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Research on Household Asset Investment Structure

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ABSTRACT

The actual behavior of the family is the choice of the family based on its own preference under the constraints. The family needs to smooth consumption through the intertemporal allocation of assets to maximize the long-term utility of the family. However, whether households can realize the effective allocation of assets largely depends on whether households can borrow from themselves. According to Guiso et (1996) and Koo (1998), credit constraints are an important factor to reduce the demand for risky assets. According to the data of China Household Finance Survey, 22% of families are directly constrained by credit from financial institutions. The participation rate of such families in stock market is 4.70% lower than that of other families, and the proportion of risk capital is 2.15% lower than that of other families. This result reflects that credit constrained households may have different characteristics in asset allocation, which is worthy of in-depth research and exploration. This paper will study the influence of social network and credit constraint on family asset choice.

KEYWORDS

Portfolio choice; Risky assets; Social network; Credit constraints; Credit rationing.

1. Introduction

Family finance has attracted increasing attention. In developed countries in Europe and the United States, family finance has gradually become a new independent research direction alongside traditional financial research directions such as asset pricing and corporate finance (Campbell' 2006). Previous studies mainly around the asset pricing and corporate finance and other traditional areas, economists on asset prices is how to decide on the capital market, the average return on assets to reflect the risk, entrepreneurs how to use financial instruments to maximise profits, such problems as how to solve the principal-agent problems carried on the thorough research. However, it is found that compared with corporate finance, household finance has many unique characteristics: the family must plan in a long but limited life cycle; the human capital owned by the family is an untradable asset; the real estate is an illiquid asset; the family is faced with borrowing constraints and complex taxes.

Household finance studies how households use various financial instruments to achieve their wealth goals under uncertain circumstances, which is also one of the core issues of financial research. With the continuous development of China's financial markets and household disposable income increased rapidly, an increasing proportion of financial assets of family property, and its financial assets choice behavior becomes more and more complicated, is no longer a single deposit sex deposits in the past, families began to participate in stocks, funds, bonds, precious metals such as financial risk assets investment, However, compared with the household financial asset selection in developed countries, the household financial asset allocation in China is characterized by the heterogeneity of saving and low risk degree of financial assets, which can be shown as follows: At present, the savings deposits of Chinese residents in banks have exceeded 42 trillion yuan, and the savings deposits account for more than 50% of family financial assets. However, the participation rate of Chinese households in the stock market is only 8.84%, and the participation rate of financial risky assets is only 20.94% (Gan Li et al., 2012).

2. Literature Review

Family asset selection refers to the demand preference and investment tendency of a family for one or several assets, and then the behavior of holding. It mainly includes two parts: one is how households determine the allocation ratio between real assets and financial assets, so as to determine the total investment of financial assets; The second is how to choose among various financial assets. This paper mainly studies the second level of family asset selection, that is, how the family chooses among various financial assets. This section will sort out the main research results of family asset selection.

2.1. Modern Portfolio Selection Theory

Markowitz (1952) established by the mean variance model, laid the foundation of modern portfolio theory, this theory assumes that the economic man caring only for the expected return of each asset (expect) and risk (variance), and the covariance between return on assets, on this basis points out that the effective investment criteria is given risk seeking the maximum expected revenue, Furthermore, the research shows that the portfolio can reduce the risk, and diversification investment is the optimal choice under the uncertain conditions. Tobin (1958) proposed the famous "separation theorem of two funds", which further improved the theory of portfolio selection. He pointed out that all economic people have the same asset portfolio (one risk-free asset and the only risky asset), and the difference in individual liquidity risk appetite determines the proportion of risky assets in the asset portfolio. Sharpe (1964) combined the efficient market theory with mean-variance theory and proposed an investor behavior model based on rational expectations in the framework of general equilibrium. That is the Capital Asset Pricing Model (CAPM for short), CAPM Model reveals that the non-systematic risk in the security market can be eliminated by investment diversification, while the systematic risk can not be eliminated and has an impact on the expected return. Mean-variance model, separation theorem of two funds, and CAPM model are all one-phase static models, which do not involve the choice of interterm consumption and savings. In fact, investors not only consider the return of their asset portfolio in the current period, but also care about the possible situation in the future periods.

2.2. Extended Research on Family Asset Choice

There is no transaction friction in a complete market, but in reality, the incompleteness of the market makes the selection of household assets subject to many restrictions. Therefore, many scholars have introduced transaction friction factors (such as the prohibitive short selling, transaction costs and taxes generated by buying and selling securities) into the life cycle portfolio model.

Heaton and Lucas (1997) believed that investors would consider transaction costs when making investments, and they were more inclined to invest in assets with lower transaction costs. Guiso et (2002) used the static

mean and variance model to show that there is a fixed cost to enter the stock market. The more wealth an investor has, the more likely it is that his utility from stock investment can make up for the fixed cost of entering the stock market. Therefore, the greater the possibility of holding stock assets is, and it is rational for families with low wealth not to invest in stocks. Vissing-Jorgensen (2002) considered the impact of three kinds of stock market participation costs (fixed costs, transaction costs per period, and proportional transaction costs) on stock market participation. They found that fixed costs had a significant impact on stock market participation decisions, and transaction costs per period explained half of households' choice not to participate in the stock market. Cocco et al. (2005) calculated the returns they would have realized if they had invested in the stock market based on the demographic characteristics of investors who did not participate in the stock market, and found that as long as these investors reasonably anticipated their investment capacity, the small fixed participation cost would have made them choose not to participate in the stock market. Gomes and Michaelides (2005) believe that costs related to stock investment include capital cost, information cost, utility cost and welfare cost, etc. Alan (2006) believes that the one-time cost that investors must incur when entering the stock market for the first time includes time cost and capital cost. The one-time entry cost accounts for about 2% of the permanent part of labor income. It is precisely because of the existence of entry cost that the possibility of low savers holding shares is reduced. Vissing-Jorgensen (2003) regards the time and money needed to invest in the stock market as the cost of participation and points out that holding stocks complies with tax filing. Participation cost may be the psychological factor that makes some households feel uncomfortable after holding stocks. Hong et al. (2004) found that households are more willing to choose financial products they are familiar with. Campbell (2006) interprets participation inertia as the fixed cost of portfolio rebalancing.

Due to the existence of market interference and the restriction of transaction costs such as capital, time and energy in stock investment, some families do not participate in the stock market or have a low proportion of stock investment due to limited access to market information and lack of professional knowledge.

Labor is the most important non-tradable asset of a family. Families can obtain labor income but cannot trade labor ability, and its risks are heterogeneous and unhedgeable. Bodieet al. (1992) was the first to introduce human capital into the study of the model of investment portfolio and consumption choice. They found that there was a close relationship between labor and investment choice. To some extent, this can enhance the willingness of families to bear financial investment risks. Therefore, compared with the elderly investors, young people are willing to hold more risky assets due to their higher risk tolerance. Similar to the conclusions of Bodie et al., Heaton and Lucas (1997) believed that under the constraints of labor income and portfolio, the optimal portfolio for investors should be to allocate most of the savings assets to high-risk stock assets. Without portfolio constraints, Investors should even short risk-free long-term bonds and invest in stocks. For the nature of labor income risk, there is still a certain debate, most of the research that manpower. The income risk generated by capital is closer to that of equity assets, so the labor income risk has a crowding out effect on stock market participation. Heaton and Lucas (2000) believed that the background risk of labor income would increase the level of risk aversion of households and thus make household investment more cautious. Benzoni et al. (2009) believed that there is a co-integration effect between total labor income and dividends. Due to the co-integration effect, young people's human capital is more like "stocks", and the optimal investment portfolio for young people is to invest less of their wealth in stocks. However, since the elderly retire in a shorter period of time, the co-integration effect does not have enough time to work and their human capital becomes more like "bonds". Therefore, the elderly should invest more of their wealth in stocks. Angerer and Lam (2009) further divided labor income risk into permanent risk and temporary risk, and found that permanent risk reduced the proportion of risky financial assets held by residents, while temporary risk had no significant influence. Guiso et al. (2000) proved that labor income risk reduced the proportion of household risky asset investment through the study of family asset selection in Italy. Cardak and Wilkins < 2009) studied the risky financial asset allocation of Australian households and also concluded that there was a significant negative

correlation between labor income risk and residents' risky financial investment. Domestic scholars He Xingqiang et al. (2009) found empirically that the greater the labor income risk, the lower the stock participation rate of Chinese residents.

Other scholars hold different views. Arrondel and Pardo (2002) made a theoretical analysis and an empirical study on French households, and concluded that if labor income risk is negatively correlated with excess financial return risk, the increase of labor income risk can improve investors' investment in risky assets. If the two are positively correlated, the increased risk of labor income will reduce the investment in risky assets. Curo etal. (2005) finds that labor income brought by human capital is equivalent to holding risk-free assets, so holding labor income makes investors more willing to hold a higher proportion of risky assets. Alessie et al. (2000) found that the uncertainty of the expected income of Dutch residents had no significant impact on the investment in risky assets.

From the point of the literature, in the life cycle of the introduction of real estate portfolio model will enhance the explanatory power of model, especially in China home-ownership rates the highest in the world (GanLi, Yin Zhi chao deng, 2012), under the background of rising housing prices and domestic, analysis property value, the influence of the ownership of the house to family stock investment has more realistic significance.

3. Method

The identification and measurement of credit constraints has always been an important reason for the differences in the results of empirical studies on credit constraints (Godquin and Sharma, 2004). Therefore, this issue has become the focus and difficulty of scholars' research and attention. To this end, this section will review the existing literature on the measurement of credit constraints, and compare and evaluate their advantages, to provide a reference for the identification and measurement of credit constraints in the sixth part of this paper.

As for the measurement methods of credit constraints, Diagne et al. (2000) divides them into two categories: direct measurement and indirect measurement. Pet-ick (2004) is divided into six categories:. Directly measure the transaction cost of credit; measures based on the concept of credit limit: @ measures based on the qualitative information of the questionnaire survey; Measure spill-over effects; O Measurements using the household econometric model; O Measured by dynamic investment decision analysis. In view of the research content and key considerations of this paper, we will introduce the classification methods of Diagne et al. (2000) in detail, focusing on the direct measurement method.

Prior to Diagne et al. (2000), Iqbal (1986), Binswanger and Rosenweig (1986) measured credit constraints based on whether formal loans had been used. The basic idea was to measure credit constraints based on lending behaviors that had occurred or observed market results. They are on the assumption that there is no price rationing and all families face under the premise of tight supply constraints that did not get a loan of family by the credit constraints, however, the cause of the family did not get loans may be no demand for credit or no formal credit demand, may also be affected by the loan price, other factors such as risk, The relationship between credit constraint and borrowing behavior is not a simple correspondence. Kochar (1997) pointed out that this method exaggerated the severity of household credit constraints. The study of Boucher (2002) indicated that credit constraints could not be measured only by observing the loan objects and loan transaction amount that had occurred.

Indirect measurement method mainly through the credit constraints of the consequences of the inverse deduced whether the household credit contract Beam. There are three specific methods of operation:. Test whether it violates the life cycle hypothesis or the 1 cycle or permanent income hypothesis (LC/PIH). The basic

idea of LC/PIH is that if the household's short-term income changes do not affect its consumption, it will not be constrained by credit; on the contrary, Account for household credit constraints (Zeldes, 1989); compares the shadow price of capital with the cost of credit (Sial and C 1996) : examines whether changes in the availability of credit affect productive activities (Banerjee and Duflo, 2002). Among the three methods, the first method is the most widely used, but Deaton (1990) questioned this method. First of all, in the uncertain state, even if the family is not constrained by credit, its precautionary motive or prudent motive will lead to the violation of LC/PIH, and it is difficult to distinguish the impact of the two effects in the estimation. Secondly, if the uncertainty is negatively correlated with wealth, even if households are not constrained by credit, their current income is also negatively correlated with consumption growth, and the negative impact of income changes on consumption also depends on the total amount of assets at the beginning. Therefore, credit constraints are not the only cause of household violation of LC/PHI, and the method of measuring credit constraints based on LC/PIH is unreliable.

Direct measurement measures credit constraints using direct information obtained from questionnaires (information on households' current or past experience of participating in the credit market). Fet (1990) and Jappelli(1990) were the first to use this method. They asked households whether their loan needs were met, whether they were willing to borrow more at current interest rates, and whether they were willing to borrow at all. Further, Zeller (1994) divided the investigated sample families into the following four types: the loan demand is fully met, the loan demand is not fully met, the loan is rejected and the loan is not applied for; Barham et al. (1996) divided the sample families into three types: Fully constrained (including families whose loans were rejected and who did not apply for loans due to lack of collateral, high transaction costs or extreme risk aversion), partially constrained (the loan is less than the actual need), and unconstrained (the loan is fully satisfied or there is no demand for the loan). Mushinski (1999) stressed that the family not to apply for a loan, does not mean that its not under credit constraints, should also ask the reason of it is to apply for a loan, if the reason is that family think even applied for a loan will be rejected or apply for a loan to pay high transaction costs, such family type should be considered by the credit rationing, Mushinski calls this type of family "preemptively" rationed. The classification of credit constraints in the above research is based on the assumption that households are risk-neutral. Under this assumption, the households that do not apply for loans are partly price-rationed for lack of production investment projects, and the other part is given up production investment projects due to quantity rationing. Boucher (2002) believes that the assumption of family risk neutrality is inconsistent with experience, and the assumption of family risk aversion in developing countries is more realistic. The basic idea is that, given the cost of a loan, risk-averse households are more likely to choose credit contracts that offer hidden insurance or less likely to cause income volatility. On this basis, Boucher divided credit rationing into six types:. Price rationing Unborrowed: Not applying for a loan because the interest rate is too high: Price rationing: applying for a loan and getting the full amount applied for: Part-Quantity rationing: applying for a loan but only getting part of the amount applied for; Complete quantity rationing type: the loan application is rejected or the loan application is not applied due to the high probability of rejection according to subjective judgment. Transaction cost rationing type: the transaction cost is high but the application is not applied; Risk-rationing type: does not apply for collateral for fear of losing it. In short, the measurement methods of credit constraints are being refined, and the recognition, operability and completeness of the samples and their classification are improved.

4. Results

According to the data of China Household Financial Survey (CHFS), household assets and liabilities mainly include non-financial assets, financial assets and other liabilities. Household non-financial assets, also known as real assets, are assets owned by households in physical form, including agricultural, industrial and commercial assets, real estate and land assets, vehicles, and household durable goods and other assets. Household financial assets refer to liabilities and ownership assets held by households, which are

characterized by credit relationship and content of capital circulation, including demand deposits, time deposits, stocks, bonds, funds, derivatives, financial products, non-RMB assets, gold, loans and other assets. Financial assets can be divided into risk-free financial assets and risky financial assets. Riskless financial assets include demand deposits, time deposits, Treasury bonds, local government bonds, cash balances in stock accounts, hand-held cash, etc. Risky financial assets refer to financial assets other than risk-free financial assets, including stocks, funds, financial bonds, corporate bonds, financial derivatives, financial products, non-RMB assets, gold, loans, etc. Other liabilities include education debts, credit cards and others.

Among the non-financial assets, real estate is the most important non-financial assets of Chinese households, accounting for 40.07% of the total assets. The second is its own production and management assets, accounting for 10· 21% of the total assets. , followed by land assets, automobiles, durable goods and agricultural assets, which accounted for 2.86%, 2.16%, 0.78% and 0.28% of the total assets respectively. Housing has the dual attributes of consumer goods and investment goods, housing total market value of 98 trillion yuan in 2011 in China, far more than the stock and bond, becoming the first big investment, it has to do with the traditional concept of "home ownership" in our country have very big concern, the Chinese family has its own home ownership for 89 · 7%, far higher than the world average of 60%, The United States, the world's richest country, had just 65 percent. In family asset portfolio, real estate is an important asset and has an important influence on family decision-making behavior (Campbell, 2006), and real estate has a crowding out effect on family financial risky assets (Cocco, 2004). In our country, for middle-income families, housing is the necessities of life, for the high income families, to the real estate investment and investment demand, to some extent this pushed up house prices, especially in the center of a city or densely populated areas in our country, our family housing expenditure increase substantially over the past 30 years, for many families, Low - and middle-income families, in particular, bear a heavy burden. The financial assets of Chinese households mainly include bank deposits, cash, stocks, borrowed funds, funds, bank financial products, etc. Among them, savings deposits are the most important financial assets of Chinese households, accounting for more than 50‰ in the financial assets, followed by hand-held cash, accounting for 16‰, and stocks, accounting for 14.7 ‰, which is worth mentioning. Ranking the fourth place is the household loan funds, accounting for 1L6‰, indicating that the private financial market in China plays an important role in the selection of household financial assets. Funds and bank wealth management products followed, while households held few financial products such as bonds, non-yuan assets and gold.

5. Discuss and Conclusion

The choice of family assets is of great significance for improving the level of family income and transforming savings into investment to achieve the goal of family wealth. On the one hand, the family financial investment is beneficial to increase the family property income. Interest and dividend income from household financial asset investment is an important source of property income of Chinese residents, accounting for more than 80% (Liang Da, 2013). Property income is an important symbol to measure the marketization and affluence of a country. Property income of American residents accounts for 40% of their total income, second only to wage income, while currently property income of Chinese families accounts for less than 3% of their total income (Liang Da, 2013). On the other hand, increasing the proportion of household asset investment is conducive to the conversion of savings into investment. China is one of the countries with the highest savings rate in the world. In 2012, the savings deposits of Chinese urban and rural residents in the banks exceeded 42 trillion yuan, and the national savings rate was as high as 52% (Guo Shuqing, 2012). The average savings rate of Chinese families was 29.2%, but the participation rate of the stock market was only 8.8% (Gan Li, Yin Zhichao et al., 2012). Therefore, this chapter is of great significance to the study of family asset selection behavior.

The theory of family asset selection mainly studies the types of assets available for a family to choose and the determinants of asset allocation. In reality, households face two simultaneous decisions: how to allocate

consumption and savings, and how to allocate risky assets to their financial assets. The life cycle theory (Modigliam, 1954) and the persistent income theory (E, 1957) mainly analyzed the first decision of the family and believed that the family smoothes consumption through the interperiodic allocation of assets to maximize the long-term utility of the family. However, whether households can realize the effective intertemporal allocation of assets largely depends on whether they can borrow freely and are restricted by liquidity and short-term asset sale. Household consumption and saving behavior are closely related to asset selection behavior: In order to maintain a certain level of consumption, households that expect future income to decline choose assets that are liquid and have no short-term restrictions on selling or can be mortgaged. Hall Andmishikin (1982) estimated that 20% of American households were constrained by mobility using the panel data of income dynamics in the United States. Manger (1986) estimated that the proportion of liquidity-constrained households was 19.4% using the US cross-section data. Hubbardet al. (1986) used the method of simulating net worth constraint to find that about 19% of households were subject to liquidity constraint. As a result, it is generally believed that about 20% of family behavior in the United States is inconsistent with the traditional life cycle theory and persistent income theory. Hayashi (1985) estimated that about 16% of Japanese households could not borrow enough. Cheng Yu et al. (2009), based on rural survey data, showed that 34% of rural households in China are subject to formal credit constraints, and those households with loan needs are subject to credit constraints up to 45%. Therefore, credit constraints will restrict the intertemporal allocation of assets of some households, and then affect their asset selection behavior.

Another financial decision for households is the allocation of risky assets to their financial assets. According to portfolio theory, rational investors should invest their wealth in all risky assets according to a certain proportion, and the difference in the degree of risk aversion of investors leads to the difference in the proportion of risky assets investment. However, in reality, environmental heterogeneity will affect whether households invest in risky assets and the proportion of investment. For example, credit constraints are an important factor in reducing the demand for risky assets (Guiso et al., 1996). Haliassos andBertaut(1995) believed that the behavior of households subject to credit constraints was different from that of households without credit constraints. The former would choose to hold a lower proportion of risky assets. Koo (1998) also found that those households that expected to be constrained by liquidity held less risky assets. Consumers' asset portfolios may not be subject to current liquidity constraints, but will be affected by expected future liquidity constraints. In this case, if there are transaction costs in selling risky assets and illiquid assets, the realized value of these assets will be reduced. Pson (1990) proved that when credit constraints are exogenous, such transaction costs can be avoided by holding safer and more liquid assets. When credit constraints are endogenous (as determined by interest rates) and borrowing depends on using illiquid assets as collateral, households can reduce their exposure to future credit constraints by reducing their holdings of liquid assets. Gakldis (1998) examined the interaction between credit constraints and income risk in the life cycle. Especially for young people, who have accumulated less wealth, liquidity constraints are more likely to work. When investors' other income declines, assets with declining returns are more risky for investors (Campbell, 2006). Constantinides et al. (2002) constructed an intergenerational overlapping model, indicating that under the premise that young people are constrained by borrowing, the correlation between labor income and stock returns is very low. So young people have more equity investment needs than middle-aged people to spread the risk of future changes in labor income. Young people accumulate little wealth and have liquidity constraints, which damps demand for equity investments and creates a higher equity risk premium. Guiso etal. (1996) studied the relationship among income risk, credit constraint and household asset portfolio with the data of Italian Household Income and Wealth Survey (SHIW). They find that credit constraints reduce the proportion of households holding risky and illiquid assets because of transaction costs. Therefore, it is very important to study the relationship between credit constraint and family asset choice to improve the family asset allocation decision and improve the family welfare level.

At present, there are few domestic literatures on family asset choice, and no one has studied the influence of credit constraints on family asset choice. This paper will comprehensively analyze the impact of credit constraints on household asset selection and asset allocation by using the data from the 2011 China Household Finance Survey. The main contribution of this paper is to use the direct information obtained from the questionnaire survey to measure the credit constraints, comprehensively investigate the impact of credit constraints caused by the supply and demand of formal credit on Chinese households' asset choice, and supplement and improve the relevant literature at home and abroad.

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