

Analyzing the Impact of Household Income Sources on Consumer Behavior in China – Based on Mental Accounting

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Abstract: With the continuous development of the economy and society in China and the improvement of people's living standards, the consumption behavior and consumption structure of families in China have undergone significant changes. As an important source and basis of consumption, income has an influence on consumption behavior. Based on the mental accounting theory in behavioral economics, this paper uses the data from China Family Panel Studies (CFPS) to examine the differential impact of different sources of income on the consumption demand of households in China from the micro level. In terms of theory, based on the basic assumption and fact of elasticity of consumer demand, the model directly assumes that there is mental accounting effect in household consumption behavior; that is, the marginal propensity to consume from different sources of income has a significant difference. By establishing a regression model to analyze the influence of different sources of income on consumption, the mental accounting effect of consumption among households in China is verified. According to the theoretical hypothesis and empirical tests, this paper provides policy suggestions for the government. The government should increase people's disposable income. Increasing the proportion of transfer income and property income can diversify people's sources of income and promote consumption as well as economic growth. Finally, the social security system should be improved to promote the consumption level of low-income families.

Keywords: Sources of income; Consumer behavior; Mental accounting; CFPS

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1. Introduction

In 2020, the global economy generally registered negative growth due to the impact of COVID-19. China became the only major economy in the world to achieve positive economic growth. Under the new normal of China's economy, unleashing the potential of domestic consumption has become an important way to promote the transformation of its economic development ^[1]. According to China's Annual Economic Report 2020, the annual GDP reached 101,598.6 billion yuan in 2020, an increase of 2.3 percent over the previous year at comparable prices. Changes due to the epidemic and uncertainties in the external environment have not laid a solid foundation for China's economic recovery (China's Annual Economic Report 2020 on January 18, 2021). Consumption is an enduring impetus for economic growth, especially at a time when the pandemic has caused severe global recession.

Income level has always been considered as an important factor affecting consumption demand, so it is necessary to study the impact of income on consumption. Since the reform and opening-up, with the rapid economic growth, the household income structure in China has undergone great changes.

Diversification of income sources also contributed to the surge in consumption. Therefore, from the perspective of household income structure, analyzing the impact of different sources of income on residents' consumption behavior is helpful to provide policy direction for optimizing their consumption behavior, along with theoretical and practical significance for improving their consumption level.

Although there are relatively comprehensive studies on the relationship between income and consumption based on consumption theories proposed by Keynes and other foreign scholars, there are relatively few studies on the impact of income from different sources on consumption behavior among residents in China. In addition, several scholars have conducted comparative analysis on the empirical results of income structure from different sources and the consumption release of urban and rural residents. Under the background of China's dual economic structure, the household income structure is undergoing significant changes. The increasingly diversified income sources can directly increase the income level of residents and further stimulate the consumption potential as well as the willingness of households through the improvement of income structure. In view of this potential causal relationship, only a few studies have examined the differential effects of different sources of income on consumption from the perspective of income structure, and there is a lack of direct tests on the mental accounting effect of consumption of households in China.

Based on this and existing literatures, from the perspective of behavioral economics and the theory of mental accounting, verifying the influence of different sources of income on consumer behavior, and conducting an empirical analysis using the micro data from China Family Panel Studies (CFPS), the analysis of China's household consumption behavior is helpful to better understand the consumption characteristics of families in China as the micro subject of the national economy as well as to guide and promote the construction of a Chinese characteristic consumption society.

2. Theoretical mechanism

2.1. Background and definition of consumption

Consumption is the end of social reproduction. The purpose of all economic activities is to satisfy the increasing consumption demand. Consumption is also the starting point of economic activities and the final drive for economic growth and to realize economic transformation, which has long been the consensus of scholars at home and abroad. Expanding domestic demand is a long-term strategy of China's economic development. With the continuous development of China's economy and society as well as the improvement of people's living standards, China's domestic market demand has also shown a trend of rapid growth, and the consumption behavior of families in China has also undergone significant changes. Although consumption has been heavily affected by COVID-19, making it a weak link in the economic recovery, it has also become the focus of China's policy support. According to the government work report in March 2021, the government should stick to the strategy of expanding domestic demand, fully tapping market potential, and promoting economic recovery^[1]. At present, the main contradiction of the society in China has been transformed into one between unbalanced and inadequate development and the people's ever-growing needs for a better life (report at the 19th National Congress of the Communist Party of China on October 18, 2017). In addition, in the new period of promoting the comprehensive construction of a modern socialist country, the 5th Plenary Session of the 19th CPC Central Committee proposed to form a strong domestic market and build a new development pattern. China will continue to expand its domestic demand as a strategic basis, accelerate the development of a complete system of domestic demand, integrate the strategy of expanding domestic demand with deepening supply-side structural reform, and create new demand with innovation-driven, high-quality supply leading the way. The country will accelerate the formation of a new development pattern, in which major domestic cycles will play the main role, and both domestic and international cycles will reinforce one another. Among them, domestic cycle means that

China's economy will be mainly driven by domestic consumption. Gradually improving the scale and quality of national consumption has become the focus of development at present and will remain the focal point in the future. This shows that with the continuous development of China's economy and society as well as the improvement of people's living standards, the consumption behavior and consumption structure of households in China have undergone significant changes. In the new era, the optimization and upgrading of consumption structure and consumption content have become an important driving force in promoting the optimization of China's future economic structure.

2.2. The framework of consumption theory

Income level has always been regarded as the most important factor affecting consumer demand. Under the framework of the consumption theory of western mainstream economics, income has always been regarded as the most direct and fundamental factor affecting residents' consumption^[2]. Traditional consumption theories are represented by the Keynesian theory, including absolute income hypothesis, relative income hypothesis, persistent income hypothesis, and life cycle hypothesis^[3]. Both are based on the assumption that consumer behavior is completely rational and that incomes from different sources used for comparable consumption activities can be completely substituted with each other^[4]. Earlier studies suggested that all the components of income and wealth are ultimately reduced to a single summative number that consumers use to calculate their consumption. Thereafter, inspired by Friedman's durable income hypothesis and other consumption theories, scholars began dividing the overall income of residents according to time and nature; they conducted empirical tests on the relationship between the income of different periods and different nature and residents' consumption, thus explaining the main reasons influencing residents' consumption behavior. According to the implicit assumption of the traditional absolute income hypothesis or life cycle hypothesis, different sources of income or income expectations have no differential effect on the propensity to spend on comparable consumption activities. According to the absolute income hypothesis, income is an important source and basis of consumer expenditure^[5], so the change of income will have an impact on consumption. After a long period of development, China's GDP exceeded 10 billion yuan in 2020, and it has become the world's second-largest economy when the global economy showed signs of weakness. In addition, China's overall economy is on the rise, and its per capita GDP is also on a steady rise. In 2020, the per capita GDP exceeded \$10,000. Therefore, under the background of insufficient domestic consumption and continuous low national overall consumption, the issue of how to achieve reasonable growth of income and effective release of consumption through reasonable institutional arrangement as well as to realize the transformation of economic growth has become a crucial matter to be urgently solved by domestic and foreign economic scholars.

2.3. The application of mental accounting theory on consumer behavior

The mental accounting theory in behavioral economics breaks through the constraints of the traditional consumption hypothesis to a certain extent and holds that consumers' decision-making behavior is in fact not completely rational. Under this theoretical framework, the relationship between incomes from different sources is not completely substitutive; consumers tend to put incomes from different sources into their corresponding mental accounts, and then with different budget management rules, they produce different consumption tendencies for comparable consumption activities^[1].

Since the reform and opening-up, with the gradual progress of the economic system reform, the income sources of households in China present a diversified trend. Operating income and transfer income are gradually becoming important supports for the growth of residents' income, diversifying their income structure. According to the different sources of income, residents' income can be divided into wage income, operating income, property income, and transfer income. As the uncertainty and hardship degree of

different income sources are different, residents divide income from different sources into multiple mental accounts under the condition of the same income, thus showing different decision-making behaviors in consumption. With the trend of diversified income development, property income and transfer income, which can be obtained without much time and hard work, are playing increasingly important roles in promoting residents' consumption. Therefore, under the framework of mental accounting theory, identifying the differential effects of income from different sources on consumer behavior from the perspective of household income structure may help provide policy directions for China to expand consumer demand and optimize consumer behavior.

3. Literature review

3.1. Analyzing the impact of income on consumption based on the traditional consumption theory

3.1.1. Relationship between income structure and consumption

Domestic and foreign scholars have conducted a lot of research on the relationship between income structure and resident consumption. Most of the existing literatures are based on the traditional consumption theory represented by Keynesian theory, which analyzed from the perspective of total income and residents' consumption demand and consumption tendency. The decisive role of household income level on consumer's decision-making and expenditure level has been validated. Several scholars from the theoretical circle have carried out in-depth studies on the income structure and the consumption of residents [6]. Li Jinjun analyzed the influence of income sources on family tourism consumption and concluded that family tourism consumption is affected by income; in addition, the influence of wage income and property income depends on the education level [5]. Hall believes that consumption changes are not predictable, and the expected growth of personal income has nothing to do with the expected growth of consumption, which means that the uncertainty of future income has no impact on consumption [7].

3.1.2. Limitations of the traditional consumption theory

It can be appreciated that scholars at home and abroad have carried out sufficient studies on the impact of total income and its spatial and temporal distribution on residents' consumption behavior, in which the decisive role of income on residents' decision-making and expenditure level has been validated in line with the basic assumptions and conclusion of the traditional consumption theory.

However, after further investigation, it is found that studies on the impact of different sources of income on residents' consumption behavior from the perspective of the residents' income structure are insufficient. There is a lack of analysis on the influence mechanism of income from different sources on residents' consumption in existing literatures; in addition, relevant policy suggestions are relatively macro.

Several scholars have conducted comparative analysis on the empirical results of income structure from different sources and consumption release of urban and rural residents. Under the background of China's dual economic structure, the household income structure is undergoing significant changes. The increasingly diversified income sources can directly increase the income level of residents and further stimulate the consumption potential as well as willingness of households through the improvement of income structure. In view of this potential causal relationship, only a few studies have examined the differential effects of different sources of income on consumption from the perspective of income structure, and there is a lack of direct tests on the mental accounting effect of consumption of households in China.

3.2. Analyzing the influence of income on consumption based on behavioral economics

3.2.1. Supplementing the traditional consumption theory with behavioral economics

Generally speaking, traditional mainstream consumption economic theories, mainly based on Keynesian theory, assume that income from different sources can be substituted with each other to satisfy consumer

demand. The differences of marginal consumption propensity of income from different sources have not been discussed. However, people are not as rational as they are referred to in the life cycle theory. Therefore, this does not completely satisfy the strict traditional assumptions. Due to the uncertainty of income and other factors, different sources of income are endowed with different marginal consumption tendencies, and the different consumption tendencies of various income sources are reflected in the consumption process. Due to the improvement in consumption level, when facing higher consumption demand level, the cautious psychology of consumers when weighing the income opportunity cost will promote a stronger mental accounting effect.

With the development of consumption theory, the deficiency of the traditional consumption theory in explaining consumers' irrational behavior has become increasingly apparent, and the mental accounting theory in behavioral economics has gradually become a supplement to the traditional consumption theory. The mental accounting theory in behavioral economics breaks through the constraints of the traditional consumption theory and holds that consumers' decision-making behavior in reality is not completely rational. Richard Thaler was the first to propose mental accounting^[8]. In this theory, people confine money into mental accounts, through which they manage and track their spending and resources. Like many other cognitive processes, it leads to deviations from rational, value-maximizing behaviors. Understanding the flaws and inefficiencies of mental accounting is critical to making good decisions and reducing human errors. Based on the non-substitutability of income budget, mental accounting theory reveals that consumers unconsciously attach "relative importance" or "opportunity cost" to their decision-making process. Different incomes are assigned to different codes of conduct of virtual budget management accounts, and incomes from different sources cannot be transferred to from one account to another^[9]. Under the framework of this theory, the unpredictable decision-making trait of consumers goes beyond the interpretation of the rational economic man hypothesis. Consumers establish differentiated spending budget rules and make consumption decisions based on such potential mental accounts^[10]. The relative importance or opportunity cost of different incomes is the key factor to construct budget rules in their mental accounts^[9]. In this sense, when facing higher tourism consumption demand levels, consumers' cautious psychology when weighing the income opportunity cost will promote a more substantial mental accounting effect.

3.2.2. Reviewing relevant literatures on mental accounting effect

Domestic and foreign literatures have discussed the existence and mechanism of the mental accounting effect of consumers. Empirical evidence has confirmed that incomes from different sources are not entirely homogeneous to consumers, and the relative importance or opportunity cost of various incomes determines their consumption tendency as well as their expenditure level. Thaler found that the life-cycle hypothesis assumes that the state of psychological balance is defined as belonging to the current or future income, which makes an impact on people's behavior because the choice of each account and marginal propensity to consume are different in the framework of mental accounting^[7]. The traditional life-cycle theory developed into the behavioral life-cycle theory, which holds that consumers divide their income and wealth into different types, and there is no complete substitution between them, corresponding to different consumption tendencies. In the framework of the behavioral life-cycle theory, household consumption decision depends not only on expected income but also on the structure of expected income. Under this theoretical framework, the relationship between different sources of income is not completely substitutive. Consumers tend to separate the incomes from different sources into different mental accounts and then adopt different budget management rules to produce different consumption tendencies to carry out consumption activities. Carriker expanded the theoretical framework of the life-cycle hypothesis, and through empirical research, he found that among various income sources of farmers, the short-term and long-term marginal consumption propensity of non-agricultural income was higher than that of agricultural

income^[11]. Jiang Lin analyzed the effect of mental accounting on residents' consumption behavior and found that mental accounting can affect residents' consumption intention, thus affecting consumer behavior^[4]. Brandbury believes that consumer spending is not sensitive to income from different sources^[12]. Zhang Jiwei used the linear regression method to study the characteristics of the consumption behavior of residents in China^[13]. Deng Taotao found that rural families adopt different budgets and processing rules for tourism consumption according to different income sources, indicating that different types of incomes have different tendencies to modify tourism consumption; this means that the mental accounting effect exists^[1]. Through the research on the characteristics of China's household consumption behavior, this paper introduces mental accounting into behavioral economics for empirical research and analyzes the influence of different sources of income on consumption behavior.

3.3. Comparative analysis of the impact of income source structure on consumption

3.3.1. Emphasizing the importance of wage income and operating income to household consumption

Studies on the impact of income from different sources on residents' consumption expenditure have drawn different conclusions based on the results from empirical analyses at home and abroad. It is generally believed that changes like income will affect residents' marginal propensity to consume^[14]. Research in the past few years generally highlights the importance of wage income and operating income to household consumption. Panel data has been constructed to analyze the impact of income from different sources on the consumption of urban and rural residents. From the analysis, it has been concluded that wage income has the most significant consumption effect^[15]. Xu Huiqi studied the influence of income sources on rural residents' consumption in China since the reform and opening-up. Although wage income is still the main source of income for consumption, the elasticity of consumption decreases with the increasing proportion of wage income; furthermore, the elasticity of consumption of property income and transfer income has changed significantly^[16]. Based on the behavioral life-cycle theory, Peng Xiaohui studied the influence of income from different sources on per capita consumption using the generalized method of moments (GMM) for estimation and concluded that transfer income and property income have higher consumption tendencies^[3]. In 2020, Hou Shian showed that the consumption effect of wage income is the largest^[17]. On the other hand, Li Yi adopted the extended linear expenditure system (ELES) model for empirical analysis and concluded that wage income has extensive and significant impact on the consumption expenditure of rural residents^[18]. Leng Chenxin used the dynamic panel GMM estimator in a study and concluded that the relative increase of wage income contributes to the expansion of rural consumption level^[19]. Liu Chunbin concluded that the impact of basic income sources on rural consumption is significantly greater than that of non-basic income sources, among which wage income and operating income have significant impact^[20]. Tao Zui also found that operating income and wage income have significant impact on consumption^[21]. In another study, it is believed that the demand elasticity of household consumption is relatively high for wages and current assets, while it is insensitive to property income^[22].

3.3.2. Emphasizing the importance of property income and transfer income to residents' consumption

In recent years, with the diversification of income sources, many studies have concluded that property income plays a huge role in consumption. Focusing on the impact of property income on household consumption, it is believed that property income has much more impact on the consumption expenditure of low-income families^[23]. Rong Yanan believes that in the post-pandemic era, the marginal propensity to consume property income is the strongest^[24]. According to Chen Xun, wage income is the main factor affecting rural consumption, while property income has no significant effect^[25]. Li Jingqiang analyzed the impact of income on rural residents' consumption from the perspective of Keynes' absolute income hypothesis. Wage income is the main driving force of rural residents' consumption^[6]. Zhang Yunliang

analyzed the income structure factors affecting family tourism consumption through a fixed effect model. The driving factors of property income and transfer income on tourism consumption are wage income and operating income ^[26]. Zhang Jiwei concluded that the marginal propensity of consumption of property income is higher than that of wage income and operating income ^[13]. The panel data have been used to empirically test the relationship between different income sources and the tourism demand of rural residents, and it is found that wage income has the greatest contribution to the tourism rate among rural residents ^[27]. Xian Zheng identified a significant impact of transitory income on private rental housing consumption ^[28]. In addition, other countries have also explained the importance of property income for consumption through various studies. Bhatia analyzed the response of household consumption decisions to the accrued capital gains of self-occupied housing by using micro-data from Canada and concluded that household consumption expenditure increases at the level of accumulated capital gains of housing ^[29]. Imbens estimated the impact of non-labor income on consumption ^[30]. Sand empirically tested the relationship between incomes and rural consumption in Norway using the GMM estimator. The results showed that the marginal propensity to consume agricultural income is lower than that of non-agricultural income, as agricultural income is more vulnerable to external shocks and has greater uncertainty. Farmers usually increase precautionary savings and reduce consumption to cope with the uncertainty of income ^[31].

4. Methodology

4.1. Data sources and variable selection

4.1.1. China Family Panel Studies (CFPS) database

This study uses the data from the 2019 China Family Panel Studies (CFPS) database. The China Family Panel Studies (CFPS) launched by the Institute of Social Science Survey of Peking University aim to collect individual-, family-, and community-level data. The studies focus on the society in China and the change of economy, population, education, and health for academic research and policy decision to provide data to meet the target of the major social science project. Compared with macro-level data, CFPS data can be used to observe the actual decision-making behavior of individuals and test the differentiated influence of various income sources on residents' consumption behavior from the micro level. The data can be used to further identify the marginal propensity to consume and the mental accounting effect, thus providing empirical evidence to the results of theoretical analyses. In addition, the CFPS database covers all the necessary information required for this study. According to the type of domicile, the surveyed subjects can be divided into village committee residents and neighborhood committee residents. Specifically, family economy includes household income, household expenditure, household assets and liabilities, family size, family management mode and location, as well as other essential information. The investigation of household income also makes detailed statistics of income from different sources, such as operating income, transfer income, wage income, and property income, thus providing sufficient data for the empirical analysis of this paper.

The CFPS data used in this paper include 13,996 urban and rural micro samples, and the scope of survey covers 29 provinces, autonomous regions, and municipalities in East, West, and Central China. For 14,241 samples in the CFPS database, this paper processed the missing values before regression and eliminated the missing samples to ensure the reliability of the empirical results. The missing values in the original data were interpolated with "0," and samples without "urban" and "rural" household status were eliminated.

4.1.2. Descriptive analysis of variables

The data of household income and expenditure selected for this paper do not only contain the total income of the family, but also the specific data of its five components in detail: wage income, total operating income

(net income), property income, transfer income, and other income. According to China Statistical Yearbook Division Standard of Residents' Income, wage income includes family wage income or revenue; operating income includes family farm income or self-employment income, such as the net profit after taxation; property income includes all property, real estate, durable goods and financial products, market capitalization, and capital gains; transfer income includes various government subsidies, social subsidies, retirement or pension. **Table 1** provides a descriptive statistical analysis of the variables.

Table 1. Descriptive statistical analysis of the variables

Variables	No.	Mean	Std.	Min	Max
urban	13,996	0.518148	0.4996884	0	1
familysize	13,996	3.625107	1.914573	1	21
Pce (total consumption expenditure)	12,754	63900.55	73964.01	0	1831400
Fwage (wage income)	13,993	48462.05	72735.56	0	4000000
Foperate (operating income)	13,754	8752.964	62117.37	0	5500000
Fproperty (property income)	13,962	1619.28	11261.58	0	800000
Ftransfer (transfer income)	13,727	16518.91	151733.5	0	9086800
False (other income)	13,965	1499.917	16506.28	0	1000000

From **Figure 1** and **Figure 2**, it can be seen that from 2013 to 2020, the per capita net income of the residents kept increasing, and wage income was the most important source of income for the residents, accounting for more than 55% of the net per capita income. In regard to operating income, the proportion presented a downward trend in recent years. In contrast, with the support of national redistribution policies, transfer income accounted for a growing share of the net per capita income and surpassed the operating income in 2016.

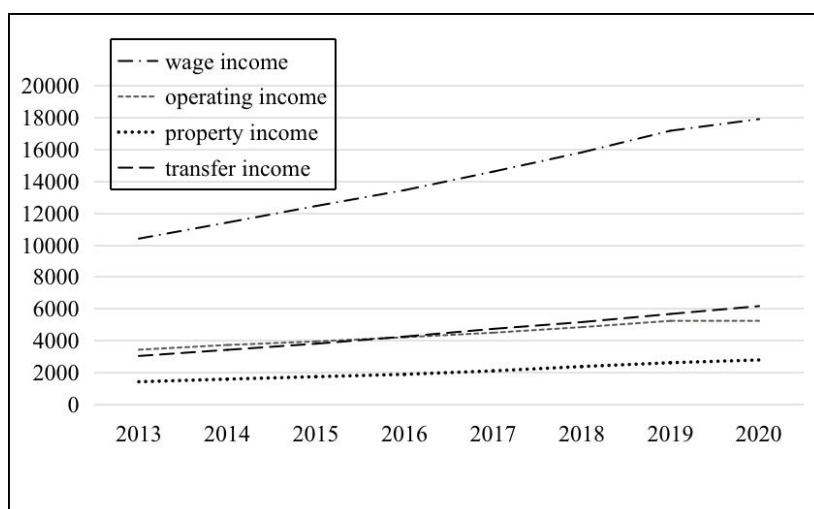


Figure 1. Income levels of rural residents from different sources

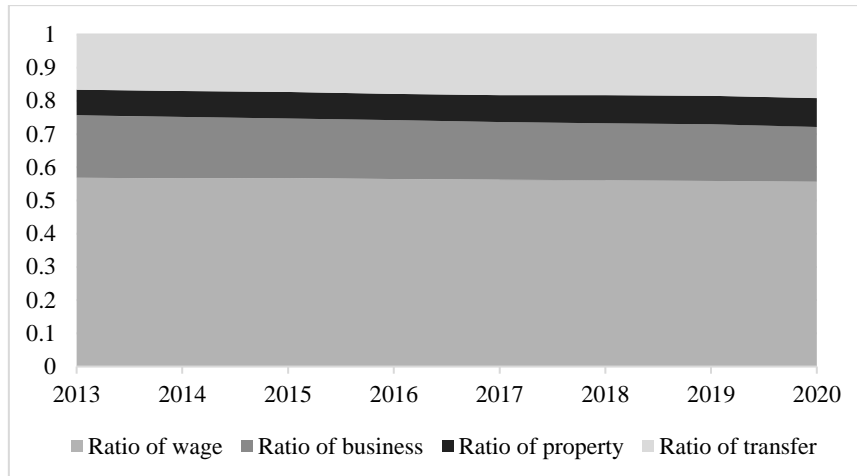


Figure 2. Proportion of residents' income from different sources

4.2. Regression model

In order to verify whether there is mental accounting effect in making consumption decisions among residents in China and whether there is a difference in marginal propensity to consume with different sources of income based on the theory of mental accounting in behavioral economics, this paper established a linear regression model of cross-sectional data:

$$pce_i = \beta_0 + \beta_1 \text{urbani} + \beta_2 \text{fwage}_i + \beta_3 \text{foperate}_i + \beta_4 \text{fproperty}_i + \beta_5 \text{ftransfer}_i + \beta_6 \text{false}_i + \beta_7 \text{familysize}_i + \epsilon_i$$

In this model, i represents different family samples; pce is the explained variable, representing the total consumption expenditure, including culture, education and entertainment consumption, medical care consumption, and other expenditures. The explanatory variable is the household income from different sources, including wage income, operating income, property income, transfer income, and other income. Among them, $fwage$ is the variable representing wage income, which refers to after-tax wages, bonuses, and benefits of any kind earned by the family members engaged in agricultural or non-agricultural work; $foperate$ refers to the net income of households involved in farming, forestry, animal husbandry, sideline, or fishery after deducting the cost and value of the agricultural products they produce and consume as well as the net profit of self-employed residents or privately operated households; $fproperty$ refers to property income, which includes rental income from land or other means of production, rental income from houses, other rental income, and income from a property sale; $ftransfer$ refers to transfer income, which includes financial subsidies, retirement funds, minimum living security, and other financial subsidies; $false$ refers to other income, which includes gifts from relatives and friends as well as other income reported by the families. In addition to that, “urban” refers to a dummy variable of household registration status, in which the value of “urban” is 1 and that of “rural” is 0; “familysize” represents a control variable, and ϵ_i represents a random error term.

4.3. Empirical analysis

In this study, Stata/SE 16.0 was used for data model selection and regression analysis. The linear regression analysis results are reported in **Table 2**. Model 1 studies four key explanatory variables: the impact of different income sources on consumer spending. Based on Model 1, Model 2 adds two control variables (family size and household registration status) to examine the impact on household consumption expenditure.

Table 2. Linear regression results

Variables	Model 1	Model 2
fwage	0.3266845 (0.0082133)***	0.2765604 (0.0083489)***
felse	0.4104822 (0.0348341)***	0.4088592 (0.0341748)***
foperate	0.204426 (0.0093673)***	0.1957944 (0.0091884)***
fproperty	0.8863005 (0.0512123)***	0.8111802 (0.0503076)***
ftransfer	0.0505279 (0.0037454)***	0.0469161 (0.0036769)***
urban		22429.11 (1208.052)***
familysize		5113.054 (317.4283)***
constant	43287.59 (713.7506)***	16131.12 (1459.234)***
Adj R-squared	0.1942	0.2261

Note: ***, **, and * indicate significance levels of 1, 5, and 10%, respectively

The regression results showed that the marginal impact coefficients of the four income sources are all positive and pass at the significance level of 1%. Wage income, transfer income, operating income, and property income have significant impact on rural household consumption expenditure. This shows that increasing the income of residents is a robust measure to promote consumption, which accords with the consumption hypothesis and previous research conclusions. It also ensures the validity of the mental accounting effect of consumption tested below.

On the basis of ensuring robust and effective regression results, this paper focuses on examining the mental accounting effect of household consumption behavior and the difference of marginal propensity to consume having different sources of income. The results showed that the different sources of family income significantly influenced the household consumption, and the marginal propensity to consume is significantly different for different income sources, thus verifying the existence of mental accounting and confirming the theoretical hypothesis of this study. Among them, the relationship between the marginal propensity to consume and the different sources of income is as follows: property income > wage income > operating income > transfer income. To be specific, if other conditions remain unchanged, when all types of incomes increase by 1 yuan, there will be 0.886 yuan of property income, 0.327 yuan of wage income, 0.204 yuan of operating income, and 0.051 yuan of transfer income for family consumption. The results showed that there is an obvious mental accounting effect of consumption of households in China.

Other than that, the result also showed that the marginal propensity to consume from property income (fproperty) and other income (felse) is higher than that of wage income (fwage) and operating income (foperate). The specific degree and difficulty of obtaining property income and other income are much lower than those of wage income and operating income, further verifying the rationality of mental accounting and the first hypothesis. However, the low marginal propensity to consume from transfer income

(transfer) may be due to the fact that first, most families receiving transfer income, such as government subsidies and subsistence allowances, consist of low-income families or second, the desire to consume among elderly families is very low. In addition, the marginal coefficient of the control variable (household registration status and household size) is also positive and passes at the significance level of 1%. The result also indicates that urban families (“urban” = 1) have more consumption expenditure than rural families (“rural” = 0), and the number of families are positively correlated with the total consumption expenditure.

5. Expectation

Different sources of income have different effects on residents’ consumption. Based on the above theoretical assumptions and the basic conclusions of empirical research, this paper provides several policy suggestions.

First of all, increasing household income is an important factor in promoting consumption growth. The country should actively develop the tertiary industry, create more jobs, expand employment channels, and increase people’s income ^[32]. The government should establish a minimum wage system and a wage increase mechanism linked to enterprise performance, support the development of enterprise trade unions, and enhance the strength of collective bargaining between employees and enterprises. In order to mobilize the enthusiasm of enterprises to increase remuneration, it is essential to reduce the tax burden of enterprises. The economic structure should be optimized, and the upgrading of the tertiary industry should be continuously promoted so as to increase the income of workers and attract more workers. Finally, it is important to actively promote agricultural modernization and urbanization in rural areas to increase farmers’ wage income and household net income.

Second, under the influence of mental accounting and diminishing marginal propensity to consume, in order to encourage consumption and promote economic growth, in addition to increasing residents’ disposable income, it is necessary to broaden the sources of household income, narrow the income gap of various types of incomes, and promote the diversification of residents’ income sources ^[1]. The government should constantly optimize the residents’ income structure and promote the sustainable growth of their income. The government should also improve the construction of a multi-mode distribution system and pay particular attention to increasing the number of high-quality assets to raise the level of household property income and operating income. Based on empirical analyses, the marginal consumption tendency of property income is large, so effective measures should be taken to increase residents’ property income. The property income of the residents in China mainly comes from savings, securities assets, and real estate income. At the macro level, monetary policy should be used to ensure the balance of the financial market and the stable fluctuation of asset prices. At the same time, a good institutional system to protect private legal property is an important premise and guarantee to increase residents’ property income, so it is necessary to establish a clear property protection system to give full play to the critical role of property income in promoting residents’ consumption release.

Third, the social security system should be improved. The main reason why residents refuse to spend most of their income on consumption is to prevent future risks, including illnesses and unemployment. The social safety net can reduce the damage caused by such threats and thus improve consumer spending. Therefore, the government should perfect the social security system of urban and rural residents as well as the agricultural production security system. On one hand, the social security system covering urban and rural areas should be established to realize the equalization of social security services between urban and rural areas. On the other hand, the rational connection between urban and rural social security systems should be gradually realized to lay a foundation for the orderly flow of rural labor force. In addition, the production and operation income of rural residents is one of the primary sources of revenue. It is necessary to increase their net household operating income by increasing financial subsidies for agriculture,

optimizing the subsidy structure and methods, increasing agricultural support, and raising the protection price standards for farming products. In addition, the government should promote the growth of low-income families through multiple channels. Under the circumstance that the actual wage of low-income families is limited, simple transfer payment cannot stimulate their enthusiasm to expand consumption. At this rate, various measures should be taken to increase household income, provide security for the residents, enhance their consumer confidence, and improve consumption levels.

The limitation of this paper is that it does not look into the impact of the evolution of residents' income structure on consumption expenditure, nor does it consider the influence of income from different sources on different consumption types. These issues deserve to be further investigated in future studies.

6. Conclusion

Based on the microdata of the 2019 China Family Panel Studies (CFPS), this paper divides household income into wage income, operating income, property income, and transfer income according to different sources, and studies the relationship between household income from different sources as well as the consumption expenditure from the micro level. From the theoretical and empirical aspects, it verifies the mental accounting effect of residents' consumption. Several conclusions are derived from this study.

Firstly, different sources of household income have significant impact on household consumption. This finding is consistent with the neoclassical economic consumption theory; that is, the increase in income will increase household consumption expenditure. As China's economy has changed from high-speed development to high-quality development, it is undoubtedly an effective measure to cultivate new drivers of economic growth from the demand side under the new normal to narrow the income gap between urban and rural areas as well as cultivate and expand the middle-income group by improving income distribution. The results also showed that there is significant difference in the marginal propensity to consume from different sources of income, reflecting the irreplaceability of different incomes in satisfying consumption; that is to say, mental accounting exists. Income from different sources has different marginal propensity to consume. Specifically, the marginal propensity to consume from property income is higher than that of wage income and business income, which indicates that property income has the highest marginal propensity to consume compared to other sources of income. Increasing property income can significantly improve the consumption rate of residents. This is related to the specific degree and hardship of labor. In view of the convenience of property income sources, consumers are more willing to use them for consumption. Wage income and operating income require the residents to pay assiduously because of the unwillingness to use them for consumption. In addition, the low marginal propensity to consume from transfer income may be due to the fact that the main audience is the elderly, who on average have low propensity and desire to consume. In addition, the consumption level of urban households is higher than that of rural households; therefore, encouraging rural residents to increase consumption is still important.

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