

A blue-tinted photograph of a pen and glasses on a document with charts. The pen is a silver and black ballpoint pen, lying diagonally across the frame. The glasses are black-rimmed and are positioned to the right of the pen. The document underneath features various charts and graphs, including a line graph and a bar chart. The overall scene suggests a professional or financial context.

Modelling investment income

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Modelling investment income

Tryg's equity story is based on high and stable results, which implies that the investment income is seen as a support for robust insurance operations. For Tryg, it is important that the investment risk is generally low, as this both supports the aim of stable results and also entails low capital requirements. To support high and stable insurance results, Tryg has decided to split the investment income into three components with the purpose of lowering the risk to the greatest possible extent, on the assets matching the insurance reserves (liabilities) while taking a risk-adjusted view on the assets matching the solvency capital:

- Match portfolio
- Free portfolio
- Other financial income and expenses.

Tryg marks to market all asset moves in the profit and loss (P&L), which is different from the approach taken by many Nordic and European peers, but in line with other Danish peers. The investment result in the P&L as well as our assets and liabilities will therefore change as market values change. These accounting principles, decided by the Danish Financial Supervisory Authority (FSA), may create some volatility in our P&L.

The purpose of this newsletter is to give analysts and capital market participants a better understanding of the different elements and thus the ability to more closely align quarterly expectations with actual results.

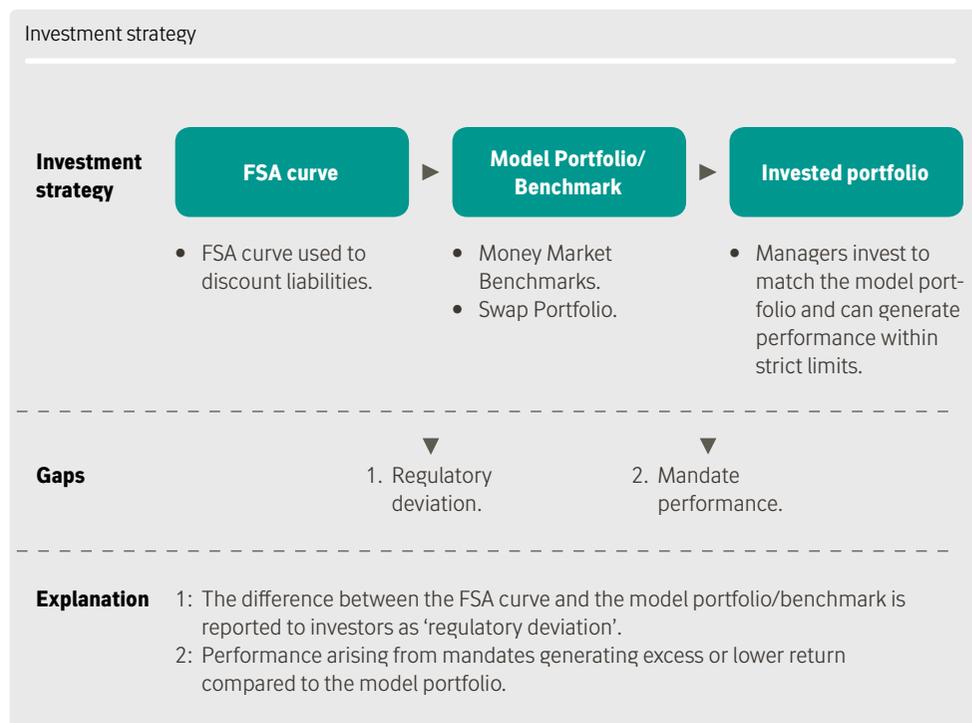
How to model the match portfolio

The match portfolio is primarily composed of fixed-income assets with the purpose of matching the insurance liabilities, so that fluctuations resulting from interest rate changes are offset to the greatest possible extent. It is not possible to make a perfect 'match', but Tryg has now been working on this for a number of years to make this as close as possible. The historic average return was DKK 9m, and the standard deviation for 2010-2015 was +/- DKK 44m and therefore in line with the guidance for this period of +/- DKK 50m.

The net result of the match portfolio can be split into a 'regulatory deviation' and a 'performance' result. The 'regulatory deviation' is defined as the difference between the FSA curve used for discounting the liabilities and the return of a matching model portfolio for investing the assets. The model portfolios are based on swap benchmarks. The



The FSA changed the curve in 2012. This meant an adjustment of DKK +151m, and the regulatory deviation ended up at DKK 41m. Without the adjustment – which cannot be taken into account when hedging – the deviation would have been DKK -110m.



Source: Tryg A/S

'performance' is defined as the difference in return compared to the chosen model portfolio.

The result of the 'regulatory deviation' is therefore primarily driven by the difference between the market-based interest rate swaps, DKK, NOK and SEK on the asset side, and the constructed EIOPA curve used for discounting the liabilities, which is based on interest rate swaps in EUR, NOK and SEK on the liability side. What is left is the difference between the result of the model portfolio and the result of the actual portfolio. This is captured by the 'performance'.

The result of the 'performance' is driven by the spread movements of Danish, Norwegian and Swedish covered bonds versus swap rates. If the spreads narrow, the overall performance is positive otherwise it is negative.

Solvency II, which became effective on 1 January 2016, has introduced a new curve for discounting the liabilities. The new curve is likely to increase the

quarterly standard deviation in the match portfolio compared to the discounting curve used before the implementation of Solvency II, as some components of the new curve are not possible to hedge.

As described, the net result of the match portfolio has been split into a 'regulatory deviation' component and a 'performance' component. It is difficult to accurately forecast these two components. Below, we highlight the most important points for these two elements.

Regulatory deviation

The most important driver of the regulatory deviation is the yield difference between Euro swap rates (10-year EUR swap in the example below) and Danish swap rates. In Norway and Sweden, Tryg hedges using local swaps corresponding to the EIOPA curve; hence, only the Danish exposure is relevant. Since the beginning of 2016, Tryg has started to hedge the interest rate risk of the Danish liabilities, partly in Danish swaps and partly also in Euro swaps. When the

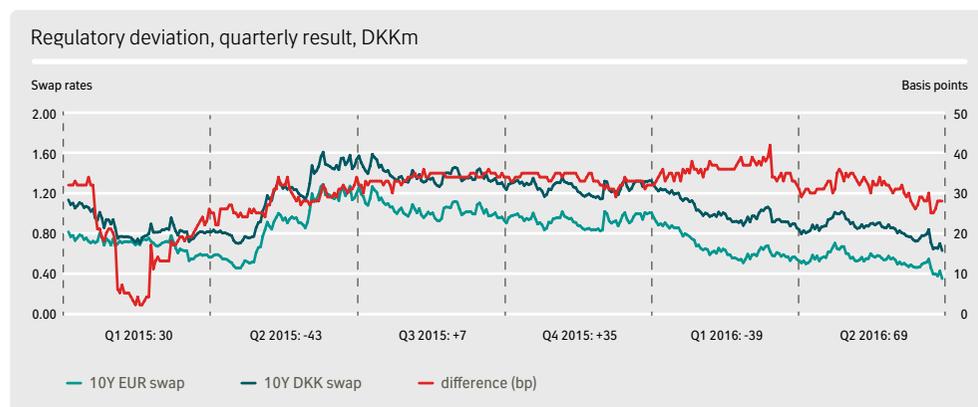
yield difference between Danish and Euro swap rates decreases, the regulatory deviation should produce a positive result; however, when yield difference increases, the result is likely to be negative. Some new elements of the EIOPA curve, such as the Credit Adjustment component (CRA), will also impact the yield level, and this component cannot be hedged. Hence, as stated above, the overall result is likely to be somewhat more volatile compared to the discounting curve used before 2016. As a very rough guidance to estimating the regulatory deviation, the decrease (increase) in the

spread should be multiplied by the interest rate risk of the Danish liabilities (approximately DKK 550m out of the total interest rate risk of DKK 947m for the Group [See Annual report 2015, page 48](#) to calculate the positive (negative) deviation.

As an example, spreads widened 3bps in Q1 2016. Multiplying that by approximately DKK 550m (interest rate risk of the Danish liabilities), this should have returned a regulatory deviation of approximately DKK-17m compared to a reported deviation DKK -39m. In return, spreads narrowed

Danish covered bond spreads and match performance

		Change in yield 3Y DKK flex	Change in yield 3Y DKK swap	Change in DKK Credit spread	Match performance DKKm
31/03/2015	Q1 2015	-0.37	-0.25	-12	26
30/06/2015	Q2 2015	0.22	0.18	3	-11
30/09/2015	Q3 2015	0.09	0.00	9	-52
30/12/2015	Q4 2015	-0.18	-0.10	-8	+9
31/03/2016	Q1 2016	-0.24	-0.14	-10	+41
30/06/2016	Q2 2016	-0.27	-0.15	-12	+51



6bps in Q2 2016 which should have resulted in a regulatory deviation of DKK 32m compared to a reported deviation of DKK 69m. It is important to note that this is not meant to be a guidance and also that the outcome may vary somewhat from pure mathematical calculations, fluctuations on a quarterly basis will always remain.

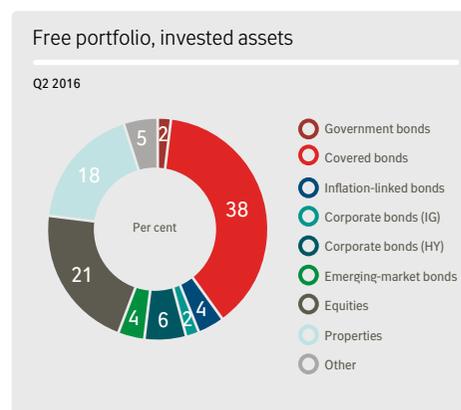
Performance deviation

The most important driver of the performance is the difference in yields between Danish, Norwegian and Swedish covered bonds and equivalent swap rates. If spreads narrow (versus swap rates), the overall performance is positive otherwise; the overall performance is negative. Tryg seeks to maintain stability in its covered bonds portfolio, also in terms of maturity; hence, spread movement should be a good indicator of overall performance. As a very rough guidance to estimating the performance deviation, the decrease (increase) in the spread(s) should be multiplied by the total interest rate risk of the assets of the Group (DKK 940m  See Annual

[report 2015, page 48](#)) to calculate the positive (negative) deviation. On the previous page, we show the developments of credit spreads on Danish covered bonds (approximately 55% of the total interest rate risk of the Group) with a maturity of three years as well as a table where we link the change in spreads to the actual 'performance' result. Note that the actual 'performance' result is also impacted by the change in Norwegian spreads and to a lesser extent Swedish spreads

How to model the return of the free portfolio

As per Q2 2016, Tryg had a free portfolio of DKK 11.7bn. This basically represents the free funds or the capital of the company. Tryg's approach is to maximise returns on a risk-adjusted basis, and any investment decision is made looking at potential returns but also taking into consideration the capital needed to back single asset classes as well as the liquidity risk of the total portfolio.



Below, we show some of the key components of the 'free' portfolio representing approximately DKK 8bn of invested assets or close to 70% of the total portfolio. Some Bloomberg tickers are added to help monitor quarterly development. We use a global approach for credit, equities and inflation-linked bonds. This naturally implies a large US exposure. Currently, we have a local focus on covered bonds and properties. We hedge currency risk.

We should highlight that we are showing two indices for corporate bonds (high yield) as our portfolio consists of both high-yield bonds and senior secured loans which have different return characteristics.

Other financial income and expenses

The component 'other financial income and expenses' is primarily made up of interest expenses related to the outstanding subordinated debt, the cost of the currency hedge to protect our shareholders' equity and the cost of running our investment operations. These are the main elements included in 'other financial income and expenses'. However, other elements are also included such as adjustments to the value of the domicile in Ballerup.

Interest expenses

Tryg has three outstanding subordinated loans, NOK 800m at NIBOR 3M +3.75%, NOK 1,400m at NIBOR 3M +2.75% and a recent SEK 1,000m issued at STIBOR 3M +2.75%. Tryg had a total

Free portfolio, key investments

	DKKm	Bloomberg tickers
Covered bonds	4,411	NDEANC1 Index
Emerging-market bonds	447	JPEGHECP Index
Corporate bonds (HY)	734	HUC0 Index
		CSLLLTOT Index
Equities	2,446	MSELACWF



subordinated debt of DKK 2,539m in the balance sheet at the end of H1 2016 and shareholders' equity of DKK 9,534m. Annual interest expenses should be approximately DKK 80m but may, of course, vary driven by interest rate fluctuations. The total average expenses for the last three years have been approximately DKK 50m driven also by an overall good performance of the managers

Currency hedge

Tryg has a Norwegian and a Swedish branch and needs to protect the equity of these branches. This is accomplished via a currency hedge. The cost of the currency hedges increases if the yield difference between relevant interest rates increases (CIBOR versus NIBOR and CIBOR versus STIBOR). The cost of the currency hedge was DKK 60m in 2013, DKK 82m in 2014, DKK 85m in 2015 and DKK 21m in H1 2016.

Investment expenses

Tryg has decided to outsource a big part of the investment activities through different mandates. Therefore, the expenses related to investments are made up of internal and external expenses. The expenses depend on the performance of the external mandates and therefore correlate with the performance of the relevant assets. The total average expenses for the last three years have been approximately DKK 50m.

Putting it all together

Assuming standard returns, i.e. 7% on equities, 6% on properties and a low overall return on the fixed income portfolio, the free portfolio should return around DKK 350m per annum, the match portfolio around zero and the other financial income and expenses component a negative DKK 200m. These are very rough indications as capital markets movement in each quarter are likely to ensure a different outcome.

Modelling investment income

In this newsletter, we have described the main components in the investment income for Tryg. The purpose is to provide some insights into the different elements to ensure a better understanding and also support a rough modelling of the investment income. The ambition has not been provide full coverage of the investment area for the purpose of making an accurate estimate as this is not possible. History has shown that the investment results are volatile and will remain so, even for a company like Tryg where the approach to this area remains fairly cautious.

