Research on the value of investments in the property development sector

--Poly Development as an example

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Abstract. As an important part of China's economy, the real estate industry plays an irreplaceable role in the national economy and has been involved in the booming development of China's economy since the beginning of the 20th century. Among the many listed companies in the real estate development industry, Poly Development has reaped the favour of many investors with its outstanding performance. However, the sudden onset of the COVID-19, coupled with policy restrictions, has dealt the real estate development industry a considerable blow. This paper uses the basic theory of investment value analysis to analyze the investment value of Poly Development. This paper firstly analyses the strengths and weaknesses of Poly Development at an overall level, secondly starts with financial data and uses the DuPont analysis to analyze the financial position of Poly Development to understand the company's profitability, operational and debt servicing capabilities. Finally, the paper selects the annual report data of Poly development, uses the relative valuation method to calculate and analyze the investment value of the enterprise, and gives reasonable investment suggestions

Keywords: property development industry, Poly Development, investment value, relative valuation method

1 Introduction

1.1 Background and significance of the study

The real estate industry is an important part of China's economy, which has an important contribution to China's GDP, and because the general public has access to fewer investment channels, coupled with certain financial attributes of real estate, the real estate industry once became the most recognized means of investment for the general public, from the beginning of the twentieth century to the present, China's economy has been developing at a rapid pace, and the real estate industry, which occupies an important position in the national economy, has been instrumental. With the rapid development of China's economy, the real estate industry has also been making great strides, but with the introduction of policies such as purchase restriction orders, the policy of

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"housing without speculation" has basically been established, coupled with the outbreak of the new crown pneumonia epidemic, people's income is expected to decline, resulting in a decline in demand for housing, although the government subsequently introduced a Although the government subsequently issued a "limit down order", but the price of housing is still downward pressure. Among a host of listed companies in the real estate open industry, Poly Development is somewhat representative, Therefore, this article choose poly development as the research object, from investors perspective, using financial report and other data, combination of quantitative and qualitative method, to invest in poly development value assessment, and on this basis, put forward the investment advice, for investors in real estate industry, this report has a certain reference value, At the same time, it also has practical significance for the management of Poly development.

1.2 Research Methodology

Literature research method: Through reading literature related to the real estate development industry and literature reports related to value investment, understanding the analysis theory of investment value and the current situation of real estate industry research, exploring and organizing the research ideas

Comparative analysis method: By comparing Poly Development's data from 2017-2021, a longitudinal comparison was made to understand the company's situation and to derive its investment value in conjunction with a horizontal comparison of data from the same industry

Case study method: Conduct a comprehensive and detailed survey of Poly Development, collect financial statements and other data, and collate them for research

2 Literature review

Benjamin Graham (1934) was the first to introduce the concept of value investing analysis, and he introduced two key concepts of value investing, which later became known as the cornerstones of value investing, namely "intrinsic value" and "margin of safety". "Intrinsic value" includes a company's assets, earnings, dividends and a clear outlook, and Benjamin Graham argued that it is not useful to determine the exact value of intrinsic value, but only to estimate the approximate range. [1] Philip Fisher proposed the cash flow valuation theory in the 1930s, the core of which is to calculate the value of a company by discounting future cash flows at a proposed appropriate discount rate, and later the dividend discount valuation model and the zero growth dividend discount model were also used or derived from this; Robert Monks and Alexander Reed Robert Monks and Alexander Reed Rajkos, in their study "Valuing the Enterprise", point out that ratio analysis is a method of analyzing and evaluating a company's operating activities as well as the company's and historical situation by comparing the relevant data of several important items in the same period of financial statements with each other to find a ratio, which is the most basic tool of financial analysis; Avosky Damondry, in his book "Valuing the Enterprise", uses relevant studies to analyze the value of a company based on the balance sheet and the cash flow statement. liquidity, working capital processes, traditional and cash flow based profitability based on the balance sheet and cash flow statement; Pallipiou's Corporate Analysis and Valuation aims to analyze the time series changes in a company's competitiveness based on its financial position during the financial crisis, demonstrating that a high level of revenue is concentrated among a few competitors, achieving a highly competitive situation; In the early 1980s, Heinz Werick put forward SWOT analysis, which is a strategic analysis method used to determine the advantages and disadvantages of an enterprise, so as to analyze the combination of the company's strategy and resource system. Vishwanath.S.R studied the investment value report of Dell, combined with the complete SWOT analysis of the company, and then proposed that the investment analysis should analyze the strategic management in the financial report.2.2 Review of domestic research

Due to the late development of China's securities market, the market as a whole is not mature, the relevant system is not perfect, and the market has a strong speculative atmosphere. With the introduction of advanced foreign investment theories, China has also seen the rise of research on investment value, which mostly focuses on the application of the relevant theories of investment value research to analyze the investment value of Chinese enterprises.

Tian Zhonghe and Zhang (2007) argue that non-financial factors are equally important to the assessment of enterprise value. The non-financial factors are assessed using qualitative analysis. Non-financial factors can be graded and scored, and the value of the enterprise can be calculated through a weighted average. Zhang Hui Ming and Deng Ting (2010) suggest that in the process of enterprise value research, qualitative analysis is of great significance to the valuation of enterprises, arguing that enterprise value analysis without qualitative research will only go astray. And they established a quantitative model for the qualitative analysis of enterprise value, scoring each qualitative influencing factor that affects enterprise value to quantify the value of enterprises. Chen Lei (2015) suggests that due to the specificity of cyclical industries, the development status of a company is closely related to the changes in macroeconomic forms. Even for large companies, his profits and cash flows can fluctuate significantly. Therefore, it is important to incorporate macro

The impact of economic factors on the valuation model is taken into account.

3 Investment value concepts and assessment methods

3.1 The concept of investment value

The value of an investment is the value of an asset to a specific investor or class of investors with a defined investment objective. This concept combines a specific asset with a specific investor or class of investors with a clear investment objective, criteria. A range of quantitative indicators such as price-to-earnings, price-to-net, price-to-sales and discounted cash flow ratios are commonly used in fundamental stock market analysis to measure the intrinsic investment value of a business.

3.2 Investment value assessment methods

3.2.1 Discounted cash flow method.
The discounted cash flow method is an absolute valuation method that involves discounting the expected cash flows of a business over a specified period of time to the present using a discount rate in order to value the stock

Discounted cash flow formula.

$$V=\sum_{t=1}^{n}\frac{CF_t}{(1+r)^t}$$

[2] In the formula, V = Business valuation, n = asset life, CFt = cash flow of the asset at time t, R = discount rate reflecting expected cash flows.

When using the discounted cash flow method, it is important to first make a reasonable forecast of the cash flows of the business, and secondly, to choose an appropriate discount rate

3.2.2 Relative valuation method.
[3] Relative valuation refers to the use of price indicators such as P/E, P/N, P/S and P/C ratios against a number of other stocks (the comparator). If the price is lower than the average of the corresponding indicator values of the comparator, the stock is undervalued and the share price will hopefully rise, causing the indicator to return to the average of the comparator. The relative valuation model is divided into three application methods: the P/E multiplier method, the P/N multiplier method and the PEG valuation method. The P/E multiplier method uses the ratio of stock price and earnings per share to calculate the valuation, which mainly reflects the sustained growth of the stock; the P/N multiplier method is suitable for the extreme value of the cycle; the PEG valuation method mainly reflects the level of earnings

The discounted cash flow method is a highly technical method with some convincing data. However, the discounted cash flow method requires the making of forecast assumptions on future data for extrapolation and calculation, which is subjective and uncertain due to the error prone nature of artificial assumptions, especially during the black swan event of the new pneumonia epidemic. Therefore, the relative valuation method is used in this paper to assess the enterprise

4 Analysis of the value of investment in the property development industry - Poly Development as an example

4.1 Introduction to Poly Development

Poly Development Holdings Group Co., Ltd. is mainly engaged in real estate development and operation, property management and so on. It is the leading A-share real estate development sector. [4] After 27 years of steady development, the company has formed a business segment layout with real estate investment and development as the main focus, complemented by integrated services and real estate finance. In 2019, the company achieved contracted sales of RMB 146.18 billion, ranking among the top five in the industry and the first among central enterprises. It has been ranked as the "Leading Company Brand in China's Real Estate Industry" for ten consecutive years and has entered the Forbes World Top 500. Poly Development takes real estate investment and development as the origin and extends the "real estate ecology" in three dimensions, strengthening interaction and enhancing value through the linkage of talent, capital, technology and information, ultimately forming a symbiotic and co-prosperous real estate ecological system with the most outstanding competitiveness in the world.

4.2 Analysis of Poly Development's competitiveness

This paper will use the SWOT model to analyze the competitiveness of Poly Development. ① Strengths: As a central enterprise, Poly Real Estate has the advantage of resources, including land, capital and contacts in major cities and regions across the country, which is conducive to Poly Real Estate's expansion across the country and also helps to control the risks associated with such expansion. The company has a rapid expansion of its landbank, with a nationwide distribution in first and second tier cities across the country. The distribution of second and third tier cities is concentrated in the Pearl River Delta, Bohai Rim and Southwest China, accounting for 71% of its total reserves, which has the advantage of high demand and low risk of policy tightening; the company has strong growth potential and is growing rapidly, with the compound growth rates of Poly Real Estate's turnover and net profit in the past five years being much higher than those of its competitors in the industry. ② Weaknesses: the company's overall business style is aggressive, its engineering cost management is sloppy, the introduction of high-end talents is slow, its product structure is relatively homogeneous, and its corporate logistics model is backward. ③ Opportunities: Poly Real Estate has the advantage of being a central enterprise and is able to obtain land with better location conditions, and with its larger scale, the company is less restricted in financing and has stronger capital strength; Poly Real Estate's property sector is listed independently, creating an oh real estate ecology and enhancing competitiveness and brand value ④ Threats: The policy of "no speculation in housing" has been established, real estate has entered a period of regulation and control, and the real estate industry has begun to compete for stock; the new pneumonia epidemic has led to an economic downturn, and the future income of homebuyers is expected to decline, and the demand for housing has fallen.

4.3 Analysis of Poly Development's financial position

In this paper, the financial position of Poly Development will be analyzed using the DuPont analysis (see Table 1).

Table 1. Data from Poly Development 2017-2021 Report (self charting)

	2021	2020	2019	2018	2017
ROE (%)	14.6	17.2	20	16.5	15.9
Net Profit Margin on Sale (%)	13.1	16.5	15.9	13.4	13.4
Gross Profit Margin (%)	26.8	32.6	35	32.5	31
Receivables Turnover (per year)	100.9	113.1	121.3	99.3	82.4
Total Assets Turnover (per year)	0.21	0.21	0.25	0.25	0.25
Inventory Turnover Ratio (%)	0.3	0.2	0.3	0.3	0.3
Liquidity Ratio (%)	152.3	151.1	156.7	172.3	177.8
Quick Ratio (%)	53.5	52.5	59.3	65.6	57

This paper analyses Poly Development based on the DuPont analysis of. ① For the profitability analysis, Poly Development's return on net assets rises from 15.9% to 20% in 2017-2019 and then falls back from 20% to 14.6% in 2019-2021, Poly Development's net sales margin and gross sales margin also experience a rise and then fall, with net sales margin climbing from 13.4% in 2017 to 16.5% in 2020 and falling back in 2021 to 13.1% and gross sales margin rose from 31% in 2017 to 35% in 2019 and then fell back to 26.8% in 2021, indicating that the rapid expansion of the enterprise between 2017 and 2019 and the nationwide layout in the early stage played a certain effect, which was affected by the New Crown Pneumonia epidemic from 2020 onwards, coupled with rapid expansion, sloppy management of engineering costs and the epidemic period Cost and expense management capabilities decreased, resulting in higher overall costs and lower profitability ② In the analysis of operating capacity, the receivables turnover ratio follows the trend of rising and then falling, rising from 82.4% in 2017 to 121.3% in 2019 and finally falling back to 100.9% in 2021, which means that there are fluctuations in the liquidity of assets and short-term operating capacity, and the New Crown pneumonia epidemic is also partly responsible for the fluctuations, while the total assets turnover ratio and inventory turnover ratio do not change much, and Poly The total asset turnover ratio and inventory turnover ratio did not change much, and the overall operating capacity of Polytec did not change much ③ In the solvency analysis, the current ratio experienced a drop from 2018 to 2019, from 172.3% to 156.7%, but the data for 2017-2018 and 2019-2021 were maintained at their respective levels without much change, and the quick ratio, after rising from 57% to 65.6% in 2018, fell to 52.5 in 2020, after This indicates that the realisation and short-term solvency of Poly Development has slightly decreased at this stage compared to pre-2018, reflecting a decrease in marketability and operating capacity, a slowdown in sales efficiency and a reduction in market size, but still a strong overall solvency

In this paper, we have selected the same leading companies in the real estate development industry for a side-by-side comparison with Poly Development using the DuPont analysis (see Table 2).

Table 2. 2021 Comparative analysis by industry (self charting)

	Poly Development	Vanke	Greenland Group	Shekou	Gemdale
ROE (%)	14.6	9.8	7.1	9.9	15.6
Asset-liability ratio (%)	78.4	79.7	88.8	67.7	76.2

Net Profit Margin on Sale (%)	13.1	8.4	1.7	9.5	13.1
Total Assets Turnover (per year)	0.21	0.24	0.38	0.2	0.23

Table 2 shows that Poly Development's return on net assets is in the upper reaches of its industry, its gearing ratio and total asset turnover ratio are at an average level, and its net sales margin is the highest among the leading companies. From the performance of various data in its industry, Poly Development's profitability, operating and debt servicing capabilities are relatively excellent, and although there was a decline in 2019, its overall capability is still at the leading position in the industry

4.4 Poly Development Investment Value Assessment

In this paper, we will use P/E, P/N ratio and industry comparison to analyze the investment value of Poly Development, and select data as at 16 September 2022 for analysis (see Table 3).

Table 3. Investment evaluation of The Poly Development (self charting)

	PE	PB
Poly Development	6.38	1.14
Average	11.03	0.97

The P/N ratio of Poly Development is slightly higher than the industry average and the P/E ratio is lower than the industry average, Poly Development has a higher gearing ratio, so the P/E ratio will be affected to a certain extent. The current ratio is 156% and the quick ratio is 52.5%, both of which are close to the industry average. In addition, Poly Development's equity multiplier of 5.39 is higher than the industry average of 3.4 and its gearing ratio of 77.5% is higher than the industry average of 72.1%, making Poly Development's investment value slightly lower and its share price inflated as at 16 September 2022.

5 Conclusion

As a result of the above analysis, The Poly Development's profitability has declined to a certain extent but remains at a high level, its operating and debt servicing capabilities are average, its leverage is too high, its risk is high and its cash flow position is poor. The P/E ratio and P/N ratio of Poly Development are not satisfactory, and the P/E ratio is much lower than the industry average, so Poly Development is currently in an overvalued state and has low investment value in the short term.

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