

WACC Analysis of Banks: Take JPMorgan Chase and Industrial and Commercial Bank of China as Examples

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Abstract. The world's overall economic level has improved, and the financial system has also been continuously improved. Among them, international banks have long become the backbone of the financial system. At the same time, various financial instruments such as WACC (Weight Average Cost of Capital) are constantly being applied to the management and investment direction of international banks. In the process of applying the WACC decision-making model to some international banks, some problems were encountered and solutions were proposed for reference. This also provided a reference for the further improvement of the financial system and the progress and development of the financial market. This article discusses the possible significant differences in the WACC capital structure decision-making model used by JPMorgan Chase and the Industrial and Commercial Bank of China and discusses the reasons for this difference. The use of the WACC capital structure decision-making model can enrich the application background to a certain extent and better guide investment.

Keywords: Weighted average cost of capital, decision model, international banks.

1. Introduction

The continuous improvement of the world's overall economic level has brought about the active market of consumer goods, entertainment products and financial markets. This article mainly studies the financial market. At present, with more and more active financial activities, various countries are also focusing on improving their financial systems. Among them, the modern financial system represented by the United States and the traditional financial system represented by China are worth studying. Both countries are considered hugely significant in the modern economic system [1]. The objective situation is that the two financial systems of modern society go hand in hand - the modern financial system belonging to the developed countries and the traditional financial system belonging to the developing countries. The listed international banks under the two financial systems. JPMorgan Chase Bank and Industrial and Commercial Bank of China obviously have some significant differences. Taking this as a starting point, this paper finds some differences between the two using the WACC decision model and analyzes the reasons for them from three main aspects: currency conditions, market confidence, and business structure. At the same time, it is found that the WACC decision-making model has some defects and cannot be used unilaterally. For example, more comprehensive tools are needed to analyze and summarize issues such as risk assessment and equity changes. The end of this paper introduces ROIC return on capital and WACC and provides some useful ideas.

2. WACC Decision Model

2.1. Overview of WACC

Formula:

$$WACC=(E/V) \times Re+(D/V) \times Rd \times (1-Tc) \quad (1)$$

Among them, R_e represents the cost of equity; R_d represents the cost of debt; E represents the market value of the company's equity; D represents the market value of the company's debt; V represents the market value of the enterprise; E/V represents the percentage of equity in total financing, that is, the capitalization ratio; D/V represents the percentage of debt to total financing, that is, the asset-liability ratio. T_c represents the corporate tax rate.

The weighted average cost of capital is used to calculate the average cost of equity and debt financing for a company. To calculate WACC, first calculate the items that make up the company's structure - its calculation needs to include all capital of common stock, preferred stock, bonds and all long-term debt liabilities. The calculation method is to multiply the cost of completely consuming capital by the proportion of total capital, and then add the proportions of various capitals.

In the business operation process, the WACC decision-making model is an important financial tool when investors are looking for good investment objects.

WACC is actually the opportunity cost of investors taking the risk of investing in a company [2]. For example, when acquiring a company, WACC can be used as a discount rate to discount future cash flows, providing guidance for the company's acquisition behavior. When a company wants to conduct a project return valuation, WACC can calculate the present value of the project's profits through future cash flow discounts. In this case, WACC can not only reflect the financing cost but also reflect all investors [3].

2.2. The Use of WACC

As mentioned earlier, WACC can be regarded as the financing cost of the enterprise. In fact, at this time it is need to compare the calculated WACC value with the ROIC value.

ROIC: Return on invested capital refers to the ratio of funds invested or used to related returns (returns are usually represented by interest earned and/or profits shared) [4]. Obviously, if the company's ROIC value cannot exceed the WACC value, it means that the invested capital cannot create economic profits, and the company is actually destroying value. The faster it develops, the faster the value is destroyed.

At present, the sharing economy continues to heat up, and various emerging Internet companies continue to receive public attention and capital pursuit [5]. For example, China's shared bicycle business developed rapidly in 2016. The rent paid by consumers for temporarily renting bicycles cannot cover the huge costs - such as bicycle management costs, warehousing costs, and additional maintenance costs. Obviously, the ROIC of the shared bicycle business does not exceed the WACC value. Although the original intention and environmental protection concept of shared bicycles are worthy of recognition, when shared bicycles are continuously produced, this actually accelerates the waste of resources. It can be concluded from this that WACC needs to be compared with ROIC.

3. WACC analysis of JPMorgan Chase and Industrial and Commercial Bank of China

3.1. WACC of JPMorgan Chase and Industrial and Commercial Bank of China

$$\text{ICBC's WACC} = 0.5233 * 6.209\% + 0.4767 * 42.8108\% * (1 - 16.07\%) = 20.38\%$$

$$\text{JPMorgan Chase Bank's WACC} = 0.5412 * 11.032\% + 0.4587 * 7.5154\% * (1 - 21\%) = 8.69\%$$

It can be seen that there is a significant difference between JPMorgan Chase's WACC and ICBC's WACC value, which means that ICBC's cost of financing one unit of funds is higher than that of JPMorgan Chase.

3.2. WACC Difference Analysis

First and foremost, the Chinese government has adopted strict control measures in response to global health issues in 2019-2022 [6]. This will undoubtedly be a huge blow to China's economic development. Strict control means an increase in logistics costs, labor costs, management costs and

other costs. After the Chinese government decided to relax controls at the end of 2022, although the government vigorously implemented many loose monetary policies to create a better environment for the domestic economy, the Chinese economy still faces the risk of deflation and declining market confidence.

Debt control is an important measure to prevent enterprises from falling into debt crisis. Ineffective debt control may cause enterprises to fall into debt quagmire, seriously affecting the stable operation of enterprises [7]. Evergrande Group announced its financial data for 2021 and 2022 on July 7, 2023, showing that the company lost 686.2 billion yuan in 2021. Evergrande Group is currently facing a debt problem of 2.4 trillion yuan, which is equivalent to 48 times the cost of digital manufacturing. Therefore, people began to question whether Evergrande had enough funds to initialize debt, which also raised concerns about the risk of debt default. In addition, the current situation of Evergrande Group's thunderstorms also includes the company's stock falling, rating downgrades, etc. Evergrande Group is currently in financial difficulties.

The real estate industry is an important industry in China. It directly or indirectly affects and reflects the development of China's national economy [8]. Country Garden is one of China's leading real estate companies. In the past few years, Country Garden's financial status and operating performance have been affected to a certain extent due to factors such as high debt ratios left behind by high turnover, regulation of the real estate market, and intensified competition. Country Garden's asset-liability ratio has always been at a relatively high level, at 88.03% in the first half of 2020. Although it fell by 4.48 percentage points to 83.55% in the second half of 2020, it is still at a relatively high level. At the same time, Country Garden suffered large financial losses in 2021 and 2022. In 2022, it suffered its first loss since its listing. The financial situation is not optimistic. The serious financial problems of two large cross-industry groups in China have undoubtedly reduced market confidence.

Deflation and declining market confidence have undoubtedly resulted in higher financing costs for ICBC.

In contrast, inflation has appeared in the U.S. economic market, prompting the Federal Reserve to continuously adjust its policies and raise interest rates [9]. The Federal Reserve has been raising deposit interest rates. JPMorgan Chase & Co. CEO Jamie Dimon warned on Monday that the world may not be ready for the worst-case scenario in which the Federal Reserve raises its benchmark interest rate to 7 % and stagflation sets in. He said in an interview with foreign media that interest rates may need to rise further to combat inflation. More dollars in circulation lower JPMorgan's funding costs.

Secondly, JPMorgan Chase has a global business network and extensive partnerships, which can provide cross-border financial services to customers and provide financing support and investment opportunities to enterprises in different regions.

Table 1. Geographical business distribution of JPMorgan Chase

North America	96.7 billion 75.16%
Europe/Middle East/Africa	18.7 billion 14.58%
Asia-Pacific	10.02 billion 7.79%
Other Area	3.78billion 2.47%

As can be seen from Table 1, 75.16% of JPMorgan Chase's business is concentrated in North America, and 14.58% in Europe and the Middle East. 7.79% are distributed in the Asia-Pacific region and 2.47% in the remaining region.

JP Morgan's business is concentrated in the more economically developed regions. North America, which includes the United States and Canada, is one of the most economically developed regions in the world with a high level of economic integration.

Correspondingly, the Industrial and Commercial Bank of China mainly focuses on the country's economic and financial businesses. Mainly concentrated in the Bohai Rim, Pearl River Delta, and Yangtze River Delta regions of the country. Its international influence and ability to resist risks are weaker than JPMorgan Chase's.

Since 2022, the world has not been peaceful, such as the Russia-Ukraine conflict in 2022. The volatility of the international situation has caused investors to be more thoughtful and choose more stable investment objects. Around the world, political and economic risks are mounting. In the global investment market, investors will prefer to choose the US dollar, which is the currency of the world. The dollar has been the world's currency since the Bretton Woods system - and remains so today. It is true that currencies such as the euro and the yuan are challenging the dollar's position, but with the Federal Reserve's recent interest rate hikes, the dollar's position has been strengthened. As an investor, or holder of money, converting your currency into dollars is a relatively conservative choice. The dollar itself has the credit guarantee of the United States government, which is attractive for investment.

Finally, from December 31, 2021 to September 26, 2023, the USD/CNY rose from 1:6.36 to 1:7.35, and The U.S. dollar may still strengthen in stages in the short term [10].

When the U.S. dollar appreciates and the yuan depreciates, the capital market is more willing to flow funds into the United States. Therefore, JPMorgan Chase's WACC is lower, while ICBC's WACC is higher.

4. Conclusion

The use of financial instruments should not be rigid. A financial instrument may not take into account various problems in the application process at the beginning of its design, so there will be various defects. In some cases, it cannot be used normally within the scope, but after continuous research and application, it can be continuously improved by introducing various new concepts. The WACC capital structure decision-making model has certain flaws in risk assessment, equity changes and leverage issues. Even if using WACC alone to study JPMorgan Chase and Industrial and Commercial Bank of China can provide some useful insights, it is ultimately flawed and future research could use more accurate and comprehensive financial tools.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

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