

Financial Analysis and Investment in The Games Industry

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Abstract. Since 2008, revenues from the web and mobile games have grown rapidly due to the development of internet technology and the popularity of smart mobile devices. Many games are no longer tied to a specific place or time, which has led to an increase in the number of users. In the gaming industry as a whole, mobile gaming has gradually become the mainstream of the modern gaming industry. However, the game industry is particularly mature at this stage, and a new phase of change may be coming. And in the development of a game company, business risk is one of the main factors of concern for investors. Indeed, the investment risk of a gaming company determines whether it is sufficient to ensure the future development of the entire company. In this paper, three companies, namely 37Interactive Entertainment Network Technology Group, Perfect World, and Zhejiang Century Huatong Group were chosen to compare the operational risk of a game company and the current state of the company. In this comparison, WACC is used to measure the average required return. In addition, the three companies' cost of equity is examined using both operational and financial leverage. These are employed in the analysis of the three organizations' operational and financial risks. Assumptions and interpretations are also made based on specific industry characteristics and operating rules. Overall, due to the growth of the Internet, this epidemic has raised expectations of the gambling industry in a short period, so factors such as company size and type of stock have become less important. The rapid growth of the gaming industry as a whole during this period has raised some questions about the growth prospects and operational risks of these three companies.

Keywords: Financial analysis, Investment decision, Games Industry.

1. Introduction

1.1 Background

As time goes on, gaming has become a more important part of people's lives. The number of gaming companies around the world has also grown one after another. As the number of gaming companies increases, the competition becomes more and more intense. The gaming industry is also leading the way in social economy development. Many investors are turning to the gaming industry for investment. Therefore, whether a gaming company is worth investing in or not requires a detailed analysis. In the analysis, whether a company is worth investing in WACC is an important indicator to measure.

1.2 Related research

Wilfried illustrated a step-by-step approach to achieving strategic goals and implementing them by identifying key performance indicators, actions, and responsibilities, and making speculative statements through a modern approach to trend analysis [1]. Iskandar et al. explored and evaluated a listed company in Malaysia. Internal audit has a fascinating relationship and an important role to play in the implementation of Enterprise Risk Management (ERM) [2]. Hockdoepgen et al. conducted an empirical analysis of 197 SMEs using structural equation modeling (SEM) and fuzzy set stereotype comparison analysis (fs QCA). The results of the analysis indicate that internal knowledge is only effective for firms with low-risk tolerance [3].

In order to investigate the impact of ESG elements on a company, Atan has selected Public Company Limited (PLC) in Malaysia. The study investigates how profitability, firm value and cost of capital are affected by ESG elements and explores how best to find the potential net present value (NPV) of a project [4]. According to the sensitivity analysis, investment and wind speed are necessary

for the success of this kind of project [5]. According to the kind of marine commodities for aquaculture, the project type, and the location or nation, Campo et al. propose an approximative minimum profitability for new aquaculture feasibility studies [6]. Using a worldwide multi-regional multi-sectoral computable general equilibrium (CGE) model, Bachner et al. evaluate the macroeconomic impacts of a large-scale growth of wind and photovoltaics (PV) throughout Europe [7]. Two-dimensional categorization is recommended by Hilkevics et al. for business ratio analysis techniques [8]. Brusov employs author-created financial models in his work. The efficacy of an investment project is described by one of them from the perspective of equity capital owners, whilst the effectiveness of an investment project is described by the other model from the perspectives of equity capital and debt capital owners [9]. Ghigo et al. place particular emphasis on selecting a floating platform that minimizes the overall weight and lowers the cost of the materials while maintaining buoyancy and static stability [10]. Through the use of option theory, Shen et al. suggested a potential substitute for WACC as the cost of capital for a company investment choice [11]. The differing weighted average cost of capital (WACC) assumptions have a disproportionately negative influence on the estimated decarbonization paths for emerging countries, as demonstrated by Ameli et al. [12]. It is another significant piece of writing [13].

1.3 Objective

This study will focus on the investment prospects of three companies in the same sector. The paper is structured as follows. First, the calculations utilized and the three different companies in the same sector are described in detail. The next sub-study, using calculations, is discussed and analyzed through multiple sources of data. Finally, it is mainly through this aspect of the weighted average cost of capital that can see which company is more promising for investment. Not only does it reflect the risk assessment of the company, but also the investors' expectations of the company.

2. Method and data

2.1 Methods

A risk indicator called beta, commonly referred to as the beta coefficient, gauges the price volatility of a single company or stock fund in comparison to the whole stock market. It can be calculated by dividing the product of an individual stock's return over some time by the covariance of market returns.

$$\beta_a = \frac{\sigma_a}{\sigma_m} \times \rho_{am} \quad (1)$$

The expected cost of borrowing is the cost of capital based on which a company decides whether an investment meets the return criterion. They are sometimes used by companies as a benchmark to determine the required return in capital budgets. A company's cost of equity is the fee that the market expects in exchange for the company owning the asset and assuming the risk associated with it.

$$\text{Expected cost of equity capital} = R_e = r_f + \beta_E(r_M - r_f) \quad (2)$$

The typical after-tax cost of capital for a company is called the weighted average cost of capital (WACC). Its equity side includes various types of debt such as common stock, preferred stock, and bonds. The average interest rate that a company plans to pay to finance its assets is called the WACC. the WACC method is applied to calculate the required rate of return.

$$\text{Weighted average cost of capital} = \text{WACC} = \left(\frac{E}{V} \times R_e\right) + \left(\frac{D}{V} \times R_d \times (1 - T_c)\right) \quad (3)$$

2.2 Listed companies

The three companies in the same sector that this study has chosen to focus on are all well established and are among the leading gaming companies in China. Each of these three companies has its unique characteristics. Each of these three companies will be described below.

37 Interactive Entertainment Network Technology, an outstanding integrated cultural and entertainment listed company in China A-share, has businesses covering global game development and distribution, and online education. The company is also active in the meta-universe industry, film and television, animation, music, social, pan-cultural entertainment media, cultural health and new consumption.

Century Huatong's main businesses are internet games and auto parts. In the future, it will "take games as the core of the new cultural industry ecosystem", further strengthen the comprehensive coverage of end-game, page game and hand game, and will carry out cross-border cooperation in the fields of film and television, animation and literature.

The largest integrated film and gaming corporation in China, Perfect World's business spans the three key industries of Perfect World Film and TV, Perfect World Games, and Perfect World Gaming.

3. Results and discussion

This paper selects some financial indexes to evaluate the investment value of the three listed companies, as shown in Table 1.

Table 1. The financial values of selected companies (millions CNY)

Company	37 Interactive Entertainment Network Technology	Perfect World	Zhejiang Century Huatong
Total Debt	3579.85	630520	41393
Total Equity	116304	927953	255168
Debt/Asset	32.4%	67.9%	16.2%
Tax Rate	11.57%	11.37%	15.77%
Risk-free Rate	2.7%	2.7%	2.7%
Beta	0.60	1.18	1.16
Interest Expense	-29	-167	-345
WACC	9.81%	8.80%	8.47%

3.1 Beta

Beta is a relative metric that expresses how volatile a stock's return overall is in comparison to the return of a market benchmark. Based on the calculations, we can see that the beta of 37huyu is 0.6, Perfect World is 1.18 and Zhejiang Century Huatong is 1.16. The comparison shows that Perfect World has the highest beta, meaning that Perfect World's stock is more volatile relative to the market benchmark and has a higher market risk. Century hutong, on the other hand, has the lowest volatility relative to the market benchmark and the market risk is more stable.

3.2 Interest Expense

Interest expense is used to measure the ability to grow and borrow interest and is an indicator of a company's ability to pay interest on its liabilities. We can see from the table that all three companies have negative interest expenses, but we can also look at the financial strength of the companies through the interest cover multiples. The interest cover multiples of the three companies can be calculated and the highest interest cover multiple is 102.46 for 37 Entertainment, 7.45 and 6.38 for

Perfect World and Century Huatong respectively. Therefore, 37huyu debt repayment ability is stronger.

3.3 WACC

Further analyzing the W, A C C, it can be clearly seen from the table that the W A C C of 37 Entertainment, Perfect World and Century Huatong are 9.81%, 8.80% and 8.49% respectively. From an investor's perspective, these figures reflect the risk of the company receiving future cash flows. Century Huatong, has a lower uncertainty of being able to generate cash in the future world, which means that good companies have a higher chance of generating cash flow in the future. At the same time, 37huyu has the highest WACC, which indicates a higher achievement in raising capital. By comparing this, we can see that 37 will be more stable in making profits and more in need of investment.

4. Conclusion

This paper uses the WACC model to examine how investors should invest in gaming companies and to discover the potential of investing in gaming companies. By using the data with the company's capital structure and capital sources, the lower the value of the highest corporate future cash flows discounted back by WACC for 37 Entertainment will be, so this is a little better choice. The two sets of data, beta and interest expense, reveal that the data metrics of 37huyu are the most bullish for investors. Compared to the other two companies, Century Hutong has a better ability to repay its debt and has the least volatility relative to the market benchmark, a more stable market risk and a better ability to raise capital. There will also be larger scale growth if investors invest in Century Huatong. Overall, the gaming industry is poised to rise steadily and has great potential. Therefore, this article strongly recommends that investors are also considered for investment in 37 Entertainment.

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