

The Response Analysis of Life Insurance Companies in Low Interest Rate Environment

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Abstract: As China's economic development situation changes from a high-speed growth period to a stable growth period, and based on promoting high-quality economic development, realizing industrial development and reform, and stimulating internal and external development vitality, China's interest rate is entering a downward stage and will continue for a long period of time. At the same time, affected by the global spread of the new coronavirus epidemic, domestic life insurance companies still face many difficulties in completing industrial transformation and industrial upgrading, and achieving sustainable development in the new environment and new era. On the one hand, life insurance companies in the low interest rate environment, how to effectively follow the three principles of investment in insurance funds, while achieving social and economic benefits. On the other hand, how to overcome the current difficulties faced by life insurance companies and continue to promote the innovation and upgrading of operating methods. We make four key statements on the coping strategies of life insurance companies in the continuous low interest rate environment: (1) The rate design of life insurance products is more in line with the potential expected interest rate changes and grasps the overall development direction of the country. (2) Build new channels of investment and financial management, strengthen the use of funds. (3) Starting from the marketing mode of the new life insurance business accelerated by the epidemic situation, life insurance companies focus on building a complete online insurance sales platform based on science and technology innovation and relying on the Internet. (4) Accelerate the construction of talent training and build a reasonable talent growth system.

Keywords: Low interest rate, Life insurance company, Insurance market.

1. Introduction

After the reform and opening up, the domestic insurance business from products to industry, from extensive to intensive rapid development, is full of vitality. Life insurance business and property insurance business are operated separately. The traditional life insurance business functions mainly include security and savings, while investment-based life insurance business emerged in the context of economic development and became one of the most important financial tools for contemporary people. In recent years, the state has implemented a series of macroeconomic policies to promote the overall economic growth and development of the country. After the Fifth Plenary Session of the 19th CPC Central Committee, the state proposed the simultaneous development of the 14th Five-Year Plan and the 2035 Vision Goals, and made requirements for insurance development over a period of time. Compared with developed countries, China's insurance depth and insurance density are low, national insurance awareness is insufficient, competition means are homogeneous, and endogenous development momentum is lacking. Insurance finance, which does not match the national development process, shows great potential, but it also needs innovation to achieve corner overtaking.

2. Environmental Sustainability Analysis of Low Interest Rate in Domestic Life Insurance Industry

2.1. Domestic life insurance development environment

After the reform and opening up, China has a total of 13 insurance groups, 88 property insurance companies, 91 life insurance companies, 13 reinsurance companies, 62 insurance intermediaries, and many insurance branches and agents. The insurance industry is one of the most active and important economic forces in China's capital market. China's insurance industry is drawing on the advanced insurance management experience of developed countries and regions to develop itself. At the same time, it is also actively exploring its own development path. From the emergence of the first joint-stock insurance company in China to the emergence of insurance groups, from the introduction of the agent system by friends to the combination of the Internet and insurance, the development of China's insurance is a quantitative improvement and a qualitative change. While the "Solvency Generation 'generally promotes development, China has also launched a new set of solvency supervision system' Solvency Generation II (C-ROSS)" that reflects the national conditions. At present, the global economy is slowing down and the follow-up development lacks motivation. At home and abroad, low interest rate policy is generally implemented [1]. The Fed continues to cut interest rates, and developed countries such as Japan and Europe continue to have nominal low interest

rates or even nominal negative interest rates. The international situation also has a huge impact on domestic business development. Since the central bank lowered the benchmark deposit interest rate to 1.5 % in 2014-2015, China's insurance industry has experienced a period of fluctuation. During this period, the steady growth of domestic traditional life insurance business, the ups and downs of investment-linked insurance premium income caused by the domestic stock market turmoil around 2016, and the impact of COVID-19 on the investment market at the end of 2019 have caused the sales side of the life insurance industry, including investment products. The decline in sales and investment costs and returns on investment challenges. Based on the overall practice of the domestic life insurance industry after the central bank lowered the deposit and loan interest rates in the past few years, the overall practice of the domestic life insurance industry has shown the ability of the enterprise's asset-liability side to achieve a smooth transition. During the period, the life insurance industry faced the increasing changes brought about by the changes in the interest rate market. The national financial regulatory authorities issued to broaden the investment channels of insurance funds for life insurance companies, making the industry have new changes in investment channels, and there are pilots to lead regional or overall investment changes. Large and medium-sized life insurance companies are also actively participating in the new investment layout.

At present, China is a big insurance country, but not a strong insurance country. From 2017 to 2019, the industry actively or passively adjusted the scale contraction structure optimization. Before the demographic dividend disappeared, the domestic insurance industry gradually began to reform the intermediary system, the innovation of health insurance and investment insurance, and the change of enterprise management and supervision system. Many life insurance companies have completed the optimization of the 'insurance + channel + term' structure, and the prospect growth is superior.

2.2. Environmental sustainability analysis of low interest rate

Since the 1990s, the low interest rate environment in the capital market has become a common phenomenon in the development of many countries in the world. Some scholars have made a comprehensive explanation of this phenomenon from the real economy, financial cycle and monetary policy. First, the trend of global total savings exceeding total investment at the end of the last century determines the downward trend of global natural interest rates. The deterioration of population structure and the slowdown of technological progress constitute the real economic basis of the global natural interest rate decline. The second is the excessive financialization of western developed economies and the impact of the real economy. Thirdly, the significant role of the monetary policy controlled by the central government in dealing with the economic crisis has given rise to the real policy. Some scholars believe that it is affected by neutral interest rate, inflation, term premium and other factors from the perspective of macro economy, and neutral interest rate as the main factor is affected by population structure, income distribution, capital structure and technological progress. Some scholars also believe that the long-term marginal return of capital and the average inflation level decline, resulting in a long-term low interest rate development

environment. In the analysis of the sustainability of low interest rate policy, the low interest rate environment continues to become the mainstream thought at present and in the future. In the post-epidemic era, countries began to generally restore economic development, and major economies such as Europe, the United States and Japan achieved low interest rates and quantitative easing monetary policy adjustments. With the guidance of a new round of development planning in China, the country's emphasis on the 14th Five-Year Plan and modernization, and the aggravation of the aging population, economic restructuring is facing challenges, stimulating economic development, and stimulating endogenous power has become the main idea. The low interest rate environment will continue for a long time.

3. The Impact of Sustained Low Interest Rate Environment on Life Insurance Companies

3.1. The impact on the pricing mechanism of life insurance products

The essence of insurance is to use the law of large numbers to collect most homogeneous risks for unified management. In the form of a contract, the insurer collects premiums from the risk transferor and retains them in the insurance company as a preparation for future payment. For long-term life insurance, there is a time difference between the collection of premiums and the payment of insurance amounts. Insurance companies must maintain and increase the value of assets through the use of funds and premium income to bear the uncertain insurance compensation paid by prior commitment to risk transfer. Actuarial refers to the use of modern mathematics, statistics, finance, law and other scientific and effective methods to analyze, measure and evaluate the potential risks in economic activities based on the basic principles of economics. The traditional life insurance actuarial model calculates the premium of insurance by determining the predetermined mortality rate, predetermined interest rate and predetermined rate in advance. Taking one year regular death life insurance as an example, life insurance companies predict the mortality rate of the population in the current year on the basis of the life table, and charge premiums as a proportion of the insurance amount, which is natural premium. For term death insurance and lifetime death insurance, assuming that customers pay premiums in an annual manner, the annual premiums charged by life insurance companies are based on a comprehensive calculation of the predetermined mortality rate, the predetermined cost rate, the predetermined interest rate and the additional cost. In the case of other fixed conditions, it can also be understood as the insurance amount obtained by the net premium paid by the customer each year through compound interest accumulation.

3.2. The impact on the pricing mechanism of life insurance products

The operating profit of life insurance companies is mainly obtained from premium income and investment income. In the case of unchanged sales business, the low interest rate environment brings the dual challenges of cost control and profit increase to the operation of life insurance companies. The premium refers to the cost charged by the insurance company to sell insurance to the customer and promise to

transfer the uncertain risks faced by the customer. The premium is composed of pure premium and additional premium. The pure premium is the insurance cost, and the life insurance company extracts the liability reserve from it as the due payment or the insurance amount payment after the insurance accident occurs. The additional premium refers to the additional calculation of the agent's commission by the insurance company, and the cost of the policy maintenance. In the process of formulating life insurance rates, insurance companies usually plan to take a higher predetermined interest rate, predetermined mortality rate and predetermined cost rate, and the underwriting business income of insurance companies comes from the difference between premiums and claims, as well as a small part of other income such as surrender income. Although insurance product sales are the main business of insurance companies, insurance investment has gradually become the main source of profit for life insurance companies. Under the continuous low interest rate environment, the operation of life insurance companies is facing greater challenges.

3.3. The impact on the competitiveness of life insurance products and financial products

In the current market, insurance, as an important tool for people to transfer risks and invest in financial management, has similar substitutes such as deposits, stocks, funds and bonds. The interest rate level of investment life insurance products is often higher than that of bank deposits in the same period, but lower than that of fund stock bond market. In terms of market selection, customers who tend to benefit from investment tend to choose other markets in the same period. At the same time, customers have the right to choose insurance policies for life insurance products. Customers can obtain cash flow by extracting the cash value of insurance policies or loan treaties to invest in other markets. Life insurance companies need to prepare too much cash deposits for this potential capital outflow, which has a certain impact on the capital flow and investment of life insurance companies.

The business of life insurance companies extends from the insurance market to the entire financial market, and competes for customer funds among peers and other financial institutions through high-yield investment products. Nowadays, among the life insurance companies, the financial insurance product business accounts for 60 % -70 % of the entire life insurance business scale, and more life insurance companies financial insurance premium income accounts for more than 90 %. Investment and financial products have become customers' favorite. Under the low interest rate environment, the potential earnings decline, life insurance companies must carry out more active financial management strategy.

4. The Current Measures and Shortcomings of Life Insurance Companies to Cope with The Low Interest Rate Environment

The problem of interest rate is an unavoidable problem in the development of life insurance industry, and the continuous low interest rate environment is also an inevitable challenge for the current domestic life insurance market^[2]. From the perspective of future generations, the domestic life insurance industry refers to the strategies adopted by the European and

American life insurance industry in the early response to the low interest rate environment. After the reform and opening up, the introduction of foreign investment and the inclusion of these economic ideas have made the domestic life insurance industry form a better market environment and asset structure before the arrival of the low interest rate environment. Life insurance companies use asset allocation strategy and product strategy to alleviate the pressure of interest rate decline from the investment side and the sales side respectively, and realize the stable operation of the company. However, in the face of new market changes, life insurance companies generally have problems such as investment-side bias, long-term matching rationality, and sales-side cost orientation.

4.1. Asset allocation strategy

Asset allocation strategy is an important foothold for insurance companies to manage their assets and liabilities in the past few decades. It is used to balance the imbalance risk of corporate assets and debts in a low interest rate environment and a substantially changing interest rate environment^[3]. The management content includes interest rate risk, finance, products, human resources and strategic management. The intangible nature of life insurance company's products and the liability nature of its operation essentially require the company to adopt efficient management methods and risk response measures. At the same time, due to the long-term nature of the product return rate of life insurance companies, life insurance companies are required to reasonably control interest rate risks and ensure the stability of solvency. As a financial instrument, insurance products cannot bypass the problem of interest rate risk in the whole financial market. Interest rate risk management runs through the full range of asset and liability management of life insurance companies, which greatly affects the stable operation of life insurance companies^[4].

For insurance companies that adopt the asset-liability business model, they often require the risk-free interest rate to be higher than the liability cost when pricing products, which is the root cause of their requirements for product sales profits. In the process of asset-side interest rate downside, life insurance companies also have to face the market pressure brought by the downside of debt-side product pricing interest rate, as well as the income risk brought by the investment side under the change of non-debt-side interest rate. In order to make up for the viscous change of asset-liability side, life insurance companies more radiate the investment side to the medium-and long-term asset investment sequence.

4.2. Product r&d strategy

In the high interest rate period of more than ten years in the early stage of insurance marketization reform, the investment side of life insurance has achieved high investment returns. On the debt side, the domestic life insurance market still has a lot of room for growth. Under the spread of the epidemic, the sales performance of domestic life insurance products has not decreased but increased, and the development of the industry still has a large demographic dividend gap. At the same time, by the successful market strategy adopted by developed countries in the early low interest rate environment, domestic life insurance companies introduced investment products such as universal insurance, dividend insurance, investment-linked insurance and other new life insurance product concepts, and achieved great success in the country.

This method of transferring part or all of the risk to the customer has greatly changed the risk structure of life insurance companies. The domestic life insurance industry can look over the shoulders of giants to achieve its own risk control and regulate market development. Compared with the foreign market interest rate environment, the domestic environmental pressure is still not great.

5. The Coping Strategies of Life Insurance Companies in Low Interest Rate Environment

5.1. Improve the product pricing mechanism

In general, the dead difference factor has the least impact on the pricing of life insurance products. In the actuarial design of products, the predetermined mortality rate is often obtained based on empirical data such as life tables. By quantifying the actuarial law and the law of large numbers in a fairly accurate interval, the overall results remain stable for a long period of time. China completed its market-oriented management as early as 2006. The impact of premium difference factors on the pricing of life insurance products is controllable and limited. Life insurance companies participate in market competition by controlling business costs, commissions and policy costs. For the vicious competition of enterprises, it is often extremely compressed cost costs, rebates and other forms to obtain customer resources. Under the background of the rising operating costs of various enterprises, it is easy to bring the risk of loss. Spread factor is an important factor affecting the pricing of life insurance products. It is an uncertain interest rate for potential inflation rate, bank deposit rate, financial market guidance rate or actuarial assumed interest rate assumed by the average return rate of industry investment. Short-term life insurance products may have little impact, but for medium and long-term life insurance products, changes in interest rates are in a state that cannot be captured, and the gap between actual results and expectations is often uncertain.

The market-oriented reform of life insurance rate is always a dangerous road. In the early days, the development of the life insurance industry in the domestic unified market was single, and there was no competition outside and the endogenous power was lacking. Foreign insurance companies brought advanced management experience and low-cost operating methods, which sounded the alarm to domestic life insurance companies. Non-standard market behaviors such as high procedures, high returns, low-rate price competition, intellectual property infringement, theft of commercial secrets, and administrative intervention have a great impact on the operational stability of life insurance companies. Problems such as insufficient solvency and high surrender rates are prominent. To guard against industry risks, from the constraints on free pricing, the industry began to govern the interest rate. However, due to the constraint of product interest rate, the whole industry has been producing in a mold for 14 years. The development of life insurance industry is facing problems such as insufficient innovation, insufficient guarantee and serious product homogeneity.

(1) Establish a scientific rate management mechanism and strengthen the construction of actuarial system[5].

A sound rate management mechanism is an indispensable part of the industry's pursuit of rate field development. Life insurance actuarial is the basis for insurance rate formulation. This is a system of scientific division of labor jointly

participated by various entities of the industry, including insurance regulatory agencies, insurance companies, industry associations, and intermediary companies. Strict, fair and open information disclosure, product reporting, life insurance clauses and rate basis implemented according to law are necessary prerequisites for promoting the stable development of the industry. The loose market under supervision is the hotbed of industry development. In terms of rate and clause design, we will change the tradition of simply obtaining competition through preferential prices, truly based on meeting market demand and serving customers, preventing risks, and absorbing excellent theoretical and practical achievements at home and abroad to create a life insurance actuarial basis that is truly suitable for national conditions.

(2) Improve the insurance company product, service and marketing innovation ability.

The purpose of improving the product pricing mechanism is to sell products and obtain profits. Strengthen the selling point characteristics of life insurance company products, strengthen the packaging of insurance products to make the terms clearer and easier to understand, simplify and optimize the insurance process to facilitate the service of customers. Develop marketing channels, strengthen cooperation between banks and insurance companies, and give full play to the role of various insurance intermediaries in product marketing.

5.2. Strengthen the use of funds, enhance investment and financial means

The low interest rate environment reduces the profitability of life insurance companies and increases operational risks. In the face of the challenges brought by the interest rate downturn, slowing economic growth and the new coronavirus epidemic, life insurance companies should review the situation, change their production and management concepts, adjust their risk management ideas, and adopt practical countermeasures to deal with risks. As the global novel coronavirus pneumonia spreads in 2020, China Life has achieved a net profit growth rate of 411.5 %, which has contributed greatly to the effective control of the investment side. On the occasion of optimizing the underwriting side, actively grasp the opportunities of the investment side to achieve investment returns.

(1) Diversified investment strategy, wide channel financial management means

At present, the main channel for life insurance companies to invest is the bond market. With the gradual liberalization of the country's channels for the use of insurance funds, the current life insurance companies can participate more fully and more actively in the entire capital market, promote positive interaction with the fund market, money market, derivatives market, etc., and attach importance to the investment benefits of equity assets. At the same time, in the construction of an international and domestic dual cycle development system, life insurance companies can use the capital of the international capital market for their own development.

(2) Optimize the organizational structure, improve the level of asset liability management

While paying attention to investment and financial management channels, it is also necessary to strengthen the company's own management capabilities, optimize the organizational structure, and improve asset liability management technology. For asset management technologies such as cash flow detection, cash flow matching,

immunization, and dynamic financial analysis in the international market, relying on the organizational structure, a strategic overall grasp and a tactical action framework are formed.

5.3. The combination of insurance and technology

The digitization of the insurance industry is the general trend. With the continuous development of the low interest rate environment, taking assets out of banks and enterprises' warehouses and putting them into the market has become a measure for enterprises to cope with inflation. With the development of information industry technology promoted by national policies, based on the construction of new infrastructure such as 5G data center, the active layout of digitalization in the same industry and the transformation of business development mode promoted by new coronavirus pneumonia, insurance companies have accelerated the integration of business operations into online terminals and mobile terminals, and incorporated insurance business processes into digital management. With the insurance value chain as the key, we should strengthen technology empowerment and enhance customer experience, so as to cope with the threat of new coronavirus epidemic and improve the market competitiveness of life insurance companies in the environment of continuous low interest rates.

In 2019, Taobao Group used natural language processing technology to establish an intelligent and interesting scene consultation mode through intelligent semantic analysis to provide customers with personalized service places. Taikang online intelligent interactive robot provides highly scene-based and intelligent services through intelligent dialogue engine to solve the problem of artificial dialogue service in Internet insurance. Ping An Insurance Co., Ltd. has launched smart underwriting. Through the simulation and collection of big data, it accurately calculates the risk cost and corresponding pricing of each employee, monitors the after-sales risk, and onlineizes the business evaluation and quotation model. In exploring the new development model of insurance + Internet, enterprises develop online supermarkets, APP, live delivery, self-media and other channels. Through digital transformation, they respond to the challenges of offline contact blocking and low interest rate environment, pay full attention to and strengthen online service capacity building, seize new opportunities for post-epidemic economic development, and create new competitive advantages.

(1) Adhere to the implementation of customer-centered development concept

With the improvement of people's living standards and the enhancement of insurance concepts, service level has become one of the important factors affecting customers' choice of products. Life insurance companies integrate technology elements to create online and offline integration and create ecological storage. Pre-sales service, in-sales service and after-sales service are integrated, and big data and artificial intelligence are used to drive scene and personalized service requirements.

(2) Match supply and demand, strengthen security

The traditional life insurance business attached to the form of insurance policies shows the pain points of mismatch between supply and demand and insufficient effective protection. Internet insurance brings customers not only changes in the form of interaction between the two parties to the contract, but also changes in the thinking of insurance

product design. Based on cloud computing, big data and blockchain, the design meets the requirements of customer customization and strengthens the individual supply and demand configuration of the market.

(3) Strengthen social management functions

Life insurance companies use scientific and technological means to improve risk identification, measurement and management capabilities, further improve the scope of life insurance protection and management efficiency, and expand the protection object from low-risk groups to high-risk groups, as well as post-compensation to pre-prevention. This is conducive to returning to the origin of insurance and better performing the functions of risk managers.

5.4. Emphasis on talent construction

(1) Human resources are the first resource for the development of life insurance industry. The core competitiveness of modern insurance industry is reflected in the talent competition. After the reform and opening up, with the development of economy and society, along with the increasing demand for diversified talents, the education industry and human resource management industry have developed rapidly. Life insurance companies have attracted a variety of structural talents while developing their business through agents. For the traditional insurance industry, actuarial talents are the core of insurance companies. As producers of products, they are of great significance to the company's production and operation. However, since the introduction of the actuary assessment system in China, the output capacity of actuaries in China is not high. Compared with the huge insurance market, the number of foreign introduced and self-trained actuaries and quasi-actuaries cannot meet their demand. Although most actuaries work in life insurance companies, they are still far below the talent-to-company ratio for the entire international insurance market. In the post-epidemic era, life insurance companies are facing industrial transformation and upgrading, which puts forward new talent demand for the development of the new Internet + insurance industry. In the low interest rate environment, life insurance companies also show greater desire for investment income. Big data analysis talents, Internet sales talents, and financial investment talents have become the new direction of industry absorption.

(2) Take the discovery strategy and adjust the life insurance company internal human resources stock

(3) While absorbing talents from abroad, the exploration of internal talents is equally important. Internally, for the shortcomings of the employee performance appraisal strategy commonly existing in life insurance companies, such as the opacity of their processes, the lack of specific standards, and the lack of authority of human resources departments, life insurance companies need to adopt a classified employee appraisal system to make it truly fair. It is also necessary for the company's internal staff to have sufficient mobility, so that it can fit its position and show the potential of employees. Externally, life insurance companies actively cooperate with other relevant institutions and universities to absorb fresh blood and university talents in a timely manner.

(4) Establish a training mechanism to strengthen personnel training. To train internal staff, improve staff quality and optimize enterprise structure. For example, data analysis ability and market interest rate sensitivity training for actuarial talents, marketing and consumer psychology training for product development departments, big data

analysis for insurance marketers, and market analysis ability training for investment talents.

(5) Cultivate good corporate culture to retain talents. Enterprise culture is the soul of enterprise development, is the intangible assets of enterprise survival, is the characterization of enterprise soft strength. Excellent corporate culture will make employees have a sense of identity. Through normalized organizational learning, discussion and exchange, and expansion activities, employees' understanding and cognition of corporate culture are strengthened, so that corporate culture can penetrate into all aspects of company management and operation. It also gives employees reasonable material security while the environment is softly eroded.

6. Conclusion

Due to the impact of the global spread of COVID-19, domestic life insurance companies still face many difficulties to complete industrial transformation and industrial upgrading and realize sustainable development in the new environment and the new era. This paper makes four key points on the response strategies of life insurance companies in the environment of continuous low interest rate: (1) the rate design of life insurance products is more in line with the potential expected interest rate changes and grasp the overall development direction of the country; (2) build a new channel

of investment and financial management and strengthen the use of funds; (3) the marketing model of new life insurance business based on the Internet, focus on the construction of a complete online insurance sales platform; (4) accelerate the construction of talent training and build a reasonable talent growth system.

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