

What is the equity market risk premium?

The Equity Market Risk Premium ("EMRP" for short, often also called market risk premium or equity risk premium) is an important component of the discounted cash flow (DCF) valuation approach.

In our experience, estimating it is one of the hardest and one of the most contentious parts of a DCF valuation. The EMRP is assumed to represent the excess return that equity investment provides over a risk-free rate.

PwC has studied the equity market risk premium on the Finnish stock market since 1999 with both surveybased and quantitative methods.

If you would like to find out more about our research on the equity market risk premium and the valuation work we do, please get in touch with us!

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7.6%

Equity Market Risk Premium for Finland according to our most recent study

According to our September 2025 study, the equity risk premium in Finland is 7.6 per cent. The premium required by investors is 0.7 percentage points lower than last year.

The results of our latest study show that the market risk premium on the Finnish equity market is 7.6%.

The equity risk premium in Finland, which has been very high in the previous years, has returned to a level close to the one measured in our 2022 study. Stocks on the Finnish market are still priced with a relatively high premium compared to the global market, but Finland's premium is again close to the Nordic average.

Since our October 2024 study, interest rates have started to rise again in spring 2025 following the decline in the Autumn 2024. Compared to the U.S. stock market, which is at record levels, the Finnish stock market is still significantly below the peak level of 2021. The uncertain macroeconomic outlook continues to cause headwinds for cyclical companies, which carry significant weight on the Nasdaq OMX Helsinki. Geopolitical tensions have strengthened the outlook for the defence sector during 2025, but the tariffs imposed by the United States and the related uncertainty cloud the prospects for the export industry.

The Finnish economy did not grow during the first half of 2025 compared to the level of the last quarter of 2024. However, goods exports increased in the first quarter of the year, and the impact of U.S. tariffs on Finnish exports has not yet been observed, even after the 15 per cent general tariff imposed on the eurozone in August.

The outlook for the last quarter of 2025 is one of anticipation. The economic policy measures implemented in the fall, lower interest rates, and the decrease in trade policy-related uncertainty are contributing to economic and earnings growth. Historically, a turnaround in the stock market has often preceded a turnaround in the real economy, so the recent positive developments in the Helsinki stock exchange provide hope for improvement in the Finnish economy.

For comparison, we have also analysed other Nordic markets using the same research methods. Based on the results, the risk premium of other Nordic stock markets varies somewhat but it is still lower than on the Finnish market.

156

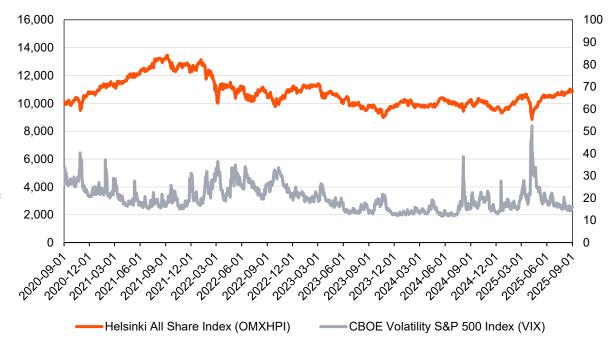
156 Finnish listed companies were included in our research sample

The graph on the right shows the movements of the OMX Helsinki All Share Index ("OMXHPI") and the CBOE Volatility Index for the S&P 500 Index ("VIX") between September 2020 and 2025. The OMXHPI includes all stocks listed on the Helsinki Stock Exchange and thus reflects the current state and changes on the Finnish market, whereas the VIX is used as a reference for measuring the intensity of market volatility. Based on the derivatives of the S&P 500 index stocks, the VIX indicates the probability of stock market volatility over the next 30 days. The VIX index value is considered high when it exceeds 30 and low when it falls below 20. Volatility has been declining in recent years, except for a spike related to yen-interest rate arbitrage in August 2024 and an exceptionally high level exceeding 50 in early April 2025 following the U.S. tariff announcements. The instability of global markets also inevitably affects the volatility of a peripheral market like Finland.

The attractiveness of the Helsinki Stock Exchange to international investors has suffered in recent years due to Finland's status as a peripheral market, particularly after February 2022 when Russia invaded Ukraine.

When international institutional investors focus on their domestic markets and reduce their holdings elsewhere during uncertain times, it creates selling pressure in markets such as Finland. This selling pressure manifests as falling stock prices due to prevailing weak liquidity. The trading volume on the Helsinki Stock Exchange highlights the lack of liquidity: trading volume on Nasdaq OMX Helsinki decreased by 7.2% in 2024 compared to 2023.

By August 2025, trading volume measured from the start of 2025 was only slightly lower than during the corresponding period in 2024. However, the performance of the Helsinki Stock Exchange in 2025 has been well aligned with other European exchanges, and Helsinki stock exchange has also seen listings after a quieter period.



¹ Nasdaq OMX Helsinki, NASDAQ OMX Nordic Ltd. Data has been acquired by comparing equity trading data from the beginning of the calendar year until August 2024 and 2025.

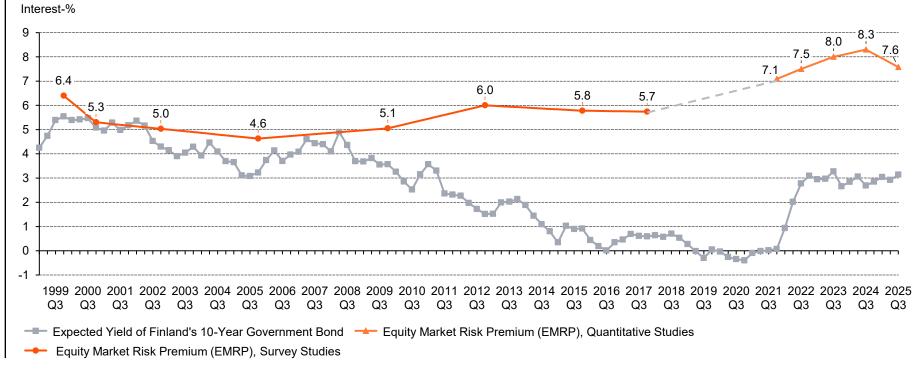
The yield requirement for Finland's 10-year Government bond began to rise rapidly along with the overall increase in interest rates at the beginning of 2021, but by the end of 2024, the rise had turned into a slight decline and has remained relatively stable during 2025. The equity risk premium in the Finnish stock market rose year by year from 2017 to 2024 but was

-0.7

percentage points lower in 2025 than the previous year. PwC's studies on the equity risk premium in the Finnish stock market have been conducted using quantitative methods since 2021. From 1999 to 2017, the studies were carried out in survey format.

EMRP and Risk-Free Rate in Finland during 1999-2025

The expected yield of Finland's 10-year Government bond¹ and the equity risk premium of the Finnish stock market according to PwC Finland's research findings².



¹ Bank of Finland, 19 September 2025. Accessible on: https://www.suomenpankki.fi/en/Statistics/interest-rates/tables/korot_taulukot/viitelainojen_korot_en/

² PwC Finland, Equity market risk premium studies 1999-2025. The previous EMRP study (2024) version accessible on: https://www.pwc.fi/en/publications/equity-market-risk-premium-emrp-on-the-finnish-stock-market-2024.html

When analysing the corresponding sample, we applied the same methodology as in our previous studies during 2021–2024. Our 2025 study included 156 Finnish listed companies, whose cash flows we analysed based on available forecasts for the upcoming five years.

Research methodology

The implicit equity market risk premium is a relation between the equity analysts' cash flow forecasts and the current market prices of shares: the lower the market prices are relative to the analysts' forecasts, the higher the implicit stock market risk premium will be, and vice versa.

Our sample consists of 156 Finnish listed companies. We excluded financial institutions such as banks, insurance companies and holding companies, as their cash flows are reported in a way that makes it difficult to compare them with other companies.

First, we estimated the unlevered free cash flow¹ for each company from calendar year 2025 to calendar year 2030 using two approaches. Primarily, we utilised market consensus estimates whenever they were available, which was the case for most companies. If the consensus estimate did not cover the whole forecast period, we assumed a 2 per cent cash flow growth rate for the missing years.

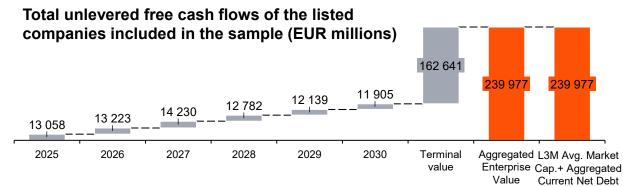
As for the small number of companies with no consensus estimates available, we assumed a 2 per cent cash flow growth rate based on 2024 cash flows.

After adding up the aggregated cash flows in each forecast year and the terminal value calculated with a 2 per cent growth rate, we determined the discount rate which would make the sum of discounted cash flows equal to the total enterprise value (EV) based on three-month average market capitalisation and current net debt of our sample companies.

The discount rate that set the present value of the cash flows equal to the aggregated enterprise value of the market is 9.47 per cent. As the cash flows we used do not include interest or repayment of debt, the discount rate equals to weighted average cost of capital (WACC).

Thereafter, we calculated the required rate of return for equity (10.70%) on the market level based on aggregated amount of net debt, estimated cost of debt², and three-month average market capitalisation.

The required rate of return for equity is composed of two components: the risk-free rate and the equity market risk premium. Given that our sample of companies represents the entire Finnish stock market, we assumed that the beta is equal to 1. This means that deducting the risk-free rate from the discount rate results in the Equity Market Risk Premium. For the risk-free rate we applied the three-month rolling average yield for a 10-year Finnish Government bond. As per 19 September 2025, this was equal to 3.06 per cent. After subtracting this from the required rate of return for equity calculated above (10.70%), the Equity Market Risk Premium is 7.6 per cent.



¹ The unlevered free cash flow is defined as: EBIT (net of tax) + Depreciation and amortisation + Amortisation of deferred charges - Capital expenditure + Sale (purchase) of intangible assets + Total stock-based compensation - Change in net working capital. The tax rate is assumed to be 20%, 20.6%, 22%, and 22% for Finnish, Swedish, Danish and Norwegian stock markets, respectively.

² We use aggregated interest expense divided by aggregated amount of interest-bearing debt as a proxy for cost of debt in each stock market. Tax shield effect is also taken into account when calculating WACC.

9.5%

The implied return requirement of the Finnish stock market according to our 2025 study

-0.5

The implied return requirement of the Finnish stock market is 0.5 percentage points lower than in our October 2024 study

Although our current methodology differs slightly from our surveys prior to 2021, our quantitative studies for the years 2021–2025 are still comparable to the earlier surveys

Compared with the result of last year's study (8.3%), conducted in October 2024, we see a decrease of 0.7 percentage points in the risk premium.

The decline in the risk premium is explained by the increase in the risk-free rate since the Autumn 2024 and the good performance of the equity market during 2025, while the implied expected return on market portfolio has decreased slightly. The implied return requirement of the Finnish stock market (WACC) has decreased from 10.0 per cent in the previous study in 2024 to 9.5 per cent in our 2025 study.

The strength of our approach lies in the fact that we monitor the cash flows that form the basis for a typical discounted cash flow (DCF) valuation.

Another option would have been to look at dividend yield and possible share buybacks, but this approach overlooks a significant portion of incoming cash flows for many companies. Forecasting dividends is also more difficult and could introduce greater potential for our own biases to influence the results.

Comparison to our past studies

We conducted our most recent survey-based study in late 2017 as a survey of brokerage firms, asset management companies, private equity companies, insurance companies, universities, and other professional firms and institutions. We had initially planned to conduct the next survey in 2020 but due to the outbreak of COVID-19, we decided to postpone our survey for an indefinite period.

Since then, we have conducted our equity market risk premium studies with quantitative methods. The main reason for this is that Finland is a comparatively small market and the number of responses had been low, approaching a threshold where the answers would not have covered enough viewpoints for us to yield a reliable result. For the years 2021–2025, our methodology has remained unchanged.

Despite this change in methodology, the studies from 2021–2025 remain somewhat comparable to all our past survey-based studies for Finland. This is indicated by the similar results¹ obtained by PwC Sweden through a survey-based approach, compared to our results for Sweden obtained through a quantitative approach. The Equity Market Risk Premium in the PwC Sweden survey was 5.9 per cent in 2025 whereas the result obtained from our study with quantitative methods was 6.4 per cent.

¹ See "Riskpremien på den svenska aktiemarknaden", published by PwC Sweden in May 2025, accessible on: https://www.pwc.se/riskpremiestudien.

Comparing Finland's risk premium of 7.6 per cent with other Nordic risk premiums in 2025, we see that the risk premium for Finland is slightly higher compared to other Nordic countries.

Contextualising the study results

Estimating and interpreting equity market risk premium is tricky and requires judgement. The result is dependent on, for example, consensus forecasts and moving averages of market capitalisations. The terminal growth rate is also a very important estimate. To get a firmer grip on the result, we ran sensitivity analyses on the market capitalisations and terminal growth rates. Our sensitivity analysis shows that the risk premium ranges from 5.80 to 7.64 per cent, with an average of 6.71 per cent and a median of 6.70 per cent.

Our results based on market data give higher values for the risk premium of the Finnish stock market compared to, for example, NYU Stern's finance professor Aswath Damodaran's research¹ that is based on country risk instead.

	2.0%	1.5%	1.0%	0.5%	0.0%
-3mo	7.64%	7.21%	6.77%	6.35%	5.92%
-2mo	7.60%	7.17%	6.73%	6.31%	5.88%
-1mo	7.53%	7.09%	6.66%	6.23%	5.80%
t=0	7.53%	7.09%	6.66%	6.23%	5.80%

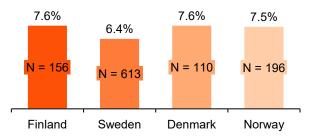
Damodaran assesses the market risk by adding a premium based on the country risk to the required return of the stock market of an Aaa-rated country (e.g. Germany) according to Moody's credit rating. For Finland, Damodaran obtains a total equity risk premium of 4.62 per cent, where Finland's country risk premium of 0.41 per cent is added to the market risk premium of an Aaa-rated country of 4.12 per cent.

It is important to note that applying Damodaran's methodology to Finland does not take into account the specific characteristics of our stock market, such as market size, the industry structure of companies, or its status as a peripheral market. The Finnish stock market is not as liquid in terms of stock turnover, nor are Finnish companies as large compared to, for example, U.S. technology companies. These companies, priced with high valuation multiples, have significant weight in the S&P 500 index, from which Damodaran measures the equity risk premium.

In the adjacent graph, we compare the Finnish equity market risk premium to other Nordic markets. The Finnish premium is the highest among the Nordic premiums. The premiums in Denmark and Norway are almost at the same level as in Finland, whereas Sweden's premium is about one percentage point lower.

In order to derive the Swedish risk premium, we used the three-month rolling average of the Swedish Government 10-year bond yield (2.43%) as the risk-free rate per 19 September 2025. When this is subtracted from the stock market's return requirement (8.82%), the stock market's risk premium is 6.4 per cent, which is slightly higher than the 5.9 per cent reported in PwC Sweden's own survey study².

Similarly, for Denmark we used the rolling three-month average yield of the Danish Government 10-year bond (2.54%). Given that the required return on the Danish stock market is 10.11 per cent, Denmark's risk premium is 7.6 per cent³. For Norway, we used the rolling three-month average yield of the Norwegian Government 10-year bond (3.88%). When this is subtracted from the required return on the Norwegian stock market (11.39%), the Norwegian stock market risk premium is 7.5 per cent.



¹ See Aswath Damodaran: "Country and Equity Risk Premiums", 1 July 2025; accessible on: https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datacurrent.html

² See "Riskpremien på den svenska aktiemarknaden", PwC Sweden, May 2025; accessible on: https://www.pwc.se/riskpremiestudien

³ The pharmaceutical company Novo Nordisk A/S was excluded from the Danish sample, as its market value represents about 40% of the Copenhagen stock exchange, and would thus affect the results with a disproportionate weight.

Thank you

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