
Cost of Equity under the Circumstances of Uncertainties – the Example of the US Market

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Abstract

Purpose: The aim of this paper is to answer the question: Can the classical methodology for estimating the cost of equity capital (Capital Asset Pricing Model, CAPM) be applied under the conditions of particular economic uncertainty, without having to revise the legitimacy of its assumptions? The context for the search of an answer to this question is an analysis of the conditions for the estimation of the cost of equity capital in the USA under conditions of particular uncertainty, as observed in the period 2008–2023.

Methodology/research approach: The research approach entailed focusing analytical attention on identifying the characteristics of three periods of particular uncertainty (generated primarily by recent crises: the 2008–2012 subprime, COVID-19 and the high level of inflation caused by Russia's aggression against Ukraine) and examining their impact on parameters important for determining the level of the cost of equity. An additional study of related time series was also conducted, with the Kroll Inc. database used as the primary data source. Results: The cost of equity over approximately the last 15 years has become less and less

dependent on government bond interest rates. When estimating the level of the cost of equity, market participants start to use alternative methods that modify the classic CAPM model.

Research limitations/implications: Due to the availability of data, the analysis carried out focused on the US market, which is a limitation in view of the need to draw conclusions for the European market as well.

Originality/value: The article critically analyses mainstream research on the valuation of the cost of equity under the circumstances of uncertainty.

Keywords: cost of equity, CAPM, uncertainty, estimation methods

Introduction

The cost of equity is undeniably a central element in the analysis of economic viability of investment projects. It allows for streams of projected cash flows to be transformed into the expected present value. Owing to this, it is possible to make value estimation decisions in buy/sell transactions, as well as to compare the attractiveness of different physical investments.

In keeping with the most common definition, the cost of equity is the expected rate of return at which market participants make their funds available for specific investment purposes (Grabowski and Pratt, 2008, pp. 3 to 9). The aforementioned definition suggests that the cost of equity be used in purchases and sales, and in asset measurements as well as for the purposing of evaluating alternative investment opportunities. In the developed market economies, the concept of the cost of equity is being applied increasingly in almost every area of economic life, from the stock exchange to the valuation of health care services and the setting of tariffs for utilities. A particularly important area in which the concept of estimating the level of the cost of equity is used is in the area of auditing and controlling the work of statutory auditors who evaluate value estimates in the audit process. Therefore, having the tools to reliably assess the cost of equity capital under conditions of uncertainty, such as a financial crisis or a state of war, becomes a key problem in the economy.

This paper reviews the literature on the issue of determining the cost of equity capital under conditions of uncertainty, especially in light of three recent crises: the subprime crisis of 2008–2012; COVID-19; and Russia's aggression against Ukraine 2022. Despite the frequent references to the results observed in the

capital markets, this study does not include an analysis of investor behaviour, because in a stock market crisis, investors react based on models developed by behavioural finance, which are not the best tools for determining the long-term cost of equity.

1. Methodology of the analysis carried out

The aim of this paper is to answer the question: How does one estimate the level of the cost of equity capital under uncertainty? The tool to achieve the goal was a critical analysis of the state of the art in the area of the possibility of estimating the cost of equity capital in the U.S. under conditions of uncertainty, generated primarily by three crises: the subprime crisis of 2008–2012; COVID-19; and the Russian invasion of Ukraine 2022. The research was carried out from May to September 2023. The sources of the data used in the study are databases: EBSCO, Google Scholar and published industry materials (online sources) from consulting and audit firms.

The analysis was based mainly on the U.S. market, which was done due to the reliability of the data and the ease of obtaining it. In addition, in order to avoid less significant methodological problems, the Capital Asset Pricing Model was chosen as the reference model. The Capital Assets Pricing Model – CAPM – is used to determine the so-called base cost of equity:

$$\text{Cost of equity} =$$

$$\text{Normalised Risk-Free Rate} + \text{Equity Risk Premium}$$

where:

Normalised Risk-Free Rate means that in months when the risk-free rate is considered abnormally low, a proxy for the long-term stable risk-free rate is used. This is important because there are still issues of Treasury debt securities whose yields at auctions are close to zero or even negative; while the

Equity Risk Premium is calculated in this version of the equation relative to the normalised risk-free rate, so a change in, for example, the normalised risk-free rate to spot performance will result in a change in the equity risk premium, which should rebalance the model at the level before the change. Such a model will not be without drawbacks, but it is still the most common in practical use.

2. Volatility of the level of the cost of equity capital

Given the volatility of the level of the cost of equity, a key question must be asked: How should factors such as the financial crisis, the COVID-19 pandemic, or high inflation affect a company's cost of equity? Repeatedly in the literature on this issue one can find statements saying that higher interest rates smoothly translate into a higher cost of equity (Miller and Modigliani, 1958; Antoniou et al., 1998; Gregory and Michou, 2009; Duliniec, 2012; Marcinkowska et al., 2014; Białek-Jaworska et al., 2014). The effects of this process could be seen in declines in the level of stock returns in 2022. It would seem that a cause-and-effect relationship in this would be relatively observable. This is because, according to theoretical assumptions, in order to estimate the level of the cost of equity, an equity risk premium is added to the safe rate of return (expressed in terms of interest rates, such as 10-year government bonds).

The volatility of the level of the cost of equity capital has thus been the subject of many studies, among them:

- a study on the impact of financial market volatility on the cost of equity capital (Fama and French, 2015), resulting in the authors proposing a model that includes market volatility as one of the key factors shaping the cost of equity capital;
- a study on the relationship between bond interest rates and the cost of equity (Damodaran, 2012);
- a study on the variability of the cost of equity capital in different industries (Fernandez, 2004). This study focuses on analysing the volatility of the cost of equity in different industries and discusses the factors affecting this volatility, including the value of the tax shield;
- a study on the impact of macroeconomic volatility on the cost of equity capital (Dichev and Piotrowski, 2001) analysing how volatility in macroeconomic factors, including changes in bond ratings, affects the cost of equity capital and long-term returns in equity markets.

In turn, bearing in mind the issue of uncertainty – so important in this study – it is worth stating that, in the literature, it is possible to distinguish various methods of estimation, whose purpose is to quantify categories that allow, to some extent, to recognise the characteristics of uncertainty. Thus, science has developed the following tools useful here:

- 1) risk assessment models: e.g., Black-Scholes-Merton Model, CAPM Model, Price Arbitrage Model, Option-based Risk Assessment Model (Hull, 2006);
- 2) Monte Carlo simulation (Rubinstein and Kroese, 2016);
- 3) sensitivity analysis (Damodaran, 2012);
- 4) Delphi method – expert opinions (Jorion, 2007);
- 5) market research (Alexander, 2008);

6) the concept of security reserve (Damodaran, 2016).

Over the past few years, a divergence between theory and practice has become apparent in the way the level of cost of equity is estimated. The past two decades have witnessed several periods of 'transition' between periods of uncertainty, in which uncertainty can even be referred to as special uncertainty. Periods of particular, intensified uncertainty resulted from either a financial crisis, a pandemic crisis, or rising inflation caused by the armed conflict in Ukraine, among other factors. The fact of the existence of such periods of uncertainty, in the present study, provided the primary impetus for the formulation of its purpose: How to estimate the level of the cost of equity capital under uncertainty? Thus, the remainder of the argument presents a synthetic characterisation of the features of the three periods of exceptional uncertainty and points out their impact on the level of the cost of equity.

3. The 2008–2012 subprime financial crisis and the level of the cost of equity capital

During the 2008–2012 financial crisis, press reports of spikes in the cost of both corporate debt and Treasury securities appeared with great frequency. Dobbs, Jiang and Koller pointed out that yields, to maturity, increased significantly (in absolute terms) when considering only the last months of 2008. Despite this, 'A' status bonds only became 1 percentage point more expensive during the period in question, reaching the YTM (Yield to Maturity) of about 7% for non-financial companies (Dobbs et al., 2008). However, considering the period of the last 20 years, this 'spike in the cost of debt' has no longer been observed, as only in the last 6 years before the crisis, these bonds have kept the YTM below 7%, and the median for the 20-year period is hovering around 8%. The authors emphasise that the high spread between the YTM of government bonds and high-rated corporate bonds has persisted and even increased over the period studied not because of the increase in the risk of corporate bonds, but because the yields on government bonds were being lowered by government decision (Dobbs et al., 2008b; Dobbs and Koller, 2009).

As a rule, it is assumed that risk very often manifests itself in higher levels of volatility in stock market returns. The historical data needed to determine the risk premium in the U.S. is mostly from the *Ibbotson SBBI (Stocks, Bonds, Bills and Inflation)* Yearbook or the *Duff & Phelps* (now Kroll Inc.) risk premium reports. Analysing the returns of the major U.S. stock market indices in the short term, it can be concluded that in 2008–2009 the cost of equity became increasingly volatile and at the same time higher. The published historical data significantly deviate from the rapid changes observed in the market during the period in question. It is worth mentioning here that stock market returns in 2008 in the U.S. were among the

lowest on record, except for 1931 and 1937, when there were declines of about 50% in 12 months. The 2008–2009 crisis years reversed capital market trends. However, during the period under review, there were voices – backed by research – that in view of the described market anomalies, investors should not base their conclusions solely on short-term stock market historical trends. Analysis of fundamental long-term trends, such as the 40-year trend, showed that the share of corporate profits in GDP hovered around a median of 5%. Thus, inflated by cheap credit, corporate profits should fall from 2007 levels by at least 20% to return to the 40-year trend, or by 40% to reach the minima of previous cycles (Dobbs et al., 2008b; Dobbs and Koller, 2009). It therefore seemed reasonable to consider the state of the economy and, consequently, the level of the cost of capital, both equity and debt, not only in the short term, but also in the long term.

The *long-term Equity Risk Premium (ERP)* approach, on the other hand, leads to the conclusion that basing an estimate of the ERP value on average historical data causes the ERP value to fall every time a decline in the interest rate on Treasury securities is observed (Damodaran, 2008). However, in times of crisis, the ERP estimate, with the simultaneous lowering of interest rates on Treasury securities caused by government actions, can lead to an underestimation of the cost of capital (Grabowski and Pratt, 2008). According to Pratt and Grabowski's research, the value of ERP in the long term is in the range of 3.5 to 6% (Grabowski and Pratt, 2008; Kroll, 2023). This raises the question of whether this is the right range for the development of the risk premium in each phase of the business cycle. If so, what should be the value of ERP during periods of crisis in order to reasonably reflect market risk and increased investor uncertainty? Calculations made available by Kroll indicate that the underlying cost of equity during the subprime financial crisis was between 9.0% and 10.5%. However, in assessing the severity and impact of the crisis on the cost of equity, it is important to consider the duration and magnitude of the decline in the value of the public market (as measured by the S&P 500) between October 2007 and March 2009, the S&P 500 index declined by almost 57% and the recovery period to pre-crisis levels was almost 5.5 years, although the market expected no recovery in less than 6 years (Nunes and Harrington, 2022).

During the crisis, one could observe a growing interest in the individual effect, i.e., the market's reaction to the specific characteristics of individual financial instruments or sectors. The real estate crisis highlighted the importance of distinguishing between systematic risk and specific risk. It was then that the so-called stress-tests (stress tests) for banks were introduced into wider use. A stress test is a forward-looking quantitative assessment of a bank's capital that shows how a hypothetical macroeconomic recession scenario would affect a bank's capital ratios. The Federal Reserve's (FED – Federal Reserve Bank of the United States) stress test assesses whether banks are sufficiently capitalised to absorb losses under stressful

conditions while meeting obligations to creditors and counterparties and being able to continue lending to households and businesses (Geithner, 2015). It is noteworthy that the ECB (European Central Bank) tests vital institutions under its direct supervision for a specific type of shock. While it would be difficult to move directly from the results of stress-tests to their appropriate inclusion in the process of estimating the cost of equity, it is worth mentioning the nature of the tests as a good start for analysts to distinguish between the effects of systematic and specific risk. This allows the introduction of alternatives for including specific risks in the valuation process, instead of an additional premium added to the cost of equity (Pęksyk et al., 2009).

4. COVID-19 pandemic and the level of cost of equity capital

In the case of the COVID-19 pandemic, the market expected a much worse outcome and consequently a much deeper crisis than in the case of the 2008–2012 subprime crisis (Patterson, 2023, p. 9). In the early months in the U.S., a coronavirus pandemic created millions of unemployed and caused the largest quarterly drop in GDP since the Great Depression. Naturally, this has led to deep uncertainty about the ultimate length and depth of the recession and the possibility of recovery.

The consequence of economic uncertainty is mostly volatility in stock market quotations. It is interesting to note that during economic uncertainty, the pattern for the recession mechanism of recording sharp declines in stock markets as negative news spreads in a cycle based on the impact of panic selling by some investors is replicated. The usual overall effect of this is an overreaction, which shrewd investors take advantage of by buying stocks, which in turn leads to a full or partial recovery long before the economy fully recovers. During the pandemic period, both the decline and rebound of the stock market occurred very quickly. At the end of March 2020, the S&P 500 index fell more than 30%. By mid-June, on the other hand, it had bounced back to about 5% of its value from the beginning of the year. One of the more interesting arguments to explain the market's unintuitive behaviour is the significant change in the industry composition of the S&P 500 index (Bradley and Stumper, 2021). Currently, the industries weighing heavily in the index are mainly technology, media, telecommunications, pharmaceuticals and medical equipment. These fast-growing industries have doubled their share of the index over the past 25 years to about 40%, while slow-growth industries (such as manufacturing and consumer goods) have fallen from about 35% to 20%. This is probably due to the fact that growing industries are more affected by the introduction of new products and services than by the condition of the overall economy (and in some cases have even benefitted from the current economic situation). The listings of old-economy companies, i.e., companies in industries that have not changed significantly despite technological advances, such as oil and gas and those related to tourism, fell by

20% or more in 2020. Because of the change in weights in the S&P 500 index, these declines have not had the impact on the market index that they would have had 25 years ago (Bradley and Stumper, 2021). The explanation for the – at first glance – irrational behaviour of the market can be sought outside the stock market. Some large sectors with high employment, such as department stores and supermarkets, had already suffered before the pandemic broke out. Their market capitalisations were low at the start of the crisis, so further declines had little impact on the index. In addition, many high-employment sectors – including restaurants, dry cleaners and local services – are dominated by private companies whose economic situation does not directly affect the formation of the S&P 500.

As part of the analysis conducted in this argument, in addition to reviewing and diagnosing the state of the art in the field of estimating the level of the cost of equity capital under conditions of uncertainty, our own estimates were made using, respectively, calculations made available by Kroll, Inc. (Nunes and Harrington, 2022; Kroll, 2023). The authors' findings make it possible to show that the baseline cost of equity during the pandemic crisis was in the range of 8.5% – 9.0%, i.e., slightly different from the baseline cost of equity during the 2008–2012 crisis and significantly different from the one considered by analysts to be 'canonical' i.e., in the range of 3.5 to 6% (Grabowski and Pratt, 2008, p. 113). The recovery period to pre-crisis levels was six months (Nunes and Harrington, 2022). Despite the fact that the underlying cost of equity has remained more or less comparable, both professional valuation organisations and supportive consulting firms have developed guidance that seeks to provide directions for dealing with the uncertainty and high volatility of the markets, both equity and non-equity. While institutions such as the International Valuation Standards Council were very cautious in encouraging the use of tools other than a risk premium added to the cost of equity for valuation, consulting firms, in the first phase of the pandemic crisis, were willing to make an adjustment to the cost of capital (PwC, 2020). More balanced positions reinforced the importance of scenario methods (Franceschi et al., 2020), while noting that scenarios cannot account for all risks associated with a pandemic (BVR, 2020).

It is worth referring here to the situation when, at the end of the COVID-19 pandemic, the US stock market plunged 18% in 2022 just after the yield on 20-year Treasuries rose from 1.947% to 4.454%. In theory, the Fed's lower interest rates should generate a higher return for shareholders (the Total Shareholder Return – TSR) and vice versa – higher interest rates (as in 2022) should generate a decrease in TSR. However, doing an analysis over a broader horizon than just the pandemic, facts such as the S&P 500 index rising by 47% at the same time as a rise in the level of 20-year Treasury bond yields was observed from 1.947% to 4.454%. It can be concluded that factors other than the level of interest rates must have driven the market in 2019–2021 (Gupta et al., 2023).

5. High inflation triggered by Russia's aggression against Ukraine versus the level of cost of equity capital

It is very difficult to predict the actual duration and level of inflation in the economy. There are many different forces at work on this phenomenon, including:

- supply and demand disruptions caused by the COVID-19 pandemic (Schmitz and Nguyen, 2022; Hobbs, 2021; Elleby et al., 2020; Notteboom et al., 2021);;
- war in Ukraine (Artuc et al., 2022; Yeoman, 2022; Seiler, 2022; Sohag et al., 2022);
- the reluctance of many to return to the labour market (Vesterlund, 1997; Babcock et al., 2012; Smet de, 2022);
- a prolonged period of aggressive fiscal spending, especially in response to the pandemic, which has contributed to unprecedented peacetime budget deficits (Bordo and Levy, 2021; Makin and Layton, 2021; Hughes, 2020);
- extremely expansionary monetary policy since the 2008–2012 financial crisis, which has led to historically low interest rates (Schnabl and Hoffmann, 2008; Bordo and Landon-Lane, 2013; Cukierman, 2013).

However, not even a few years have passed since the last period of uncertainty related to the COVID-19 pandemic, and inflation levels have begun to rise faster than the macroeconomic forecasts made just two or three years ago. Led this to the materialisation of another crisis in the US, resulting in the Fed's decisions to raise interest rates.

Economists list several reasons for the high inflation rate in the United States. Two of them, however, are here of key significance. First, the COVID-19 pandemic in 2020 has created an unprecedented set of inflationary creative factors in the US economy. The temporary closure of businesses led to a temporary period of recession, in which consumer spending fell and the personal savings rate reached its highest level in 40 years. However, according to most, this increase in savings would eventually lead to an increase in consumer spending as businesses reopen and economic conditions improve. Second, the federal government passed several stimulus packages related to COVID-19 in 2020 and 2021. These stimulus packages also helped mitigate the impact of COVID-19 on the U.S. economy and ensured continued growth in consumer spending. In May 2020 and June 2020, personal consumer spending increased by 8.6% and 6.4%, respectively, the two largest monthly increases in personal consumer spending in the past 40 years. In fact, the five largest monthly increases in personal consumer spending in the past 40 years occurred between May 2020 and March 2021.

Regardless of the opinions of financial market experts as to whether it was solely the pandemic that caused the disruption of supply chains around the world, among others (Miller, 2022), its impact on supply chain logistics cannot be ignored in this analysis. Global markets are slowly adjusting to the high level of consumer demand

for products and services, which is higher than before the COVID-19 pandemic. This led to supply shortages as companies struggled to keep up with consumer demand, resulting in higher prices. Supply chain problems were exacerbated by factory closures that occurred during the pandemic. Food and energy prices have also seen significant increases. This growth can be attributed to several factors, including strong global demand and the Russian-Ukrainian war, among others (Kroll, 2022). In addition, the United States has enjoyed low unemployment rates for several years, which has led to labour shortages in some industries and higher labour costs as employers have had to attract and retain workers. Thus, it can be concluded that wage inflation has also contributed to the increase in the level of total inflation.

At present, it is difficult to forecast how the monetary policy of the various central banks will evolve in connection with the fight against high levels of inflation. This has a direct bearing on the observable uncertainty in the US financial market. Current market expectations for the level of inflation in the U.S. fluctuate between 2.5% and 3.5%, while the real interest rate on 10-year U.S. bonds is expected to be 1%. This is interesting because, by comparison, expectations for the level of long-term inflation reached and exceeded as much as 10% in the 1970s and early 1980s (Piger and Rasche, 2006; Gupta et al., 2023).

So how might the processes described above affect the cost of equity? According to a large part of the market, there were claims that the rapidly rising interest rates in 2022 had significantly increased its level. Given the historical equity risk premium of around 5% and using a beta risk factor of 1, this ultimately boils down to the effect of higher government bond yields. If these yields were truly an approximation of the risk-free rate, then, according to comments from the Federal Reserve and other central banks, the cost of equity would have changed significantly, which could not be observed in the market (Goedhart et al., 2020; Goedhart et al., 2002).

6. Discrepancies between theory and practice of cost of equity estimates under uncertainty

The theoretical assumption that the level of the cost of equity is the normalised risk-free rate plus the market level of the risk premium has been in conflict with observations made in the market for some time (Gupta et al., 2023). Research by McKinsey & Company has shown that over the past 15 years or so, the cost of equity capital has become somewhat conceptually 'decoupled' from the level of interest rates on US government bonds. In addition, it was possible to conclude from this research that governments, through monetary policy, have manipulated long-term interest rates to such an extent that government bond yields did not, and perhaps no longer do, reflect what the market uses in the area of estimating the level of the cost of equity.

Moreover, McKinsey & Company's analysis shows that even when central banks raised interest rates significantly in 2022, the cost of equity rose only slightly, reflecting only slightly higher expectations for long-term inflation. A likely reason for this may be that the level of the cost of equity capital has not actually decreased over the past 15 years, but has actually reflected the low cost of public debt (Gupta et al., 2023).

In the same study, McKinsey & Company analysed the market's ability to take government bond interest rates into account when estimating the level of the safe yield. The research was based on the P/E ratio (*Price to Earnings ratio*) and the dependence of its value on the level of the cost of equity. In theory, the cost of equity should significantly affect the value of the ratio. This is because this indicator tells how much investors pay on average per unit of net (i.e., distributable) profit earned by a company.

The rising value of the index indicates that investors are paying more and more for each dollar of profit. Hence, it can be assumed that significant changes in the level of the cost of equity should result in significant changes in P/E ratios. The McKinsey & Company study observed, however, that over a period of about 15 years, when government bond yields fell to unprecedented lows and then rose to significantly high levels, median P/E ratios remained constant. The consistent median P/E ratio values observed during this time may lead one to believe that markets no longer use government bond yields as an indicator of the risk-free rate.

Moreover, given the low interest rates of the past 15 years, a typical large company should have been valued in a range well above the 20x P/E ratio since the last financial crisis, which has not been the case. Medium-sized large companies have consistently traded at multiples in the 15 to 17 times P/E range since the financial crisis despite low interest rates during this period. In addition, in the study, applying the assumptions of reverse engineering of P/E multipliers in relation to ROIC (Return On Invested Capital) highlighted a 'flattening' of the level of the cost of equity capital remaining in the range of 6.5–7.0% (Gupta et al., 2023) (Figure 1).

In addition, the results of the analysis presented in Figure 1 are consistent with the long-term analysis of the median level of P/E ratios of large companies, which shows an average of 15.9 and stability of P/E values in the range of 15 to 17 times from 1990 to 2022 (Figure 2).

According to McKinsey & Company, company valuation models based on low interest rates for the past 15 years may not have led to reasonable results. For example, if the level of the cost of equity had declined as interest rates fell over the past decade and a half, one would have seen a significant increase in P/E ratios. The observed 3% decline in the level of the cost of equity should increase the value of the P/E ratio, from an average trading range of a multiplier of 15–16, to a multiplier of more than 25 times. Such an increase, however, has not been observed (Gupta et al., 2023).

Figure 1. Changes in expected returns over time using the S&P as an example 500

Source: Gupta, V., Kohn, D., Koller, T., Rehm, W. (2023), Markets versus textbooks: Calculating today's cost of equity, Strategy & Corporate Finance Practice, McKinsey & Company

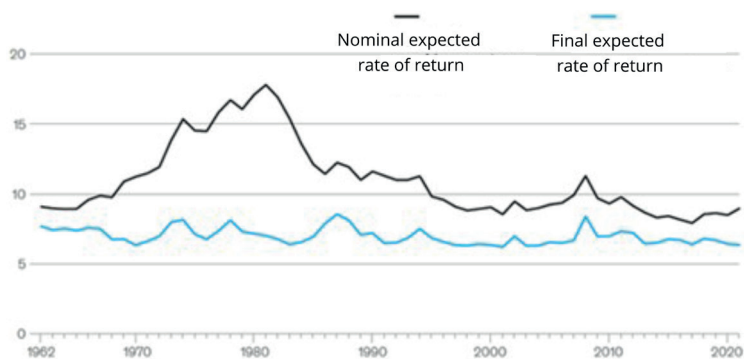
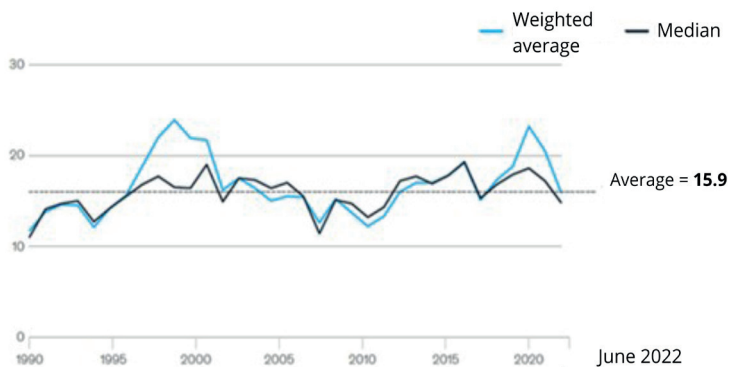


Figure 2. Stock price multiples (in the form of P/E ratio) of the S&P 500 index for the period January 1990–June 2022

Source: Gupta, V., Kohn, D., Koller, T., Rehm, W. (2023), Markets versus textbooks: Calculating today's cost of equity, Strategy & Corporate Finance Practice, McKinsey & Company



Let's assume that a synthetic estimate of the risk-free rate has been made instead of considering government bond yields, adding the expected inflation rate (about 2.5%) to the long-term average real interest rate (2%). The result will be a synthetic risk-free rate of about 4.5%, which, plus a 5% risk premium, translates into a cost-of-equity level of 9.5%. Thus, once again, it can be observed that the base cost of equity during the current crisis is in the range of 9.0–9.5%, which is slightly different from the base cost of equity observed during the previous two crises. This is significant because this value deviates significantly from the considered by analysts to be the 'correct' range, i.e., between 3.5% and 6% (Grabowski and Pratt, 2008). Thus, one can venture to argue that the new normal in terms of the underlying cost of equity capital in the US is a range of 8.0–9.5% rather than 3.5–6.0%, and the remaining risks, especially those of a non-systematic nature, should be included in the cash flow (Gupta et al., 2023; Franceschi et al., 2020).

Summary

The aim of this paper is to answer the following question: Can the classical methodology for estimating the cost of equity capital (CAPM) be applied under the conditions of particular economic uncertainty, without having to revise the legitimacy of its assumptions? How to estimate the cost of equity under the circumstances of uncertainty? The context for the search of an answer to this question is an analysis of the conditions for the estimation of the cost of equity capital in the USA under conditions of particular uncertainty, as observed in the period 2008–2023.

The main conclusions from the analysis carried out have been presented below. Firstly, the cost of equity over approximately the last 15 years has become less and less dependent on government bond interest rates and when estimating the cost of equity, market participants apply alternative methods in order to modify the classic CAPM model. Secondly, the underlying cost of equity capital during the current crisis in the US is in the range of 9.0–9.5%, which is slightly different from the underlying cost of equity capital observed during the previous two crises and significantly different (from the range considered 'correct' by analysts) of 3.5–6%. Thirdly, from observing the behaviour of participants in the market, it can be concluded that, considering the long time horizon (years from 1962 to 2020), a 'flattening' of the level of the cost of equity capital, maintained in the range of 6.5–7.0%, has become apparent. This may indicate that in the long term, market participants are somehow discounting emerging uncertainties, leading to lower long-term expected levels of the cost of equity capital.

In summation, estimating the cost of equity capital under uncertainty is a more complex task than the CAPM model assumes. For now – with the sub-prime crisis, the COVID-19 induced crisis and the Ukraine war crisis following in

relatively short intervals – estimating the cost of capital is becoming a challenge of fundamental importance for analysts, investment advisers, valuation report writers and statutory auditors alike. In addition, this is supported, among other things, by the fact that, as outlined in this paper, markets no longer interpret government bond yields as the basis for setting the risk-free rate. It follows that the inference on estimating the cost of equity these days is a clash of two approaches: behavioural and fundamental. Considering that financial crises of various backgrounds have occurred and are likely to occur with greater frequency than before, and that the market is beginning to deal with this phenomenon in a way that forces a change in the approach to already established patterns, including in the area of valuation, and that the issue of estimating the cost of equity – used in various management decisions and investment analyses, including in the area of financial reporting – becomes particularly sensitive.

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