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Empirical Study on Non Standard Alternative Investment and Sustainable Profitability of Insurance Companies

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Abstract: Using the EPS database and relevant self-collated data from 120 major insurance companies in China from 2012 to 2021, the fixed effect of the panel data model was used to empirically test the impact of insurance companies' alternative investments on their profitability. The following conclusions were drawn: An increase in the proportion of non-standard alternative investment assets has improved the profitability of insurance companies, with large state-owned insurance companies benefitting most evidently, but it has reduced the capacity of local insurance companies. Before strict regulations were introduced in 2017, the increase in the proportion of non-standard alternative investments reduced the profitability of insurance companies, but after this, non-standard alternative investment business increased the profitability of these companies. The results of the grouping of local insurance companies further illustrate the negative relationship between the increase in the proportion of non-standard alternative investment business before 2017 and the profitability of local insurance companies. The results of this article provide a reference for the alternative investments and profitability of insurance companies.

1. Introduction

With the continuous reform and development of its financial enterprises and the deepening of financial separation, China's insurance industry is developing rapidly. After the end of the epidemic in 2022, the insurance industry bottomed out and subsequently rebounded, with premium income rapidly growing. The growth rate of total premiums changed from negative to positive and increased significantly to 4.58%. As of the end of 2022, the total assets of Chinese insurance companies were RMB 27.1 trillion, an increase of RMB 2.3 trillion from the beginning of 2022[1]. Insurance funds,

especially life insurance funds, which account for a large proportion of the total funds, are long term, large scale and strong risk aversion, while traditional standardized assets such as stocks, bonds and net value security investment funds have drawbacks such as a high risk or low yield and are less adaptable to insurance fund investment and application. With the development of the national economy and considering residents' needs, investments in and the construction of infrastructure such as railways, highways, airports, energy bases, and insurance-related industries (such as health care and medical industrial parks) are increasing. At the same time, they are also in agreement with the support of insurance funds for the national economy. They are good investment targets and a good strategic direction for optimizing the allocation of insurance funds, and 2024 is a key year for the promotion of Chinese-style modernization. China must introduce a new development pattern under the guidance of a new development concept. As an important part of China's economic and financial sector, the insurance industry needs to be guided by this to make it more profitable.

With regard to insurance fund allocation, foreign scholars have found that adding a certain proportion of alternative investments to insurance funds improves the overall allocation strategy. Hess and Smith (1988)[2] . found that securitization assets are an independent financing tool that can be separated from the credit of the original equity holder, optimizing the asset–liability structure of the original equity holder and also obtaining relatively stable and predictable returns for investors. This presents a good alternative investment product. Bob (2014)[3]. believes that, in different economic cycles, different types of investments will bring different investment returns. High-weighted standardized investments are suitable for periods of economic improvement, but during economic downturns, investment institutions should allocate appropriate alternative standardized investments to offset the collective downside return risk of various types of assets. Reema Monga et al. (2022)[4]. studied novel smart beta investments to encourage more effective and diversified alternative investments. The results show that smart beta investments produce better risk returns on an absolute and risk-adjusted basis. In addition, the results prove the consistency and robustness of smart beta strategies under different market conditions, highlighting their excellent performance even under poor market conditions. Mundi and Kumar (2023) [5] . reviewed, sorted and integrated 570 existing studies on alternative investments. Through this, it was found that a consensus has been reached in the industry that "alternative investments have flexible and diverse characteristics and play a key role in portfolio construction". In addition, research on alternative investments has become increasingly popular in recent years. In their study, it was found that hedge funds, private equity, art, collectibles, commodities, fine wines and venture capital are ongoing alternative investment areas, while investment in cryptocurrency is an emerging area of alternative investment.

Zhang Xiao long and Zhao Yong sheng (2020)[6] . analyzed the risk control characteristics and challenges of alternative investments of insurance institutions and put forward practical suggestions for constructing risk control systems for these investments in domestic institutions by drawing on the risk management elements of prestigious foreign management institutions. Tan Lu qi (2021)[7]. explored how domestic wealth management subsidiaries can use their own advantages to participate in special asset investments based on knowledge gained from studying overseas and current domestic special asset investments, suggesting a path for the investment direction of bank wealth management subsidiaries with high reference value. Shen Zhihan and Feng Qian (2021)[8]. analyzed the impact of the exit of founders on the development of enterprises after they have developed to a certain stage. The authors used entrepreneurial companies listed in the alternative investment sector of the London Stock Exchange from 2010 to 2016 as examples and used event study and regression methods for analysis. The results show that founder exit will have an adverse impact on the stability of the company in the short term and lead to a decline in the company's stock return. However, in the long run, founder exit is more conducive to the modernization and specialization of corporate management. Jiang Shun qi (2022)[9]. Comprehensively detailed the Solvency II System issued by the China

Banking and Insurance Regulatory Commission and analyzed its impact on alternative investments of insurance funds. He found that, under the Solvency II System, alternative equity investments in insurance funds have a significant impact, and this new system will further guide the standardized development of this type of insurance fund investment.

2. Research Hypothesis

Although alternative investments in non-standard businesses can improve insurance companies' competitiveness and obtain higher returns, benefits and risks coexist. Most scholars believe that financial innovation aimed at evading financial regulation is inevitably accompanied by multiple risks, and may even undermine the stability of the financial system, making insurance companies more vulnerable [10]. Therefore, this paper proposes the following hypotheses:

① If other conditions remain unchanged, the higher the proportion of non-standard business and alternative investments, the better the insurance company's operating performance will be, but it will also lead to an increase in the insurance company's debt risk level[10].

② Given the other conditions, supervision of non-standard alternative business investments will significantly reduce the operating risks of insurance companies; that is, measures to supervise the non-standard business of insurance companies are effective.

3. Study Design

Since 2013, the number of registered insurance companies in China has been increasing, from 179 to 237 in the first half of 2022. In 2014, the new Ten National Policies were announced, and insurance companies entered a golden period of growth. After 2017, supervision became increasingly strict, the approval of insurance licenses was tightened, and the number of insurance companies in China stabilized.

In 2022, regulators continued to guide insurance funds to serve the country's "dual carbon" strategy, increasing capital investment in industries such as infrastructure and clean energy and further expanding the investable scope of insurance funds, which to a certain extent promoted the scale of insurance fund utilization.

Table 1: Variable definition table.

Variable	Description	Specific Definition
Ln_ROA	Logarithm of insurance company's return on assets	Ln (1 + net profit/total assets)
Ln_CAR	Logarithm of insurance capital adequacy ratio	Ln (1 + net capital/risk-weighted assets)
Ln_NSCR	Logarithm of the proportion of non-standard alternative investments	Ln (1 + (purchase and resale + receivables investment)/total assets
Big Six	Competition in the insurance industry	Total assets of the top ten insurance companies/total assets of the insurance industry
Ln_Loan	Compensation ratio	Ln (1 + payable claims/total assets)
NPL	Non-performing investment rate	Bad investments/total investments
Ln_GDP	Logarithm of GDP per capita	Large state-owned insurance companies use the logarithm of the national per capita GDP, while local insurance companies use the logarithm of the per capita GDP of the region where they are located.

The research subjects mainly include large state-owned and local insurance companies. The financial and governance data of the studied insurance companies were partly derived from the EPS

database. Data from non-listed insurance companies and non-standard alternative business investment assets were manually collected and sorted based on the annual reports published on the official websites of various insurance companies. Data on economic policy certainty were detailed by Baker et al.[12]. The studied insurance companies are the top six large insurance companies, and their total asset size in 2022 accounted for more than 95% of the total insurance assets in China, indicating that the selection of sample insurance companies is representative. Please refer to Table 1 for details.

This study focuses on the impact of insurance companies' non-standard alternative investments on their profitability. The following econometric model was constructed.

The profitability of insurance companies often has a cumulative effect over a period of time. The ROA during period t-1 will have a certain impact on the ROA during period t. For example, interest from income in the profit structure of insurance companies shows a strong cumulative effect due to working capital and project investments [13]. In addition, among the various factors affecting the profitability of insurance companies are insurance company characteristics, some of which are difficult to observe and quantify and are also related to the independent variables. It is very difficult to determine the various sources of these effects and measure them accurately. In view of this, we introduce the lag term of insurance company profitability (Ln_ROA) to integrate these factors and effects and eliminate the correlation between the independent variable and the error term when the profitability lag term is not introduced [14]. The dynamic panel model reflecting the impact of non-standard alternative investments on the profitability of insurance companies was constructed as follows:

$$Ln\_ROA_{it} = \alpha_0 + \rho Ln\_ROA_{it-1} + \alpha_1 Ln\_NSCR_{it} + \theta X_{it} + \nu_{it}, \nu_{it} = \eta_i + \varepsilon_{it} \quad (1)$$

As can be seen from Table 2, the means and medians of the above variables are relatively close, indicating that the variables basically satisfy a normal distribution.

Table 2: Descriptive statistics of the sample.

Variable	Mean	Median	Standard Deviation	Minimum	Maximum	Number of Observations
Ln_ROA	0.020	0.020	0.005	−0.017	0.095	1788
Ln_CAR	0.135	0.130	0.045	−0.183	0.649	1820
Ln_NSCR	0.130	0.150	0.0870	0	0.495	1400
Ln_Loan	0.384	0.392	0.820	0.0480	0.671	1939
Ln_GDP	3.832	3.845	0.559	1.847	4.993	2507
NPL	1.703	1.420	1.920	0	29.77	1987
Big-Six	45.99	46.03	6.732	35.74	56.03	2518

3.1. Benchmark Regression

In this section, (1) refers to the studied insurance companies; (2) refers to other large state-owned insurance companies; (3) refers to insurance companies in the eastern region; (4) refers to insurance companies in the central region; and (5) refers to insurance companies in the western region.

Table 3 shows the system GMM estimation results of the impact of non-standard alternative investments on the profitability of insurance companies. The Wald test *p* value of all estimation results in columns (1)–(5) is zero, rejecting the null hypothesis that all independent variable coefficients are zero, indicating that the model construction is significant overall. In the residual sequence autocorrelation test, the *p* value of AR (2) is greater than 0.05, indicating that there is no autocorrelation in the residual after difference, indicating that the error term of the original model has

no serial correlation, while the *p* value of the Sargan test is greater than 0.05, indicating that there is no over-identification problem and all instrumental variables are effective. Therefore, the results of dynamic panel model estimation are effective and significant overall.

Table 3: Regression results of the impact of non-standard alternative investment business on the profitability of insurance companies.

Variable	(1)	(2)	(3)	(4)	(5)
Ln_NSCR	0.003 ** (2.57)	0.016 *** (8.88)	−0.005 *** (−3.90)	−0.006 (−1.29)	−0.008 *** (−4.74)
Ln_ROA	0.447 *** (31.36)	0.473 *** (5.68)	0.640 *** (34.42)	0.457 *** (8.34)	0.358 *** (12.37)
Ln_Loan	0.014 *** (12.27)	0.046 *** (15.88)	−0.001 * (−1.81)	0.006 (0.79)	0.008 (1.52)
Ln_GDP	0.008 *** (16.08)	0.026 *** (8.53)	0.001 ** (2.48)	0.015 *** (5.91)	0.014 *** (5.43)
NPL	−0.000 *** (−14.10)	0.000 (1.07)	−0.001 ** (−21.16)	−0.001 *** (−3.58)	−0.001 *** (−4.15)
Big-Six	−0.000 * (−1.52)	−0.000 (−0.96)	0.000 *** (3.52)	0.000 (0.35)	−0.001 *** (−4.00)
Time effect constant	Yes 1.735 *** (8.76)	Yes 5.571 *** (4.28)	Yes −0.051 (−0.13)	Yes 2.586 *** (4.80)	Yes 5.005 *** (5.82)
Observed Wald value	1346 4179.24 0.0000	162 1402.51 0.0000	257 3635.01 0.0000	259 653.59 0.0000	362 731.21 0.0000
AR(2)-p Sargan-p	0.4651 0.0543	0.6386 1.0000	0.1208 0.2004	0.5307 1.0000	0.3572 0.1740

Note: The 1%, 5%, and 10% significance levels of two-tailed tests are represented by ***, **, and *, respectively; the values in brackets corresponding to the explanatory variables are t values; and the estimation results are obtained using Stata18.

3.2. Time Grouping

In this section, (1) refers to sample insurance companies; (2) refers to other large state-owned insurance companies; and (3) refers to local insurance companies.

Table 4 show the systematic GMM estimation results of the impact of non-standard alternative investment business on the profitability of insurance companies, grouped by time before and after 2017, given that regulations have become increasingly stringent since 2017. All estimation results in columns (1)–(3) pass the Wald test, residual sequence autocorrelation test, and Sargan test, indicating that the dynamic panel model estimation results are valid and significant overall[15]. As shown in column (1) ≦ 2017, the coefficient of the proportion of non-standard alternative assets of insurance companies is significantly negative at the 1% level. Every 1 unit increase in the proportion of non-standard alternative assets will cause the ROA of insurance companies to decrease by 0.6%, indicating that before strict supervision in 2017, the increase in the proportion of these non-standard investments reduced the profitability of insurance companies; this negative relationship changed after the introduction of regulations.

Table 4: Regression results of the impact of non-standard alternative investments on the profitability of insurance companies.

Variable	(1)	(2)	(3)

	≦2017	>2017	≦2017	>2017	≦2017	>2017
Ln_NSCR	−0.006 *** (−5.12)	0.017 *** (4.23)	0.002 (0.60)	0.007 *** (5.60)	−0.008 *** (−7.28)	0.009 (0.84)
Ln_ROA	0.400 *** (14.35)	0.505 *** (21.16)	0.068 ** (2.72)	0.268 *** (2.95)	0.343 *** (19.02)	0.491 *** (22.29)
Ln_Loan	−0.016 *** (−10.2)	0.017 *** (10.28)	0.005 (1.64)	0.035 *** (18.26)	−0.013 *** (−12.34)	0.007 *** (3.84)
Ln_GDP	0.004 *** (4.36)	−0.001 * (−1.38)	0.025 *** (8.92)	0.004 (1.22)	0.006 *** (9.12)	0.001 *** (2.41)
NPL	−0.000 *** (−11.08)	−0.001 (12.02)	0.001 (2.98)	−0.001 ** (−3.16)	−0.001 *** (−18.70)	−0.001 *** (−10.45)
Big-Six	−0.000 ** (−8.50)	−0.000 (−0.44)	−0.000 (−1.60)	0.000 ** (2.68)	−0.001 *** (−8.98)	0.000 *** (3.56)
Time Effect Constant term	Yes 3.815 *** (7.16)	Yes 0.448 ** (2.41)	Yes 3.646 * (4.72)	Yes 0.318 (0.63)	Yes 4.620 *** (11.89)	Yes 0.012 (0.048)
Observed Wald value	719 1132.27 0.0000	824 2308.37 0.0000	148 741.87 0.0000	87 1611.24 0.0000	636 1632.28 0.0000	784 3233.45 0.0000
AR(2)-p Sargan-p	0.1337 0.0881	0.3176 0.0613	0.8327 0.9976	0.1499 0.5624	0.2356 0.1139	0.2467 0.1119

Note: The 1%, 5%, and 10% significance levels of the two-tailed test are represented by ***, **, and *, respectively; the values in brackets corresponding to the explanatory variables are t values; and the estimation results are obtained using Stata18.

3.3. Regional Grouping

In this section, (1) refers to the eastern region; (2) refers to the central region; and (3) refers to the western region.

In order to further investigate the different effects of non-standard alternative investments on the profitability of local insurance companies before and after strict regulations were introduced in 2017, they were analyzed by time and region. The system GMM estimation results are shown in Table 5. All the estimation results in columns (1)–(3) pass the Wald test, residual sequence autocorrelation test and Sargan test, indicating that the dynamic panel model estimation results are effective and significant overall. In the eastern region, column (1) ≦ 2017, the coefficient of the proportion of non-standard alternative assets of insurance companies is significantly negative at the 1% level. For every 1 unit increase in the proportion of non-standard alternative assets, the ROA of insurance companies will decrease by 1.1%, indicating that this increase reduced the profitability of insurance companies before 2017; however, this negative relationship is not significant after strict regulations were introduced (column 1 > 2017).

Table 5: Regression results of the impact of non-standard alternative investment business on the profitability of local insurance companies.

Variable	(1)		(2)		(3)	
	≦2017	>2017	≦2017	>2017	≦2017	>2017
Ln_NSCR	−0.011 *** (−5.38)	−0.000 (−0.17)	0.019 (0.33)	0.004 *** (1.25)	−0.005 ** (−1.83)	−0.000 (−0.26)
Ln_ROA	0.403 *** (21.12)	0.465 *** (12.36)	0.163 (0.98)	0.460 *** (3.05)	0.197 *** (4.82)	0.624 *** (19.24)
Ln_Loan	−0.016 ***	0.017 ***	0.005	0.035 ***	−0.013 ***	0.007 ***

	(−4.15)	(6.14)	(0.45)	(4.84)	(2.82)	(6.94)
Ln_GDP	0.001 (0.36)	−0.005 *** (−4.88)	0.018 (1.50)	−0.018 (−0.78)	0.016 *** (9.92)	0.001 *** (2.76)
NPL	−0.001 *** (−18.32)	−0.002 *** (−9.22)	−0.001 *** (−2.74)	−0.001 *** (−2.18)	−0.001 *** (−2.63)	−0.001 *** (−5.45)
Big-Six	0.001 *** (3.05)	−0.000 *** (−3.44)	−0.001 *** (−7.60)	0.000 *** (3.16)	−0.001 ** (−2.31)	0.000 ** (1.86)
Time Effect Constant term	Yes −3.115 *** (−212)	Yes 0.842 ** (2.95)	Yes 3.642 *** (4.89)	Yes −0.516 (−1.33)	Yes 7.420 *** (4.86)	Yes 0.418 (1.24)
Observed Wald value	245 2245.46 0.0000	389 1387 0.0000	78 1743.22 0.0000	109 2756.56 0.0000	157 235.78 0.0000	173 9987.87 0.0000
AR(2)-p Sargan-p	0.0539 0.1054	0.3465 0.0848	0.2632 0.9979	0.4368 0.9996	0.3754 0.5039	0.0714 0.5987

Note: The 1%, 5%, and 10% significance levels of two-tailed tests are represented by ***, **, and *, respectively; the values in brackets corresponding to the explanatory variables are t values; and the estimation results are obtained using Stata18.

4. Robustness Test

There may be a causal relationship between non-standard alternative assets and the ROA and capital adequacy ratio; for example, engaging in non-standard alternative investment business improves the ROA of insurance companies, but it is also possible that only insurance companies with better profitability can afford to extensively engage in this type of business. Engaging in non-standard alternative investment business increases the risk-taking of insurance companies, but it is also possible that insurance companies with high risk operations engage in this business in large quantities in order to obtain higher returns. We used a dynamic panel model to account for missing important variables, but the model may still have the problem of endogenous pre-setting of non-standard alternative investment business. Therefore, it is necessary to also use the two-stage least squares method of instrumental variables for robustness testing. The average proportion of non-standard alternative investment business for insurance companies of the same type is not related to the performance, risks or operation of individual insurance companies, because these values are better determined by the individual insurance companies themselves. This method has also been widely used in similar studies to solve the endogeneity problem (Lin et al., 2011, 2012; Campello and Gao, 2017; Xu Kun and Da Hengguo, 2019)[16]. (Table 6)

Table 6: Instrumental variable two-stage least squares regression results.

	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
	Ln_ROA			**Ln_CAR**		
	Full Sample	**<2017**	**≧2017**	**Full Sample**	**<2017**	**≧2017**
Ln_NSCR	0.021 *** (2.65)	−0.003 (−0.38)	0.028 ** (1.97)	−0.103 * (−1.94)	−0.144 ** (−2.08)	0.091 * (1.89)
Ln_Loan	0.018 *** (3.48)	0.010 (1.48)	0.022 *** (2.69)	−0.062 (−1.37)	−0.195 *** (−2.69)	0.025 (0.88)
Ln_GDP	0.002 * (1.97)	0.000 (0.72)	0.001 (0.62)	0.014 (1.00)	0.007 (1.59)	0.014 (1.09)
NPL	−0.000 *** (−5.08)	−0.000 *** (−3.77)	−0.000 *** (−3.93)	−0.006 *** (−4.66)	−0.007 *** (−3.63)	−0.003 * (−1.89)
Big- Six	0.000	−0.001	0.001 **	0.002	−0.001	0.006***

	(1.16)	(−1.43)	(2.44)	(1.22)	(−0.17)	(3.02)
Time Effect Constant term	Yes −1.395 (−0.98)	Yes 0.529 (0.42)	Yes −2.524 (−1.35)	Yes −5.433 (−0.94)	Yes 2.943 (0.26)	Yes −20.172 *** (−2.94)
Observations F-number	1590 17.454	842 29.244	848 342.127	1615 9.659	642 4.926	843 192.826

Note: The 1%, 5%, and 10% significance levels of two-tailed tests are represented by ***, **, and *, respectively; the values in brackets corresponding to the explanatory variables are z-values; and the estimation results were obtained using Stata18.

5. Conclusion and Recommendations

In short, the impact of non-standard alternative investments on the profitability of insurance companies is complex, with potential high-yielding opportunities, but also risks and challenges. Insurance companies need to consider factors such as risk, liquidity, supervision and professional capabilities when making these investments in order to achieve sustainable profit growth.

References

[1] China Banking and Insurance Regulatory Commission. China Insurance Yearbook; National Statistics: Beijing, China.2023

[2] Smith, H. REIT organizational structure and operating characteristics. J. Real Estate Res. 1988, 21, 146–162.

[3] Rice, B. The Alternative Invester; Machinery Industry Publishing House: Beijing, China, 2014.

[4] Monga, R.; Aggrawal, D.; Singh, J. Smart Beta Investing: An Alternative Investment Paradigm in Emerging Indian Equity Market. Organ. Mark. Emerg. Econ. 2022, 13, 209–237.

[5] Singh, M.H.; Deepak, K. The potential of alternative investments as an asset class: a thematic and bibliometric review. Qual. Res. Financ. Mark. 2023, 15, 119–141.

[6] Zhang, X.; Zhao, Y. A brief analysis of risk management schemes for alternative investment institutions of insurance funds. Tsinghua Financ. Rev. 2020.

[7] Tan, L. How can bank wealth management subsidiaries break through the special asset alternative investment. Banker 2021.

[8] Shen, Z.; Feng, Q. Founder Exit and Entrepreneurial Firm Performance: Evidence from the London Stock Exchange Alternative Investment Sector. Investig. Res. 2021, 40.

[9] Jiang, S. Solvency II and alternative investments of insurance funds. China Insur. 2022, 55–58.

[10] Dai, S. Xu, K. Non-standard alternative investments and bank debt risks. Sci. Decis. Mak. 2021, 105–118. https://doi.org/10.3773/j.

[11] Wu, M.; Xu, K.; Liu, J. Non-standard alternative investments and sound operation of commercial banks. Int. Financ. Res. 2020, 66–76.

[12] Baker Scott Bloom Nicholas Canes-Wrone Brandice Davis Steven J. Rodden Jonathan, "Why Has US Policy Uncertainty Risen since 1960?"American Economic Review, Papers & Proceedings, 104 (2014), 56–60.

[13] Wu, M. Non-Standard Debt Business and Sound Operation of Commercial Banks. Ph.D. Thesis. Southwestern University of Finance and Economics, Chengdu, China, 2022. https://doi.org/10.27412/d.

[14] Xie, X.; Li, J. Research on private capital and sound operation of city commercial banks. Reg. Financ. Res. 2022, 42–51.

[15] Xu, K.; Li, J.; Liu, J. The impact of private capital participation on the profitability of urban commercial banks. Learn. Explor. 2023, 108–119.

[16] Xu, K.; Wu, M.; Liu, Y. Private capital shareholding, non-standard debt business and sound operation of city commercial banks. Int. Financ. Res. 2021, 67–76. https://doi.org/10.16475/j.