ISSN: 2688-8653

The Impact of Interest Rate Changes on Small and Micro Enterprises from the Perspective of Green Economic Development

Sai Zhu*

Anhui University of Finance and Economics, Bengbu, 233030, China

Abstract

The products of my country's foreign trade companies have the characteristics of low added value and low bargaining power. This feature makes my country's foreign trade companies lose their previous advantages in the face of increasingly fierce interest rate and exchange rate fluctuations in the international market. An increase in the renminbi exchange rate will make the products of South American countries more affordable, which will further reduce the profit margins of foreign trade companies. The fluctuation of domestic interest rates affects the capital acquisition cost of foreign trade companies. With the continuous improvement of my country's financial openness, fluctuations in interest rates and exchange rates will have an important impact on the profits and losses of foreign trade companies. The author analyzes interest rates and exchange rates. The impact of volatility on the profits and losses of foreign trade enterprises has provided suggestions for operators of foreign trade enterprises to cope with fierce international competition.

Keywords

Green Economy; Interest Rate; Foreign Trade Enterprise; Financing.

1. Introduction

With the gradual deepening of the population aging trend, the income and expenditure of my country's pension funds are facing severe challenges. According to demographic data from the National Bureau of Statistics, there was a net increase of 8.6 million people over the age of 60 in 2016. This means that every minute, 16.5 people step into the 60-year-old door, and continue to sound the alarm for us of an aging population. On June 30, 2015, the Ministry of Human Resources and Social Security issued the "Annual Report on China's Social Insurance Development". The report showed that from 2009 to 2014, the return rates of corporate pension insurance funds were 2.2%, 2.0%, and 2. 5%, 2.6%, 2.4%, and 2.9% are lower than the one-year bank deposit interest rate during the same period. The "China Medical and Health Service Development Report 2014" predicts that in 2017, the urban employee basic medical insurance fund will not cover the current income, and there will be a serious fund deficit by 2024. In March 2017, Minister of Finance Xiao Jie also stated at the press conference of the Fifth Session of the Twelfth National People's Congress that due to the continued decline in the dependency ratio and other reasons, there are indeed some places where the current pension income cannot be paid off. With the accelerating pace of aging, my country's basic pension funds are facing severe challenges in terms of investment and expenditure. As the second pillar of my country's multi-pillar pension insurance system, enterprise annuity has received more and more attention for its supplementary pension function [1].

In recent years, my country's enterprise annuity funds have maintained steady growth. As of the first half of 2016, they have accumulated to 101.35 billion yuan, a 38-fold increase compared to 25.9 billion yuan in 2000. How to maintain and increase the value of these funds

ISSN: 2688-8653

and increase the investment income of the enterprise annuity has also become an important issue in the development of the enterprise annuity system. In order to solve this problem, this paper takes GDP and CPI, two indicators that reflect the macroeconomic environment, as control variables, uses the VAR model to analyze the relationship between Shibor interest rate and the investment yield of enterprise annuity funds, and proposes on this basis The investment portfolio proposal between equity products and fixed income products, hoping to deal with the impact of changes in the macro environment on the investment yield of enterprise annuity funds. [2].

2. Literature Review

The classical dynamic optimization model was first proposed by Merton (1971), who assumed a market structure with a constant interest rate. But in the case of considering pensions, the optimal asset allocation problem will involve a considerable period of time, generally 20 to 40 years. Therefore, the constant interest rate assumption is not conducive to solving our problem. Merton (1969, 1971, 1990), Duffie (1996), and Karatzas and Shreve (1998) provided a general treatment of the best portfolio selection in a continuous period of time, allowing risky investment backgrounds to emerge and solving more complex portfolio problems. Boulieretal. (1999) studied the deterministic process of salary and considered the guarantee of benefits. Therefore, they strongly support the protection of enterprise annuity plan participants who face more direct financial risks. Blank. (2000) assumes a random process of wages, including uncontrollable risk components, and takes the replacement rate as the core number of concern. Haberman and Vigna (2001) proposed a discrete-time DC-type enterprise annuity plan model. They studied "investment risk", which is the risk of poor investment returns at the stage of fund accumulation; and "annuity risk", which is the risk of a low transfer rate due to poor economic conditions when receiving annuities at a certain retirement age. Battachio (2002) assumed a complete financial market environment and used a stochastic model to characterize changes in interest rates and income. Then it takes the maximization of employees' expected utility as the goal, and the allocation of enterprise annuity funds among different assets finally obtains the optimal allocation strategy between stocks, bonds and risk-free assets. AndrewJ. G. Caimsa, David Blank, and Kevin Down (2006) studied the asset allocation strategy of DC-type enterprise annuity plans. The model includes asset, wage (labor income) and interest rate risks. They proposed a new form of terminal utility function and discussed various attributes and characteristics of optimal asset allocation strategies.

Zhuang Xintian et al. (2009) studied the optimal allocation of assets of enterprise annuity fund investment using four types of investment instruments: convertible bonds, medium- and long-term treasury bonds and financial bonds, money market instruments, and stocks as constraints. Zheng Bingwen (2009) studied corporate annuity funds' response measures to enhance their ability to maintain and increase their value in the post-financial crisis era, and proposed methods for improving investment strategies and optimizing asset structure. Zhai Yonghui, Wang Xiaofang (2010) and other scholars used modern optimization theory to construct an optimal investment decision model for post-retirement annuity funds. And under the optimal investment strategy of the fund, a comparative analysis of the three different receiving schemes (PLA, ELA, EuD) of enterprise annuity was carried out. Chen Cheng and Han Xiaofeng (2011) analyzed the optimal portfolio of investments in multiple assets based on the mean VAR model. Hu Qiuming and Jing Peng (2014) used the DCC-GARCH model to describe the dynamic relationship between assets, minimizing the portfolio risk as the objective function, and taking the relevant laws and the expected return that meets the minimum guarantee requirements as the constraints to establish an enterprise annuity Dynamic optimization model of fund asset structure. Han Liyan (2013) and other scholars established a dynamic model that adjusted the

ISSN: 2688-8653

optimal asset weights in time according to changes in monthly CPI values based on the main constraint that the investment return of enterprise annuity funds was greater than the CPI value.

3. Theoretical Mechanism

With the continuous advancement of my country's interest rate marketization process, the central bank has gradually relaxed the restrictions on interest rates, and the level of interest rates has continued to decline. In the context of gradual decline in capital prices, the cost of foreign trade companies' use of funds is also decreasing. This will prompt companies to increase their import business and reduce their share of export business. At the same time, companies also have some businesses that are sensitive to interest rates. If foreign trade companies can follow the rhythm, grasp the pulse of the national economic policy, and adjust the company's business structure in time according to policy changes. Through the interest rate transmission mechanism, foreign trade companies will Greatly benefited. When my country's foreign trade enterprises are engaged in foreign trade business, the situation of the counterparty will also affect the foreign trade enterprises' import and export business. The financial crisis has brought severe damage to the global economy, and the deterioration of foreign counterparties' capital situation will make it difficult for foreign trade companies to collect payments. At this time, domestic interest rate changes will have a more important effect on the capital costs of foreign trade companies [3].

4. Establishment and Analysis of the Model

4.1. Variable Selection and Data Description

Since the Ministry of Human Resources and Social Security of my country has issued a summary of the business operation of enterprise annuity funds in the first quarter of 2013, it has divided enterprise annuity funds into fixed income and equity-containing investment types. Therefore, this paper selects the quarterly data from 2013 to 2016 as an indicator of the investment yield of enterprise annuity funds, which is divided into fixed income fund yield (fixed) and equity fund yield (rightsrate). These data come from the summary of corporate annuity fund business data on the official website of the Ministry of Human Resources and Social Security of China. In addition, this article selects the Shanghai Interbank Offered Overnight Rate (SHIBOR) as the representative indicator of my country's benchmark interest rate, and the change in the interest rate (dshibor) is also included in the model. Because the high volatility of interbank lending rates can sensitively reflect the changes in my country's macro environment. In addition, the selected variables are: GDP deflator chain index (GDP), consumer price index (CPI). The purpose is to better consider the changing trend of the macro environment into the model. Interbank lending overnight interest rate (SHIBOR), GDP deflator chain index (GDP), and consumer price index (CPI) are all sourced from the statistical database of China Economic Network.

4.2. Build Panel Quantile Regression Model

This part builds a panel quantile regression model to conduct an empirical analysis of the consumption promotion effect of tax cuts and fee reductions in the context of the new dual-cycle development. The panel quantile regression model is also a weighted minimization residual error that modifies the traditional linear panel model. The regression estimation method of the sum of absolute values,in the form of:

$$Y_{it}(_T | X_{it}, D_{it}) = \alpha_i + \beta_T X_{it} + \theta_T D_{it} + \varepsilon_{T,it} \ . \quad (1)$$

ISSN: 2688-8653

Among them: Yit is the explained variable,Xit is the explanatory variable,Dit is the control variable,βT and θT are the marginal effect parameters at the Tth quantile,and εT,it is the unobserved random item.

In the traditional mean linear model,all sample points are given the same weight in the estimation procedure,so the relative importance of the sample points has nothing to do with the position of the sample points in the sequence;and in the quantile represented by equation (1) In the numerical model,the relative importance of the sample points is constrained by the weight of the sample points in the sequence. The sample points within a given quantile level are given a higher weight.

Therefore,the parameters βT,θT and εT,it are actually conditional estimates under the conditions of a given quantile and a sample set {Yit,Xit,Dit}. In the estimation procedure,the panel quantile model described by equation (1) is estimated by minimizing the conditional loss function in equation (2):

$$\min_{\alpha_{T,i}\beta_T} \sum_{T=1}^{T=M}\sum_{i=1}^{i=N}\sum_{t=1}^{t=T}\left|W_T L_T\right| \quad . \tag{2}$$

Among them: WT is the weight of the quantile of T ∈ (1,2,...,M-1,M);LT is the loss function of the panel quantile model parameter estimation,LT is expressed by equation (3):

$$L_T = Y_{it}(_T \mid X, D_{it}) - \left(\alpha_i + \beta_T X_{it} + \theta_T D_{it}\right) + \lambda\left(\sum_{i=1}^{i=N}\left|\alpha_{T,i}\right|\right). \tag{3}$$

The panel quantile model can not only effectively eliminate the normal distribution assumption based on the minimum residual square sum panel model for the unobserved residual items;it can also analyze the heterogeneity and adjustment of the parameter values at different locations in the sample interval. Direction to better reflect the rich information in the sample data set. Therefore,this study chooses the panel quantile model for empirical analysis to improve the value and accuracy of the research.

4.3. Descriptive Statistical Analysis

The impact of interest rate changes on the cash flow of foreign trade enterprises. The scale of funds involved in each transaction of a foreign trade enterprise is relatively large, and the time difference between the payment receivable and the payment due due to the characteristics of trade activities also increases the interest rate risk of the foreign trade enterprise. This is mainly because the interest rate policies of various countries are different, and the interest rate level is also different, so there is a certain degree of risk exposure to the cash flow management of foreign trade enterprises. If some foreign trade companies hold certain foreign currency assets, if the country introduces interest rate adjustment policies during this period, it will have an impact on the value of the foreign currency assets, thereby indirectly affecting the cash flow level of foreign trade companies.

Countermeasures to strengthen the interest rate risk management capabilities of my country's foreign trade enterprises. Increase enterprises' awareness of interest rate risk and actively manage interest rate risk. Interest rate risk has always been closely related to foreign trade companies. Because the business of foreign trade companies involves a large amount of money, it is difficult to meet the demand with the company’s own funds. With the continuous development of the financial industry, various financial institutions have launched many

ISSN: 2688-8653

products to manage interest rate risk. Foreign trade companies pay more attention to interest rate risk and use these interest rate risk management products to greatly reduce the adverse effects of interest rate risk on enterprises.

Develop a scientific interest rate risk management plan based on the company's own characteristics. With the increase of interest rate marketization, foreign trade companies need to make more systematic and reasonable corporate interest rate risk management plans in order to better respond to fluctuations in the interest rate market. By analyzing the operating characteristics and capital use of foreign trade enterprises, scientifically and rationally tailor-made interest rate risk management plans for enterprises, combining interest rate changes with the daily operation and management of enterprises, can better escort the business development of enterprises.

Recruit professional talents to provide assistance for enterprises to manage interest rate risk. When hiring employees, foreign trade companies should attract some high-quality talents who are sensitive to the national monetary policy and the macro environment. Such employees can design supporting interest rate risk management plans for the company, and obtain low-cost interest rate risk management for the company. Funds, and get interest rate policy dividends to make contributions.

5. Research Conclusions and Policy Implications

Through the analysis of the impact of changes in interest rates faced by the product yields of the two investment directions of enterprise annuities, we can get: fixed income enterprise annuity funds are more sensitive to changes in interest rates, and changes in interest rates will have a positive or negative impact on the rate of return. ; The allocation structure of equity-type enterprise annuity funds is relatively stable, and often does not incur losses when faced with the risk of interest rate fluctuations, but due to the peculiarities of the stock market, there will be overreactions that lead to a downward trend in the rate of return. Therefore, we give the following suggestions on the investment allocation of enterprise annuity funds[4].

First, broaden the investment scope of enterprise annuity funds and increase the types of investment products. Although the government added commercial bank wealth management products, trust products, infrastructure debt investment plans, specific asset management plans, stock index futures and other enterprise annuity fund investment products in 2013, the scope of investment needs to be further expanded. At present, there are few types of investment products in our country, and it is difficult to meet the investment needs of enterprise annuity funds. Therefore, it is necessary to strengthen cooperation between the government and financial institutions, encourage financial institutions to develop more investment products based on market demand, improve product quality, and reduce vicious price competition.

Second, appropriately increase the proportion of equity investments in the portfolio of enterprise annuity funds. We can learn from the investment arrangements of the foreign mature corporate annuity fund market, scientifically adjust the fund’s investment level and proportion in fixed income and equity instruments, appropriately increase the investment proportion of equity instruments, and increase the fund’s investment on the basis of risk diversification. rate of return. This also requires the development and soundness of the capital market as support, such as the further improvement of the stock market. Third, optimistic view of the impact of interest rate risk, investment can appropriately increase leverage in order to seek an increase in the rate of return. The growth rate of my country's enterprise annuity fund is difficult to match the material life needs of employees after many years. Based on empirical analysis, we conclude that the interest rate risk has more advantages than disadvantages on the direction of the enterprise annuity stock market. Therefore, the relevant departments can integrate the current status of stock market investment in recent years, appropriately increase

ISSN: 2688-8653

investment leverage, and selectively use financial derivatives to ensure that the enterprise annuity fund can meet the needs of employees to the greatest extent[5].

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

[1] C.H.Li, Z.W.Bai. Comparison of the efficiency and effectiveness of tax cuts and expansion of government expenditures on economic growth and expansion of domestic demand--An analysis based on the SVAR model[J]. Collected Essays on Finance and Economics, 2009(5): 19-25.

[2] W. f. Yang, Q. Y. Fang. Fiscal revenue, fiscal expenditure and household consumption rate[J]. Contemporary Finance and Economics, 2010, 303(2): 43-50.

[3] H.Y.Cai. The supply school's debate and evaluation on tax reduction policies [J]. Tax Research, 2016, 380 (9): 62-67.

[4] C. M. Yang. Reducing taxes and fees: effectiveness, problems and path selection[J]. Finance and Trade Economics, 2017, 38(9): 5-17.

[5] T. F, An,Z. Jiang. Adjusting the distribution pattern of national income and increasing the proportion of residents' distribution[J]. Finance and Trade Economics, 2009(7): 50-55.