Equity Market Risk Premium (EMRP) on the Finnish stock market 2022

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What is equity market risk premium?

The Equity Market Risk Premium (EMRP for short and 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.

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Risk premium up by 0.4 percentage points to 7.5% compared to October 2021, in line with higher volatility and changed risk outlook of equity market

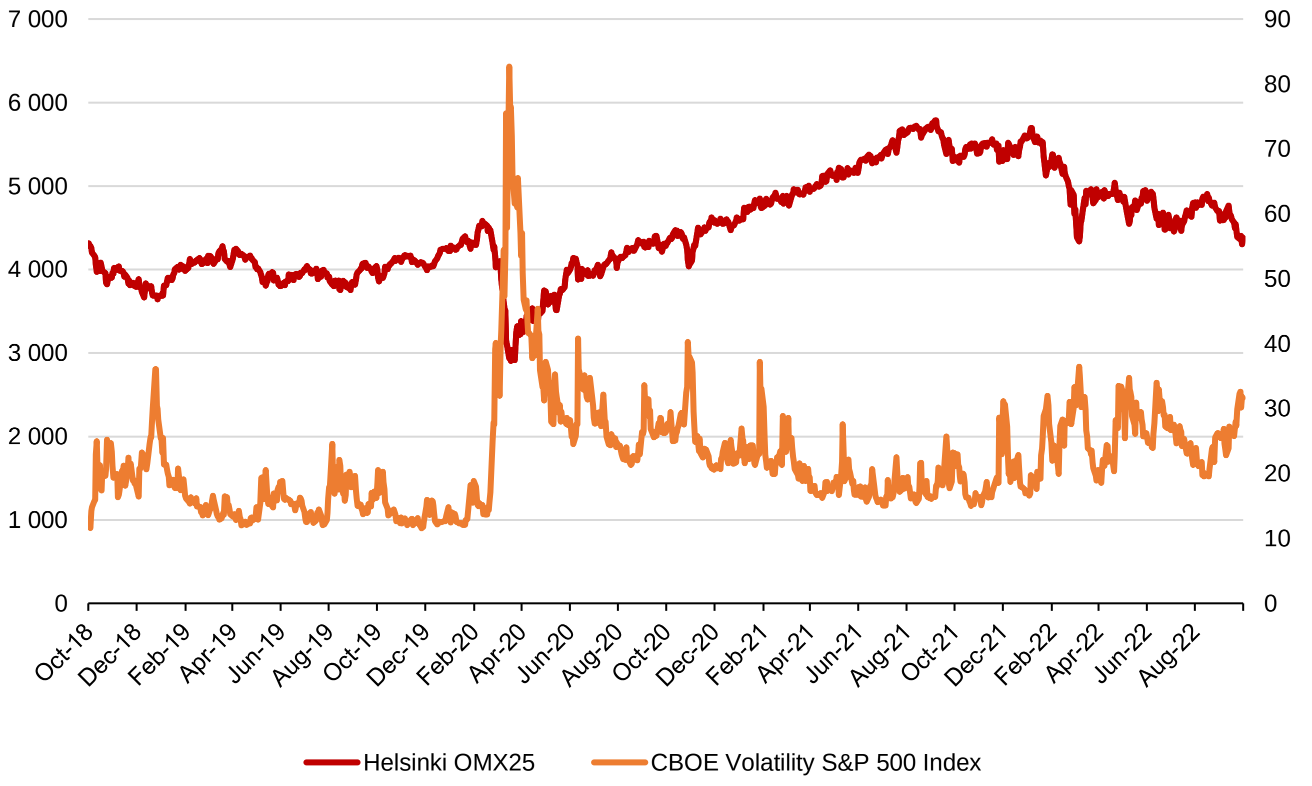
7.5%

Equity Market Risk Premium (EMRP) for Finland in September 2022.

PwC has studied the equity market risk premium on Finnish stock market since 1999.
The results from our latest study show that the market risk premium on the Finnish equity market is 7.5%.

During the first half of 2022, equity prices were under pressure and volatility hit very high levels in the wake of Russia's invasion of Ukraine on 24 February. After a sharp dive in late February and early March, there was a rebound, but the decreasing trend continued through spring and summer months. As autumn 2022 begun, the decrease in equity prices steepened in September, while volatility increased. The outlook for the last three months of 2022 remains pessimistic, as central banks continue their interest rate hikes, macroeconomic conditions remain weak and the war in Ukraine continues. For comparison purposes, we also analysed other Nordic markets using the same methods. Based on this analysis, the equity market risk premium for individual Nordic countries shows a range of outcomes. The risk premium for Finnish markets remains higher than in Sweden and Denmark, but slightly lower than in Norway.

Our finding is also slightly higher, but close to PwC Sweden's survey study result for Swedish markets, equating to 6.6% in May 2022.



Similar methodology to 2021 study employed to analyse sample of 153 publicly listed Finnish companies

Our sample excludes financial institutions, such as banks, insurers and holding companies, because their cash flow reporting methods make it hard to put them on an equal footing with other types of companies.

We estimated the unlevered free cash flow[1] for each company from calendar year 2022 to calendar year 2027. Two approaches were used for the estimates. First, market consensus estimates were used if they were available. This was true for the majority of companies. If the consensus estimate did not cover the whole forecast period, we assumed a 2% cash flow growth rate for the missing years. Second, for the small number of companies with no consensus estimates available, we assumed a 2% cash flow growth rate based on 2021 cash flows.

After adding up the aggregated cash flows in each forecast year and the terminal value calculated with a 2% growth rate assumption, we solved for a discount rate which made the sum of discounted cash flows equal to the total enterprise value based on three-month average market capitalisation and current net debt level 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 9.2%. As the cash flows we used do not include interest payments or repayment of debt, the discount rate equals to weighted average cost of capital (WACC). Then, we solve for the required rate of return for equity (10.3%) on the whole market level based on aggregated amount of net debt, estimated cost of debt[2], 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 whole Finnish share market, we assumed that the beta is equal to 1. This means that after deducting the risk-free rate from the discount rate we get the equity market risk premium. For the risk-free rate we used the yield for a 10-year Finnish government bond. As per 30 September 2022, the date of our analysis, this was equal to 2.8%. After deducting this from the required rate of return for equity solved above (10.3%), the equity market risk premium is 7.5%.

Compared with the result of last year's study (7.1%) that was conducted in October 2021, we see an increase of 0.4% in the risk premium. This increase is parallel to the increased levels of volatility and the changed risk outlook of the equity market.

[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. Tax rate is assumed to be 20%, 20.6%, 22%, and 22% for Finnish, Swedish, Danish, and Norwegian stock market, 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.

2021 and 2022 studies remain comparable despite change in methodology

The strength of our approach lies in the fact that we track 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 misses a large part of incoming cash flows for many companies. Forecasting dividends is also harder and would have brought in more possibilities for our own biases to skew the results.

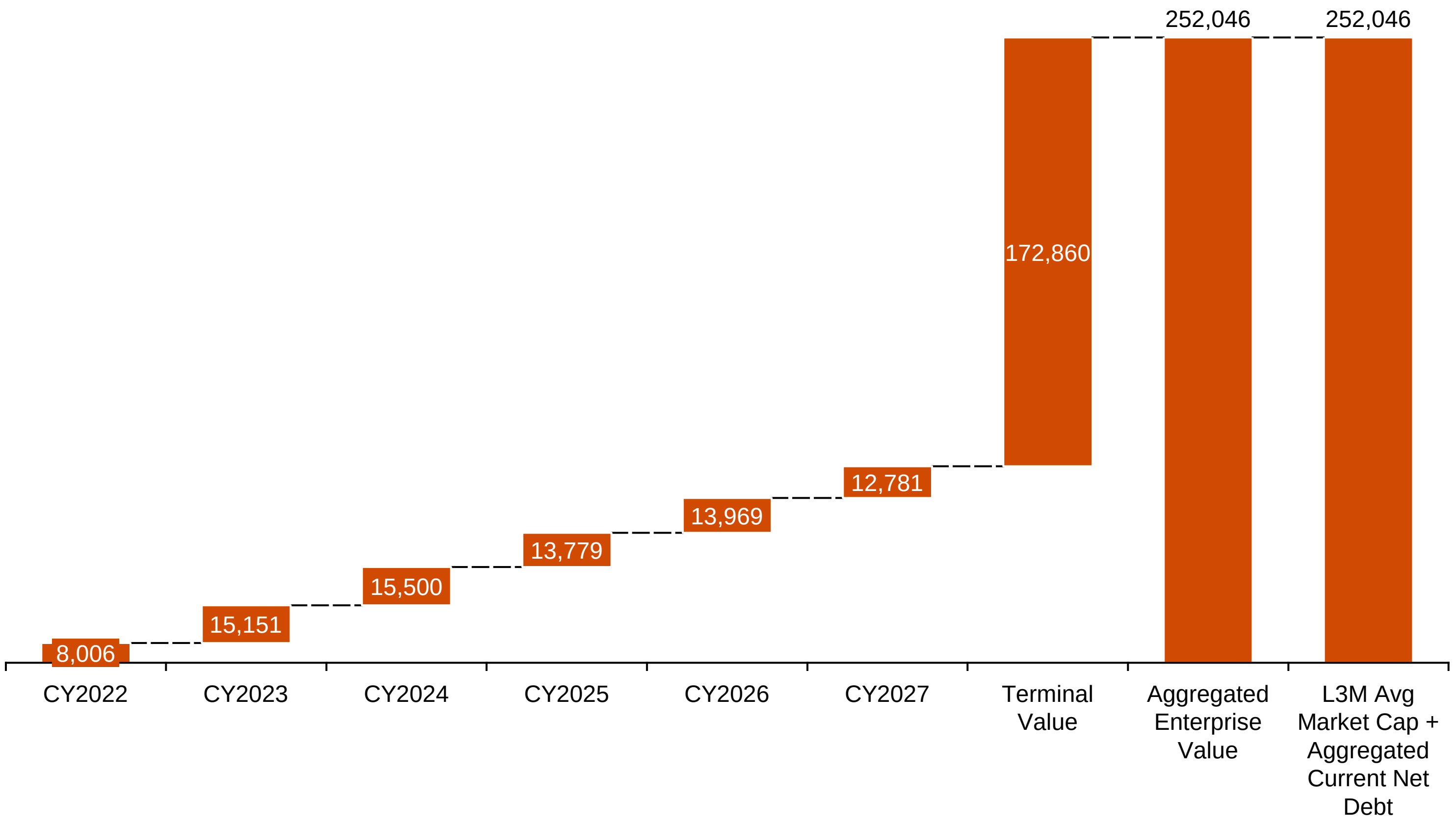
Comparison to our past studies

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 planned to conduct the next survey during 2020, but postponed it indefinitely due to the outbreak of COVID-19.

Since then, we have conducted our equity market risk premium studies using quantitative methods. The main reason for this is that Finland is a comparatively small market and the number of answers had been low, close to a threshold where the answers would not have covered enough viewpoints for us to get a reliable result. The methodology of our 2022 study is identical to the one used in our previous study in 2021.

Despite this change in methodology, the 2021 and 2022 studies remain somewhat comparable to all our past survey-based studies for Finland. This is indicated by the similar results[1] obtained by PwC Sweden through a survey-based approach in both 2021 and 2022, compared to our results for Sweden obtained through a quantitative approach (e.g. EMRP of 6.6% vs. 6.7% in 2022).

[1] See "Riskpremien på den svenska aktiemarknaden", published by PwC Sweden on 10 June 2022 for May 2022 data, accessible on: https://www.pwc.se/riskpremiestudien.



Finland's EMRP of 7.5% comparable to Nordic risk premium range

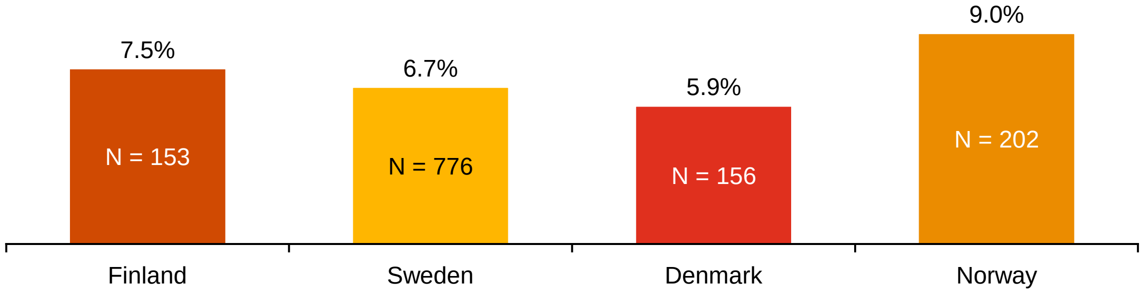
Contextualising the study results

Estimating equity market risk premiums is difficult. The result is dependent on 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 5.84% to 7.88%, with an average of 6.84% and a median of 6.82%.

	2.0%	1.5%	1.0%	0.5%	0.0%
-3mo	7.545%	7.114%	6.685%	6.259%	5.836%
-2mo	7.587%	7.156%	6.728%	6.302%	5.879%
-1mo	7.884%	7.454%	7.028%	6.604%	6.182%
t=0	7.774%	7.344%	6.917%	6.492%	6.070%

In the chart below, we present the Finnish equity market risk premium compared to other Nordic peers. The Finnish premium is the second highest but still remained within the Nordic range. The result for Denmark is somewhat lower, while for Norway it is, in turn, somewhat higher. The higher result for Norway could be explained by factors such as heavier weights on cyclical industries in the Norwegian equity market. Using a different approach gives us a chance to compare our results with those of PwC Sweden's survey-based annual risk premium study, to see whether we get similar results with a different method.



For the assessment of the Swedish risk-free rate we used the yield for a 10-year Swedish government bond, equalling 2.14% as of 30 September 2022. After deducting this from the required rate of return on market portfolio (8.83%), the equity market risk premium is 6.7%, which is slightly higher than the EMRP of 6.6% indicated by PwC Sweden's latest study[1].

For the assessment of the Danish risk-free rate we used the yield for a 10-year government bond, which was equal to 2.57% as of 30 September 2022. After deducting it from the required rate of return on market portfolio (8.46%), the equity market risk premium is 5.9%. The Norwegian risk-free rate we used for the assessment was a 10-year government bond yield, which was equal to 3.30% as of 30 September 2022. After deducting it from the required rate of return on market portfolio (12.32%), the equity market risk premium is 9.0%

[1] See "Riskpremien på den svenska aktiemarknaden", published by PwC Sweden on 10 June 2022 for May 2022 data, accessible on: https://www.pwc.se/riskpremiestudien.

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