

# Equity Market Risk Premium (EMRP) on the Finnish stock market 2024

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# What is 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.

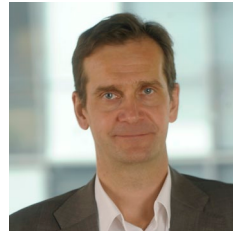
In our experience, estimating it is one of the hardest and one of the most contentious parts of a DCF valuation. The EMRP is assumed to represent the excess return that equity investment provides over a risk-free rate.



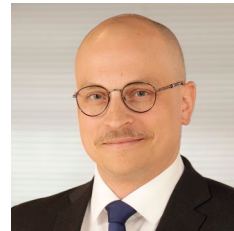
PwC has studied the equity market risk premium on the Finnish stock market since 1999 with both survey-based and quantitative methods.

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

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Compared to our previous study in September 2023, the risk premium required by the equity investors increased by 0.3 percentage points to 8.3 percent. The result shows that investors are currently demanding a relatively high premium over the risk-free rate in order to compensate the high perceived risk associated with Finnish listed companies.

**8.3%**

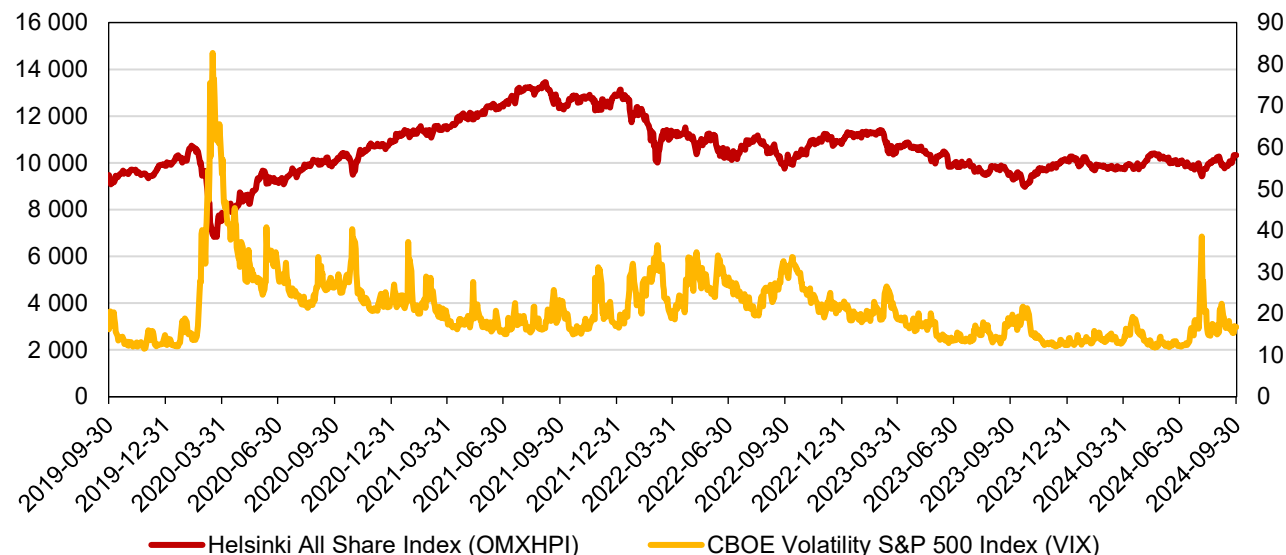
Equity Market Risk Premium (EMRP) for Finland according to our most recent study

The results of our latest study show that the market risk premium on the Finnish equity market is 8.3%.

The risk premium measured on the Finnish equity market continues to remain at a relatively high level. Compared to the current estimates of the analysts following the listed companies, the Finnish stock market is pricing the shares with a high premium. This indicates that on average, investors are quite cautious about the estimates which was also the case last year.

Since our previous study in September 2023, the increase of the interest rates has turned into a decrease, but the development of the Finnish equity market remains weak. Moreover, the uncertain macroeconomic outlook results in special challenges for cyclical enterprises, whose significant weight on the Nasdaq OMX Helsinki is strongly reflected in the development of the index.

During uncertain times, institutional investors focus on their home market. This results in selling pressure in peripheral markets such as Finland, as the investors reduce their weight in such markets. This selling pressure results in decreasing share prices, when the demand of domestic investors cannot meet the demand of foreign investors, given the prevailing thin liquidity. The liquidity issue is highlighted by the quiet trading volume: compared to the year 2022, the trading volume of Nasdaq OMX Helsinki decreased by 21.2% in 2023. As of August 2024, the year-to-date trading volume is slightly lagging behind the year-to-date figure in August 2023<sup>1</sup>.



As witnessed after the financial crisis, large negative market returns decreased stock liquidity.<sup>2</sup> During times of uncertainty in the market, many asset holders want to simultaneously liquidate their positions, which leads to lower realised market prices. This effect is amplified in peripheral markets, such as Finland, where the liquidity is tighter to begin with.

Market volatility has been on a downward trajectory over the past years, despite the spike due to the unwinding of the yen carry trade and quick liquidation of positions.

The outlook for the last quarter of 2024 continues to be negative due to the adverse macroeconomic conditions and the high geopolitical instability. However, the recent decrease of the interest rates provides a silver lining.

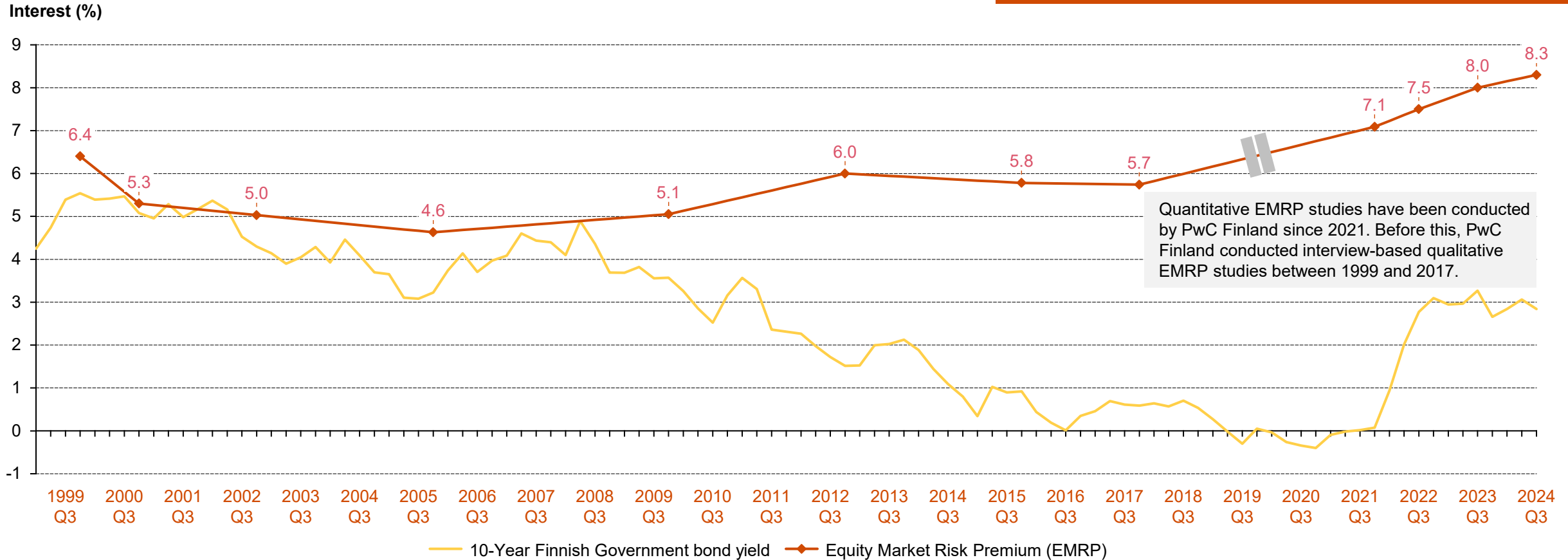
For the sake of comparison, we have also analysed other Nordic markets by applying similar research methods as we did for Finland. Based on the results of our research, the risk premium of the Nordic stock markets varies, and the risk premium on the Finnish market remains higher compared to the Nordic market.

<sup>1</sup> Nasdaq OMX Helsinki, NASDAQ OMX Nordic Ltd

<sup>2</sup> e.g. A. Hameed, W. Kang and S. Viswanathan (2010): Stock Market Declines and Liquidity, The Journal of Finance

# The EMRP and the risk-free rate in Finland during 1999–2024: The expected yield to maturity of the Finnish Government's 10-year bond<sup>1</sup> and the risk premium of the Finnish stock market according to PwC Finland's research results<sup>2</sup>

The return requirement for the 10-year Finnish Government bond began to rise rapidly and simultaneously with the increase in the general interest rate level in early 2021. However, coming to late 2024, this has shifted to a slight decrease. The Finnish equity market risk premium has also continued its upward trend, which started already in 2017.



<sup>1</sup> Bank of Finland 30 September 2024. Accessible on: [https://www.suomenpankki.fi/en/Statistics/interest-rates/tables/korot\\_taulukot/viitelainojen\\_korot\\_en/](https://www.suomenpankki.fi/en/Statistics/interest-rates/tables/korot_taulukot/viitelainojen_korot_en/)

<sup>2</sup> PwC Finland, Equity market risk premium studies from 1999-2024. The previous EMRP study (2023) version accessible on: <https://www.pwc.fi/en/publications/equity-market-risk-premium-emrp-on-the-finnish-stock-market-2023.html>

When analysing the corresponding sample, we applied the same methodology as in our previous studies during 2021–2023. Our 2024 study included 157 Finnish listed companies, whose cash flows we analysed based on available forecasts for the upcoming five years.

Our sample consists of 157 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 set them on an equal footing with other kind of companies.

We estimated the unlevered free cash flow<sup>1</sup> for each company from calendar year 2024 to calendar year 2029 using two approaches. First, 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% 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 2023 cash flows.

After adding up the aggregated cash flows in each forecast year and the terminal value calculated with a 2% growth rate, we determined the 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 of our sample companies.

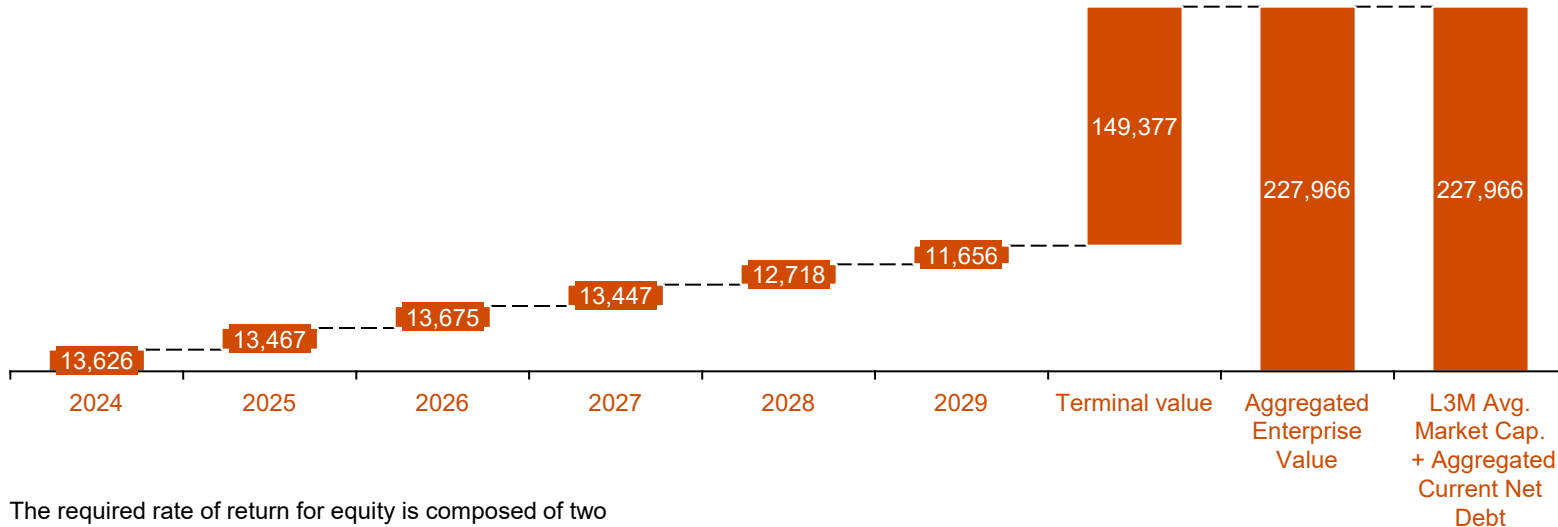
The discount rate that set the present value of the cash flows equal to the aggregated enterprise value of the market is 9.96%. As the cash flows we used do not include interest or repayment of debt, the discount rate equals to weighted average cost of capital (WACC). Then, we calculated the required rate of return for equity (11.19%) on the market level based on aggregated amount of net debt, estimated cost of debt<sup>2</sup>, and three-month average market capitalisation.

<sup>1</sup> 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.

<sup>2</sup> 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.

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.

Total unlevered free cash flows of the listed companies included in the sample (EUR millions)



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 30 September 2024, this was equal to 2.84%. After subtracting this from the required rate of return for equity calculated above (11.19%), the Equity Market Risk Premium is 8.3%.

Compared with the result of last year's study (8.0%), conducted in September 2023, we see an increase of 0.3 percentage points in the risk premium. The increase coincides with the uncertainty related to the business outlook of the Finnish companies and their export markets, but is also explained by the decrease in the benchmark risk-free rate. The implied return requirement of the Finnish stock market (WACC) has decreased from 10.1% in the previous study in 2023 to 10.0% in our 2024 study.

Although our current methodology differs slightly from our surveys prior to 2021, our surveys for the years 2021–2024 are still comparable to the earlier surveys

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 2021–2024, our methodology has remained unchanged.

Despite this change in methodology, the studies from 2021–2024 remain somewhat comparable to all our past survey-based studies for Finland. This is indicated by the similar results<sup>1</sup> obtained by PwC Sweden through a survey-based approach, compared to our results for Sweden obtained through a quantitative approach (e.g., EMRP of 6.1% in PwC Sweden's survey in 2024 vs. our result of 7.1% obtained with quantitative methods).

<sup>1</sup> See "Riskpremien på den svenska aktiemarknaden", published by PwC Sweden on 11 June 2024, accessible on: <https://www.pwc.se/riskpremiestudien>.



# Comparing Finland's risk premium of 8.3 percent with other Nordic risk premiums in 2024, we see that the risk premium for Finland is the highest, and that there is variance in the Nordic range of risk premiums

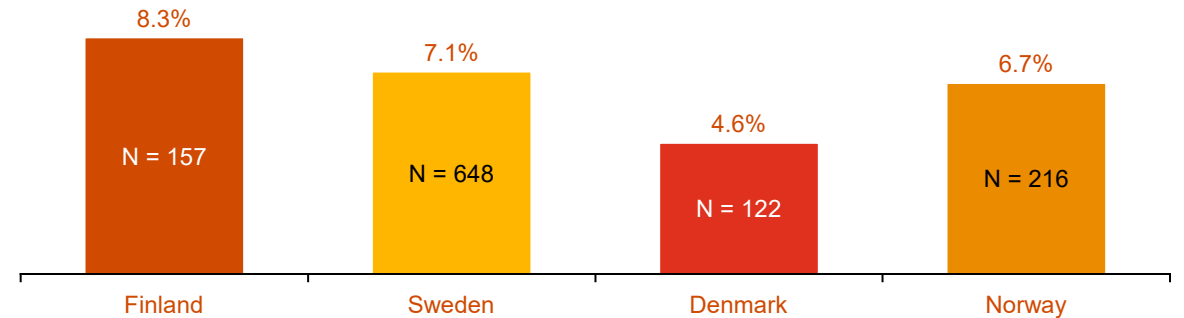
## Contextualising the study results

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 6.31% to 8.35%, with an average of 7.38% and a median of 7.43%.

	2.0%	1.5%	1.0%	0.5%	0.0%
-3mo	8.35%	7.93%	7.51%	7.09%	6.68%
-2mo	8.31%	7.89%	7.47%	7.05%	6.64%
-1mo	8.24%	7.82%	7.40%	6.98%	6.56%
t=0	8.00%	7.57%	7.15%	6.73%	6.31%

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 research<sup>1</sup> that is based on country risk instead. 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 (i.e. USA) according to Moody's credit rating. For Finland, Damodaran obtains an equity market risk premium of 4.61 percent, where Finland's country risk premium of 0.49 percent is added to the US stock market risk premium of 4.12 percent. In the case of Finland, however, this kind of methodology does not take into account the special features of our stock market, such as its size, composition and position as a peripheral market.

In the chart below, we present the Finnish equity market risk premium compared to other Nordic peers. The Finnish premium is the highest among the Nordic premiums. The result for Denmark is significantly lower, while for Sweden and Norway the results are, in turn, somewhat lower:



In order to derive the Swedish risk premium, we used three-month rolling average of Sweden's 10-year government bond yield (2.04%) as Sweden's risk-free interest rate. When this is subtracted from the stock market's return requirement (9.09%), the stock market's risk premium is 7.1 percent, which is a higher figure than the 6.1 percent obtained in PwC Sweden's most recent EMRP study<sup>2</sup>.

Similarly, for Denmark, we used the three-month rolling average yield of the Danish 10-year government bond (2.26%). When the return requirement of the stock market is 6.91 percent, the risk premium of the Danish stock market is 4.6 percent<sup>3</sup>. For Norway, we used the three-month rolling average yield of Norway's 10-year government bond (3.39%). When this is subtracted from the stock market return requirement (10.09%), the market risk premium for the Norwegian stock market is 6.7 percent.

<sup>1</sup> See Aswath Damodaran: "Country Default Spreads and Risk Premiums", 1 July 2024; accessible on: [https://pages.stern.nyu.edu/~adamodar/New\\_Home\\_Page/datacurrent.html#discrate](https://pages.stern.nyu.edu/~adamodar/New_Home_Page/datacurrent.html#discrate)

<sup>2</sup> See "Riskpremierna på den svenska aktiemarknaden", published by PwC Sweden on 11 June 2024, accessible on: <https://www.pwc.se/riskpremiestudien>

<sup>3</sup> The pharmaceutical company Novo Nordisk A/S was excluded from the Danish sample, as its market value represents more than half of the Copenhagen stock exchange, and would thus affect the results with a disproportionate weight



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