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The Role of Management Accounting in Adding Value to Organisations

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ABSTRACT

The rapid development of digital world has provided modern organisations with challenges and opportunities at the same time. Especially, the use of advanced technology such as internet well improves transparency of many organisations. However, this also brings volatility and uncertainty to an organisation's business environment, thereby leading to a more complex and time-consuming decision-making process. To solve this problem, two management accounting techniques, ABC System and BSC, have accordingly been adopted by many managers. In this article, the purpose is to briefly discuss some of the challenges faced by organisations; and then, the two initiative management methods are well explained individually with reference to appropriate examples.

1. Introduction

Over the last decades, the whole world has experienced dramatic changes as a result of rapid technology development. It is argued that a new digital era has come and evolved. The advanced technology development plays a key role in effectiveness improvements and costs reductions within organisations. Meanwhile, it also brings challenges and uncertainties to businesses all over the world. For instance, BBC News has just reported that half of jobs worldwide will be replaced by machines by 2025, and "robot revolution" would create a large number of new work tasks in the world but also destroy many jobs at the same time [1]. Some routine jobs and professions such as accountants are at risk of automation and elimination. In consequence, it is urgent for organisations to adopt new technologies and customised transformations in order to survive and obtain sustainable development in the fierce competition.

An important part of the transformation mentioned above involves financial departments. According to white paper published by CGMA, the future function of the finance department will shift from cost evaluation to value added evaluation [2]. That is to say, the evaluation of the finance function will not merely focus on how much it costs to the organisation, but also how much values it brings to the organisation. This article aims to discuss how to measure and the effectiveness of management accounting towards adding value to the organisation. It is structured as follows: it will firstly discuss several challenges faced by companies; and then, it will explain different accounting techniques adopted by management accounting to create value within the organisation; finally, it will provide conclusions and insights for future shifting.

2. Challenges Faced by Modern Organisations

In a digital world, a major challenge for organisations

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is how they keep the pace of the rapid development of technology. Certain new technology even has an ability to make significant changes towards the industry as a whole. The wide adoption of internet and social media are typical examples that bring changes to customer behaviours and organisational operation [3]. The traditional business models are challenged by the implications of digital technology, and digital transformation is called for by the world economy. In the past, the maximisation of shareholders' value has been treated at the heart of all business activities since their weights of power can be exercised upon the organisations in comparison with other stakeholders. Nevertheless, digital channels such as internet and social media make the organisations become more transparent than before and allow the public to gather information related to organisations much easier, like, products, services and financial performance. As Mori claims in his paper, the influence of other stakeholders such as consumers, suppliers and regulators has become stronger upon the daily management of companies, and they even can affect the decision making process to some extent [4]. In other words, each step and decision made by companies is easily to be monitored and examined by the public due to the implementation of internet and social media.

In addition, it is relatively simple for companies to make decisions internally and reach conclusions with all information available within the organisations in the past decades, especially when there are no significant changes of external business environment. Since organisations have fully control over all key data and information, they can decide what information to disclose and what to conceal to the public based on their own interests. Nevertheless, the increasing transparency of organisations to the whole society enables the power possessed by other stakeholders to be enhanced, and then allow them to affect the decision making process in certain levels. In consequence, to take into consideration the opinions of stakeholders and communicate with each other to reach a final decision, the decision making process becomes more time-consuming and costly within the organisations. The efficiency and effectiveness of decision making process has been reduced, as companies should make efforts to solve disagreements between stakeholders and coordinate with them. It seems that the future of organisations becomes more uncertain and complex. Thus, it is extremely important for organisations to develop and improve the abilities of decision making and problem solving [4].

3. The Adoption of Activity Based Cost System (ABC System)

An effective solution for organisations to improve the decision making process is the adoption of management accounting systems. These systems provide effective approaches for organisations to make decisions effectively by offering valuable information [5]. A typical example of these management systems is Activity Based Cost system (also referred to as ABC System) which is widely considered as an alternative method to traditional costing system. An increasing number of academic researchers and management teams have started to claim the traditional cost technique cannot satisfy the urgent demands of organisations to adapt to the digital world. In order to be prepared for the digital challenges, a majority of companies have adopted the ABC accounting technique and abandoned the traditional cost system. This phenomenon has been confirmed by the analysis conducted by Cagwin and Bouwman who state that many organisations in both developing countries and developed countries have implemented ABC system [6].

The traditional costing was created and developed in the industrial era which allocates factory overhead to products based on the amount of resources cost such as direct labour hours or machine hours [7]. The industrial era emphasises the labour as a key factor in the production which assumes all costs including overhead are directly linked to production [7]. However, this is usually not the case in real business scenario especially in highly automated industries where the direct labour costs are extremely low meanwhile factory overhead is quite large [8]. Consequently, inaccurate financial figures are obtained due to the cost allocation problems related to the traditional costing accounting technique. It will be extremely hard for organisations to sustain competitive advantages if they cannot calculate their costs correctly [7]. On the contrast, an ABC system allocates costs to activities by utilising a group of cost drivers, and then assign costs to products based on related activities. This methodology can satisfy the needs of organisations to be more flexible and automated with the aim of improving productivity and reducing costs [8]. Since ABC system recognises cost drivers via multiple activities, it can offer more accurate and relevant information for management team to make decisions. This lowers the risk of information being distorted from inappropriate cost systems.

Moreover, the implementation of ABC system is especially beneficial to manufacturing organisations to enhance their abilities of decision making [9]. Two-step approach can be adopted by them to make investment decisions by analysing whether it is profitable to invest in automated systems for material processing and whether value is added by this activity investment. The ABC system initially recognises the material handling process, and

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then it is required to determine the activity related costs and collect the activity data to compute the product costs. The relevant benefits are also calculated to measure how many benefits are brought by the application of new automation system for material handling. After that, Economic Value Analysis (also known as EVA) is utilised to analyse the figures generated from previous steps, and then an appropriate investment appraisal method is chosen to decide which automation system to invest in.

Besides, ABC system can also be utilised to figure out where organisations can improve further. For instance, this technique can separate activities into value added and non-value added activities. It even can help organisations to rank different activities by the volume of value added. As a consequence, it enables organisations to allocate resources effectively and abandon non-value added activities to improve performances [8]. That is to say, ABC system can be utilised as a way to measure the performances of different activities. However, ABC system seems little effective for organisations with small proportion of overhead, and traditional method is also used to calculate certain costs required for ABC system. Cost drivers should be carefully selected to maximise the effectiveness of ABC system, yet this process seems time-consuming and costly.

4. The Adoption of Balanced Scorecard (BSC)

Another popular management methodology is called Balanced Scorecard (also referred to as BSC), introduced by Kaplan and Norton in 1992 and aiming to measure the organisation's performances from four perspectives [10]. BSC has become well-known and widely utilised among global firms after its inception. It also has been described as the most influential management framework since the 20th century [11]. According to an empirical research conducted by Bain, the overall satisfaction rate over BSC remains nearly 80% among the survey samples during the period from 1996 to 2017 [12]. Except for the measurement of traditional financial accounting performance, BSC also initially considers non-financial aspects of a business to evaluate performance [10]. This has been recognised as the main strength of BSC as a strategic management tool. In addition, BSC provides a valuable tool to enable organisations to translate their strategic objectives into daily operational terms. It is effectively linked an organisation's pre-defined missions and vision statements with a set of measurable and quantifiable performance elements [11]. And then, organisations can utilise these measures to obtain feedback for overall performances [12].

Evaluating an organisation's performance only based on financial measures is a common problem existing among a majority of companies. Since it seems a little biased to believe that a company with outstanding profitability performance will definitely perform well in the future and be worth to be invested in. To tackle down this problem, BSC introduces a methodology to measure organisational performances from balanced four aspects. For each perspective, BSC asks firms to identify several strategic objectives, and then it defines how to measure them and set targets for each objective [10]. Finally, it asks firms to consider how these targets can be achieved and initiate related projects in line with the organisation's objectives. In addition, BSC can be used as a model for a self-monitoring purpose and a managerial evaluation [13]. The management can evaluate business performance against each criterion and identify rooms for improvements. They can also obtain feedback from different stakeholders under each perspective. As a result, BSC does create value to organisations through providing a framework to map business strategy, then improve performances and achieve desired results.

However, there are also some critiques of BSC arisen from academic researches. A key logic within BSC is the cause-and-effect relationship which assumes that performances in non-financial elements can predict the future performance of financial element [14]. Yet, as Nørreklit claims, this causal relationship may be idealised of the real businesses scenario, and it even does not exist among these four elements of BSC [14]. For instance, close relationships with customers do not equal to great financial performances. Moreover, there is no clear guidance provided by BSC towards how to build the cause-and-effect relationship among these four perspectives, which lead to the failure of organisations to maximise the functions [15].

5. Conclusions

To conclude, the emerging digital world has brought both opportunities and challenges to organisations across the world. The wide spread of internet and social media has increased the level of transparency of business. This adds more uncertainty and volatility to external business environment, which makes the decision making process of organisations more complex and time-consuming. In order to survive in the fierce competition, it is crucial for organisations to adopt effective approaches to improve the efficiency and effectiveness of decision making. Two initiative management methods including ABC System and BSC are introduced to offer valuable information and add values to companies in the face of digital challenges. These two have already been adopted by an increasing number of organisations. Yet, their limitations should also be taken into consideration during the implementation,

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and they are still needed to adapt to the actual circumstances of businesses in order to satisfy the specific requirements.

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Research on the Impact of Aging and New Generation in the Population Structure on China's Real Estate Price Volatility

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ABSTRACT

To clarify the internal mechanism of the influence of the aging population and the new generation on housing prices is helpful to scientifically analyze and predict the trend of housing prices and the aging population and the new generation. This paper uses the intergenerational overlap model of the two periods as the theoretical basis, and uses the provincial panel data from 1998 to 2018 to study the impact of the elderly population and the new generation on the price fluctuations of commercial housing. The results of the study show that on the whole, both the aging population and the new generation have promoted the rise in commodity housing prices. However, the regional heterogeneity is significant. The aging population has the most significant impact on housing price increases in developed and general developed areas, and has no significant impact on housing price increases in other places. The new generation has a negative impact on housing prices in backward areas and a positive impact on housing prices in other areas. Looking further, using the ARIMA model to predict housing prices in the next 10 years, it is concluded that housing prices will show a slow upward trend in the next 10 years. Therefore, the government can ensure the stable development of the real estate market by revitalizing the second-hand housing market and implementing housing projects.

1. Introduction

Since 1998, when the country implemented the reform of urban housing system, the real estate industry entered a period of rapid development, but at the same time, it also brought inevitable contradictions and problems, such as the mismatch between residents' ability to pay and housing prices due to the rapid increase of housing prices, the regional development of the real estate industry and speculative house purchase, etc. All these problems have brought great impact to the steady development of China's economy. Although the state has issued corresponding systems and policies to regulate the real estate market in view of high housing prices, the results have been minimal, and the sustained and rapid rise of commercial housing prices has become one of the hot issues in China [1]. At the same time, influenced by the national family planning policy. At present, the aging population is increasing and the new generation is relatively small, which is the reality of China's population structure. What impact will the changes of the aging population and the new generation have on the fluctuation of house prices? Does this influence have regional heterogeneity? With the deepening of the aging population, the comprehensive second-child policy has been liberalized. Will the influence of aging population and new generation change on house price change continue? An in-depth study of this issue will help to clarify the factors behind the rise of housing prices in China and provide help for the healthy development of the real estate industry.

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2. Literature Review

Analyzing the reasons behind the sharp rise of commercial housing prices in China is very important for understanding the current situation of China's real estate market and whether the government can adopt effective control policies. At present, a large number of scholars have studied the factors that affect the fluctuation of house prices from different aspects, and made beneficial analysis on it. This paper summarizes it as the following viewpoints: (1) Factors influencing money. From the perspective of direct influence, He Qing and Qian Zongxin (2018) think that the real estate price decreases with the increase of interest rate, and both of them change in the opposite direction. From the perspective of indirect influence, the change of national monetary policy can affect the change of house prices [2]. (2) Influencing factors of urbanization. Luo Yongmin (2011), Wang Jiating and Xie Yu (2016) think that the acceleration of urbanization and the acceleration of population flow between rural and urban areas are the main reasons for expanding housing demand, and the increase of housing demand drives up house prices [3,4]. (3) Influencing factors of residents' income. Ding Zuyu (2013) concluded that residents thought that the reason for the rapid increase in house prices was the high ratio of house prices to income [5]. (4) Influencing factors of land price [6]. For land development, developers must first obtain land through land transfer by the government, and the government obtains the transfer fee as the government's income through land transfer, while developers develop real estate after obtaining the right to use the land, and then sell it to buyers to make profits from it, so the transfer price of land is positively related to the house price.

In addition to the above four factors, the influence of population factors on house price changes is increasing in recent years, especially the influence of the elderly population and the new generation on house price has been widely concerned. For the elderly population, many studies have been made at home and abroad, but the situation in developed countries is quite different from that in China. Hamilton (1991) and others used 22 developed economies, such as Britain and the United States, to conduct empirical research [7]. Finally, the results showed that the elderly population would have a negative effect on housing prices. Xu Jianwei et al. (2012) based on international experience and Chinese data research, proved the influence of population structure, and the dependency ratio of the elderly population is negatively correlated with house prices in developed countries. However, using the panel data of China's provinces from 1999 to 2009, it shows that there is a positive correlation between the elderly dependency ratio and housing prices [8]. Li Tong Ping et al. (2017) established a housing price model including the aging population, and based on the provincial panel data from 1999 to 2015, made an empirical study on the effect of the aging population on housing price changes, and concluded that the aging population promoted the housing price increase [9]. However, it is consistent with the research results of Zou Jin (2017). The research shows that the proportion of the elderly population has a positive effect in all regions, and the elderly population has not led to the decline of house prices [10]. The key factor leading to the decline of house prices is the ability of young people to realize housing demand. Although the correlation is inconsistent, it all shows that the elderly population has a correlation with house prices. Compared with the new generation, another group of elderly people who buy houses, the influence of the new generation on house prices is also growing. The new generation refers to the new generation of house buyers represented by graduates who are about to enter the society. With the increasing savings of parents and the appearance of their own demand characteristics. The proportion of parents helping their children buy the first house and the proportion of new generation buying houses for work or marriage is on the rise. However, the influence of the new generation on housing prices has only been mentioned in a few literature. Zou Jin (2014) studied the influence of the elderly population on housing prices, and also studied that the population aged 15-65 years old has a rising effect on housing prices. The new generation, as a new housing group in recent ten years, can not be ignored, so it is necessary to study the influence of the new generation on housing prices [1].

In fact, after studying the relevant literature, we found that the population structure variables used by many scholars in empirical analysis are the population dependency ratio, that is, the ratio of the population aged over 65 to the total social population and the ratio of the population aged 0-15 to the total social population, which are used for empirical analysis in regression and current housing price data. For example, Gu Hejun et al. (2017) used the child dependency ratio to refer to the ratio between the number of children and the number of working-age people in a certain population, and the old dependency ratio refers to the ratio between the number of elderly people and the number of working-age people in the population [11]. The two dependency ratios were used as explanatory variables to regress, and the influence of the elderly population and children population on housing prices was obtained. Zou Jin (2014) is studying the positive correlation between the elderly population and housing prices. Among them, the elderly population is explained by the proportion of people over 65 years of age in the total society. However, we

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believe that the dependency ratio as the proxy variable of population structure may be biased in explaining the influence of population structure factors on housing prices, because the dependency ratio of population usually indicates the characteristics of population structure at a given time point. The influence of current population dependency ratio on current house price is usually indirect. Take that child dependency ratio as an example, the ratio is the proportion of 0-15 year-old population to the total population or working-age population, but it is impossible for 0-15 year-old population to have direct housing demand, and only when they reach adulthood will they have the demand for house purchase. Secondly, buying real estate requires certain economic ability. If the economic ability is not reached, it will have little impact on the house price. Therefore, we need to find more suitable variables to represent demographic factors, which can have a direct impact on current house prices [12]. In this paper, the new generation is represented by the number of graduates of this specialty and graduate students. The aged population is represented by the retired population in the basic old-age insurance for urban workers, who have a certain source of income.

To sum up, most literature focus on monetary factors, urbanization factors and so on, but since the 21st century, these changes are not very significant. Because the real estate policy, fixed assets investment and other factors have existed all the time during this period, and have not changed much, the urbanization process is also slowing down. However, in the last decade or so, due to the deepening of the aging society and the liberalization of the comprehensive second-child policy, the population structure has undergone great changes. Therefore, in combination with the realistic background of rising house prices in China, this paper puts the elderly population and the new generation into a framework for discussion, uses panel data for empirical analysis, and discusses the regional heterogeneity. On the basis of the results, the real estate market price, the elderly population and the new generation in the next 10 years are predicted, and the policy suggestions contained in the research conclusions are deeply explored, which will provide useful suggestions for the stable and healthy development of the real estate market.

3. Theoretical Analysis

Based on the Diamond model based on the life cycle hypothesis and the consumer equilibrium theory, this paper constructs a two-period intergenerational overlapping model. First, assume that everyone lives for two periods, namely the Cenozoic era (*M*) and old age (*O*), at *t*. The period is the Cenozoic era, *t*+1 is the old age. In the new generation, there was no capital. When he first entered the society, he had to obtain labor income by providing labor to the labor market, and use this income to determine consumption and savings. However, because there was no income in the old age, he provided capital acquisition to the capital market through his savings in his youth and consumed all his capital principal and interest income. Assume that the assets are only housing, and other assets are not considered. Everyone is exactly the same individual.

$$U = \ln(C_t^y) + \beta \ln(C_{(t+1)}^o) \tag{1}$$

C_t^y, y^y refer to the consumption in the new generation and the consumption in the old age respectively. β refers to the discount coefficient, which refers to the ratio of the expected consumption of the elderly population into the consumption of the new generation in the future.

Explain the conditions of budget constraint under the condition of maximizing utility:

$$C_t^y + (C_{(t+1)}^o)/(1+r_t) \le y_t^y \tag{2}$$

Consumption in the Cenozoic era C^y and consumption in old age, C^o the sum of discounted value of should be less than or equal to the income of the new generation period y^y. r_t is the savings rate, which can be used to describe the price change of assets, assuming that the total assets are used. *K* said, in *t* unit price of the period p_t, unit price used in Cenozoic era p_t to buy asset shares a_t, so the budget constraint can become:

$$y_t^y = C_t^y + p_t a_t \tag{3}$$

According to the hypothesis in the intergenerational overlapping model of the two periods, everyone is the same, and there is no difference. When the income and consumption are balanced, the total income is equal to the total consumption, so a person's assets in the new generation period are equal to the total asset price. *t* unit price of the period $p_t * k$, set the number of new generations to n_t, so you can put (3) rewrite as:

$$y_t^y = C_t^y + p_t(K/(n_t) \tag{4}$$

Exist $t+1$ during this period, people in the old age will $P_{(t+1)}$ price to sell their assets for consumption:

$$C_{(t+1)}^o = P_{(t+1)}(K/n_t^y) = (1+r_t)(p_t K/n_t^y) \tag{5}$$

Formula (5) describes that the consumption in the old age is made up of the savings in the new generation. $P_t(K/n_t^y)$ and income from savings. $(P_t(K/n_t^y))r_t$ decided by. According to the first-order condition pair of consumer utility maximization (1) Derivation of formula is available:

$$\partial u/(\partial C_t^y) = 1/(C_t^y) + \beta/(C_t^y)(dC_{(t+1)}^o)/(dC_t^y) = 0 \tag{6}$$

Before solving the intergenerational overlap model, we should first introduce two basic variables:

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The first is d_t, which means in t. The ratio of the new generation to the old population:

$$n_{t+1}^{y} = (1+d_t)n_t^{y} \tag{7}$$

The second is g_t, indicating the growth rate of population income in the Cenozoic era:

$$y_{t+1}^{y} = (1+g_t)y_t^{y} \tag{8}$$

will (2) Type brought into (6) Type, available:

$$C_{t+1}^{0} = \beta(1+r_t)C_t^{y} \tag{9}$$

will (9) Type brought into (2) Type, available:

$$C_t^{y} = (y_t^{y})/(1+\beta) \tag{10}$$

will (10) drag-in (4) In, in $t+1$The period can be written as:

$$y_t^{y}(1-(1/(1+\beta))) = p_t K/(n_t^{y}) \tag{11}$$

Similar, t Period can be written as:

$$y_{(t+1)}^{y}(1-(1/(1+\beta))) = (p_{(t+1)}k)/(n_{(t+1)}^{y}) \tag{12}$$

will (11)、(12) Type simultaneous, use (11)/(12) Available:

$$(y_{(t+1)}^{y})/(y_t^{y}) = ((p_{(t+1)}k)/P_t)*((n_t^{y})/(n_{(t+1)}^{y})) \tag{13}$$

according to (7)、(8) Type, right (13) Simplify the formula, get

$$p_{t+1}/p_t = (1+g_t)+(1+d_t) = 1+r_{t+1} \tag{14}$$

Combined with the hypothesis premise and the derivation of the theoretical model, we can draw the following assumptions and inferences:

Inference 1: The aging population changes in the opposite direction to the fluctuation of assets, because in the hypothesis, the assets are only housing, and other assets are not considered, and everyone is exactly the same individual. Therefore, with the deepening of the aging population and the increase of the aged population, house prices will show a downward trend.

Inference 2: The Cenozoic era and asset fluctuation are changing in the same direction. Because when the total income and quantity of the new generation increase, the price level of assets will increase. That is, the value of assets will rise. Therefore, with the liberalization of the comprehensive second-child policy and the increase of the new generation, house prices will show an upward trend.

4. Measurement Model Setting and Variable Description

(1) Measurement model setting

In this paper, a total of 651 sample data are selected from China Statistical Yearbook and China Statistical Yearbook of Population and Employment, which focus on the influence of the elderly population and the new generation on housing prices. Using the data panels of 31 provinces, autonomous regions and municipalities directly under the Central Government from 1998 to 2018, the following two measurement models are established. In order to ensure that the data are closer to normal distribution, logarithm the variables with horizontal values, as shown in the following formula:

$$\ln p_{i,t} = \alpha_i + \beta_1 ap_{i,t} + \beta_2 \ln la_{i,t} + \beta_3 \ln pcgdp_{i,t} + \beta_4 ur_{i,t} + \beta_5 cpi_{i,t} + \varepsilon_{i,t} \tag{1}$$

$$\ln p_{i,t} = \alpha_i + \beta_1 ng_{i,t} + \beta_2 \ln la_{i,t} + \beta_3 \ln pcgdp_{i,t} + \beta_4 ur_{i,t} + \beta_5 cpi_{i,t} + \varepsilon_{i,t} \tag{2}$$

(i=1,2,…; 31； t=1998,1999,…; 2018)

Subscript I represents different provinces, t represents time, α for intercept term, the explained variable lnp is house price, the explained variable is ap elderly population, ng is the new generation, lnla is the land purchase area of real estate developers, lnpcgdp is the per capita GDP, ur is the urbanization rate, and cpi is the consumer price index.ε Refers to the error, which refers to the influence of psychological factors, policy factors and other influencing factors on the price of commercial housing.

(2) Variable description

Explained variable: house price. Expressed by the average selling price of commercial housing, that is, the sales/sales area of commercial housing in all provinces, autonomous regions and municipalities directly under the Central Government in China.

Explanatory variables: In this paper, the elderly population is expressed by the number of retirees. Because buying real estate requires certain economic ability, most literature classify this group as people over 65 years of age, and the setting is relatively broad. Therefore, this article selects the elderly population with certain economic resources-urban retirees for analysis, and the crowd setting is more accurate. Cenozoic refers to the new generation of house buyers relative to the elderly population. Because there is no accurate personnel data in the relevant statistical yearbook to represent this group of people, this paper selects the number of graduates from secondary specialized schools and institutions of higher learning from 1998 to 2002 and the number of graduates from this specialty and graduate students from 2003 to 2018. Because students have stepped into the society step by step since graduation. Housing is a rigid demand for them.

Control variables: This paper selects real estate developers' land purchase area, per capita GDP, urbanization rate and consumer price index to express.

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Table 1. Statistical description results of main variables

Variable name	Symbol	Sample number	Standard deviation	Average value	Minimum value	Maximum
Commodity house price logarithm	lnp	620	0.72	8	6.2	10.44
aging population	ap	620	141.45	20.79	13	778
Cenozoic era	ng	620	16.45	192.12	0.6	87.52
Land purchase area	lnla	620	0.83	8.01	6.20	10.44
Urbanization rate	ur	620	16.63	45.87	17.44	89.6
consumer price index (CPI)	cpi	620	18.02	117.65	92.57	177.34

Note: The consumer price index was 100 in 1997; All data of is reserved with two decimal places.

5. Empirical Analysis Results

(1) Smoothness test

In order to avoid the occurrence of pseudo-regression, firstly, the panel data should be tested for stationarity, and the most suitable method for stationarity test is the unit root test. In this paper, LLC and IPS tests are adopted, which can be obtained from the test results in Table 2. All variables pass the unit root test, that is, a stationary sequence, which avoids the occurrence of pseudo-regression.

(2) Panel data form test

Before building the panel model, you need to select the panel type, which can be divided into mixed data model or variable intercept model, so this paper uses F test to distinguish them. From the results of F test, the F statistics corresponding to the two models are significant at 1% level, rejecting the original hypothesis and accepting the alternative hypothesis, so this paper chooses the variable intercept model. Variable intercept model is divided into fixed effect model and random effect model, which should be distinguished and judged by Hausman test. From the Hausman test results, the chi-square value corresponding to the two models is significant at 5% level, rejecting the original hypothesis and accepting the alternative hypothesis, so this paper chooses the fixed effect model.

(3) National estimated results

According to Table 4, the change of the aged population

Table 2. Stationarity test of variables

Test variable	Type	Test result p value	Test conclusion
lnp	LLC IPS	0.001*** 0.011**	Stationary sequence
ap	LLC IPS	0.056* 0.007***	Stationary sequence
ng	LLC IPS	0.000*** 0.061*	Stationary sequence
lnla	LLC IPS	0.000*** 0.002***	Stationary sequence
lnpcgdp	LLC IPS	0.000*** 0.015**	Stationary sequence
ur	LLC IPS	0.000*** 0.000***	Stationary sequence
cpi	LLC IPS	0.007*** 0.086*	Stationary sequence

Table 3. Inspection results of panel data form

Model	Variance ratio	Prob>F	Conclusion	Prob>chi2	Conclusion
ap-lnp	29.7	0.000***	Variable intercept model	0.029	fixed effects model
ng-lnp	43.8	0.000***	Variable intercept model	0.020	fixed effects model

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has a positive impact on the price of commercial housing, and has passed the 1% significance test to simulate the goodness of fit within the group. When R^2 is 0.9447, the overall fitting effect is very good. However, it is inconsistent with inference 1, probably because the theoretical analysis considers the influence of all the changes of the aged population on the price of commercial housing without considering the actual situation. The aged population that affects the price of commercial housing refers to the aged population with a certain source of income, so the empirical conclusion is inconsistent with the theoretical analysis. However, this is consistent with the reality that China's housing prices are rising with the deepening of the aging population. Nationally, the aging population has promoted the rise of commercial housing prices, which can be attributed to the following reasons: first, the existence of housing welfare distribution system, which gave people the opportunity to accumulate wealth rapidly at the beginning of the 21st century. The elderly population has enough financial ability to provide housing consumption for their children. Second, commercial housing is a kind of commodity with dual attributes of consumption and investment. In order to increase the old-age security, when the elderly have extra spare funds, they will consider buying commercial housing to achieve the purpose of wealth appreciation and preservation. Third, with the deepening of population aging, the number of elderly people living alone is increasing. Affordable housing for the elderly has increased.

According to Table 4, the change of the new generation has a positive impact on the price of commercial housing, and it passed the 1% significance test, and simulated the goodness of fit within the group. When R^2 is 0.9450, the overall fitting effect is very good, and it is consistent with inference 2. The new generation has promoted the price increase of commercial housing, which can be attributed to two reasons: first, after graduating and working, the new generation is faced with the demand of marriage and house purchase, which increases the rigid demand for housing, thus promoting the price increase. Secondly, because of the concept of intergenerational transmission. Parents will give their children property by buying houses for their children, which not only solves the housing problem of the new generation itself, but also reduces the depreciation of family property caused by the price increase brought by inflation. Third, because of the prevalence of the new generation's concept of independence, they are unwilling to live with their parents and family members, which increases the demand for housing and promotes the rise of house prices [12].

Table 4. Overall regression results

Variable name	(1) FE	(2) FE
ap	0.101*** (0.006)	
ng		0.309*** (0.002)
lnla	–0.036*** (0.001)	–0.035*** (0.001)
lnpcgdp	0.575*** (0.000)	0.536*** (0.000)
ur	0.103*** (0.001)	0.103*** (0.000)
cpi	0.104*** (0.001)	0.096*** (0.000)
Constant	2.237 (0.000)	2.458 (0.000)
R-sq	0.9447	0.9450
Observation	651	651

Note: *, * * and * * * are significant at 10%, 5% and 1% levels (both sides) respectively.

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(4) Division of regional heterogeneity

In order to study whether there is heterogeneity in the influence of house prices among different regions, this paper will explore the factors that influence house prices by classification method. When most scholars study the problem of regional division, they basically use geographical division, but the classification method based on geographical division can not accurately reflect the regional development level between regions. Thereby causing errors to the empirical results. Because per capita GDP can reflect the economic development to a certain extent, this paper uses per capita GDP clustering index to systematically cluster 31 provincial administrative regions in China. After clustering analysis, in order to ensure the accuracy of clustering effect, the results are effectively tested by distance discrimination method. Using the means method to test, the index is significant, so the clustering method is effective. For better heterogeneity analysis, the clustering results are converted into Table 5. Because the development of different regions in China is unbalanced, according to the division of regional heterogeneity in Table 5, Beijing, Shanghai and Tianjin have a high level of economic development. However, the development levels of Yunnan, Gansu, Tibet and Guizhou are lagging behind, and the differences of population structure in different places are also quite different. Therefore, in order to have a more comprehensive understanding of the impact of population structure changes on housing prices, it is necessary to return to different regions.

According to the estimation of the fixed effect model in Table 6, we can see that the R^2. The results show that the overall fitting effect of the four models is very good, but the impact of the elderly population on housing prices is more regional differences. The aging population has a positive impact on housing prices in economically developed areas and generally developed areas, and all pass the 1% significance test. However, in the backward areas and underdeveloped areas, the impact of the elderly population on housing prices is not significant or the impact is small. The reasons are as follows: firstly, compared with the underdeveloped areas and backward areas, the old people's pension security in developed areas and general developed areas is more perfect, and there is no need to worry about the pension problem. The elderly population has enough economic capacity to provide housing consumption for their children. Second, the income of the elderly population in developed areas and generally developed areas is higher than that in underdeveloped areas and backward areas. When there are spare funds, we can buy commercial housing to achieve the purpose of wealth appreciation and value preservation.

On the four regression models of Cenozoic R^2, the value is also large, indicating that the overall fitting effect of the four models is very good, but the impact of the new generation on housing prices is more regional differences. The new generation has a positive impact on housing prices in economically developed areas, generally developed areas and underdeveloped areas, and all pass the 1% significance test. However, in backward areas, the new generation has a negative impact on housing prices. First, with the increasingly close international division of labor and the continuous improvement of transportation convenience, the new generation of employment is not limited to the location, but the employment opportunities in different places are increasing, and the demand for purchasing houses in different places is increasing. Second, because the new generation in the backward areas go to school in other places, the living environment in economically developed cities is better, and the employment conditions and income are better than those in the backward areas. As a result, the new generation promotes the housing prices in the areas with better economic environment, but has a negative impact on the housing prices in the backward areas.

Table 5. Classification of real estate market

Division of economic development level differences	Names of provinces, autonomous regions and municipalities directly under the Central Government
economically developed region	Beijing, Shanghai, Tianjin
Generally developed areas	Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Inner Mongolia and Liaoning
less-developed regions	Jiangxi, Sichuan, Anhui, Guangxi, Hainan, Qinghai, Hunan, Henan, Xinjiang, Ningxia, Hebei, Heilongjiang, Shanxi, Hubei, Chongqing, Shaanxi, Jilin
backward areas	Yunnan, Gansu, Tibet, Guizhou

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Table 6. Regression by Region

Variable name	Developed region		Generally developed areas		Less-developed regions		Backward areas	
ap	0.303*** (0.000)		0.121*** (0.002)		0.002** (0.046)		0.001 (0.724)	
ng		0.413** (0.042)		0.301*** (0.013)		0.307*** (0.003)		–0.314** (0.038)
lnla	–0.055 (0.118)	–0.072** (0.079)	–0.16*** (0.000)	–0.11*** (0.000)	0.002 (0.836)	0.007 (0.555)	–0.045 (0.133)	–0.034 (0.189)
lnpcgdp	0.751*** (0.000)	0.487*** (0.001)	0.804*** (0.000)	0.763*** (0.000)	0.561*** (0.000)	0.507*** (0.000)	0.364*** (0.000)	0.365*** (0.000)
ur	–0.008* (0.070)	–0.007 (0.202)	0.009*** (0.000)	0.008*** (0.000)	0.005*** (0.000)	0.005*** (0.000)	–0.000 (0.745)	–0.000 (0.725)
cpi	0.002*** (0.589)	0.019*** (0.000)	–0.008* (0.081)	–0.008** (0.028)	0.003*** (0.024)	0.005*** (0.003)	0.012*** (0.002)	0.015*** (0.000)
Constant	1.281 (0.058)	2.868 (0.007)	2.154 (0.000)	2.514 (0.000)	1.785 (0.000)	2.059 (0.000)	3.764 (0.000)	3.351 (0.000)
R-sq	0.9638	0.9520	0.9634	0.9653	0.9611	0.9617	0.9724	0.9745
Observation	60	60	140	140	340	340	80	80

(5) Endogeneity test

There may be endogenous problems such as reverse causality or missing variables in the above regression estimation, which may cause the estimation results to be biased. Therefore, we look for instrumental variables for endogenous test. Considering that commercial housing prices may depend on past price levels. It has a certain continuous feature. That is, the current commodity housing price may be affected by the price level of the previous period, and there is an endogenous problem. Therefore, this paper uses the dynamic panel analysis method and introduces the first-order lag variable of commercial housing price to solve the endogenous problem.

$$\ln p_{i,t-1} = \alpha_i + \beta_1 ap_{i,t} + \beta_2 \ln la_{i,t} + \beta_3 \ln pcgdp_{i,t} + \beta_4 ur_{i,t} + \beta_5 cpi_{i,t} + \varepsilon_{i,t} \quad (3)$$

$$\ln p_{i,t-1} = \alpha_i + \beta_1 ng_{i,t} + \beta_2 \ln la_{i,t} + \beta_3 \ln pcgdp_{i,t} + \beta_4 ur_{i,t} + \beta_5 cpi_{i,t} + \varepsilon_{i,t} \quad (4)$$

Adding the lag term also brings about the endogenous problem. Therefore, we use the differential generalized moment (diff-gmm) to ensure the stability of the panel data first, so the unit root test is carried out, as shown in Table 2. Model 1 to model 2 in Table 8 are the estimated results in the case of diff-gmm. Results the first-order lag were positive, and the significance level reached 5%. There was first-order autocorrelation in both models, and there is no second-order autocorrelation. Sargan test is passed, which shows that the dynamic panel regression estimation of sys-gmm model is reasonable and the basic conclusion remains unchanged.

Table 7. Endogeneity test

Variable name	DIF-GMM (1)	DIF-GMM (2)
L.lnp	0.139** (0.012)	0.106** (0.035)
ap	0.121** (0.014)	
ng		0.289** (0.027)
lnla	–0.019*** (0.001)	–0.021*** (0.001)
lnpcgdp	0.166*** (0.010)	0.1501** (0.026)
ur	–0.001** (0.496)	–0.003 (0.109)
cpi	–0.005** (0.018)	–0.005** (0.013)
Constant	–0.889 (0.018)	–0.663 (0.073)
AR(1)	–2.134 (0.033)	–2.259 (0.024)
AR(2)	0.994 (0.3204)	–0.904 (0.366)
P value of sargan test	0.181	0.182

(6) Variable substitution method

Considering the complexity of the composition of commercial housing price, the price of commercial housing not only refers to the sales price of residential buildings, but also the sales price of office buildings and commercial premises. Therefore, by replacing the explained variables

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to further test, the average selling price of commercial housing is replaced by the average selling price of residential housing and see if the influence of the old population and the new generation still exists. Table 8 shows the regression results after replacing the explained variables. The regression results show that there is a positive correlation between the old population and the new generation on the housing sales price, which is very significant and has the same direction. That is to say, the influence of the old population and the new generation on the price of commercial housing is universal. It can be seen that the conclusion has strong robustness.

Table 8. Robustness test

Variable name	(1) FE	(2) FE
ap	0.211*** (0.002)	
ng		0.217*** (0.003)
lnla	–0.028** (0.017)	–0.027** (0.020)
lnpcgdp	0.649*** (0.000)	0.611*** (0.000)
ur	0.167*** (0.000)	0.040*** (0.000)
cpi	0.054 (0.176)	0.032** (0.034)
Constant	1.533 (0.000)	1.747 (0.000)
R-sq	0.9412	0.9411
Observation	651	651

6. Conclusions and Countermeasures

Based on the model of overlapping generations in two periods, this paper theoretically analyzes the influence of the aging population and the new generation on the price of commercial housing, and further constructs the measurement model of the aging population and the new generation on the price of commercial housing. On this basis, it empirically tests the influence of the aging population and the new generation on the price of commercial housing by using the panel data of 31 provinces in China from 1998 to 2018. The test results show that both the elderly population and the new generation have promoted the price increase of commercial housing. After that, this paper divides the regional heterogeneity of 31 provinces, and concludes that the elderly population has promoted the rise of commodity prices in developed areas and generally developed areas, but has no significant impact on the prices of commercial housing in other areas. The new generation has a negative impact on the price of commercial housing in backward areas. It has a positive impact on the prices of commercial housing in other areas.

Based on the above research, this paper puts forward the following suggestions:

(1) The government should really revitalize the second-hand housing market by optimizing market information communication and reducing taxes and fees, so that the housing needs of the elderly people who really have housing needs can be met through stock housing. Real estate enterprises should enhance their sense of social responsibility, and increase a part of affordable housing for the elderly population to meet their housing needs and curb the rise of house prices.

(2) The government can greatly ease the pressure of the new generation to buy houses by increasing the construction of housing projects and increasing the supply of small units. And reasonably guide the "real estate consumption view", advocate the "tailor-made" consumption view, gradually develop the social atmosphere of "buy and rent", and relieve the pressure of buying houses by renting houses.

(3) For the elderly population in developed areas and general developed areas, we should refine the purchase policy and restrict the purchase of "two sets" housing qualification for the elderly population. For the new generation in backward areas, the talent purchase plan can be adopted. For the new generation returning to the city for employment, a certain amount of housing rental subsidies and house purchase subsidies can be given. For high-end talents such as graduate students, the first purchase of houses is preferential. Increase subsidies and other ways to improve the conditions for new generations to buy houses in backward areas.

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Research on the Causes and Governance of Non-standard Problems of Heterogeneous Agricultural Cooperatives-based on the Reality Observation from X County in Ganzi Prefecture, China

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ABSTRACT

Over the years, the positive effect of the growth of China's agricultural cooperatives on the development of rural economy is undoubted, but many problems have been exposed in practice, such as the non-standard problems of shell cooperatives. This paper takes 355 cooperatives in a county of Ganzi as an example to study the types and reasons of nonstandard phenomena in the development of heterogeneous cooperatives, and then puts forward the construction of cooperative governance mechanism based on principal-agent relationship; propagandizing the new cooperative law, enhancing the sense of legal system of members and other governance suggestions to promote the healthy and high-quality development of agricultural cooperatives.

1. Introduction

With the implementation of China's rural revitalization strategy, farmers' professional cooperatives have achieved rapid growth across the country. Despite their fast development, these farmers' professional cooperatives have shown a number of problems in their operational practices such as non-standard conduct, which compromised the role of farmers' professional cooperatives in leading the economic development of China's rural areas and lowered the performance of state financial funds in support of special projects. In order to better regulate farmers' professional cooperatives and promote their healthy development, the Ministry of Agriculture issued the Opinions on Guiding and Promoting the Standardized Development of Farmers Cooperatives in 2014. In December 2017, the Standing Committee of the National People's Congress adopted the revised Law of the People's Republic of China on Farmers' Professional Cooperatives, which came into force on July 1st, 2018, and imposed stricter legal constraints and penalties on non-standard organizations and conducts. X County, located in Ganzi Tibetan Autonomous Prefecture (hereinafter referred to as Ganzi Prefecture), has been at the forefront of agricultural cooperative development in the Ganzi Prefecture area in terms of scale and speed. Due to the different attributes of their members in terms of natural resources, human capital, and social network, most of the farmers' professional cooperatives in X County of Ganzi Prefecture adopt a heterogeneous membership structure. Considering the many non-standard conducts revealed in heterogeneous farmers' professional cooperatives over the past few years, this paper will probe into the phenomenon of non-standardization in heterogeneous farmers' professional cooperatives through obser-

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vation on the actual conditions of farmers' professional cooperatives in X County, so as to enrich the theoretical research results on improving the governance of heterogeneous farmers' professional cooperatives and provide some guidance for the healthy and sound development of farmers' professional cooperatives in the local area.

2. Literature Review

Academic studies that examine the impact of membership heterogeneity on farmers' cooperatives can be divided into two major categories. The first category (and also the vast majority) of studies tends to see the impact of membership heterogeneity on member relationships in a negative light. According to these studies, membership heterogeneity would lead to problems including a lack of clarity in the property and governance structure, and also reduce the willingness of members to cooperate with each other (Fulton, 1999). This would create more difficulties for the decision-making and coordination within the organization while hurting the membership loyalty and the willingness to invest [1]. When examined from the principal-agent relationship, the heterogeneous membership structure will bring about the agency problem, which will lead to a lack of motivation in ordinary members to participate in the democratic management of the cooperative and place the control of the organization in the hands of few [1,3]. What's more, membership heterogeneity also gives rise to the free-riding behavior of small and medium-sized members, which would hinder the collective and unified action of the organization. On top of this, the inadequate internal management system and lack of standardized operation in heterogeneous cooperatives have also aggravated the agency problem between their members [5]. Noticing the non-standard operations and conducts of these cooperatives, the Chinese government has revised and improved relevant laws, regulations, and guidelines such as the Law of the People's Republic of China on Farmers' Professional Cooperatives, so as to promote the standardized development of farmers' professional cooperatives [6]. However, Another category of studies tends to look at the impact of membership heterogeneity on the relationship between members in a positive light. According to these studies, short-term membership heterogeneity can help supplement various scarce resources to farmers' cooperatives. This can not only help avoid the agency problem among members, but also promote the incentive mechanism of key factors within the cooperatives [2]. What's more, membership heterogeneity can also help improve the economic efficiency within the organization and contribute to the complementation of advantages between the members [4]. To sum up, existing literature has explored the impact of membership heterogeneity on farmers' professional cooperatives from both positive and negative aspects. However, previous studies lack an in-depth analysis of the effect of heterogeneous membership structure on the non-standardization problem of farmers' professional cooperatives. Although some scholars argue that the heterogeneous membership structure plays a positive role in the development of farmers' professional cooperatives, such a positive effect might not be able to offset the negative impact in the long run. Therefore, on the basis of the existing studies, this paper will focus on the non-standardization problem in heterogeneous farmers' cooperatives, survey and observe the real situations in farmers' professional cooperatives of X County, Ganzi Prefecture, analyze the different types and causes of non-standardization problems in heterogeneous cooperatives, explore the measures to better regulate the non-standard practices and conducts, and enrich the theoretical research results on improving the regulation of heterogeneous farmers' professional cooperatives.

3. Types and Manifestations of Non-standardization Problem in Heterogeneous Farmers' Cooperatives

X County, located in the southeastern part of Ganzi Tibetan Autonomous Prefecture, Sichuan Province, lies in the transitional zone from the Qinghai-Tibetan Plateau to the Sichuan Basin. X County has 7 towns, 5 townships, and 145 administrative villages under its jurisdiction. By the end of 2020, the county had 355 farmers' cooperatives consisting of 5,520 members. Among these 355 farmers' cooperatives, 176 were engaged in farming, 162 in animal husbandry, 3 in the combination of farming and animal husbandry, 10 in forestry, 2 in service, 1 in tourism, and 1 in handicraft. Currently, the county has 3 model farmers' cooperatives at the county level, 9 at the prefectural level, 11 at the provincial level, and 2 at the national level. Due to the strong heterogeneity between cooperative members in terms of resource endowment, education level, income level, and technological capacity, a number of non-standardization problems have emerged in the practices and operations of farmers' cooperatives in X County in the course of rapid development. According to the requirement on the standardization of cooperatives prescribed by the Law of the People's Republic of China on Farmers' Professional Cooperatives and the basic criteria on the standardization of farmers' cooperatives adopted by Tang (2019), in combination with the 355 survey samples in X County of Ganzi Prefecture, this paper classifies the non-standardization problems in farmers' cooperatives into three major categories, namely shell cooperatives, "one-person" cooperatives, and cooperatives with unclear

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operating entities.

3.1 Shell Cooperatives

These cooperatives have neither involved any farmers as their members nor engaged in any substantive production or operation activities. That being said, these organizations are not intended as shell cooperatives when they were first established, but discontinued their operation and business later due to various factors, such as lack of sustained development momentum, short-lived operation, etc., until all they have left is just an empty shell. However, since they haven't handled the cancellation procedures with relevant registration authorities, they are still counted into the total number of "farmers' cooperatives" in the statistics. Under the supervision of relevant government authorities, X County has actively guided the cancellation registration of 174 "shell cooperatives". According to the survey results, there are several reasons that have led to the formation of shell cooperatives:

First, cooperatives established to benefit from favorable government policies, gain financing and loan support, or obtain state subsidies, which failed to achieve sound operation or management to generate a reasonable cash flow during the support period, and went out of business with the disappearance of financial benefits, leaving only an empty shell of the short-lived organization. Second, cooperatives established blindly to follow the general trend: in the early days after the implementation of the Law of the People's Republic of China on Farmers' Professional Cooperatives, many villages and towns noticed the favorable policies for cooperatives in the provisions, so they blindly followed suit and set up a large number of cooperatives. However, due to the lack of management expertise or operational experience of these cooperatives, their products failed to gain customer recognition in the market. In the end, the organizational structure of these cooperatives became virtually obsolete, their business declined and their members dropped out one by one from the organization, until they turned into an empty shell that exists in name only.

3.2 "One-person" Cooperatives

According to the Law of the People's Republic of China on Farmers' Professional Cooperatives, there should be at least five or more members in a cooperative. However, the phenomenon of "one-person" cooperatives could be observed in real practice. A part of the 355 farmers' cooperatives in X County are found to be "one-person" cooperatives. On the surface, these organizations are registered in accordance with the provisions of the Law of the People's Republic of China on Farmers' Professional Cooperatives, but their ownership and operational rights all belong to a single person. There is no actual cooperative relationship between the organization and its members. Except for the actual controller, the rest of the farmers are only nominal members and have no right to participate or be informed about the development and operation of the cooperative. According to the survey findings, the actual controllers of such cooperatives are usually outside investors or large family farms with sufficient factor endowments. Tempted by the favorable policies for farmers' cooperatives, they have applied for the cooperative status to obtain financial support funds. These cooperatives are essentially one-person companies, in which the relationship between the organization and its members is merely an employment or land transfer relationship. These cooperatives simply "borrowed" the local farmers' register of names without even the knowledge of the farmer "members" themselves.

3.3 Cooperatives with Unclear Operating Entities

Cooperatives with unclear operating entities are farmers' cooperatives with multiple operating entities such as enterprises and family farms all at the same time. The president of the cooperative may also have multiple identities as the legal representative of another company or owner of a family farm. Under such circumstances, the operating entity of the cooperative would be quite unclear and its management would be rather chaotic. According to the survey findings, although different operating entities of these cooperatives have their own independent financial management system and accounting system on the surface, they are actually under the control of the same management team. The president of the cooperative has absolute control over its management and cooperative members are kept away from the actual management of the organization. In a cooperative run by multiple operating entities, the ordinary farmers are only nominal members who do not exercise the rights or fulfill the obligations of members, and the profit distribution of the cooperative is dominated by only a handful of people. On top of this, different operating entities in the cooperatives would apply for financial support funds using different identities and through different channels, resulting in repetitions occupancy of financial resources, low efficiency of fund utilization, and unfair distribution of financial support.

4. Root Causes for Non-standardization Problem in Heterogeneous Farmers' Cooperatives

There are multiple reasons that have led to the non-stand-

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ardization problem in farmers' cooperatives. On the one hand, non-standardization is the result of the agency problem that exists in the organizations themselves; on the other hand, non-standardization is also related to the excessive external policy support and loopholes in the government regulatory system. The relatively low cost of non-compliance has fueled the motivation for non-standard conduct of the cooperatives.

4.1 The Agency Problem in Farmers' Cooperatives

Farmers' cooperatives are an economic organization whose ownership is shared among many members. The development foundation of cooperatives lies in the common economic interests of all its members. However, due to the agency problem between core members and small/medium-sized members, as well as between common members and management of the cooperatives, disputes and conflicts emerge as a result of the inconsistent objectives and goals of different subjects. For example, under the situation of heterogeneous membership structure, especially when certain core members (such as corporate members and large family farms) have a bigger say in the organization, the differences in members' influence power can easily give rise to non-cooperative games. Under such circumstances, it's quite likely that the core members won't act on behalf of all members of the organization. In particular, they won't act in the way desired by the vast majority of small and medium-sized members, as they have very different interests from that of the latter. Thus, the core members would in turn become the real controllers of the cooperative and give rise to the insider-control problem. In addition, when examined from the relationship between all members and the management team of the cooperative, common members tend to be "free-riders" due to the high cost of supervision over the management team. Under such circumstances, core members and common members of the cooperative would form consistent interests in terms of supervising and restraining the management team, so the relationship between all members and the management team would manifest as the agency problem between the core members and the management team.

4.2 Lack of Internal Governance Mechanism

An inadequate internal governance mechanism has further aggravated the prevalence of non-standard conducts and practices in farmers' cooperatives. For example, there's one cooperative focused on the planting of morel mushrooms in X County, Ganzi Prefecture. This cooperative covers nearly 26,700 m^2 of land and has over 30 farmer members, making itself a fairly large cooperative in X County. However, this cooperative failed to establish a standard internal governance mechanism during its development. Although it has set up a supervisory board, this board doesn't play that much a role in the management of the organization and is virtually of no use -- it has neither achieved the desired function of supervision in the major decision-making of the cooperative, nor realized transparency in management affairs or financial disclosure. In addition to this, some farmers' cooperatives haven't established a standardized financial management system, which created opportunities for the management personnel to misappropriate and embezzle the cooperative property. According to relevant laws and regulations, farmers' cooperatives must be equipped with professional accounting staff or hire bookkeeping companies, but the survey shows that some cooperatives lack accounting staff or keep accounting staff that's not professionally competent, resulting in the chaotic management of cooperative accounts, severe distortion of accounting information, and rampant corruption.

4.3 Excessive Support of Government Policies

Farmers' cooperatives are highly subject to the policy environment of the countries in which they are located. Different national policies and industry support would shape the various development paths of farmers' cooperatives while giving rise to the non-standardization issues. With the implementation of China's rural revitalization strategy, favorable policies for developing farmers' cooperatives were rolled out by the government one after another, forming a relatively relaxed institutional environment for cooperatives. As can be observed from the specific provisions in both the old and revised Law of the People's Republic of China on Farmers' Professional Cooperatives, there are more policies targeted at "supporting" the farmers' cooperatives rather than "supervising" them. Under such circumstances, some grass-roots towns and villages have arranged for government support funds to focus on farmers' cooperatives with a stronger driving effect. As a result, these cooperatives gradually got into the bad habit of relying on the "blood transfusion" of government funding, instead of "generating blood" through independent and efficient operation in the market economy, which has deviated from the original purpose of their establishment. Therefore, although the favorable external policies have facilitated the rapid development of farmers' cooperatives, they have also given rise to the non-standardization problem in these organizations to some degree.

4.4 Inadequate Regulatory and Legal System

As the major target of the Law of the People's Repub-

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lic of China on Farmers' Professional Cooperatives, most of the prescriptions on the operations and management of farmers' cooperatives are intended to guide their development and growth, without forming a clear and complete system on the regulation or legal responsibilities of the cooperatives. Although the revised Law of the People's Republic of China on Farmers' Professional Cooperatives that came into force in July 2018 added certain provisions on the legal responsibilities of cooperatives, both the old and revised laws have generally dealt with the unlawful conducts or practices of the cooperatives in a lenient manner. From the perspective of government supervision, there are still loopholes in the source and process supervision of cooperatives. For example, the industrial and commercial administration should have assumed the main responsibility for supervising cooperatives, but due to the aggressive development campaigns by local governments and the lack of assistance from other relevant authorities, it's difficult for the industrial and commercial administration to effectively identify the authenticity of the materials submitted by farmers' cooperatives from the very beginning.In addition, since the operation of cooperatives involves different government departments including agriculture, forestry, science and technology authorities, etc., a cross-management pattern has been formed in practice. As a result, non-standardization issues have cropped up one after another in the operations of the cooperatives. To sum up, the inadequate regulatory and legal system targeted at farmers' cooperatives, lack of clarity in the regulatory authority, and the lenient punishments for violations of relevant laws have provided ample space for the "arbitrary operations" of cooperatives and severely damaged their reputations.

5. Suggestions for Improving the Governance Mechanisms of Farmers' Cooperatives

In view of the current non-standardization problem in the development of farmers' cooperatives in China, coupled with the increased competition and cooperation between farmers' cooperatives and the emerging agricultural operating entities such as family farms, it is imperative that relevant authorities improve the internal and external governance mechanisms of farmers' cooperatives to promote their standardized and healthy development.

5.1 Build a Proper Governance Mechanism Based on the Principal-agent Relationship

Most of the farmers' cooperatives in X County, Ganzi Prefecture have a heterogeneous membership structure. In these cooperatives, a good governance structure has not yet been formed: the decision-making power is concentrated upon a handful of core members, while ordinary members are in a weak position and kept away from the operation of the organization. In view of this, a governance model that relies on the internal governance of core members would be a good choice. That is to say, in heterogeneous farmers' cooperatives, the key to solving the problem of the principal-agent relationship is to give full play to the supervision and incentive mechanisms of the organization. Generally speaking, the supervision mechanisms of rural cooperatives can be divided into the internal supervision mechanism and the external supervision mechanism. The former functions through the general meeting of cooperative members, the council, and the supervisory board, while the latter mainly relies on government supervision.

5.2 Strengthen the Publicity of the Law of the People's Republic of China on Farmers' Professional Cooperatives and Enhance the Legal Consciousness of Cooperative Members

The revised Law of the People's Republic of China on Farmers' Professional Cooperatives plays a positive role in defining the business scope of cooperatives, prescribing the forms of capital contribution by members, and guaranteeing the status of cooperatives as market entities, which has provided stronger support for regulating the non-standard conducts and practices of farmers' cooperatives. Taking advantage of the implementation of the revised law, relevant authorities can launch campaigns to boost its dissemination and publicity, provide relevant courses to increase the public's knowledge of the revised law, educate farmers about the revised law in combination with typical real-life cases, so as to guide the healthy growth and development of cooperatives. Apart from these, it is also suggested that relevant authorities carry out a comprehensive census of farmers' cooperatives, and de-register the large number of "shell" cooperatives through detailed investigation and review. For cooperatives with other non-standard conducts and practices, relevant authorities should require their legal representatives to study the revised law and order them to rectify their practices within a time limit prescribed by the law. For those cooperatives that still fail to measure up to the requirement of the Law after rectification, relevant authorities shall de-registered them or allow them to transform into other business entities such as enterprises and large family farms according to the specific situation, so as to build a sound "exit system" for farmers' cooperatives.

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5.3 Improve the External Supervision Mechanism and Strengthen the Penalties for Unlawful Conducts

To improve the external supervision mechanism for farmers' cooperatives, first, competent authorities should strengthen the authenticity verification of the application and registration materials submitted by the cooperatives; second, relevant authorities should tighten inspections on the operations of the cooperatives to ensure their standardization and compliance. For those cooperatives that have provided false application materials to obtain state financial funds, relevant authorities should rectify their practices or even revoke their qualification as cooperatives. Through regular on-site inspections and the use of big data technology, relevant authorities should identify the non-standard and unlawful conducts in the operation process of cooperatives and give timely instructions on their rectification. For cooperatives that have gained financial support from the government for special projects, performance assessment and big-data evaluation should be carried out on the project. As for enhancing the cost for violations of law, relevant authorities should cooperate with law enforcement agencies to strengthen the supervision and penalties on cooperatives with unlawful conduct and disqualify organizations with severe violations of laws and regulations. For cooperatives suspected of being involved in illegal conduct, regulatory authorities should report them to the judicial organs immediately and hold them accountable according to the provisions of law.

5.4 Cultivate a Collaborative Culture and Introduce Informal Institutions into the Governance Mechanism

Making full use of the campaign in cultivating a strong local culture, cooperatives should actively enhance the consciousness of participation, cooperation, and responsibility among their members, establish proper agricultural production and operational philosophy under the new concepts of agriculture, rural areas, and farmers, and effectively enhance the loyalty of their members. The integration of culture, morality, customs, and other informal institutions into the governance mechanism of cooperatives can significantly promote the collaboration between different members based on mutual benefit and integrity, while effectively addressing the agency problem in the principal-agent relationship. The management team should uphold the professional ethics of objectiveness and fairness, actively commit themselves to the daily operation and management of the cooperative, take concrete measures to improve the governance mechanism of the organization, and build a good social environment for achieving the goals of farmers' cooperatives under the heterogeneous membership structure.

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A Glimpse into a Potential Influencing Factor of China's Exchange Rate: Social Financing Scale

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ABSTRACT

The indicator of social financing scale (SFS) has become a new intermediate target for China's socioeconomic regulation since 2011, which has a better tracking performance on important economic indicators such as CPI and is also the new intermediate target of monetary policy used by China's central bank to replace M2 at present. So, is there an impact of the social financing scale on another important economic indicator, the RMB exchange rate? This paper conducted an OLS regression analysis of the time series data of social financing scale and the nominal effective exchange rate (NEER) of RMB for a total of 61 months from October 2016 to October 2021 and find that SFS has a significant positive impact on the exchange rate of RMB. This result means that the expansion of SFS will lead to the appreciation of RMB. In addition, the paper fills the research gap on the combination of SFS and RMB exchange rate, and suggests that mechanisms such as monetary policy or domestic interest rates may be responsible for this correlation at the theoretical level.

1. Introduction

In recent years, China's central bank has gradually begun to shift the intermediate target of monetary policy from broad money supply (M2) to the social financing scale (SFS). On the one hand, in the context of China's deepening financial reform and innovation, the coverage of M2 is getting broader and growing rapidly, and its controllability and relevance as an intermediate target are declining significantly. On the other hand, the social financing scale has good tracking and reflection of some important economic indicators. For example, Figure 1 presents the monthly values of China's SFS, M2 growth rate and CPI growth rate from October 2016 to October 2021, respectively, and it is not difficult to find that the current SFS and CPI already possess a strong correlation. Therefore, setting SFS as an intermediate target may have a more direct and reasonable policy effect compared to M2.

Overall, SFS reflects the ability of the real economy to obtain money from the capital market, measures the level of the prevention of financial situation from being distracted from the hypostatic economy to the fictitious economy of capital and can better reflect the prosperity and depletion of the real economy over a certain period of time, and its policy status is increasing gradually. The exchange rate, as the conversion ratio between different currencies, has a significant impact on a country's international trade, cross-border capital flows and so on. In today's world of deepening globalization and improving international supply chains, the exchange rate is a "stabilizer" for domestic

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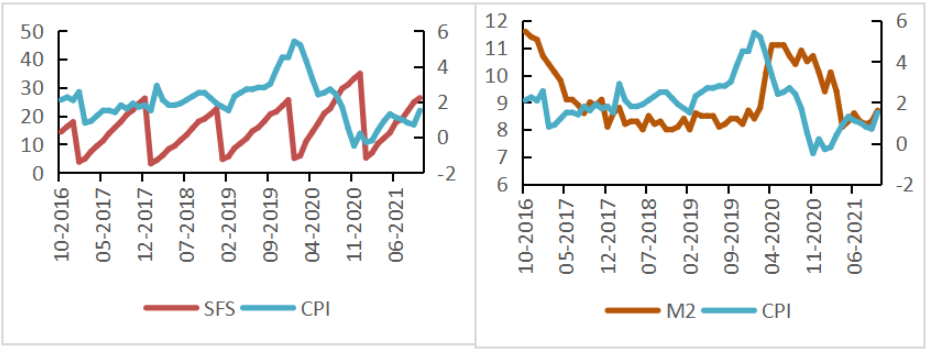

Figure 1. M2, social financing scale of the month value (trillion), and CPI growth rate(%) comparison

and foreign economies.

Consequently, if we can find the inner law of exchange rate fluctuation in the market with very complicated economic relations, it will not only help the policy authorities to formulate fiscal and monetary policies more scientifically, but also help many enterprises and residents to take measures to avoid exchange risks in the setting of the increasing marketization of exchange rates in China. In order to grasp the intrinsic law of exchange rate fluctuations, the first task is to identify which factors will have a significant impact on the exchange rate, the size of the impact and so on.

Rather than traditional studies that focus on basic indicators such as interest rates (Peel and Taylor, 2002) [1] and stock indexes (Ding, 2021) [2], this paper focuses on whether and, if so, how the SFS, a comprehensive indicator, affects the RMB exchange rate. In fact, from the perspective of logical analysis, SFS will definitely be transmitted to the exchange rate. The feasibility of this transmission is reflected in the fact that the caliber of SFS includes new bank loans and direct financing absorbed by the real economy, and we know that the incremental funds obtained by enterprises will inevitably have further impact on their investments, which will eventually be transmitted to outward direct investment, foreign portfolio investment, imports, exports and other subjects directly related to the balance of payments -- a decisive factor in exchange rate formation.

However, because the transmission mechanism involves a large number of economic indicators, the difficulty of measuring the offsetting relationship between the current account and capital & financial account makes the verification of this mechanism very hard. In addition, since the SFS indicator itself is influenced by many variables that affect the exchange rate, such as interest rates, GDP growth, etc., and the SFS has further countervailing effects on these variables, this leads to the fact that it would take far more space than a single paper could cover to fully elaborate this transmission mechanism. However, this indeed illustrates the exploratory nature and innovative research perspective of this study. This paper aims to knock on the door of this research direction, point the way for subsequent researchers, and take the first step of the research - to argue that SFS positively affects the exchange rate (RMB appreciation).

The remainder of the paper is organized as follows: Section 2 provides a literature review and theoretical hypothesis, Section 3 presents the empirical design, Section 4 reports the empirical results and analyzes them, Section 5 tests the robustness of the empirical results and Section 6 is the conclusion and research outlook.

2. Literature Review and Theoretical Hypothesis

As a domestic comprehensive amount index in China, SFS measures the financial support for the real economy. To figure out the transmission mechanism from SFS to the exchange rate, we should focus on its economic influence as an intermediate indicator. Songcheng Sheng (2010), the formal director of the statistics department of the People's Bank, pointed out that the social financing scale is an important intermediary indicator of monetary policy, which can demonstrate the level of interest rate liberalization. After the People's Bank of China incorporated the SFS into the statistical framework in 2011, SFS has become an important reference index for monetary authorities to formulate monetary policy.

At present, the research on the intermediate indicator of monetary policy has formed a relevant system. Literature suggests that if the intermediate indicators of monetary policy are closely related to operational tools and ultimate goals, it is feasible to determine the use of operational tools by intermediate indicators (Svensson, 1997) [3]. Monetary policy is a powerful tool in the financial cycle and the intermediary index is an indicator that can be observed before the goal in monetary policy, which is of great importance. (Borio and Lowe, 2002; Borio and White,

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2004) [4,5]. The implementation of mixed monetary policy rules is more realistic in China. In terms of ensuring the smooth operation of the macroeconomy and reducing the welfare loss level, the mixed target is superior to the single price-based or quantitative intermediary target (Li and Liu, 2017) [6]. It can be suggested that the intermediary index plays a role in the formulation and adjustment of monetary policy, influencing its policy intensity and practical effects.

A considerable amount of literature has demonstrated the impact of monetary policy on the exchange rate. The usual view is that an unexpected monetary contraction leads to an immediate appreciation of the currency, so as to create the conditions for a subsequent depreciation at a rate that equals the interest rate differential (Dornbusch 1976) [7]. Some scholars suggest that the exchange rate response differs depending on the effects of monetary policy on people's expectations of the interest rate path and risk premia in the short, medium and long run in specific episodes (Atsush and Barbara, 2019) [8]. Monetary policy has a rising FX impact in the era of ultra-low rates. With monetary policy limited in its ability to stimulate the economy following years of low interest rates, it is natural that central banks have come to rely on the exchange rate channel to an even greater extent (Massimo et al., 2021) [9]. Considering all the above, we are convinced that as an intermediate indicator highly valued by the authorities, the SFS can influence exchange rates by influencing monetary policy and there is a correlation between SFS and exchange rate.

Another link between SFS and exchange rates is the domestic interest rate, especially the bank credit interest rate. According to the data from the People's Bank of China, the annual SFS is 200.75 trillion, 251.31 trillion and 284.83 trillion (RMB) in the year 2018, 2019 and 2020 respectively. In the same period of time, approximately 67%, 60.3% and 60.2% of the SFS are composed of RMB loans to the real economy issued by commercial banks. It can be observed that the amount of SFS highly depends on the scale of bank credit. Since the interest rate is the indirect financing cost of an enterprise, the SFS should be highly relevant to interest rates.

Previous studies have found that Cross-border capital flows are sensitive to changes in interest rates, and there is a negative correlation between them (Calvo et al., 1996; Montiel and Reinhart, 1999; Kim, 2000) [10-12]. The exchange rate is an important transmission channel for the interaction between interest rate and international capital flow (Peel and Taylor, 2002) [13]. Changes in the interest rate differentials between economies are associated with variations in FX volatility and FX volatility to be highly persistent over time (M. Ulm and J. Hambuckers, 2022) [14]. Since interest rates can change exchange rates by influencing international capital flows, and SFS is linked to interest rates. The correlation between SFS and exchange rate is expected.

The interest rate liberalization can explain this correlation from another perspective. On the one hand, the financing constraints will reduce the financing capacity of enterprises, thereby reducing the SFS. On the other hand, with the deepening of financial liberalization, the firm's investment sensitivity of cash flow to investment is reduced and financing constraints are eased (Koo J, Maeng K, 2005) [15]. Interest rate liberalization has a significant role in easing the financing constraints of small and medium-sized companies but enhances the financing con-

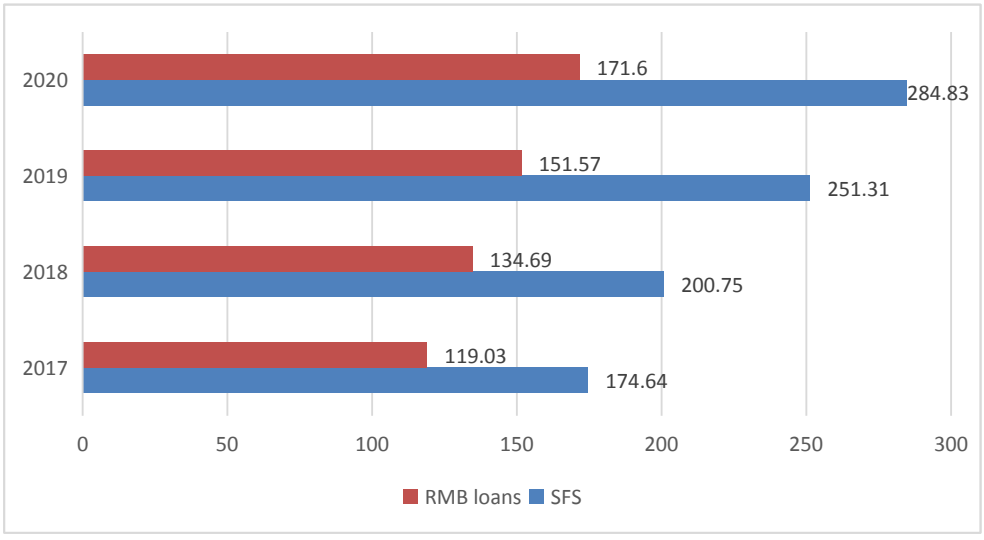

Figure 2. The scale of RMB loans and SFS(trillion RMB)

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straints of large companies (Laeven, 2003) [16]. Through the transmission mechanism of financing constraints, SFS can reflect the level of interest rate marketization in China to some extent.

These years, the liberalization of interest rates is also considered an important factor affecting international capital flows. Through the model deductive analysis, a study found that capital flow depends on the marginal productivity of capital and the level of interest rate liberalization (Aoki et al., 2010) [17]. Capital account liberalization will lead to the net outflow of funds in the domestic stock and bond markets, thus providing diversified investment opportunities for domestic investors (Bayoumi and Ohnsorge, 2013) [18]. The relationship between SFS and financing constraints, interest rate marketization and international capital flow offers us another possibility for us to explain the correlation between SFS and exchange rates.

Considering all the literature we mentioned above, we raise our hypothesis as follows.

H1: There is a positive correlation between China's social financing scale and RMB exchange rate.

3. Empirical Design

To investigate whether SFS can effectively affect the RMB exchange rate, this paper selects a total of 61 monthly time series data from October 2016 to October 2021 for regression. The variables involved in the regressions include the nominal effective exchange rate (NEER) of RMB, SFS, treasury bond yields, and the GDP growth rate of China. The specific variables are selected as follows.

(1) Dependent variable

In the basic regression, monthly data on the nominal effective exchange rate (NEER) of RMB are extracted to reflect the RMB exchange rate in this paper. This indicator is chosen mainly because the major economic indicators are basically nominal indicators as they include inflation. Considering the coordination in the subsequent selection of control variables, we adopt NEER to reflect the situation of RMB exchange rate which can tolerate the differences of indicators caused by inflation to a certain extent.

(2) Key explanatory variable

The main research point of this paper is whether SFS has an effect on RMB exchange rate, so the core variable we concentrate on is SFS. In this paper, SFS (current month value) data are employed for the regression.

(3) Control variables

a. Macro control variables

As a comprehensive indicator of currency, the RMB exchange rate is naturally influenced by the macroeconomic performance of China. This paper makes comprehensive reference to Jiang (2018), Huang (2010), and Cheng et al. (2020)'s methods by using macroeconomic indicators such as GDP growth rate, total factor productivity, PPI, international trade balance, and broad money issuance (M2). These indicators can reflect China's economic growth, production efficiency, the balance of payments, monetary policy, etc., and play an important role in influencing the RMB exchange rate decision.

Considering that the time level of this paper is monthly data, the use of variable indicators such as current month value or month-on-month growth rate can be more scientific for our empirical analysis. In this paper, GDP growth rate, PPI growth rate, international trade balance, total factor productivity (TFP) rate of change and M2 growth rate are used as proxy variables for the above macroeconomic indicators. It should be noted that since China does not release monthly GDP data, this paper uses the weighted-average method to calculate the monthly GDP growth rate, which can reflect the GDP growth rate of the corresponding month more accurately. Plus, we refer to Huang (2010)'s way of choosing productivity level to represent TFP, but unlike that, this paper uses the ratio of CPI growth rate to PPI growth rate as the measure of the dynamic TFP change in China.

b. Capital market control variables

The RMB exchange rate is also affected by the capital market, especially the movements of the stock market and interest rates. Referring to Jiang (2018)'s method, we use the difference between the Shanghai Stock Exchange (SSE) Composite Index (monthly average) and the yield to maturity of US and Chinese 1-year Treasuries (monthly average) to refer to the stock and interest rate markets, respectively.

(4) Model construction

In order to investigate whether there is an effective effect of China's SFS on the RMB exchange rate, the following time series regression formula is constructed:

$$NEER_t = \alpha + \beta SFS_t + \delta Controls_t + \mu_t + \varepsilon \quad (1)$$

In this formula, t represents the time series and the unit is one month, samples are selected from October 2016 to October 2021. The dependent variable NEER is used to measure the exchange rate of RMB, and the indicator used is the monthly value of the NEER of the RMB provided by the Bank for International Settlements (BIS) database, whose rising value indicates an overall appreciation of RMB. SFS is the core explain variable whose data come from Wind database's social financing scale for the month. In addition, to alleviate problems such as biased estimates due to omitted variables, this paper also introduces a se-

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ries of macroeconomic control variables group and capital market control variables group in the regression. denotes the season fixed effects, which are incorporated for the reason that both SFS and the RMB real effective exchange rate have significant seasonal trends. Table 1 presents the signs of all the variables and how they are constructed.

(5) Data sources and descriptive statistics

Data employed in this paper are mainly obtained from Wind and BIS databases. Specifically, NEER of RMB is obtained from the BIS database, and the monthly value of SFS as well as the control variables are obtained from the Wind database.

Table 1. List of variable symbols and their meanings

Type	Symbol	Variable name	Definition
Dependent variable	NEER	Nominal effective exchange rate of RMB	Monthly nominal effective exchange rate of RMB
Core explanatory variable	SFS	Social financing scale	Social financing scale for the month
Control variables	GDP	GDP growth rate	Monthly GDP growth rate
	TFP	Total factor productivity	CPI monthly growth rate /PPI monthly growth rate
	TD	International trade balance	Exports for the month - Imports for the month
	CNMUS	Difference between U.S. and Chinese one-year Treasury bond yields	China 1-Year Treasury Maturity Yield - U.S. 1-Year Treasury Maturity Yield (Monthly Average)
	M2	China's broad money supply growth rate	Monthly M2 growth
	Stock	China Stock Index	Monthly average of SSE Composite Index

Table 2. Descriptive statistics of main regression variables

Variable	Observations	Average	SD	Max	Min
NEER	61	117.77	2.72	125.59	113.58
SFS	61	15.87	7.92	34.86	3.14
GDP	61	6.09	7.81	18.3	–6.8
TFP	61	1.42	8.34	54	–13
TD	61	386.41	221.03	845.4	–619.92
PPI	61	2.93	3.94	13.5	–3.7
CNMUS	61	1.42	0.87	2.77	–0.29
M2	61	9.13	1.09	11.6	8
Stock	61	3141.01	280.73	3627.21	2558.43

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4. Empirical Results

In this paper, a series of time series data such as NEER and SFS are used to regress model (1) with OLS method, and the empirical results are presented in Table 3. The coefficients and significance of the core explanatory variable SFS are our main focus, while macroeconomic and capital market control variables are incorporated in the regressions stage by stage. Column 1 to 3 show that SFS is significantly positively related to the NEER of RMB, which confirms our hypothesis H1. Specifically, when only macro control variables are introduced, the results in column 2 indicate that for every 1 unit increase in the size of SFS, the NEER of RMB rises by 0.175 units on average and is significant at the 1% level. And after further introducing capital market control variables, column 3 indicates that for every 1 unit increase in SFS, the NEER of RMB increases by 0.135 units on average and is significant at the 5% level. In addition, the rise in R-squared is significant with the incorporation of the control variables group, which indicates that the selection and incorporation of control variables in this paper are reasonable and necessary.

Table 3. Basic regression results of NEER and SFS

Dependent variable	(1)	(2)	(3)
	NEER	**NEER**	**NEER**
SFS	0.129* (1.86)	0.175*** (3.03)	0.135** (2.14)
GDP		0.311*** (5.39)	0.155* (2.00)
TFP		–0.055** (–2.01)	–0.057** (–2.32)
TD		0.004* (1.94)	0.003** (2.43)
M2		–0.063 (–1.88)	0.085 (0.29)
CNMUS			–2.196*** (–3.29)
Stock			0.009*** (5.14)
Constant	117.351*** (193.43)	115.301*** (42.73)	88.970*** (13.95)
Observations	61	61	61
R-squared	0.072	0.416	0.622
Season fixed effects	Yes	Yes	Yes

5. Robustness

For the sake of testing the robustness of our regressions, the paper employs methods like covariance and stability tests, and replacement of some variables and fixed effects.

(1) Covariance and stability tests

In order to satisfy the classical hypothesis, this paper tests whether there exists a co-linearity between the explanatory variables by using the method of variance inflation factor analysis. The results in Table 4 show that the VIF values of all variables are well below 10, so it can be concluded that there is no co-linearity between the explanatory variables involved in our regressions.

Table 4. VIF test for explanatory variables

Variable	VIF	1/VIF
SFS	2.14	0.47
GDP	1.96	0.57
TD	2.00	0.82
TFP	1.39	0.86
CNMUS	5.27	0.20
Stock	4.30	0.24
M2	2.11	0.47

Besides, this paper also employs Engle–Granger two step method to test the stability of our time series model. Tests show that the residuals obtained from the OLS test of model (1) do not have a unit root at the 1% level in the second step of the ADF test, in which case there is a cointegration relationship between the regressing variables and there does not exist a "pseudo-regression" problem due to the non-stationary time series.

(2) Replace the representative variable of RMB exchange rate and fixed effects

For one thing, to test whether the selection of the RMB exchange rate indicator in this paper has an impact on the results (pseudo-significant), we choose the real effective exchange rate (REER) of the RMB (also from BIS), which excludes the effect of inflation of national currencies, to replace NEER in the basic regression formula (1) for the robustness test of the selection of the dependent variable. Column 1 of Table 5 shows that the coefficient of SFS remains positive and significant at the 1% level when the same set of macroeconomic and capital market control variables are incorporated, and season fixed effects are controlled as well. This result strongly argues that the selection of explanatory variables of this paper is robust.

For another, to test whether the choice of fixed effects affects the regression results, we further replace the season fixed effects with month fixed effects. Column 2 to 3 of Table 5 indicate that regardless of whether the dependent variables are selected as NEER or REER, the coefficients of SFS are significantly positive at least at the 10% level. Also, their value is similar to the coefficients in the basic regressions. Therefore, the choice of fixed effects in this

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paper can be considered reasonable.

Table 5. Replace the representative variable of RMB exchange rate and fixed effects

Dependent variable	(1)	(2)	(3)
	REER	**REER**	**NEER**
SFS	0.264***	0.353***	0.154*
	(3.48)	(3.11)	(1.70)
GDP	0.038	0.087	0.164*
	(0.35)	(0.64)	(1.70)
TFP	–0.051	–0.044	–0.051**
	(–1.43)	(–1.15)	(–2.11)
TD	0.216	0.002	0.004*
	(0.61)	(1.04)	(1.95)
M2	0.216	0.209	0.064
	(0.61)	(0.48)	(0.18)
CNMUS	–2.242**	–2.090**	–2.148***
	(–2.62)	(–2.15)	(–2.72)
Stock	0.009***	0.008***	0.009***
	(4.71)	(3.63)	(4.49)
Constant	94.112***	96.779***	89.562***
	(13.72)	(11.59)	(12.26)
Observations	61	61	61
R-squared	0.599	0.654	0.6395
Season fixed effects	Yes	No	No
Month fixed effects	No	Yes	Yes

6. Conclusions and Research Outlook

In this paper, through a time-series OLS regression of monthly data on China's social financing scale (SFS) and NEER of RMB from October 2016 to October 2021, we find that the expansion of SFS can significantly improve the NEER of RMB (RMB appreciation). With a series of tests, we prove that this enhancement effect is robust. This finding provides a new potential tool for China's central bank to view SFS as an intermediate target for monetary policy in the future because SFS can be used as a tool for guiding the China's exchange rate, and also opens up a new research area of correlation between SFS and RMB exchange rate.

In addition, there are certain shortcomings in this paper. Since it fails to investigate how SFS specifically acts on the RMB exchange rate, we do not clearly explain how the transmission mechanism works. At the same time, as an exploratory analytical paper, a lack of reference theoretical models is hard to be avoided, which leads to the relatively simple empirical model in this paper. Also, there is still room to improve the explanatory power as we fail to test more robustness and heterogeneity due to the data sources. Therefore, in the subsequent research, we hope that other scholars can do further exploration based on the research theories and ideas in this paper to enrich the research on the interaction between social financing scale and RMB exchange rate.

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Internal Audit Promotes the Path of the Modernization of University Governance Capacity

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ABSTRACT

Colleges and universities undertake the historical responsibility of realizing the great rejuvenation of the Chinese nation, and the Party attached great importance to it. The modernization of college governance and governance ability are directly related to the fundamental problem of "who to cultivate, how to cultivate people and for whom". As an important part of systematized economic decision-making, standardized internal management and risk prevention and control normalization in universities, internal audit promotes the modernization of governance in colleges and universities and plays an important role in "checking, treating and preventing". Based on the governance theory, I will study the modernization of governance capacity in colleges and universities, and build the path of internal governance audit to boost the modernization of college governance capacity from the aspects of audit system, organizational system, operation system, evaluation system on the macro, medium and micro levels of governance in colleges and universities.

1. Introduction

Colleges and universities undertake the historical responsibility of realizing the great rejuvenation of the Chinese nation, the party and the country. There are very few articles based on the perspective of governance audit, so in the audit implementation of this article, based on the established standard evaluation of governance responsibility activity efficiency and effect, I will focused on how to promote university management potential, improve governance efficiency, build perfect good system, strengthen the consciousness of use system, and enhance the level of application and transformation system efficiency. Internal audit can be conducted from the normative, democratic and orderly aspects of the participation of university governance subjects to define the governance boundary and governance scope of each subject, to prevent overreaching and excessive execution, to establish an error correction and punishment mechanism of ineffective implementation and misplaced implementation, to ensure the effectiveness of implementation, and to boost the modernization of college governance ability [1].

2. Literature Review of Internal Audit Boosting the Governance Ability of Colleges and Universities

Internal audit functions and audit scope have continued to expand. Both the Regulations on Internal Audit of the Education System in 2020 and Order No.11 of the National Audit Office in 2018 specify that the functions of internal audit work are to supervise, evaluate and suggest, and promote units to improve governance and achieve goals. Hong Rusong (2019) believes that the internal audit

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of universities should adhere to zero tolerance for corruption, analyze the causes of found problems, study and improve them, and implement internal control and risk management [2]. Audit serves the national governance and the organizational governance, and most of the literature focuses on the aspect that audit plays an important supervisory role. Wang Haibing (2018) believes that internal audit plays two roles in corporate governance: one is to supervise risks and be a first-line actor to ensure effective control, and the other is to act as an advocate of governance change. Li Xinwu (2020) believes that the internal audit needs a continuous dynamic audit of the problems in the company's strategic management.

To sum up, internal audit in universities, as a tool and structural mode to realize the modernization of university governance capacity, plays an important role. From the perspective of the type of internal audit business, most scholars and practitioners promote the reform by examination, improve the unit governance by examination, and give full play to the due supervision responsibility of internal audit. Most scholars discussed the formulation of the university system and the establishment of ideas, the system is not complete enough, the system design is not scientific enough, there is no effective implementation of the system provisions. Governance audit should focus on the improvement of the formulation system, the shaping of the system implementation ability and the transformation of the system efficiency. To promote the modernization of governance capacity is to adapt to the requirements of the time and constantly reform, and adjust to the mechanisms and systems of the development and in line with reality to transform these mechanism and institutional advantages into the efficiency of governance. We should constantly strengthen the implementation ability of the system, so as to achieve the improvement of governance capacity[3].

3. Build an Internal Audit to Boost the Modernization of University Governance Capacity

The essence of college governance is a series of institutional arrangements, and the core problem of college governance is to deal with the distribution of decision-making power. At the macro level, the main modern university system construction is the corresponding governance system; the relationship between external governance and internal governance, universities and government, universities and society, external governance and cultural audit, while internal governance can measure economic responsibility audit and focus on the power decision-making mechanism. The micro level is mainly the smooth operation and the effect of governance, that is, the operation system and the evaluation system, which can carry out the internal audit business around the goal of the modernization of university governance.

What cannot be ignored in the system audit is the system execution. Measure system execution can be achieved from the following four aspects, that is, University Strategic Execution: research on development and organization implementation and the ability to build effective execution organization; University Leadership Execution: the ability of decision-making, effective leadership, plan, task completion; University Research Execution: the combination of university researchers, research strategies, research planning, and research resources; Clean University Execution: anti-corruption, strategic and organizational leadership, teaching and research.

3.1 Improve Your Political Standing

Only by improving the audit position can the audit work have a high starting point and high efficiency. Under the new situation, internal auditors should constantly enhance the political acuity and political identification ability. With the overall consciousness, internal auditors will analyze the long-term healthy development of colleges and universities, and put forward improvement and perfection on opinions and suggestions, reveal management problems and contradictions, and to promote internal audit work with focus, depth and scientific perspective in order to serve the development of colleges and universities, promote the effective implementation of the party and the national major decision deployment.

3.2 Carry out Diversified Audits

Internal audit departments can carry out business from institutional audit, strategic audit, cultural audit, regular audit and governance audit.

(1) System Audit: As an important link of the university management system, to improve the existing internal audit system plays a very important role in university development. In short, in order to strengthen and improve the internal audit of colleges and universities, and improve the quality of internal audit, we should improve the existing internal audit system, strengthen the specific implementation of the internal audit system, pay attention to and gradually enhance the independence of the internal audit departments, and actively implement the relevant audit policies. As the main body of audit activities, the standardization of internal auditors' written records in the daily audit work and the authenticity and accuracy of the reference data sources must also be emphasized and guaranteed, so as to ensure that the audit work has rules to follow, and improve the authenticity and reliability of

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the audit results from the foundation [4]. In addition, the establishment of a reasonable audit evaluation system and supervision system is an indispensable institutional guarantee to standardize audit behavior, improve audit efficiency and optimize the audit environment. At the same time, universities should follow relevant national audit laws and regulations to keep pace with the time to develop suitable internal audit system, supervise on whether the internal audit system is a long-term, operational internal audit system in a big scale. In order to audit the responsibility system, universities should strengthen auditors professional ethics and responsibility, standardize internal audit behavior, reduce internal audit risk so as to improve the quality of internal audit and then ensure the realization of audit objectives.

(2) Build an internal audit working mechanism: Organizational mechanism, colleges and universities should establish internal audit leading groups headed by the main principals of the school, and composed of the functional departments of discipline inspection, supervision, organization, personnel, finance, internal audit and so on. The leading group shall formulate the audit work plan, the audit work system, and effectively plug the management loopholes to implement the audit task [5]. Universities should carefully study the problems and the suggestions put forward in the audit, then take practical measures, and solve the problems on by one. The internal audit cooperation mechanism in colleges and universities refers to that each audit organization and individual in the internal audit work system must have a clear division of labor, and cooperate with each other and then complement each other to ensure to give full play to the dual role of restriction and promotion of internal audit, and make the internal audit work effective.

(3) Build an internal audit work culture: Spiritual and cultural construction means that universities should improve the identity of financial management process optimization, make sure people know the meaning and goal of financial management, in this process, focus on the spiritual incentive and humanistic care, to unify the staff of the understanding of audit activities, fully mobilize the enthusiasm. Initiation and creativity in the financial management process optimization should encourage employees to pay more attention to the contribution to the enterprise. On the basis of individual and enterprise coordinated development, improve the staff's attention to the financial management process optimization. In order to ensure the independence and objectivity of internal audit, colleges and universities should in accordance with the newly revised national internal audit work document, the current rules and regulations of the school, from the management system, personnel responsibilities, implementation funds, results, accountability clear the internal audit should have authority, clearance of the status of internal audit institutions in colleges and universities, etc., in order to improve the internal audit system. At the same time, according to the actual situation of the school, the operable process of internal audit should be improved, the internal audit work should be standardized, and the professional behavior of internal auditors should be better restrained, so that the internal audit work can be carried out reasonably, legally and effectively. In addition, it is necessary to establish an accountability system to determine the seriousness of the audit personnel violations, violations and disciplines in their work, to clarify the consequences and responsibilities caused by the behavior, and to ensure that the internal auditors independently perform their duties in accordance with the law and regulations [6].

3.3 Make Full Use of the Two Means of Audit Rectification and Accountability

We will improve the accountability for audit rectification, establish an accountability system, a follow-up inspection system, and a performance assessment system, and evaluate the methods and contents of the audit rectification effect. Standardized accountability mechanism can effectively put an end to the subjective arbitrariness and incompleteness of accountability, and ensure the normality, objectivity and fairness of audit accountability [7]. The main leading personnel need fulfill the first responsibility of audit rectification, and increase publicity and make communication efforts, and improve the understanding of leaders and workers at all levels of the unit on audit rectification in order to cooperate to build an audit and rectification mechanism conducted by financial departments, business departments and management departments. In the process of implementation and investigation of problems found by audit, the internal audit department shall give play to the right to inspect, evaluate, suggest and report. The audited units shall implement them step by step and rectify within a time limit. The management department should take the rectification of problems as an opportunity to restrain them from the system and put an end to the recurrence of similar problems.

3.4 Strengthen the Construction of Audit Team, and Become a Think Tank of University Governance

(1) Comprehensively improve the comprehensive ability of auditors. Due to the importance of the internal audit work in colleges and universities, the comprehensive ability of auditors should also be paid attention to and

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improved. First of all, colleges and universities should establish the selection and appointment mechanism of auditors, control the access of auditors, and improve the quality of internal auditors from the source. Auditors' professional foundation should make a solid pass, and clarify the basic procedures and methods of internal audit work, be familiar with the internal management mechanism and operation general situation of colleges and universities, and also auditors have certain work experience of audit departments to get to the internal audit work of colleges and universities as soon as possible. Secondly, to pay attention to the professional ethics of internal auditors, thoroughly study and implement Xi new era of socialism with Chinese characteristics, earnestly experience general secretary Xi's important speech spirit at the first meeting of the Audit Commission of the CPC Central Committee, to deeply grasp the responsibilities and mission of the new era of audit which is to improve auditors' sense of mission and responsibility, to do pragmatic, and no fraud, put the internal audit work into practice. Thirdly, colleges and universities should pay attention to the follow-up education and training of auditors, implement the training mechanism and follow-up education system of auditors, and also regularly conduct professional training for auditors on risk awareness and the latest audit system policies and professional knowledge, so as to improve the professional ability level of auditors. In addition, colleges and universities should also encourage auditors to strive to improve their comprehensive quality. From ways like obtaining professional qualification certificate, after-campus internal audit exchange, participating in subject research, auditors can improve their theoretical level, analysis ability, written and oral expression ability in many aspects. Finally, attention should be paid to the cooperation and communication between internal auditors, and an appropriate incentive mechanism should be established so that the cooperation of auditors is no longer limited to the daily audit work, but on improving the ability of cooperation and labor on the basis of exchanging work experience and strengthening the contact with the administrative departments of other colleges and universities. In the regular assessment of auditors, universities should pay attention to the actual working ability and working attitude of auditors, so that the audit team can have a benign competition atmosphere in the audit team. The above measures will ultimately help to improve the comprehensive quality of the internal audit department personnel, and contribute to the smooth development of the audit work.

(2) Integrate audit resources. First of all, the human resources of the internal audit work of colleges and universities should be integrated. We want to optimize the structure of internal auditors in colleges and universities. In universities which lack audit talents, we should strengthen the staffing of auditors and increase our audit posts to a certain extent. In the introduction of talent process, comprehensive talents with strong audit knowledge, accounting knowledge, statistics and computer skills should be introduced. In addition, internal auditors in universities should also improve their comprehensive quality. Schools should set up regular training systems to regularly train professional skills for auditors. The school should also provide communication opportunities, and improve the professional ability and professional quality through communication and learning with different audit institutions, then carry out comprehensive business training work, so that auditors can constantly receive new knowledge in audit field. When conducting internal audit work in colleges and universities, the staff of multiple departments should be gathered to complete the audit work through cooperation. While reducing the workload, we can also complement our colleagues in other departments and learn from each other. Through the exchanges and cooperation of different departments, the long-term development of universities can be jointly promoted; Secondly, the internal auditors should use the corresponding audit software to make the audit content data accurate. And the conversed data are also easy to be centrally managed, such as the preliminary plan of an audit work, audit suggestions and so on. Auditors within universities can use computer to record and store the corresponding audit data in an electronic information way. At the same time, it is also conducive to analyze the data of the computer (sub-) files to find out the unusual data information.

(3) Carry out professional training activities. With the development of information technology and the deepening of the reform, plus emergence of new knowledge, new technology, new methods, colleges and universities should establish internal audit continuing education system, let internal auditors participate in regularly training, improve update professional knowledge system, and pay attention to horizontal and vertical communication and learning, broaden the horizon, open audit ideas, keep pace with the time [8].

4. Conclusions

In short, governance theory and university governance theory have been studied a lot by scholars at home and abroad. To promote the modernization of governance capacity, we need to adapt to the requirements of the times and constantly reform and development of mechanisms and systems in line with reality, and transform these mechanism and institutional advantages into the efficiency

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of governance, and constantly strengthen the implementation ability of the system, so as to realize the improvement of governance capacity and build and improve the fine system, strengthen the awareness of the system, enhance the efficiency of the application and transformation of the system. The role of internal audit is to promote the unit to improve the governance and achieve the goal, and plays a role in the responsibility of supervision, evaluation and suggestions. As an important part of the scientific economic decision-making, standardized internal management and normal risk prevention and control in colleges and universities, most audit practitioners discuss the construction of "double first-class" in universities from the specific audit business types of economic responsibility audit. Governance audit should focus on the improvement of the formulation system, the shaping of the system implementation ability and the transformation of the system efficiency. With the participation in the normalization, democracy, in order, and take systematization as a bridge, auditors should decompose university governance in the aspects of macro, medium and micro. Internal audit need improve "hard power" and "soft power". Through system audit, cultural audit, strategic audit and normalized audit, to promote reform by auditing, and establish punishment mechanism on poor execution and dislocation error correction, ensure the effectiveness of implementation, to promote the modernization of university governance ability.

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