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# PENSIOEN

# Towards a new UFR curve – or not?

In June 2019, the "Commissie Parameters", a commission of experts charged with investigating certain funding technicalities for Dutch pension funds, published its advice. This advice proposes changing the method used for generating the ultimate forward rate (UFR) yield curve so that the curve remains much closer to a full market curve than under the current UFR approach. The Dutch central bank (DNB) and the Dutch Cabinet have already endorsed this new approach, which is intended to be introduced on January 1, 2021. This has led to much opposition in the Dutch Parliament, Senate and unions, creating uncertainty about the broader support for this advice. We analyze the new UFR proposal in more detail in this article. Whilst the introduction of the new method would currently lead to lower funding ratios, it should also make it easier for pension funds to stabilize their UFR funding and interest rate hedging ratios over time.

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## A BRIEF HISTORY OF UFR USAGE

Ultimate forward rates (UFRs) are intended to be stable estimates of long-term interest rates and are used to value long-term liabilities. They allow investors to adopt assumptions for long-term interest rates that differ from those implied by the market. Long-term market rates may be skewed by shorter-term supply and demand issues, a lack of reliable data, or by central banks' market interventions, e.g. quantitative easing. There may thus be a need for a more model-based approach when deriving interest rates for long maturities.

The use of UFR-adjusted interest rate curves is required by several regulators when determining the discounted value of liabilities. An important example is insurers following Solvency II regulation. Pension funds in certain countries also discount liabilities using a UFR-adjusted interest rate curve, Denmark and the Netherlands being two important examples. Dutch pension funds have used UFR-adjusted curves since 2012 and important reforms to the methodology were introduced in 2015. The Commissie Parameters' proposals represent the next stage of reforms for the UFR method.

## HOW IS A UFR CURVE CONSTRUCTED?

UFR-adjusted curves begin to diverge from the market curve at a given maturity, known as the last liquid point (LLP). They then begin to converge towards the UFR, which is intended to be a stable estimate of long-term interest rates. Ever since their introduction after the financial crisis, the level of the UFRs has been higher than long-term market interest rates, leading to a lower value being placed on pension liabilities than their minimum-risk market value. Important aspects of the new proposal are an adoption of market rates until a maturity of 30 years (instead of 20 years) and a slower convergence to a lower UFR for long maturities.

## COMPARISON OF CURRENT AND PROPOSED UFR CURVE

Figure 1 shows the difference between the current UFR curve (the yellow line) and the proposed UFR curve (the green line).
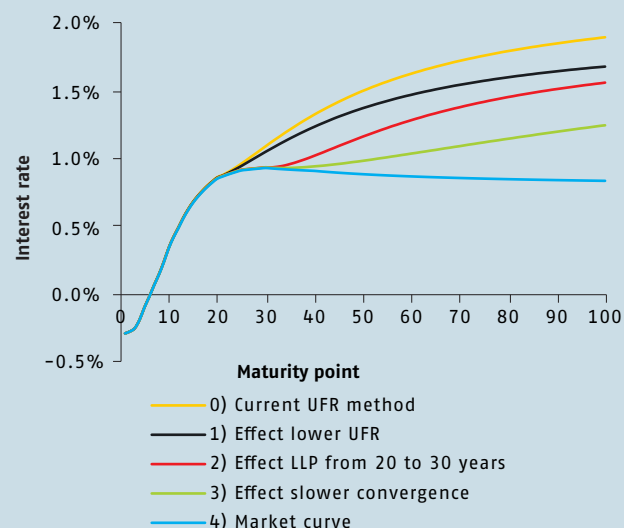
**Figure 1**: Decomposition of proposed changes of the UFR curve.
Source: Bloomberg, Aegon Asset Management, as at 31 May 2019.

This analysis shows that all modifications of the current method (lower UFR, LLP at 30 years and a slower convergence to the UFR) lead to a UFR curve which is closer to the market curve.

## IMPACT ON INTEREST RATE SENSITIVITIES

Figure 2 shows the impact on the interest rate sensitivity of the liabilities of an average Dutch pension fund. The current UFR method generates most interest rate sensitivity around the 25-year maturity point, which leads to large differences with market-value sensitivities for longer maturities. The proposed UFR method remains closer to market-consistent results for long-dated liabilities.
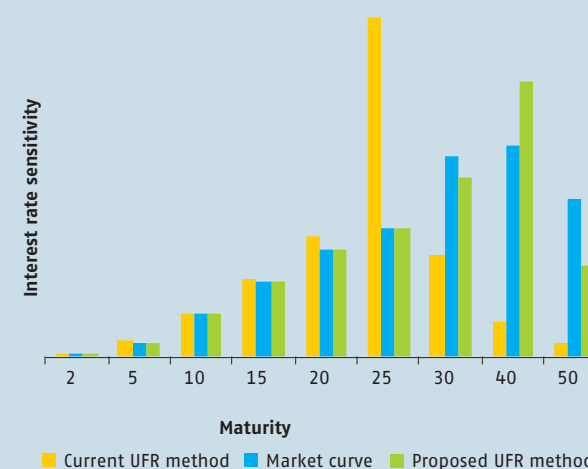
**Figure 2**: Interest rate sensitivities for an average Dutch pension fund.
Source: Aegon Asset Management, as at 31 May 2019.

Figures 3 shows the effect of interest rate changes on the funding and hedge ratio for the current UFR method, assuming (for simplicity) that interest rate risk is 100% hedged.
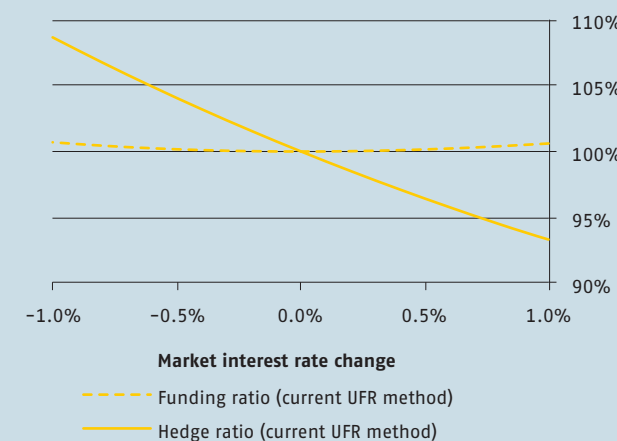
**Figure 3**: Impact of market rate shock on current UFR funding ratio and hedge ratio for an average Dutch pension fund.
Source: Aegon Asset Management, as at 31 May 2019.

This figure shows that the current UFR hedge percentage differs significantly from the target 100% for larger interest rate changes. For example, an interest rate rise means a reduction in the UFR hedging percentage. If the objective is to stabilize the current UFR hedge ratio, one must adjust the hedge in case of interest rate changes. Such a dynamic interest rate hedge can of course be implemented, but requires more maintenance and may thus lead to extra costs. This effect will be larger for pension funds with long-term liabilities because, in that case, the difference between the market interest rate and the UFR interest rate will be more significant.

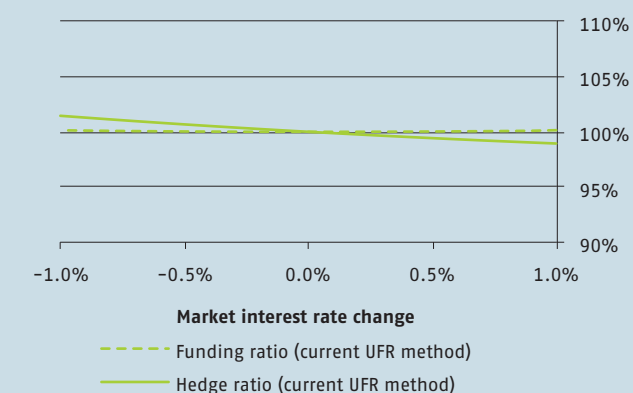The proposed UFR method is analyzed in Figure 4.

**Figure 4**: Impact of market rate shock on proposed UFR funding ratio and hedge ratio for an average Dutch pension fund.
Source: Aegon Asset Management, as at 31 May 2019.

Note that this approach leads to more stable results compared to the current UFR method: the funding ratio remains almost constant and the hedge ratio only changes slightly in case of a large movement of the market interest rate. We observed earlier that the proposed UFR curve remains much closer to the market interest rate curve. As a consequence, changes in the market curve, which affect the hedging instruments, are reflected better in the proposed UFR curve, which affects the liability, leading to smaller changes in the funding and hedging ratios (all other things being equal).

Table 1 summarizes the effect of the current and proposed UFR method on a number of key figures for an average Dutch pension fund.

| | Market value | Current UFR method | Proposed UFR method |
|---|---|---|---|
| Value liabilities | 100.0% | 96.0% | 99.6% |
| Interest rate sensitivity liabilities | 100.0% | 80.0% | 97.6% |
| Funding ratio | 100.0% | 104.1% | 100.4% |
| Interest rate hedge ratio | 50.0% | 62.5% | 51.3% |

**Table 1**: Impact on an average Dutch pension fund.
Source: Aegon Asset Management, as at 31 May 2019.

Notice the small remaining differences between the market value results and the results for the proposed UFR method.

## CONCLUSION

The proposed UFR method has already led to much debate, due to the negative impact it would have on pension funds' funding ratios at present. This article analyzes the UFR proposals and finds more agreement with a full market valuation than the current method. As a consequence, it should become easier for pension funds to stabilize their UFR funding and interest rate hedging ratios over time. ∎