

Performance Evaluation of Listed Enterprises with Elderly Care Concepts Based on the Economic Value Added

Songyuanyi Lu

School of Management, University of San Francisco, San Francisco, CA, United States

*Corresponding author: alinalusong1234@163.com

Abstract. This paper uses economic value added (EVA) and traditional evaluation methods to calculate the performance evaluation of listed companies with pension concepts from 2016 to 2021. From the perspective of EVA and traditional financial indicators, it analyzes the changing trends of these companies. The results show that traditional ROE and net profit may overestimate the performance level of listed companies with the concept of pension in the short term. EVA is more cautious than traditional financial indicators and is consistent with the macroeconomic environment. Therefore, a reasonable combination of the two can better explain the financial performance of the listed companies with the concept of pension.

Keywords: Elderly Care, Economic Value Added, Performance Evaluation.

1. Introduction

China is a country with a large population. With the progress of society and economy, the problem of population aging has become increasingly prominent, and the number of elderly people over the age of 65 has increased significantly. Based on Figure 1, since 2014, China's population aged 60 and above has shown an increasing trend. Among the 267 million people aged 60 and above in China in 2021, the population aged 65 and above will be 200 million, an increase of 9 million compared with 2020, accounting for 14.2%. This indicates that population ageing is increasingly becoming a social issue.

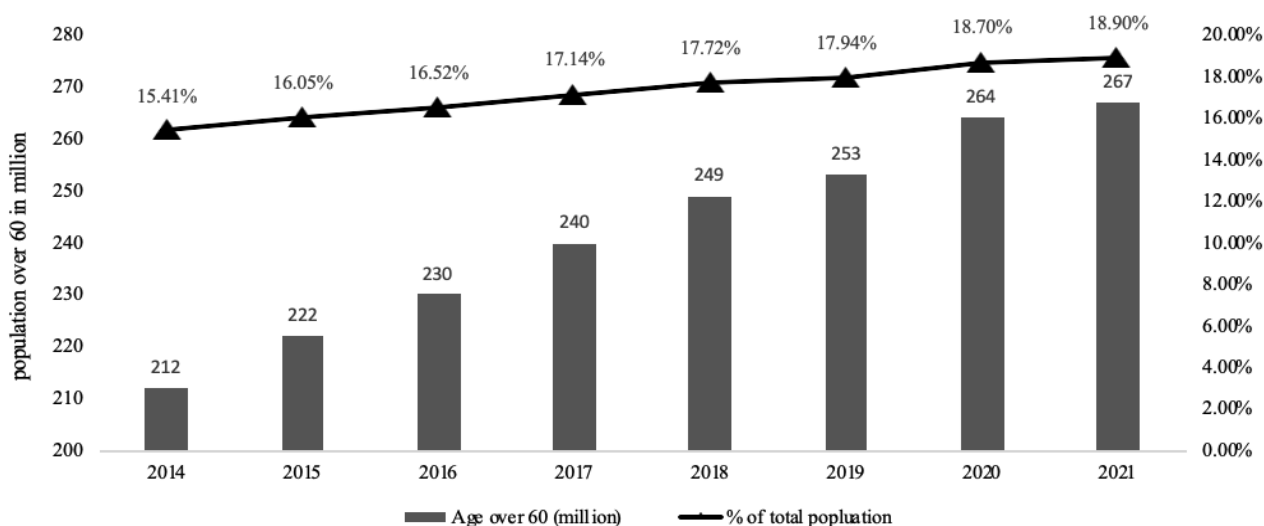


Figure 1. Aging population 2014-2021

Sources: The Seventh National Census (2021), 2021 China Economic Data (2022).

From the perspective of population age structure, China's elderly care industry is full of unlimited potential and business opportunities. With the increasingly serious aging crisis, China has paid more attention to the companies involved in elderly care and proposed supporting policies. For example, the General Office of the State Council of the People's Republic of China released The Several Opinions on Fully Opening the Elderly Service Market to Improve the Quality of Elderly Services in

2016[1]. The Ministry of Science and Technology of the People's Republic of China has formulated the Notice on Printing and Distributing the "Thirteenth Five-Year Plan" for Health Industry Science and Technology Innovation Special Plan in 2017 [2]. While these policies have become the accelerators driving China's elderly care industry improvement, many scholars have also conducted related research in this field and various methods have been developed and introduced to measure the performance of listed companies involved in elderly care [3-6]. Recent research showed that the DuPont analysis method conducts a comprehensive analysis and comparison of the financial status of five elderly care service companies in the United States from the three dimensions of profitability, solvency, and operating ability [3]. In 2016, Liu used the Harvard analysis framework to analyze the financial statements of a listed medical company with an elderly care concept from three dimensions: strategic analysis, financial analysis, and prospect analysis [4]. In 2019, Song and Zheng used traditional financial models to analyze the company's profitability, solvency, operational capabilities from the Japanese elderly care industry, company financial statements, and financial efficiency [5]. In 2021, Li and Guo used the traditional financial model to analyze the performance of listed elderly care institutions from three aspects: strategy, finance, and accounting. Although many scholars have conducted performance analysis on some areas of China's pension and the elderly care service industry in the United States and Japan, no existing study documents the performance evaluation system of listed companies with the concept of pension in China [6].

Economic value added (EVA) is the difference between the net profit after tax and the cost of capital invested in a certain period [7]. It is used to measure the increase of corporate wealth. In 1982, Stern Stewart & Company (SSC) developed the measure, using EVA as an effective mechanism to evaluate company performance. In 1997, the empirical study of Chen and Dodd found a high correlation between EVA variables and stock returns, which is higher than the correlation between accounting variables and stock returns [8]. The results show that EVA has a stronger explain ability to company value. In 2017, Lai and Shad analyzed the impact of enterprise risk management (ERM) on business performance through EVA, and these metrics included net operating profit after tax (NOPAT) and the weighted average cost of capital (WACC). It returned on invested capital (ROIC) [9]. The results showed that ERM positively affected reducing WACC and increasing NOPAT and ROIC in the previous period. Moreover, Sabol and Sever introduced the definition of EVA, how to measure the use of EVA and the related practice of using EVA [10]. The authors argued that EVA is a financial performance indicator that maximizes shareholder value rather than net profit. Although EVA variables have a stronger explanation ability than accounting indicators, EVA cannot completely replace accounting indicators [11]. However, EVA overcame the defects of traditional accounting profit indicators and considered the company's economic profit, which made the company's performance evaluation more predictable [7].

Moreover, the EVA performance evaluation method is more comprehensive than traditional financial indicators [9]. Based on the company's traditional financial profits, consider the cost of capital (debt capital cost and equity capital cost) to obtain profit [12]. Thus, EVA indicators show the advantages that traditional accounting profit indicators cannot replace in the accurate and effective evaluation of enterprise value creation performance. Besides, at the end of 2009, the China State-owned Assets Supervision and Administration Commission (SASAC) promulgated new measures requiring the EVA assessment system to be implemented [13]. The foundation for its application in the enterprise involved in elderly care is laid through the analysis on the EVA index and value management system. Using the 2007-2012 Chinese listed companies as the data source after the SASAC implemented EVA in 2010, Liang, Pan and Bai concluded that after the regulators fully implemented the EVA assessment [14]. The results showed that the number of cash holdings of listed companies decreased, but the enterprise value increased.

This paper seeks to provide an EVA index on the gap in the research of listed firms' evaluation performance in two ways. First, consider the difference between traditional accounting indicators and EVA; we provide ample evidence of what positive and negative EVA, net profit, and ROE mean to firms. Second, we provide an empirical analysis of the performance evaluation's characteristics by

ranking listed companies with the concept of pension. By calculating the EVA on 27 listed companies with the concept of pension in China from 2016 to 2021, the growth rate of EVA in listed companies with the elderly care concept is volatile, showing a "wave" trend. The growth rate of EVA was negative from 2016 to 2019, which means that the lower EVA value in 2018 was not the performance of the company's common operating results. Furthermore, there is a significantly different between EVA and traditional indicators. From 2018 to 2020, the tendency of EVA is the same as net profit, then negatively correlated again in 2021. The average EVA in 2016-2017 was negative, while the ROE was positive. In 2018, the average value of EVA exceeded the value of ROE. It shows that while the enterprise value increases, the increase of ROE also shows that the liabilities of these companies increase. This paper aims to provide a more predictable and feasible index system for listed companies with the concept of elderly care.

The framework after this part as follows: Section 2 data and research method. Section 3 empirical results. Section 4 conclusion. Section 5 references.

2. Data and research method

2.1 The structure of EVA

Using EVA to evaluate corporate performance can prevent management from ignoring the cost of capital provided by the owner, which leads to overpursuing corporate profit maximization and expanding the owner's equity ratio. The reason is that EVA is the residual income after deducting the cost of all invested capital from the net operating profit after tax. The total costs include the cost of capital invested by creditors and the benefit of owners who forgo investing in other securities of comparable risk by providing equity funds. According to Li and Tan, the basic calculation formula of EVA is listed as follows [7].

$$EVA = NOPAT - WACC \times TC \quad (1)$$

Where, NOPAT is the net operating profit after tax; TC is the total capital; WACC is the weighted average cost of capital.

2.1.1 The determination of the NOPAT

Before specific the formula of NOPAT, this paper adjusts the calculation formula of EVA tax adjustment regarding the "Interim Measures for the Evaluation of Operating Performance of Persons in Charge of Central Enterprises" issued in 2013 [15].

$$EVA \text{ Tax Adjustment} = ITE + Re \times (FE + RDE + AD + OE - NI - NII - FVG) \quad (2)$$

Where, ITE is income tax expense; Re is corporate tax rate; FE is financial expenses; RDE is R & D expenses; AD is assets devaluation; OE is operating expenses; NI is non-operating income; NII is net investment income; FVG is fair value gains.

The NOPAT is the profit that is not in the capital structure and conditions of the enterprise. However, the current accounting standards and approaches impact the firm's real profit, so the NOPAT obtained from the calculation of the relevant data in the financial report may also be incorrect. Therefore, in calculating EVA, it is necessary to adjust related items so that the EVA value can more objectively and truly reflect the situation of the firm.

$$NOPAT = TP + FE + RDE + AD + OE - NI - NII - FVG - EVA \text{ Tax Adjustment} - IDTA + IDTL \quad (3)$$

Where, TP is total profit; FE is financial expenses; RDE is R&D expenses; AD is assets devaluation; OE is operating expenses; NI is non-operating income; NII is net investment income;

FVG is fair value gains; IDTA is increase in deferred tax assets; IDTL is increase in deferred tax liabilities.

2.1.2 The determination of the TC

Total capital is the performance of equity and bond capital, the sum of capital invested by a firm for production and operation. Equity capital is the cost invested by an enterprise for production and operation, which can be used by itself and does not need to be returned. Debt capital refers to long-term and short-term loans obtained by firms for production and operation. Adjusting capital expenditures is also important to avoid differences in overall capital structure and accounting standards, show a company's capital investments and make results more accurate. This paper lists non-interest-bearing current liabilities, deferred tax liabilities, deferred tax assets, and construction in progress as adjustments to total capital. Refer to formula (4) to calculate adjusted interest-bearing liabilities, shareholders' equity, and total capital [16].

$$TC = TL + TOE + DTL - DTA - CP \quad (4)$$

Where, TL (total liabilities) are sum of short-term loans, non-current liabilities due within one-year, long-term loans, and bonds payables; TOE is total owner's equity; DTL is deferred tax liabilities; DTA is deferred tax assets; CP is construction in progress.

2.1.3 The determination of the WACC

In the calculation formula of the weighted average cost of capital, D and E are the market value of the firm's debt and the market value of the firm's equity, respectively. Therefore, calculating the weighted average cost of capital usually involves two key components, namely the cost of equity capital and the cost of debt capital.

$$WACC = \left(\frac{E}{(E + D)} \times K_e \right) + \left(\frac{D}{(E + D)} \times K_d \times (1 - R_e) \right) \quad (5)$$

Where, D is market value of firm's debt; E is market value of firm's equity; K_e is cost of equity; K_d is cost of debt; R_e is corporate tax rate.

This paper uses the capital asset pricing model (CAPM) to calculate the cost of equity by calculating the WACC. Since the capital asset pricing model is based on risk and return, the cost of equity capital can be measured by market risk. The market risk can be divided into systematic risk and non-systematic risk; the impact of systematic risk involves all companies and is not diversifiable. The impact of non-systematic risk only involves an individual or certain company and is diversifiable. The calculation formula is as follows:

$$K_e = R_f + \beta \times (R_m - R_f) \quad (6)$$

Where, R_f is risk free rate; β is the risk factor for the firm's stock; R_m is market expected rate of return.

Since China's securities market has a relatively short expansion time and is in a mature stage, this paper chooses the one-year fixed deposit rate issued by the People's Bank of China as the risk-free rate of return for investors. The risk premium is determined according to China's annual GDP growth rate, and the beta coefficient is obtained from the Wind database.

2.2 Data and Sample processing

The research object of this paper is the firms involved in elderly care among the listed companies on the Shenzhen and Shanghai stock exchanges in China from 2016 to 2021. The beginning of 2016 was selected as the sample period because a number of preferential tax policies in 2016 promoted the

elderly care industry [17]. As China's pension industry is an emerging industry, it is still in the initial stage of expansion in China. Compared with traditional industries, it has not yet established standardized statistics. Due to the lack of systematic research statistics, it is a challenge to make accurate judgments only on the number and situation of the progress of the pension industry nationwide. Therefore, this chapter selects pension enterprises in Chinese listed companies as research samples and evaluates the performance of listed companies involving elderly care from the perspective of EVA, and based on the advancement status of the pension market in listed companies, the overall progress of China's pension industry is generally judged.

At present, there is no enterprise specializing in the pension industry among the listed companies in China, and the elderly care is only tentatively developed as a subsidiary business or the direction of future progress. Furthermore, most of them are not the main business of the company. Listed elderly-related companies can be divided into twelve sectors in Figure 2.



Figure 2. Category of Listed Companies with elderly care concept
Source: Eastmoney Securities (<https://data.eastmoney.com/bkzj/hy.html>).

The data in this article are collected from the Wind database and the annual reports of listed companies. Since listed companies with abnormal financial status or other conditions will affect the subsequent judgment on performance, three companies of special treatment (ST) type were screened out, and 27 listed companies remained.

Table.1. Description of TC in 27 listed companies with elderly care concept

Stock Code	TC			
	Average	Maximum	Median	Minimum
		<i>(million in RMB)</i>		
000615.SZ	4181.92	5395.36	4434.23	2639.43
000722.SZ	3122.89	3237.38	3123.80	2985.82
000919.SZ	3282.99	3558.01	3226.81	3101.84
000931.SZ	2344.73	2569.79	2431.37	1696.59
000961.SZ	87132.74	126822.28	86154.41	52887.51
002105.SZ	1174.28	1512.73	1139.55	1003.43
002162.SZ	1835.02	2067.86	1863.13	1644.41
002223.SZ	6616.81	9854.29	5838.90	4956.82
002381.SZ	1770.47	1894.38	1739.61	1685.19
002579.SZ	2205.30	3830.00	1861.11	1136.79
002603.SZ	7082.20	8020.88	7419.91	5143.82
002675.SZ	4946.37	5534.41	5326.01	3585.93
002777.SZ	1087.10	1530.58	1208.07	589.85
300018.SZ	1247.88	1536.35	1191.16	1048.36
300024.SZ	6908.54	8300.17	6746.08	5470.26
300212.SZ	7355.54	9249.90	7759.29	4327.73
300244.SZ	7923.97	11249.40	8263.95	4181.55
600100.SH	42082.64	45188.93	42179.19	36904.79
600223.SH	14631.23	17654.56	14737.05	12373.39
600329.SH	5076.49	6063.41	4997.68	4360.72
600530.SH	1488.23	2335.93	1152.22	1101.86
600620.SH	2909.51	3267.15	2891.56	2568.84
600682.SH	15150.61	18522.46	16538.23	7689.38
600716.SH	7003.82	8124.29	6983.86	6136.28
600735.SH	1007.01	1285.11	983.77	830.63
600998.SH	32642.08	42630.42	33285.97	17912.97
603709.SH	393.76	594.49	480.33	114.74

Table.2. Description of NOPAT in 27 listed companies with elderly care concept

Stock Code	NOPAT			
	Average	Maximum	Median	Minimum
		<i>(million in RMB)</i>		
000615.SZ	208.59	548.14	321.63	-473.30
000722.SZ	59.62	80.67	55.03	41.90
000919.SZ	160.46	211.39	176.08	68.44
000931.SZ	83.74	165.17	71.20	12.64
000961.SZ	-487.74	3244.51	669.15	-8911.40
002105.SZ	127.68	378.93	54.01	14.85
002162.SZ	173.53	192.02	178.36	143.61
002223.SZ	1061.95	2015.65	841.42	437.71
002381.SZ	168.97	338.11	166.74	21.05
002579.SZ	190.17	313.92	232.25	17.30
002603.SZ	1020.09	1921.40	815.63	497.08
002675.SZ	342.40	608.58	289.32	183.03
002777.SZ	196.49	315.30	192.59	74.12
300018.SZ	51.99	95.25	71.67	-60.49
300024.SZ	35.72	535.77	288.10	-777.55
300212.SZ	367.09	605.14	471.84	-130.90
300244.SZ	681.71	1418.11	628.97	226.85
600100.SH	-28.01	945.75	211.94	-1311.05
600223.SH	197.98	497.07	177.50	-7.69
600329.SH	379.44	539.13	403.33	199.09
600530.SH	41.25	91.27	79.62	-116.91
600620.SH	447.82	587.86	434.67	323.09
600682.SH	1054.52	1850.82	931.39	490.96
600716.SH	443.03	1158.39	357.93	-16.82
600735.SH	104.62	121.31	108.60	84.21
600998.SH	2347.94	3401.19	2258.01	1340.22
603709.SH	61.89	90.75	70.26	4.43

Table.3. Description of WACC in 27 listed companies with elderly care concept WACC

Stock Code	Average	Maximum	Median	Minimum
	(in %)			
000615.SZ	3.28%	4.67%	3.11%	2.16%
000722.SZ	7.56%	10.97%	8.04%	3.47%
000919.SZ	6.34%	8.25%	7.02%	2.54%
000931.SZ	3.99%	5.00%	4.25%	2.25%
000961.SZ	1.70%	3.69%	1.48%	0.53%
002105.SZ	3.42%	5.16%	3.39%	1.75%
002162.SZ	3.89%	5.23%	4.12%	1.34%
002223.SZ	6.27%	9.10%	6.44%	1.65%
002381.SZ	6.15%	8.86%	6.62%	3.12%
002579.SZ	5.40%	8.70%	4.82%	2.43%
002603.SZ	6.04%	8.30%	7.55%	1.36%
002675.SZ	5.55%	7.85%	5.75%	2.74%
002777.SZ	4.65%	5.96%	5.21%	2.72%
300018.SZ	8.76%	12.11%	9.88%	3.95%
300024.SZ	6.09%	9.45%	6.51%	1.78%
300212.SZ	3.76%	5.88%	3.58%	1.43%
300244.SZ	4.06%	5.77%	3.93%	1.40%
600100.SH	3.47%	5.51%	3.34%	1.40%
600223.SH	1.60%	3.72%	1.40%	0.57%
600329.SH	5.85%	7.05%	6.42%	2.90%
600530.SH	5.91%	10.38%	5.24%	2.24%
600620.SH	7.67%	10.70%	8.40%	3.11%
600682.SH	3.90%	7.14%	3.57%	0.99%
600716.SH	6.68%	15.93%	5.45%	2.66%
600735.SH	7.25%	9.92%	8.26%	2.84%
600998.SH	1.90%	2.96%	1.91%	0.91%
603709.SH	2.79%	5.94%	2.86%	0.52%

3. Analysis results

3.1 ROE vs. Net Profit vs. EVA

ROE reflects the income level of shareholders' equity and is used to measure the efficiency of the company's use of its capital. The higher the indicator value, the higher the return on investment. This indicator reflects the ability of own capital to obtain net income. ROE is a traditional financial indicator to measure the efficiency of shareholders' use of funds [18]. The calculation formula of net profit is $\text{net profit} = \text{total profit} - \text{income tax expense}$. Net profit is the final result of an enterprise's operation. If the net profit is large, the operating efficiency of the enterprise will be good and vice versa, which makes the traditional indicator measure the company's operating efficiency [16]. Thus, net profit and ROE are the representative indicators of traditional measurements.

Table.4. Comparison of EVA, net profit and ROE

Stock Code	EVA		Net Profit		ROE	
	Average (million in RMB)	Rank	Average (million in RMB)	Rank	Average (in %)	Rank
000615.SZ	73.78	14	105.29	20	0.99	23
000722.SZ	-174.79	24	105.43	18	3.90	18
000919.SZ	-45.56	21	185.74	11	5.45	17
000931.SZ	-8.14	18	48.49	24	1.59	22
000961.SZ	-1738.25	27	2055.04	1	8.17	11
002105.SZ	88.73	11	92.35	21	13.60	5
002162.SZ	103.18	9	33.00	25	3.32	20
002223.SZ	675.13	2	980.37	3	14.79	3
002381.SZ	60.67	15	166.45	12	9.49	8
002579.SZ	92.88	10	117.02	16	7.38	14
002603.SZ	607.81	3	804.21	4	10.31	7
002675.SZ	73.85	13	320.97	8	5.63	16
002777.SZ	145.80	7	158.69	13	15.15	2
300018.SZ	-59.52	22	-7.21	26	-2.31	26
300024.SZ	-385.64	25	110.40	17	0.76	24
300212.SZ	113.67	8	299.72	10	7.94	12
300244.SZ	384.53	5	753.27	5	13.96	4
600100.SH	-1456.99	26	119.11	15	-2.23	25
600223.SH	-26.57	20	315.88	9	8.53	10
600329.SH	87.08	12	591.76	7	11.22	6
600530.SH	-59.90	23	-30.46	27	-5.49	27
600620.SH	220.52	6	78.06	22	3.40	19
600682.SH	413.19	4	743.18	6	6.60	15
600716.SH	-24.52	19	145.16	14	1.95	21
600735.SH	34.08	17	105.38	19	7.40	13
600998.SH	1794.32	1	1922.28	2	9.45	9
603709.SH	47.80	16	49.96	23	21.43	1

It can be analyzed from Table 4 that the rankings of EVA, ROE, and net profit of listed companies with pension concept from 2016 to 2021 are not consistent. The difference between EVA and traditional accounting indicators is also analyzed when using EVA to establish a performance evaluation model for listed pension companies. The EVA performance evaluation method is more comprehensive and truer than traditional financial indicators. The cost of capital is the sum of debt and the cost of equity. It is the core of EVA. Therefore, when the net profit is greater than zero, the EVA value is not necessarily greater than zero. When the EVA is equal to the invested capital, it will show the company's surplus. When the EVA value is positive, the company makes a profit. Only the EVA value after adjustment of related items can show the real business results of the enterprise. Companies can create greater value by improving their capital structure and identifying equity and debt capital interests. Therefore, in the process of the company's expansion, EVA is not only a performance appraisal tool, but its main purpose is to improve the enterprise's investment efficiency and operational efficiency so that it can continue to develop with high quality.

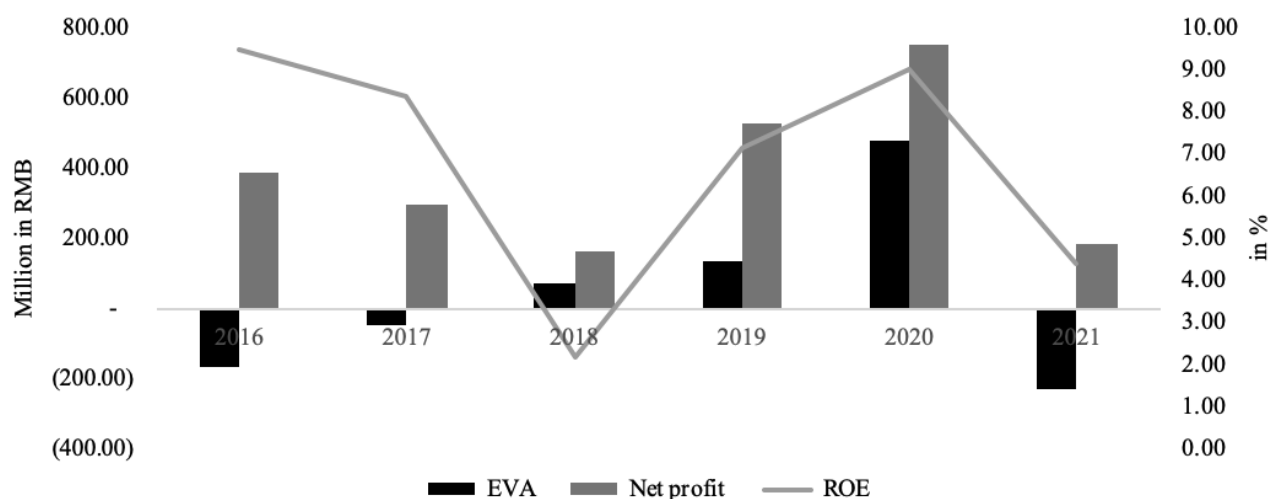


Figure 3. Comparison of EVA, net profit and ROE in 6 years tendency

As shown in Figure 3, the average value of EVA from 2016 to 2021 is lower than the net profit. To be more specific, there is found that EVA's progress trend in 2016-2017 was negatively correlated with net profit. From 2018 to 2020, the tendency of EVA is the same as net profit, then negatively correlated again in 2021. The trends of EVA and net profit show that the profitability of these listed companies with the elderly care concept is not optimistic. How to ensure continuous R&D investment while achieving continuous profit growth is the current challenge for these companies. Furthermore, the average EVA in 2016-2017 was negative, while the ROE was positive. In 2018, the average value of EVA exceeded the value of ROE. It shows that while the enterprise value increases, the increase of ROE also shows that the liabilities of these companies increase. In 2019-2020, both were positive. In 2021, the average value of EVA will be surpassed by the average value of ROE.

To concluded, it can be seen from the above analysis that the evaluation results of the traditional financial evaluation model and the EVA model will be significantly different. Overall, the EVA model is more scientific and comprehensive, taking the opportunity cost of equity capital into consideration, excluding some accounting items that are easy to be manipulated and unrealized, and can more accurately calculate the increase in enterprise value, thereby affecting the operating level of the enterprise. Make objective and scientific evaluations and guide management to make correct decisions. When an enterprise considers using EVA for performance evaluation, it can reasonably determine adjustment items in combination with the internal and external environment and strategic goals of the enterprise. However, EVA also has certain shortcomings. It only considers financial factors, and measures corporate performance from the perspective of shareholders' interests. Therefore, when using EVA performance evaluation, it should also be combined with other non-financial, representing the interests of employees and customers. The performance evaluation index conducts a comprehensive evaluation of the enterprise.

3.2 Analysis of EVA

According to the Table 5 below, the growth rate of EVA in listed companies with elderly care concept is volatile from 2016 to 2021, showing a "wave" trend. From 2018 to 2020, the EVA value of enterprises has an upward trend, of which the EVA value in 2020 increased by a large margin. Compared with the outbreak of the Covid-19 in the elderly care industry, this is in line with the reality. However, in 2016 and 2021, the companies' EVA growth rate was negative, which means that the lower EVA value in 2018 was not the performance of the company's common operating results, and it returned to the common operating state in 2020, which indicates that it has gradually returned to normal operating state.

Table.5. Fluctuation of EVA

Stock Code	EVA Growth Rate				
	2017	2018	2019	2020	2021
000615.SZ	2.01	-0.32	0.03	-0.34	-5.01
000722.SZ	-0.30	0.35	-0.03	-0.76	1.08
000919.SZ	0.27	-0.76	11.51	-1.22	-1.70
000931.SZ	1.77	-0.59	-3.31	0.22	-2.12
000961.SZ	-0.11	-0.91	-6.49	2.00	-4.87
002105.SZ	-1.33	-2.49	-1.55	25.14	0.59
002162.SZ	0.20	0.59	-0.20	0.85	-0.28
002223.SZ	-10.18	2.77	0.08	2.85	-0.41
002381.SZ	-0.30	-1.73	1.07	1.00	-0.64
002579.SZ	-0.17	-2.89	0.36	0.38	-0.17
002603.SZ	-1.67	-6.01	0.12	4.45	0.12
002675.SZ	-1.83	0.53	-1.08	-45.22	-1.25
002777.SZ	0.29	0.44	0.40	0.77	-0.07
300018.SZ	-0.20	1.40	-0.85	-1.13	-4.09
300024.SZ	-0.01	-1.12	-7.43	1.92	0.55
300212.SZ	-1.42	13.04	-0.03	0.48	-1.79
300244.SZ	-0.13	-32.57	-0.46	2.41	0.35
600100.SH	-0.30	0.41	0.07	-0.91	12.78
600223.SH	-0.75	-0.71	-4.75	1.81	-0.98
600329.SH	0.05	-2.09	-0.44	5.25	-0.41
600530.SH	0.02	0.39	-0.85	-3.35	-0.18
600620.SH	-0.05	-0.10	-0.25	1.09	-0.44
600682.SH	1.16	-1.18	-5.17	-0.51	0.73
600716.SH	-0.68	-3.09	-0.73	0.55	-0.87
600735.SH	11.70	-0.42	-0.80	7.56	-0.16
600998.SH	0.46	0.11	0.47	0.56	-0.17
603709.SH	0.30	-0.33	-0.55	1.50	-1.18
Average EVA Growth Rate	-0.04	-1.38	-0.77	0.27	-0.39

4. Conclusion

This paper uses EVA as an indicator to build a model for listed companies in the pension industry. It applies a comparative method to find the difference between EVA and traditional accounting indexes. Industry segments of listed companies from China involved in pensions focus on the pharmaceutical biology industry, real estate, machinery and equipment industry, and information equipment industry. The industry segment is relatively narrow, indicating that the pension industry is still in its infancy in China and has not emerged. From the analysis of the EVA and traditional financial indicators of the sample companies, it can be seen that the progress of listed companies with elderly care concept in 2016-2021 is uneven, and there is no breakthrough business advancement with the increasingly serious aging. From 2016 to 2018, enterprise value increased, but both net profit and ROE declined, which did not match the speed of aging. During the period 2019-2021, the global economic depression was caused by the impact of COVID-19. The EVA in 2019-2020 has been lower than the net profit, which shows that EVA is more cautious than traditional indicators, and the EVA in 2021 is negative, while the net profit is still positive. The results further show that there have been many problems in developing China's pension industry in recent years. Thus, the analysis of the EVA indicator is in line with the advancement shown. The performance evaluation of the pension industry is closely related to the size of the EVA. The larger the EVA value, the higher the value of the listed company with the elderly care concept.

Since EVA consists of three components: net operating profit after tax, total capital, and the weighted average cost of capital, they reflect revenue creation capabilities. However, the actual risk borne by listed companies with the concept of pension is not well considered, which may lead to an overestimation of the performance level of these companies in the short term. In subsequent research, new indicators from the perspective of economic capital can be introduced to reasonably reflect the value creation capabilities of different business lines and branches. While pursuing the book income, bear reasonable unexpected losses (economic capital) to balance of risks and returns and the long-term stable expansion of the business.

References

- [1] The several opinions on fully opening the elderly service market to improve the quality of elderly services. *General Office of the State Council of the People's Republic of China*, 2016, 000014349/2016-00248.
- [2] Notice on Printing and Distributing the “Thirteenth Five-Year Plan” for Health Industry Science and Technology Innovation Special Plan. *Ministry of Science and Technology of the People's Republic of China*, 2017, www.most.gov.cn.
- [3] Yan, T., Jia, X., Li, F. Financial analysis of five United States listed companies in the elderly care service category [J]. *Productivity Research*, 2013, 11, 177-179.
- [4] Liu, X. Financial analysis of China's elderly service listed companies under the framework of harvard analysis ——taking Yuyue medical as an example [J]. *Business*, 2016, 000(3),178.
- [5] Song, Y., Zheng, W. Financial analysis of Japanese aged care listed companies taking the Japanese medical center as an example [J]. *Liaoning Economy*, 2019, 10, 46-48.
- [6] Li, G., Guo, M. Financial analysis of China's elderly service listed companies - taking Yihua health as an example [J]. *China Management Informationization*, 2021, 24(5), 45-46.
- [7] Li, J., Tan, M. Attempt to analyze the performance evaluation of listed companies [J]. *Finance and accounting monthly*, 2007, 11, 72-74.
- [8] Chen, S., Dodd, J. L. Economic value added (EVATM): An empirical examination of a new corporate performance measure [J]. *Journal of Managerial Issues*, 1997, 9(3), 318-333.
- [9] Lai, F. W., Shad, M. K. Economic value added analysis for enterprise risk management [J]. *Global Business & Management Research*, 2017, 9(1), 338-347.
- [10] Sabol, A., & Sverer, F. A review of the economic value added literature and application [J]. *UTMS Journal of Economics*, 2017, 8(1), 19-27.
- [11] Wang, X., Cong, H., Ouyang, L. What explains company value: EVA or an accounting metric [J]. *Economic science*, 2003, 2, 98-106.
- [12] Tang, H., Li, Q. EVA, Traditional accounting indicators and the performance of listed companies' stock prices--based on a typical case study of Kweichow Moutai Company [J]. *Journal of financial development research*, 2017, 3, 38-43.
- [13] Interim Measures for the Evaluation of the Operational Performance of Persons in Charge of Central Enterprises (Order No.22). *State-Owned Assets Supervision and Administration Commission of the State Council*, 2019, <http://www.sasac.gov.cn/>.
- [14] Liang, S., Pan, J., Bai, Y. Implementation of EVA assessment mechanism and corporate cash holding--empirical evidence from Chinese central enterprises [J]. *Management Review*, 2019, 31(12), 233-249.
- [15] Interim Measures for the Evaluation of the Operational Performance of Persons in Charge of Central Enterprises (Order No.30). *State-Owned Assets Supervision and Administration Commission of the State Council*, 2013, <http://www.sasac.gov.cn/>.

- [16] Liu, Y., He, Y., Zhu, J., Qin, Y., Wang, Y. The application of EVA in enterprise performance evaluation ——take BYD as an example [J]. *Economic research guide*, 2016, 34, 4-7.
- [17] Provisions on the Transitional Policy for the Pilot Program of Replacing Business Tax with value-added Tax. *Ministry of Finance of the People's Republic of China*, 2020, http://szs.mof.gov.cn/zhengcefabu/201902/t20190201_3140680.htm.
- [18] Guo, D., Liu, L. The correlation between the EVA from the perspective of economic capital and the market value of bank [J]. *Finance forum*, 2014, 12, 40-45.