

Analysis on Correlation between Personal Financial Investment and Macroeconomic Development in China

ANALYSE SUR LA CORRELATION ENTRE L'INVESTISSEMENT FINANCIER PERSONNEL ET LE DEVELOPPEMENT MACROECONOMIQUE EN CHINE

LU Ye-ting¹
DENG Jin²

Abstract: This paper summarizes the variation characteristics of personal investment selection in China and analyses the correlation between personal financial investment selection and macro financial economic development. The result indicates that Chinese residents' personal financial investment is greatly associated with GDP, price of commodities and interest rates but slightly with employment rate.

Key words: personal finance; investment selection; macroeconomy; correlation

Résumé: Le présent article résume les caractéristiques des variations du choix de l'investissement personnel en Chine et analyse la corrélation entre le choix de l'investissement financier personnel et le développement macroéconomique et financier. Le résultat indique que l'investissement financier personnel des résidents chinois est étroitement lié avec le PIB, les prix des produits et les taux d'intérêt, mais légèrement avec le taux d'emploi.

Mots-clés : financement personnel; choix de l'investissement ; macroéconomie; corrélation

With the rapid national economic growth and remarkable improvement of people's living standards in the past 30 years since the reform and opening up, total financial assets held by Chinese residents have increased significantly. By the end of 2007, total personal financial assets have reached RMB27.07 trillion in China, among which savings deposits account for 65.9%, stock investment 11.2%, cash holdings 9.2%, treasury bonds investment 3.4%, and insurance and other assets 10.3%. Meanwhile, with large issuance of treasury bonds, establishment and development of stock market and orderly expansion of insurance business, China's personal financial assets structure preliminarily presents a tendency of

¹ Department of Finance, Wuhan University, Wuhan, China.

² Department of Finance, Wuhan University, Wuhan, China.

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1. CHARACTERISTICS OF PERSONAL FINANCIAL ASSETS IN CHINA

According to Table 1 and Figure 1, it can be seen that residents' personal financial assets structure presents a preliminary tendency of diversified development. In term of absolute quantity of assets, deposits still account for a large proportion of residents' investments. However, deposit growth rate remains negative. It indicates that the position of deposits in personal investment structure drops year by year. In contrast, capital increment rate of risks investment, typically equity, rises in successive years. It indicates that personal investment is increasingly active and that residents have a strong desire to select or hold high-yield risk assets.

2. RELATION BETWEEN PERSONAL FINANCIAL ASSETS AND CHANGES IN GDP

Expansion of total financial assets and optimization of financial assets structure boost economic growth. Statistic data shows that China's total personal financial assets amount to RMB37.6 billion in 1978 and surge to RMB27.07 trillion by the end of 2007. Such expansion contributes to the aggregation and concentration of capital, promotes the realization of modern mass production operation and realizes benefits from economies of scale.

It shows that the proportion of cash held by Chinese residents presents a downtrend. Nevertheless, considering the relatively obstructed financial investment channels and inadequate social security system, Chinese residents tend to hold fixed deposits as security and investment products for a long time. Therefore, fixed deposits contribute an overwhelming majority of personal financial assets, and the amount of fixed deposits presents slight variation. For example, Chinese residents' deposit proportion has remained up to 65.9% by the end of 2007. After 1999, coupon rate of treasury bonds issued by the government is increasing close to bank deposit rate over the same period. Treasury bonds' attraction to the residents drops. Therefore, the proportion of treasury bonds held by Chinese residents presents a rise after fall, fluctuation generally ranged from 3% to 9%. The proportion of risk investment represented by stocks remains a single digit before and after 2007. In 2007, high-yield rate of stocks resulted in the surged proportion of capital invested to stock market by residents up to 11.2% for a time. In term of insurance investment, it developed from nothing and remained an uptrend, ascribed to Chinese residents' increasingly strong awareness of insurance. In 2007, insurance investment accounts for 10.3% of the residents' total financial assets.

We conducted correlation study on the basis of GDP data from 1978 to 2007 and proportions of various kinds of personal financial assets held by Chinese residents and concluded as specified in the 1st line of the Table 2. Analysis shows that there is strong correlation generally reflected between the proportions of various kinds of personal financial assets held by residents and GDP. In particular, the correlation between cash proportion and GDP is negative while the correlation between risk assets and GDP is positive. It indicates that, with the economic development, the proportion of risk assets like securities and insurances held by residents rises continuously but proportion of cash holdings presents a downtrend. Besides, alternative variation appears between cashing holdings and risk assets investment.

³ All the data in the paper is from The Yearbook of the Chinese Economy, and The Yearbook of the Chinese Finance. from 1990 to 2008.

3. RELATION BETWEEN FINANCIAL ASSETS AND PRICE OF COMMODITIES

We analyzed the variation of stock investment among the various kinds of selection of personal financial assets, and variation of price of commodities in the same chart as showed in Figure 2. Statistic data shows that rate of stock returns is high in 1997, 2000 and 2006-2007. Capital from stock investment presents a sharp rise. During these periods, residents spend less capital subscribing stocks. According to the chart, the share of stock investment generally fluctuates in the same direction of price of commodities. For example, when stock market reaches its peak in 2007, substantive savings deposits are transferred into stock market. Rise in stock price keeps in line with that of commodity price.

In correlation analysis, we have employed consumer price index (CPI) to compare with cash proportion, bank deposit proportion and risk assets proportion respectively and concluded the following results as shown in the 2nd line of the Table 2.

Analysis indicates that investment proportion of personal financial assets and CPI on the whole present strong correlation. In particular, correlation of cash proportion and CPI is highly negative but that of risk assets and CPI is strongly positive. It indicates that, with the pickup in price, Chinese residents are likely to hold more high-yield risk assets including bonds, stocks and insurances. The proportion of cash holdings presents a downtrend. In this way, the maintenance and appreciation of value of their financial assets can be guaranteed. It indicates that in the course of macroeconomic changes, Chinese residents no longer ensure the safety of assets merely by means of bank deposits. During the selection of financial assets, individual's behavior tends to be rational.

4. RELATION BETWEEN PERSONAL FINANCIAL ASSETS AND EMPLOYMENT

Let's take the relation of stock investment among various kinds of selection of personal financial assets and employment for example. According to Figure 3, urban unemployment rate in China is around 3.1% in 1996-2000. It can be seen that rallied stock market doesn't have great impact on the unemployment rate. It can be ascribed to the state-owned enterprise reform and soared figure of laid-off workers, partially offsetting the impact of stock market. It can be seen from the figures after 2001 that there is slight correlation between capital invested into stock market by residents and unemployment rate.

Taking unemployment rate as explanatory variable and the proportions of cash, bank deposits and risk assets in the residents' financial assets structure as explained variables; we analyzed the correlation as shown in the 3rd line of the Table 2.

The result shows that unemployment rate has slight correlation with cash, bank deposits and risk assets in residents' financial assets structure. In particular, cash proportion and unemployment rate present highly negative correlation. It indicates that investors' demand on risk assets will decline and that investors are prone to hold cash in case of high unemployment rate, unstable income and increased income risk.

5. RELATION BETWEEN PERSONAL FINANCIAL ASSETS AND INTEREST RATE

According to Figure 4, it can be seen that China's benchmark interest rates for deposits and loans present a downtrend in 1996-2002. One-year deposit interest rate decreases to 1.98% from 9.17%. One-year loan interest rate decreases to 5.31% from 10.98%. From 2004, benchmark interest rates for both deposits and loans present an uptrend, up to 4.14% and 7.47% respectively.

Benchmark interest rate cut is for the purpose of stimulating the all-time high resident deposits to

flow into consumer domain and the real economy. Resident deposits account for a large proportion of total personal financial assets in China for a long time. Residents' financial claim is mainly against commercial banks. Commercial banks become debtors that concentrate huge household debts, with highly centralized financial risks and substantial risk potential. High deposits mean low consumption level. Decline of residents' consumption propensity not only partially offsets the impact of expanding investment on fueling economic growth but also influences the growth of ultimate consumer demand. In 1996-2002, the Central Bank cuts benchmark interest rates for deposits and loans many times for the purpose of lowering banks' possible business risks and concurrently expanding consumer demand, broadening the channel for transferring deposit investment and spurring economic growth.

Since 2005, China's economy has kept a good momentum of development featured with rapid growth and sound economic return. However, the incipient tendency of inflation appeared. To control the overheated economy and retard the excessive growth of investment for the sake of bringing down the price, China has implemented rate hike since August, 2006. Take the year 2007 for example, consumer price index continued to rise under the influence of structural factors such as food and energy, which gives rise to the increasingly high inflationary pressure. Facing this situation, the Central Bank continuously raised benchmark interest rates six times. The year 2007 becomes the year when the Central Bank adjusted interest rate most frequently in the recent years. After the breakout of subprime crisis in 2008, China stimulates domestic economic development by means of cutting rates. Currently, China's interest rate has fallen back to the level before rate hike in 2006. One-year deposit benchmark interest rate provided in financial institutes is 2.25%.

In correlation analysis, we have employed data of interest rate from 2001 to 2008 to compare with cash proportion, bank deposit proportion and risk assets proportion respectively and concluded the following results as shown in the 4th line of the Table 2.

The data shows that during 2001-2008, one-year deposit benchmark interest rate has strong correlation with cash, bank deposits and risk assets respectively. However, correlation coefficients between interest rate and the proportions of both cash and bank deposits are negative. Correlation coefficient between interest rate and the proportions of risk assets investment represented by stock is negative. It indicates that with the increase of interest rate (generally due to the rising inflationary pressure), residents are prone to hold high-yield stock assets to resist inflation risks. Without doubt, the increase in the proportion of stock investment contributed by Chinese residents has much to do with the bull market appeared in 2005. It also indicates that Chinese residents hold rational attitude when they select financial assets structure.

According to the above analysis, it can be clearly seen that, with the rapid national economic growth, total financial assets held by Chinese residents have increased significantly accompanied with diversification tendency of personal financial assets structure. There is an interactive relation increasingly presented between personal financial assets selection and macro financial economic development. Comparatively speaking, in China, personal financial assets selection has close relation with GDP, price of commodities and interest rate variation but weak relation with employment rate.

FIGURES

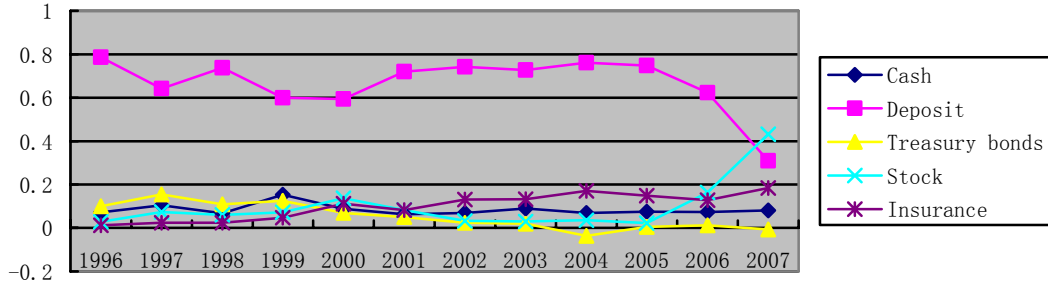


Figure 1: Comparison on increment rate of financial assets held by Chinese residents (1996-2007)

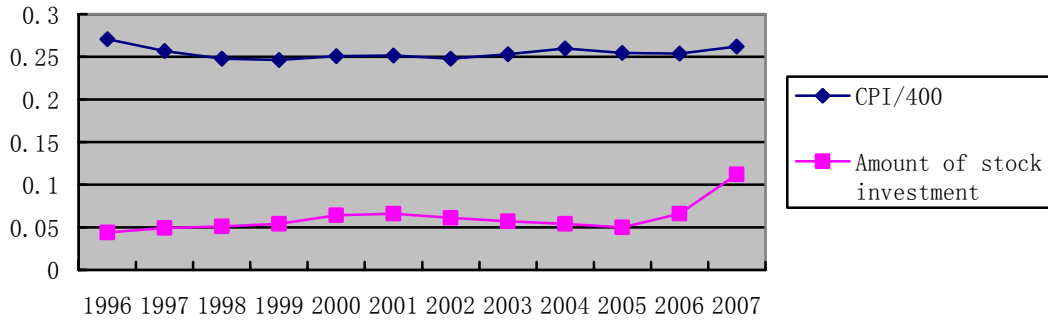


Figure 2: Variation of stock investment and price of commodities⁴

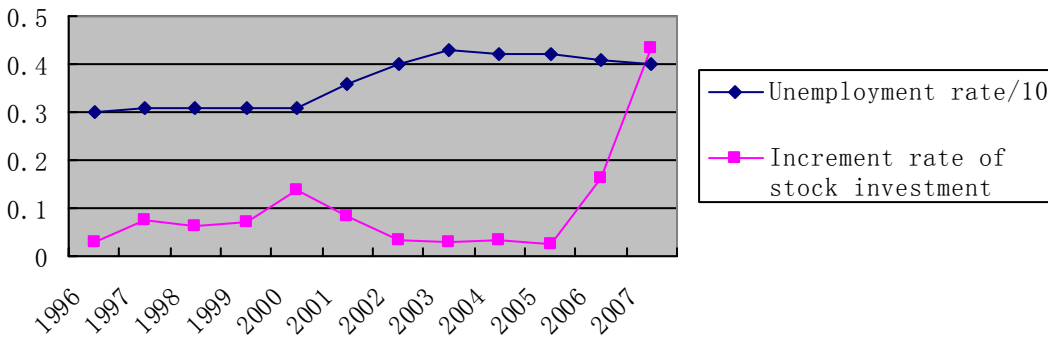


Figure 3: Urban unemployment rate and increment rate of stock investment

⁴ For the sake of comparison, consumer price index (CPI) is reduced by 400 times

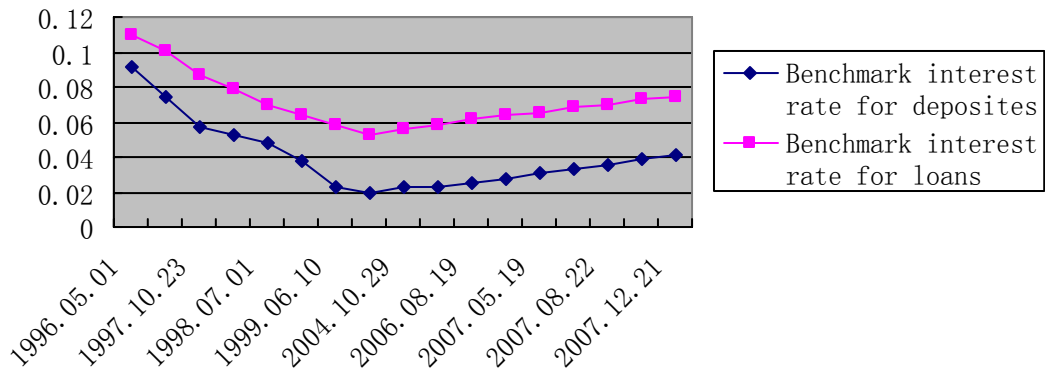


Figure 4: Central Bank's adjustment on benchmark interest rate

TABLES

Table 1: Financial assets and proportions held by Chinese residents (1996-2007) Unit: trillion yuan

Year	Cash		Deposit		Bond		Stock		Insurance		Total
1996	783.1	13.5%	8515.2	75.9%	1084.9	5.3%	305.7	4.4%	127.29	1.0%	10816.3
1997	1221.6	13.0%	7496.0	73.7%	1813.9	7.2%	858.2	4.9%	278.2	1.2%	11668.0
1998	850.8	11.9%	9257.1	73.7%	1372.1	7.8%	765.5	5.1%	298.3	1.4%	12544.0
1999	1868.6	12.4%	7280.5	71.8%	1531.3	8.5%	875.4	5.4%	572.9	1.9%	12128.6
2000	993.7	12.0%	6609.9	70.4%	770.0	8.3%	1527.5	6.4%	1247.0	2.9%	11148.0
2001	873.9	11.3%	9973.3	70.6%	711.3	7.9%	1143.9	6.6%	1156.0	3.6%	13858.3
2002	1319.1	10.7%	14251.7	71.1%	463.5	7.1%	635.7	6.1%	2543.1	5.0%	19213.1
2003	2048.0	10.4%	16560.0	71.4%	443.0	6.3%	681.0	5.7%	3036.0	6.2%	22768.0
2004	1434.2	10.0%	15678.2	71.9%	-739.5	5.2%	717.0	5.4%	3515.8	7.5%	20605.8
2005	2127.5	9.7%	21023.3	72.3%	98.8	4.5%	655.5	5.0%	4201.6	8.5%	28106.7
2006	2524.0	9.3%	21284.0	70.9%	410.0	4.0%	5607.0	6.6%	4365.0	9.2%	34190.0
2007	2741.0	9.2%	10407.0	65.9%	-236.0	3.4%	14572.0	11.2%	6221.0	10.3%	33705.0

Table 2: Correlation between variations

	Proportion of cash	Proportion of bank deposits	Proportion of risk assets
GDP	-0.778862	0.224091	0.855100
CPI	-0.919567	0.410385	0.871361
Unemployment rate	-0.330261	0.098278	0.027407
Interest rate	-0.628463	-0.496697	0.650864