The Market Risk Premium Model Theory Study

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Abstract. Stock market risk premiums not only influence corporate finance and investment management decisions but also serve as key inputs for numerous financial theory models. A deeper and more comprehensive knowledge of equity risk premiums has emerged as a result of developments in the theoretical research on equity premiums conducted in the West. One of the most active areas of research expands on the standard model's excessively robust assumptions to explore why the standard C-CAPM model does not adequately explain the reality premium. Through the use of several instances and financial data, the author of this essay investigates the feasibility of developing a risk premium prediction model based on risk predictability. The outcomes of several attempts demonstrate the significance of the risk premium prediction models built using a fair selection of indicators, as well as the satisfactory theoretical performance of the dynamic trading strategies developed using the models. Dynamic trading techniques have not, however, been tested in real markets; as a result, this needs to be acknowledged and addressed in the upcoming study.

Keywords: Risk premium, equity instruments, valuation of financial assets, return on equity

1 Introduction

It frequently boils down to whether an investment offers an expected return high enough to offset the level of risk taken when people choose one investment over another. This excess return is referred to as a risk premium in finance. Both returns can only be obtained by accepting some kind of risk premium because risk and return are two opposite sides of the same coin.

The higher rate of return one might anticipate from riskier investments, like equities, as opposed to risk-free investments, like government bonds, is known as a risk premium. The general definition, as shown by the formula below [1], is the predicted risky return less the risk-free return. It is frequently used in finance and economics.

Risk Premium=Expected Risky Return – Risk-Free return

It is necessary to first establish a risk-free benchmark because the risk premium is an idea of extra return. The yield (also known as yield to maturity, or YTM), on a three-month Treasury Bill, serves as the conventionally accepted risk-free rate on a dollar asset (T-bill). While there are various definitions, the majority center on short-term debt

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that the US federal government has issued. Market players are generally sure that this government can pay its debts, at least in the near future. The yield on short-term central government debt of the nation in question can be treated at the local risk-free rate for assets denominated in non-dollar currencies.

Assume that the risk-free rate is 2 percent. The risk premium for a stock in a publicly traded company that has had an annual return of 10% is 8%.

Investing in riskier assets like stocks exposes one to the possibility of losing money. A risk premium enters the picture here: larger profits may be expected from riskier investments, making up for the higher likelihood that investors would lose money.

2 The applications of risk premium

2.1 Risk premium application in finance

The market risk premium and the equity risk premium are two ways that the risk premium is typically conceptualized. It is widely utilized in the banking industry in areas including risk management, asset pricing, and portfolio allocation [1].

Equity Risk Premium. The excess return over the risk-free rate one can receive by investing in a single stock is known as the equity risk premium. The premium one can receive directly relates to how risky a stock is; for a stock to be appealing to investors, it needs to have a higher equity risk premium.

For instance, if an investor must choose between a risk-free government bond with a bond yield of 3% and an equity asset from a hazardous company, the investor may demand a higher return of 8%. A 5% risk premium would be the effect of this. Depending on their level of risk aversion, each investors determine their own risk premium [2]. With a stated risk premium and risk-free rate, the formula can be rearranged to determine the anticipated return on an investment. For instance, the anticipated return on the equity asset would need to be 12% if the investor in the aforementioned scenario demanded a 9% risk premium.

Market Risk Premium. The higher return an investor will earn (or anticipates receiving) from holding a portfolio of hazardous markets as opposed to risk-free assets is known as the market risk premium.

The Capital Asset Pricing Model (CAPM), which analysts and investors use to determine the appropriate rate of return for an investment, includes the market risk premium. The idea of risk (volatility of returns) and reward is at the core of the CAPM (rate of returns). Investors always desire to have the highest rate of return and the least amount of return volatility.

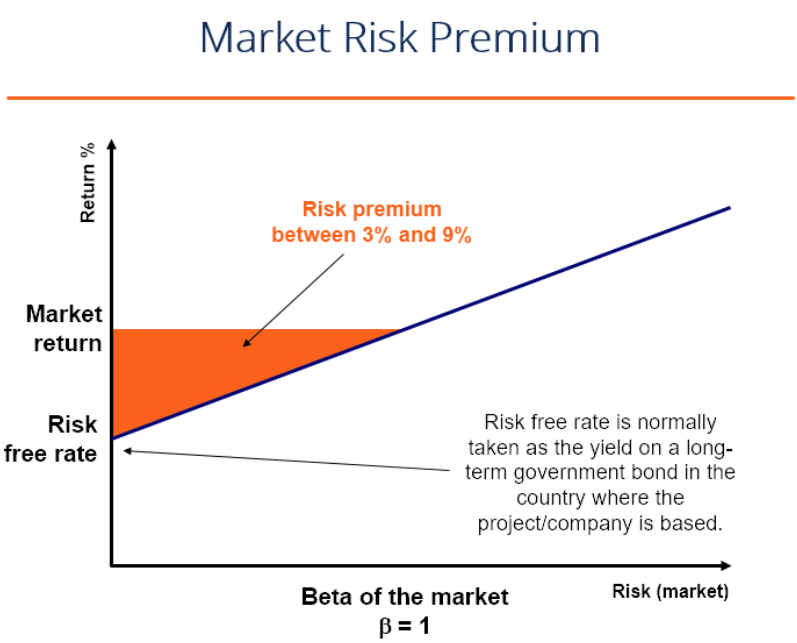

Fig. 1. The graph of market risk premium [3]

Investors should make sure their equity portfolio can provide sufficient returns because, in general, a higher equity risk premium translates to a higher risk in the overall markets.

A correction in the stock market (i.e., a "market bubble") may be imminent if the current market valuations remain at the same (or higher) level despite declining equity risk premiums.

Because of this, the equity risk premium tends to rise as stock market risks and uncertainty increase (and vice versa).

Risk premium application in banking. Risk premiums are crucial to the banking industry and can give both investors and clients a wealth of knowledge. For instance, the interest rate that the bank sets on its customers' savings accounts determines the risk premium for a savings account. As a result, the central bank's interest rate, which determines the risk premium, is reduced. Stakeholders may view a high premium as a sign of rising default risk, which can have a cascading effect on the economy by lowering public trust in the financial system and ultimately triggering bank runs.

Non-performing bank loans are also significantly impacted by risk premium. The risk premium factor, which identifies the factors for the banking industry in both developing and developed countries, must be taken into account whenever banking specialists seek to make choices relating to non-performing bank loans. [4]

2.2 Risk premium application in managerial economics

Managerial economics can also use the risk premium idea. The risk premium is closely related to risk aversion, with a person's or company's willingness to pay a higher risk premium to avoid taking a risk increasing as risk aversion increases [5].

Workers' risk premium rises as the likelihood of harm rises, which is manifested in reality by higher average pay in hazardous occupations. [6] The market values risk in the form of wage differences between risky and less risky jobs, and workers can choose how much of their income they are willing to give up in order to take on a less risky position. This is another way that the risk premium can be understood from the perspective of the worker. [7] In this situation, the risk premium offers insight into the degree to which risk and average job type wages are correlated, with a higher premium possibly indicating a higher risk and/or a dearth of employees ready to accept the risk. [8]

The concept of risk premium might include risk related to the employment, such as job security, and does not necessarily have to involve physical risk. Fixed-term contracts typically feature a greater compensation since a higher risk of unemployment is compensated with a higher wage. [9] CEOs in highly volatile businesses face a higher risk of termination. After being fired, fired CEOs usually experience a period of unemployment and frequently accept positions in smaller companies with lower pay. Because of this, and if there is competition for demand in the labor market, they frequently demand a bigger risk premium than CEOs in non-volatile businesses.

2.3 Risk premium application in Mining Industry

In a market economy, it is preferable to continuously innovate and boost production capacity to ensure that the business retains or widens its lead over rivals. Expanding production capabilities often necessitates a sizable capital investment that is financed in accordance with a theoretically recommended mix of equity and debt financing. The cost of capital is an expense for a corporation that is often made up of the cost of equity and the cost of debt, both of which come with a risk premium that expresses the risk. The risk premium can be calculated based on tabular values for the risk premium to the project in cases of compliance and non-compliance of a project's risk with the risk of the company. [10]

2.4 Risk premium application in Agriculture

Farmers use a variety of strategies to deal with crop disease risks and losses, most commonly by balancing different management techniques with pricing that takes risk premiums into account. For instance, Fusarium head blight is a persistent issue in the north of the United States. After that, in 2000, a wheat cultivar that was multi-resistant was introduced, greatly lowering the required risk premium. This virtually cost-free transition to the new cultivar led to a significant increase in the overall area of MR wheat that was planted [11].

Estimates of the costs of novel crop genes and other agricultural biologic technologies, including patent expenses, must take into account the risk premium associated with those inventions that do not eventually receive patent approval. [12]

3 Conclusion

The first part of this paper summarizes and categorizes the concepts surrounding market risk premiums that are discussed in the current literature. Market risk premiums are divided into historical market risk premiums, expected market risk premiums according to time, market risk premiums demanded by investors, expected market risk premiums by investors, expected market risk premiums by investors, and market risk premiums acceptable to the market according to subjects. Additionally, the outcomes of numerous attempts, along with numerous examples and financial data, demonstrate that the issue of whether a risk premium prediction model can be built on the basis of predictable risk is more significant when a reasonable selection of indicators is used, and that the theoretical performance attained by dynamic trading strategies created using the model is also more satisfactory. However, there are not enough real-world assessments of how dynamic trading techniques function in the real market; this is an area that needs development in the upcoming study.

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