to the modeling method of Nunn and Qian (2011) to measure the impact of COVID-19 on residents' savings rate with the help of the following continuous DID model, which is different from the traditional standard form double-difference model:

$$Saving_{it} = \alpha_0 + \alpha_1 post_t \times degree_i + \alpha_2 Controls_{it} + \lambda_i + \nu_i + \varepsilon_{it} \quad (1)$$

Post is a time dummy variable for the end of COVID-19 lockdown, and degree is a measure of the degree of economic recovery, the coefficients of which are the focus observation estimates of the paper, capturing the net effect of differences in the degree of economic recovery on the residential savings rate after the end of COVID-19 lockdown. The model also controls for other influences on the residential savings rate: income, interest rates, inflation, credit constraints, and the lagged one-period residential savings rate that captures the inertial trend in the residential savings rate. Considering that the savings rate may also be affected by seasonal factors such as the Chinese New Year, the above model separates the time-fixed effects and individual-fixed effects, which more accurately reflect the time characteristics and individual characteristics, replacing the original crude shock variables and grouping variables for a more detailed fixed effects control. Meanwhile, the continuous DID model is introduced because it is more flexible and easy to understand, and it is suitable for quasi-natural experiments such as COVID-19, which has a wide range of shocks. Moreover, the model has no reverse causality, and two-way fixed effects estimation avoids the bias problem caused by omitted variables, which can effectively prevent the endogeneity problem and is conducive to further research of this paper and enriching the content of the robustness test. All variables are defined explicitly, as shown in Table 1:

Table 1. Variable Definition

	variable name	Variable Definition	calculation method
DV	Saving	Resident savings rate	$\frac{\textit{disposable income per capita} - \textit{consumption expenditure per capita}}{\textit{disposable income per capita}}$
	Saving1	Savings rate of urban residents	$\frac{\textit{disposable income of urban residents} - \textit{consumption expenditure of urban residents disposable income of urban residents}}{}$
	Saving2	Savings rate of rural residents	$\frac{\textit{disposable income of rural residents} - \textit{consumption expenditure of rural residents}}{\textit{disposable income of rural residents}}$
IV	did	interaction term	post * degree
	did1	interaction term	post * degree1
	did2	interaction term	post * degree2
CV	Income	Income of residents	Logarithmic value of disposable income of the population
	Income1	Income of urban residents	Logarithmic value of disposable income of urban residents
	Income2	Income of rural inhabitants	Logarithmic value of disposable income of rural residents
	Rate	rate	The weighted average national interbank lending rate
	Inflation	Inflation	CPI
	Credit	credit constraint	M2/GDP
	LSaving	Saving rate with one period lag	Saving rate with one period lag

Source: Author's organization

5. Empirical Results

(1) Descriptive Statistical Analysis

Table 2 presents the results of the descriptive statistical analysis of the main variables. It can be seen that Chinese residents' savings rate is high. On average, 33.8% of residents' income is put into savings. There is a big difference in income level between different samples; the revenue of urban residents is higher than that of rural residents, and the difference is more significant, which is in line with the actual situation of China. The interest rate level averages 2.338%, and it varies greatly across different periods. The difference in the inflation rate is relatively small and relatively smooth. The average value of credit constraints is 9.414, and the difference in credit constraints between different periods is significant, resulting in corresponding savings differences consistent with China's actual situation.

Table 2. Descriptive statistics of the main variables

Variable	Mean	SD	Min	Max
saving	0.338	0.0710	0.102	0.476
degreegdp	104.0	2.368	92.10	109.7
income	9.741	0.589	8.483	11.29
income1	10.04	0.538	9.079	11.34
income2	9.168	0.609	7.645	10.59
rate	2.338	0.219	1.910	2.560
cpi	101.4	0.579	100.1	102.8
credit	9.414	0.620	8.370	10.29
Lsaving	0.343	0.0750	0.106	0.476

Source: Author's organization

Table 3 presents descriptive statistics before and after the end of the COVID-19 lockdown. As seen from Table 3, the savings rate of the population before and after the end of the COVID-19 lockdown dropped from 34.1% to 33.2%, a slight decrease. However, this paper verifies the quarterly data corresponding to the end of the COVID-19 lockdown and finds that the average value of the savings rate in 2022q1 is 34.90%, and the average value of the savings rate in the first and 2023q2 after the end of the epidemic is 32.05%. Therefore, we do not need to worry too much about whether or not it is the difference caused by seasonal factors, and we can intuitively see that by the end of the COVID-19 lockdown, the residential savings rate did decline slightly. Also, after the pandemic's end, the residents' disposable income increased, closely related to the resumption of labor and production. Regarding interest rates, after the end of the COVID-19 lockdown, China implemented a loose monetary policy, and market interest rates were at a low level. Prices of items such as medicine and protection returned to normal after COVID-19, transportation logistics were liberalized, and the inflation rate declined. At the same time, the loose monetary policy environment and the implementation of policies to help small and medium-sized enterprises are both responsible for the rise in credit constraint indicators.

Table 3. Descriptive statistics for subsamples

Before the end of the pandemic				
Variable	Mean	SD	Min	Max
saving	0.341	0.0680	0.106	0.476
income	9.868	0.602	8.483	11.29
income1	10.17	0.550	9.079	11.34
income2	9.292	0.620	7.645	10.59
rate	2.265	0.236	1.910	2.560
cpi	101.6	0.577	100.1	102.8
credit	9.076	0.460	8.370	9.549
After the end of the pandemic				
saving	0.332	0.0780	0.102	0.471
income	9.487	0.474	8.542	10.67
income1	9.781	0.408	9.114	10.71
income2	8.922	0.505	7.703	10.10
rate	2.485	0.00500	2.480	2.490
cpi	101.2	0.517	100.2	102.5
credit	10.09	0.208	9.883	10.29

Source: Author's calculation

(2) Impact of the End of the COVID-19 Lockdown on the Savings Rate of the Population

We conduct the regression analysis below to investigate the impact of post-pandemic economic recovery levels on the savings rate. The control variables and the residential savings rate are first regressed, followed by introducing an interaction term for the regression analysis, with the model controlling for both time and individual fixed effects and using robust standard errors uniformly. The final regression results are shown in Table 4. Column (1) contains the regression results for the explanatory variables only, column (2) is the regression results after the introduction

of the interaction term, and columns (3) and (4) represent the regression results for provinces with economic recovery levels above the 50th and 75th percentiles after the pandemic.

Table 4. Basic regression results

	(1)	(2)	(3)	(4)
	saving	saving	saving	saving
income	0.661***	0.661***	0.662***	0.662***
	(0.047)	(0.047)	(0.047)	(0.047)
rate	9.032***	-0.965***	8.965***	8.965***
	(0.658)	(0.113)	(0.649)	(0.649)
cpi	0.016**	0.016**	0.016**	0.016**
	(0.007)	(0.007)	(0.007)	(0.007)
credit	0.784***	1.027***	0.788***	0.788***
	(0.059)	(0.077)	(0.059)	(0.059)
Lsaving	0.060	0.060	0.068	0.068
	(0.052)	(0.052)	(0.056)	(0.056)
did		-0.881***		
		(0.066)		
did1			-0.010*	
			(0.005)	
did2				-0.010*
				(0.005)
_cons	-37.938***	-14.662***	-37.780***	-37.780***
	(2.771)	(1.261)	(2.753)	(2.753)
YearFE	Yes	Yes	Yes	Yes
ProvinceFE	Yes	Yes	Yes	Yes
r2_a	0.755	0.755	0.758	0.758

Note: Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's calculation

According to the regression results in column (2), the coefficient of the interaction term is significantly negative, indicating that the higher the level of economic recovery after COVID-19, the more pronounced the reduction in the precautionary saving incentives of the population and the more the savings rate of the population is reduced. By observing the grouped regressions described in columns (3) and (4), it is known that this effect of reducing residents' precautionary saving incentives diminishes as the level of economic recovery increases, suggesting that the level of economic recovery after the end of the COVID-19 lockdown has some marginal effect on the saving rate.

(3) Analysis of Urban-Rural Heterogeneity

In analyzing urban-rural heterogeneity, we conducted regressions on the savings rate of urban and rural residents to find whether there is a significant difference between urban and rural residents regarding the impact of different economic recovery levels on the savings rate. Table 5 shows the regression results, with columns (1) and (2) being the regression results of urban residents' savings rates and columns (3) and (4) being the regression results of rural residents' savings rates. It can be seen that the coefficient of the interaction term in column (4) is more significant than that in

column (2), suggesting that rural residents' willingness to save declined more than urban residents after the end of the COVID-19 lockdown. This difference may stem from rural residents having too many precautionary saving incentives after the shock during COVID-19, leading to a much more significant reduction after the end of the COVID-19 lockdown, returning to the regular savings level before the pandemic.

Table 5. Analysis of urban-rural heterogeneity in the impact of the end of COVID-19 lockdown

	(1)	(2)	(3)	(4)
	saving1	saving1	saving2	saving2
income1	0.560***	0.560***		
	(0.053)	(0.053)		
rate	7.682***	-0.803***	13.293***	-1.440***
	(0.691)	(0.110)	(2.754)	(0.351)
cpi	0.020**	0.020**	0.014*	0.014*
	(0.007)	(0.007)	(0.008)	(0.008)
credit	0.665***	0.871***	1.159***	1.516***
	(0.062)	(0.081)	(0.242)	(0.317)
Lsaving1	0.113***	0.113***		
	(0.041)	(0.041)		
did		-0.748***		-1.298***
		(0.069)		(0.273)
income2			0.997***	0.997***
			(0.204)	(0.204)
Lsaving2			0.035	0.035
			(0.046)	(0.046)
_cons	-32.929***	-13.173***	-54.914***	-20.613***
	(2.965)	(1.378)	(11.188)	(4.066)
YearFE	Yes	Yes	Yes	Yes
ProvinceFE	Yes	Yes	Yes	Yes
r2_a	0.569	0.569	0.785	0.785

Note: Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's calculation

(4) Robustness Check

The explanatory variable "degree" in the regression is "the growth of GDP in the same period," which is replaced by "the growth of total retail sales of consumer goods" for the robustness test. This new variable directly covers the residents' consumption behavior and reflects the society's consumption level and trend. In economic recovery, residents' consumption behavior is usually affected significantly, and the growth of total retail sales of social consumer goods, as a measure of consumption, more accurately reflects the stimulating effect of economic recovery on residents' consumption and saving willingness. After the end of the COVID-19 lockdown, consumers may be more willing to increase their consumer spending, further boosting economic activity. Total Retail Sales of Consumer Goods include a variety of consumer expenditures, such as retail, restaurants, and tourism. This diversity is more capable of capturing changes in different areas of consumer spending, thus providing a more comprehensive assessment of the economic recovery level's impact

on willingness to save. In contrast, GDP growth over the same period may not capture changes in these segments. From the new regression results (see Table 6), it can be seen that the more the total retail sales of consumer goods grow after the end of the COVID-19 lockdown, the lower the willingness of residents to save, and this effect holds across both urban and rural residents, thus showing that the conclusions from the baseline regression are robust.

Table 6. Robustness regression results

	(1) saving	(2) saving	(3) saving1	(4) saving2
income	0.661***	0.661***		
	(0.047)	(0.047)		
rate	9.032***	-0.965***	-0.803***	-1.440***
	(0.658)	(0.113)	(0.110)	(0.351)
cpi	0.016**	0.016**	0.020**	0.014*
	(0.007)	(0.007)	(0.007)	(0.008)
credit	0.784***	1.027***	0.871***	1.516***
	(0.059)	(0.077)	(0.081)	(0.317)
Lsaving	0.060	0.060		
	(0.052)	(0.052)		
did3		-0.881***	-0.748***	-1.298***
		(0.066)	(0.069)	(0.273)
income1			0.560***	
			(0.053)	
Lsaving1			0.113***	
			(0.041)	
income2				0.997***
				(0.204)
Lsaving2				0.035
				(0.046)
_cons	-37.938***	-14.662***	-13.173***	-20.613***
	(2.771)	(1.261)	(1.378)	(4.066)
YearFE	Yes	Yes	Yes	Yes
ProvinceFE	Yes	Yes	Yes	Yes
r2_a	0.755	0.755	0.569	0.785

Note: Standard errors in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$
Source: Author's calculation

(5) Parallel Trend Test

This paper employs an event study method to validate the assumption of parallel trends and empirically examine the dynamic effects of the policy. Specifically, using the fourth quarter of 2022, which marks the end of the COVID-19 pandemic in China, as the baseline period, the study constructs interaction terms between year dummy variables and corresponding policy dummy variables. This modeling approach maintains congruence with the baseline regression model by controlling for variables and fixed effects. The resulting graphical representation is within a 95% confidence interval and is illustrated in Figure 1.

As depicted in Figure 1, the estimated coefficients for 2022q1–2022q3 are consistently

negative and statistically insignificant. This suggests there is no statistical significance between the treatment and control groups before the end of the pandemic. With the relaxation of restrictions, the regression coefficient exhibits a negative trend with a gradual and statistically significant decrease. This observation implies a progressive decline in individuals' precautionary saving incentives in the post-pandemic era, leading to a gradual restoration of savings rates to pre-pandemic levels, albeit with a lag effect still apparent.

In conclusion, it substantiates the existence of parallel trends and justifies the positioning of the COVID-19 endpoint, offering empirical backing for the dynamics of policy outcomes.

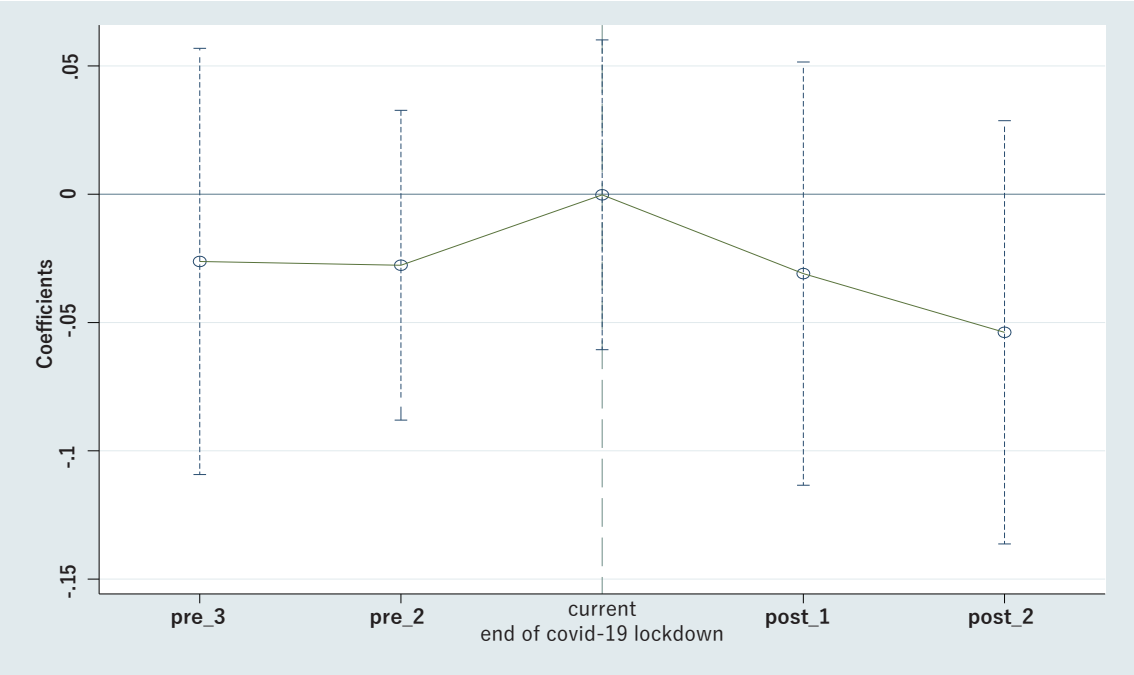

Figure 1. Parallel trend test results
Source: Author's calculation

6. Conclusions and Implications

After the end of the COVID-19 lockdown, opinions are divided on whether China's population will continue to save or consume with a vengeance, and what the actual situation is, as well as its sustainability and mechanism of action; are all questions that need to be answered. This paper has attempted to analyze these questions based on interprovincial panel data from 2022q1 to 2023q2, using the end of the COVID-19 lockdown as a quasi-natural experiment. The empirical results show that the savings rate of Chinese residents after the end of the COVID-19 lockdown declined slightly, and the higher the level of economic recovery, the more the savings rate of the residents of the region declined, which reflects a particular form of retaliatory consumption, especially as areas with different levels of recovery showed different degrees of consumption. The response of rural residents was more significant than that of urban residents. Further research on the mechanism of action finds that the impact of COVID-19 on residents' savings is mainly explained by its influence on consumer confidence and investor sentiment.

The policy implication of the above results is that if China wants to promote rapid economic recovery further and facilitate the conversion of residents' savings into consumption, it needs to generate optimistic financial expectations among residents and make further efforts to resume work and production. At the same time, given the high volatility of China's securities market, creating a

stable and favorable investment environment is another crucial path to promote domestic demand.

Conversely, the government should formulate robust post-pandemic economic development policies, including fiscal, monetary, and industrial policies. Fiscal policy should continue to play a leading role, with the Ministry of Finance collaborating with other departments to propose supportive measures for stabilizing economic and social development and relevant agencies ensuring effective implementation. Local fiscal authorities should leverage their respective financial advantages to provide interest subsidies for enterprises critical to pandemic prevention and control, supported by the People's Bank of China's special re-lending facilities.

Industrial policy should serve as the foundation for guiding industrial development and ensuring the smooth operation of supply chains. Monetary policy should act as a complementary tool to maintain adequate liquidity in the financial market, reduce corporate financing costs, and foster the sustainable growth of large enterprises and the stable development of small and medium-sized enterprises. Meanwhile, the foreign exchange policy should be utilized to optimize foreign exchange reserve management, enhance the global influence of the Renminbi during periods of "multiple overlapping effects," and create a favorable international environment for stable economic growth in China.

References

Albert, C, A. Caggese, B. González, and V. Martin-Sanchez. 2023. Income Inequality and Entrepreneurship: Lessons from the 2020 COVID-19 Recession. *Journal of Banking & Finance*, 149, 106779.

Amore, M. D., V. Pelucco, and F. Quarato. 2022. Family Ownership during the Covid-19 Pandemic. *Journal of Banking & Finance*, 135, 106385.

Armantier, O., G. Koşar, R. Pomerantz, D. Skandalis, K. Smith, G. Topa, and W. Van der Klaauw. 2021. How Economic Crises Affect Inflation Beliefs: Evidence from the Covid-19 Pandemic. *Journal of Economic Behavior & Organization*, 189, 443–469.

Bargain, O. and U. Aminjonov. 2020. Trust and Compliance to Public Health Policies in Times of COVID-19. *Journal of Public Economics*, 192, 104316. <doi: 10.1016/j.jpubeco.2020.104316.>

Bartik, T. and K. Hollenbeck. 2012. An Analysis of the Employment Effects of the Washington High Technology Business and Occupation (B&O) Tax Credit: Technical Report. *WE Upjohn Institute for Employment Research Working Paper, No. 12-187.*

Blais, A., D. Bol, M. Giani, and P. J. Loewen. 2020. COVID-19 Lockdowns Have Increased Support for Incumbents, Trust in Government, and Satisfaction with Democracy. *VoxEU. Org.*, (7 May 2020). <https://cepr.org/voxeu/columns/covid-19-lockdowns-have-increased-support-incumbents-trust-government-and> (accessed 28,08,2024)

Carroll, Christopher D., J. Overland, and D. N. Weil. 2000. Saving and Growth with Habit Formation. *American Economic Review*, 90(3), 341–355. <DOI: 10.1257/aer.90.3.341>

Fritsch, M. and M. Wyrwich. 2014. The Effect of Regional Entrepreneurship Culture on Economic Development: Evidence for Germany. *Jena Economic Research Papers 2014-014*. Friedrich-Schiller-University Jena, Max-Planck-Institute of Economics.

Goodman-Bacon, A. and J. Marcus. 2020. Using Difference-in-Differences to Identify Causal Effects of COVID-19 Policies. *DIW Berlin Discussion Paper No. 1870.*

Groenewegen, J., S. Hardeman, and E. Stam. 2021. Does COVID-19 State Aid Reach the Right Firms? COVID-19 State Aid, Turnover Expectations, Uncertainty, and Management Practices. *Journal of Business Venturing Insights*, 16, e00262.

Haltiwanger, J. C. 2022. Entrepreneurship during the COVID-19 Pandemic: Evidence from the Business Formation Statistics. *Entrepreneurship and Innovation Policy and the Economy*, 1(1), 9–42.

Jung, H, J. H. Kim, and G. Hong. 2023. Impacts of the COVID-19 Crisis on Single-Person Households in South Korea. *Journal of Asian Economics*, 84, 101557.

Leduc, S. and Z. Liu. 2020. The Uncertainty Channel of the Coronavirus. *FRBSF Economic Letter*, 7, 1–5.

Leland, Hayne E. 1968. Saving and Uncertainty: The Precautionary Demand for Saving. *The Quarterly Journal of Economics*, 82(3), 465–473.

Li-Ying, J. and P. Nell. 2020. Navigating Opportunities for Innovation and Entrepreneurship under COVID-19. *California Management Review Insights*.

Murashima, M. 2023. The Impact of the COVID-19 Pandemic on Motivating Factors Affecting Individual Investors' Socially Responsible Investment Decisions: A Comparative Analysis of the USA, Germany and Japan. *Corporate Governance*, 23(5), 1063–1084. <https://doi.org/10.1108/CG-08-2022-0342>

Modigliani, F. and S. L. Cao. 2004. The Chinese Saving Puzzle and the Life-Cycle Hypothesis. *Journal of Economic Literature*, 42(1), 145–170.

Nunn, N. and N. Qian. 2011. The Potato's Contribution to Population and Urbanization: Evidence from a Historical Experiment. *The Quarterly Journal of Economics*, 126(2), 593–650.

Promnil, N. and M. Polnyotee. 2023. Crisis Management Strategy for Recovery of Small and Medium Hotels after the COVID-19 Pandemic in Thailand. *Sustainability*, 15(5), 4194.

Ren, H. and Y. Zheng. 2023. COVID-19 Vaccination and Household Savings: An Economic Recovery Channel. *Finance Research Letters*, 54, 103711.

Ridhwan, M. M., J. F. Rezki, A. Suryahadi, A., A. Ramayandi, and A. Ismail. 2023. The Impact of COVID-19 Lockdowns on Household Income, Consumption, and Expectations: Evidence from High-frequency Data in Indonesia. *Bulletin of Indonesian Economic Studies*, 60(1), 67–94. <DOI: 10.1080/00074918.2023.2167930>

Schotte, S. and R. Zizzamia. 2023. The Livelihood Impacts of COVID-19 in Urban South Africa: A View from Below. *Social Indicators Research*, 165(1), 1–30. <DOI: 10.1007/s11205-022-02978-7>

Wang, H. and H. Zhang. 2006. 汪红驹 ,张慧莲 .资产选择、风险偏好与储蓄存款需求 (Asset Selection, Risk Appetite and Demand for Savings Deposits). 经济研究 (*Economic Research*), 06, 48–58. (in Chinese)

Zhao, D., Y. Chen, and J. H. Shen. 2020. Mortgage Payments and Household Consumption in Urban China. *Economic Modeling*, 93, 100–111.

Zoller-Rydzek, B. and F. Keller. 2020. COVID-19: Guaranteed Loans and Zombie Firms. *CESifo Economic Studies*, 66(4), 322–364. <DOI: 10.1093/cesifo/ifaa014>