

Module 4 bhs427 health care finance cost of capital (case)

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Capital Asset Pricing Model: CAPM Capital Asset Pricing Model: CAPM

Introduction Capital Asset Pricing model (CAPM) is a model that is used to determine the viability of an investment based on the expected return of a bond. Under CAPM the expected return of a bond or security is equivalent to the sum of risk free rate and the risk premium implying that the investors are compensated for both time value of money and risk involved in the investment. Inclusion of the risk premium makes this model appropriate for risky investments. Notably, an investment can only be viable if the expected return of the bond obtained by combining the risk and risk free rate is higher than the required return, otherwise the investor ought to use a different mode of financing.

Advantages and disadvantages

Despite being highly criticized, CAPM is commonly used by investors and managers, possibly due to its sundry advantages over other models. By using systematic risk only, CAPM tends to be not only more realistic but also simpler by eliminating the unsystematic risk. Remarkably, the relationship between the market risk and expected rate of return is easily shown by the Security Market Line. Secondly, in addition to being empirically testable, CAPM compares the particular investments level of risk to the stock market risk unlike DGM. Moreover, CAPM overcomes WACC's assumption that investment has no influence on financial risk hence making it better in project appraisal.

Conversely, CAPM's assumptions make it less viable in reality. In project appraisal, the use of a single-period time zone contradicts the nature major real investments, which cut across periods. Moreover, it's unrealistic to

assume a constant beta for the periods as market conditions keep on fluctuating. Again, CAPM faces a problem in assigning values to the variables in the model. None of the variables is constant, with some such as yield on government debt (used to estimate risk free rate of return) changing on daily basis.

Empirical Findings

Dolde et al (2012) research was aimed at determining whether the two factors international CAPM (2F-ICAPM) gives a different cost of capital compared to the domestic CAPM mostly used by US companies. Pre-studies had shown that the single global CAPM generated costs of equity not significantly different from the domestic CAPM despite the former model's theoretical superiority, hence explaining why managers had not shifted from the domestic CAPM. To formulate the 2F-ICAPM, Dolde et al incorporated the world market Index and currency index for chief currencies all expressed in US dollars, making this model theoretically superior to both global CAPM and domestic CAPM. Contrary to the expected, empirical findings showed that 2F-CAPM yielded estimates which were not significantly different from the domestic CAPM even for the firms exposed to extreme FX. Note that, FX exposure was exogenously determined that represented a risk factor. Industry portfolios gave similar results, with the cost of equity obtained from 2F-ICAPM closer to domestic CAPM than that yielded by global CAPM.

Importance of the findings

Generally the study was not aimed at determining which model is better but rather determining whether the costs of equity produced by the two models differ. To managers, the fact that the two models yield similar results, as per

the findings, it is of no importance to shift from the traditional model to the 2F-ICAMP. The findings help the managers confidently stick to domestic CAPM as the theoretical superiority of 2F-ICAMP is practically not real.

Cost of equity across industries

Dolde et al, findings show slight differences in the cost of equity obtained by 2F-ICAPM and the domestic CAPM across industries (2012). The implication is that Foreign exchange exposure slightly influences the cost of capital. As matter of fact, extraction industries whose products are valued using US dollars, hence large FX exposure risks to their returns portrayed showed a great variance from the rest. Precisely, the findings show that FX exposure influences the cost of equity and industries operating with fixed currency are more vulnerable to the risk than others.

References

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