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Interaction of IFRS 17 and hedge accounting under IAS 39 / IFRS 9

Background

The purpose of this document is to consider economic risk management in the context of insurers and its measurement under IFRS 17, and where applicable hedge accounting under IAS 39/IFRS 9. There are a number of scenarios where IFRS 17 already has provisions for the accounting of the contracts, and the associated risk management activity, being reflected appropriately. These are;

- Insurance contracts measured under the Variable Fee approach ('VFA') where risk management instruments form part of the underlying items; and
- Insurance contracts measured under the Variable Fee approach ('VFA') where the risk mitigation option is selected for derivatives that are not part of underlying items (except for non-derivatives and retrospective, which continues to be an area of challenge with respect to IFRS 17).

Therefore, the focus of this paper is with respect to the General Measurement Model ('GMM') and the challenges it presents in aligning the accounting with the risk management approach. Under the GMM IFRS 17 allows the effects of movements in financial risk to be accounted for through FVOCI, rather than FVPL. The purpose of this option is that it results in better alignment to certain business models, and is consistent with the 'hold to collect and sell' business model under IFRS 9. However, where derivative instruments are used for risk management purposes these will be measured at FVPL.

This paper considers a simple portfolio of insurance contracts, where the insurer in question has elected to use the Other Comprehensive Income ('OCI') option within IFRS 17, recognising movements in financial risk in OCI. In addition, the insurer is holding a portfolio of financial assets that are measured at fair value through OCI ('FVOCI') under IFRS 9, as they meet the solely payments of principal and interest ('SPPI') test, and are contained in a hold to collect business model. Further, a number of derivative instruments are held (interest rate swaps), to manage interest rate risk within the insurance contract portfolio which are measured at fair value through profit or loss. Without hedge accounting this creates a mismatch between profit/loss due the measurement of the insurance contracts, and the measurement of the assets and derivatives.

While choosing to adopt the fair value option for all assets within IFRS 9 and financial risk to P&L under IFRS 17 is available, it is only an appropriate alternative if all risks are all fully hedged (which is not the economic reality) or if it aligns with the business model (which is not always the case). In particular, for those companies that only partially hedge they will be at a disadvantage compared to those that do not, as will be able to include the full economic mismatch in OCI. Further, this may create a situation where the accounting results in a disincentive to perform economic hedging practices.

We believe that the most appropriate solution for the above problem would be for the risk mitigation option under IFRS 17 to be expanded to incorporate contracts measured under the GMM, not solely the VFA. This is due to the fact that it would be simple to adjust and implement, within the scope of IFRS 17 (and therefore not require any alteration to IAS 39 / IFRS 9) and would make accounting consistent for all insurance contracts. The CFO Forum is happy to provided further input on this matter, to assist in considering how this would be applied in practice to the GMM.

The current proposed solution to this problem would be hedge accounting under IAS 39 / IFRS 9. However, the ability to apply hedge accounting to insurance contracts has been subject to various debate within the industry and with the accounting firms. At present, there are a number of challenges that have been identified which would prevent or severely limit the ability for hedge accounting to be applied, and be a solution to this problem. Those key challenges, in the context of the simple example, are explored in more detail below.

It should also be noted that there are a number of further areas of challenge with respect to hedge accounting that are not discussed in detail in this paper, but would manifest in other scenarios or portfolios. These are areas such as the designation of risks other than interest rate risk (i.e. equity risk management), optionality within insurance contracts or within hedging instruments, guarantees, etc.

Hedged item: Risk component separately identifiable and reliably measurable

In order for interest rate risk to be designated as the hedged risk, consideration is required with respect to what represents the hedged item, and whether the aggregate instrument would comprise the hedged item or whether a portion would be a permitted designation. For financial instruments under IAS 39, and for all types of hedged item under IFRS 9 a component of the hedged item can be designated if that component is separately indefinable and reliably measureable[1]. Therefore, to permit hedge accounting of insurance contracts it would need to be concluded that interest rate risk is a separately identifiable and reliably measureable component. There is also a challenge with respect to the ability to designate a risk component of a part of an insurance contract, specifically whether the interest rate risk solely within the fulfilment cash flows is a valid hedged item rather than the aggregate insurance liability under IFRS 17.

However, there are discussions in the market that such a conclusion is not achievable, or if so, it would be limited to a subset of insurance contracts. Some of the challenges relate to the nature of insurance contracts and the ability to clearly segregate risk components, and also consideration and evidence of the market structure for insurance contracts.

Due to the nature of insurance contracts, there are a number of dynamic variables that will affect the measurement of the liability. These include guarantees, market risk, lapse risk, mortality, mobility, payments linked to inflation and premiums payments over the lifetime of the policy etc. In order to meet the definition of separately identifiable and reliably measureable the effects of interest rate risk would need to be able to be appropriately isolated from the rest of the measurement of the insurance contract liability. In this case, it would be required to demonstrate that there is no clear relationship between interest rates and other dynamic variables such as lapse and mortality risk.

This is inherently difficult due to the interplay of financial and (policyholder) behavioural factors. Insurers typically have relatively robust assumptions for policyholder behaviours in “central” economic scenarios and can understand the impact of financial risks changing, with no knock-on impact on policyholder behaviours. However, the challenge is to understand the second order impacts, being the correlation between changes in financial variables and policyholder behaviours. For example, if equity markets fall substantially there could be two outcomes. Policyholders with maturity guarantees may be more likely to hold on to their contracts as guarantees are now more valuable to them, increasing the cost to us. Alternatively, if the equity market fall was due to wider economic dislocation, they may, because of reduced financial circumstances, be more likely to lapse / make paid-up their contract, reducing the cost to us.

This view is widely held in the market, that due to these factors and the inherent interdependency between these components it would not be possible to isolate this, or even if theoretically possible the ability to do this reliably could not be achieved.

Secondly in order to meet the definition of separately identifiable and reliably measureable, consideration is required to ensure that the risk components can be clearly linked to an appropriate market structure[2] which supports that such components are present in the market pricing and that hedging activity takes place on that basis. Due to the nature of the market for insurance contracts predominantly being between insurer and policyholder, there are limited primary or secondary market transactions for such contracts. The absence of these transactions on a frequent basis can be

[1] IAS 39 AG99F / IFRS 9 B6.3.8
[2] IFRS 9 B6.3.9

said to hinder the determination of the existence of an interest rate component within the fair value of an insurance liability. The argument with respect to market structure for insurance contracts could be evidenced through the pricing between insurers and policyholders, and that interest rates impact directly impact on pricing for all contracts. However, some believe that this argument is not valid, as these transactions do not represent an "exit" market for the contracts.

Without the ability to overcome this issue hedge accounting under IFRS 9 / IAS 39 would not be possible, without designating all changes in fair value of the insurance contract for all risks.

It would seem wholly inconsistent for such accounting to exist under IFRS 17, with interest recognised unwinding the liability, but the wider conclusion is that this risk cannot be hedged through hedge accounting, as it is not separately identifiable and reliably measurable. Further, our understanding is that the IASB analysed the application of hedge accounting for insurance liabilities when commenting in the Basis for conclusions of the IFRS 17 ED, and therefore it would be helpful for them to articulate the basis of how they did this.

Hedge accounting methods: macro hedging

For most insurers the management of interest rate risk is conducted at an aggregate portfolio level, either across various product liabilities or through asset / liability mismatches. As such, it would seem that the macro fair value of interest rate risk model under IAS 39 is the most relevant hedge accounting model to adopt as it more closely resembles the underlying risk management strategy. Micro hedging would be near impossible due to tracking of individual contracts and hedging instruments.

The macro model within IAS 39 was designed to mirror the risk management approaches undertaken within a typical banking group, it is not designed to mirror risk management in insurers. Insurers do not typically hedge using an interest rate gap style analysis through the profiling out of expected cash flows, rather the approach taken is more closely aligned to a sensitivity duration matching based approach. A detailed example of how a typical insurer considers and manages interest rate risk is given in Appendix 1. As such in order to fit into the existing model an artificial analysis would be required to follow the requirements of IAS 39 and the steps within AG114(a)-(i).

Further, in the current standard, due to the inherent complexity in valuing embedded prepayment options in retail mortgages, a simplification was constructed within IAS 39 to allow for differences in expectation and actual prepayment experience (i.e. 'the percentage method'). While this method does arrive at an appropriate answer for mortgages this simplification does not consider all of the various additional dynamics of a portfolio of insurance contracts, such as specific optionality, demographic factors and certain other policyholder behaviour. In particular, while it does allow for those factors that, unlike prepayment, have no direct correlation with interest rates to be excluded[3], it does not contain an equivalent simplification as allowed for prepayment in mortgages[4].

If insurers were to follow the steps of the macro model and designate a portfolio using their current estimates for all of these future variables, when retrospective effectiveness was then subsequently assessed there would be actual experience, and changes in all of these assumptions, both those related to interest rate risk and other assumptions, would impact ineffectiveness

In this case, through these additional variables it is far more likely that an insurer would breach the required effectiveness tests under IAS 39, namely 80/125%. In such a scenario, the entire hedge relationship would have to be de-designated, even where the hedge was still considered effective for up to 79% of the relationship, for example. This has been recognised as a limitation of IAS 39, hence

[3] IAS 39 AG121
[4] IAS 39 AG126

the tests' exclusion under IFRS 9. However, until the IASB's dynamic risk management project has been completed there is no other model available for macro relationships.

It is unfair that insurers are being asked to use the model under IAS 39 that was not designed for their circumstances, and due to the features of their proposed hedged items they are far more likely to fail the effectiveness requirements.

One potential solution, which could be available within the EU, would be for insurers to use the EU Carve Out, as the "layer approach" that it permits may provide more flexibility in designation and could deal with the dynamics of the portfolio. However, this was not its original intention, with its purpose being to allow certain banks to designate current accounts as hedged items. In addition if EU-based insurers applied the EU Carve Out version of the IAS 39 macro fair value model it would lead to a reduction in comparability between those insurers in the EU and around the rest of the world, and could not be applied by others that are required to comply with full IFRS.

Some suggest that the application of AG121 of IAS 39 could solve the issues with respect to the dynamics related to assessing effectiveness of insurance contracts in hedge relationships. This paragraph allows the exclusion of the effects of changes in the expected repricing dates as a result of factors that do not arise due to changes in the hedged rate in the calculation of the changes in fair value of the hedged item. However, this section of the standard gives limited guidance on how this could be undertaken, with the sole test being that they clearly *"arise from factors other than changes in the hedged interest rate"* and can be *"reliably separated from changes that are attributable to the hedged interest rate"*. The standard also expressly suggests demographic factors as one such factor. Our understanding of the current market practice for banks following the macro standard is that this paragraph is not frequently applied, due to the challenges in separating these elements reliably. As such, our view is that this would not provide a workable solution. The approach would be highly judgemental, would likely result in varying practice and approaches being followed, hindering comparability between entities, and may prove too challenging to demonstrate effectively.

Conclusion

Overall, even if the challenges with respect to concluding that interest rate risk is a separately identifiable and reliably measurable component of an insurance contract are overcome, there are still significant issues with respect to the application of the macro hedging model. In order to overcome these, and allow insurers a level playing field with banks, the intended users of the macro model, significant changes and clarifications to IAS 39/IFRS 9 would be required to allow insurance contracts to be designated in a macro hedge relationship.

Appendix 1 – Typical risk management approach

General governance

The measurement of the Duration Gap by the Operating Units is part of the Group's SII policies (Group Asset Liability Management (ALM) Policy), declined in the Group ALM Guidelines. It must be monitored on a monthly basis for the Large Operating Units. It constitutes a key indicator of one of the main objective of ALM, managing the interest rates risk position of the balance sheet.

The duration gap is defined by convention as being the difference between the liabilities duration and the assets duration. This is a measure of the difference of sensitivity to rates between assets and liabilities market/present values.

The duration gap is reported on a monthly basis to Group Risk Management which owns the aggregation process, and controls that it respects group Risk Appetite limits. An estimate is shared by local ALM with Group Investment & ALM (GIA) early in the month (see Figure 1 – actual figures have been altered for confidentiality reasons) so that Investment & ALM can anticipate potential required actions based on the Group aggregated figure.

Similarly, the Convexity Gap which measures the potential variation of the Duration Gap upon changes in rates, is reported on a monthly basis.

	Fixed income assets (in €Bn)	Duration Gap (in years)	Convexity gap (in years / -100bps)
Life businesses (1)	**xxx**	**x**	**x**
Entity 1	xx	x	x
Entity 2	xxx	x	x
Entity 3	xx	x	x
Entity 4	xx	x	x
Entity 5	xx	x	x
Entity 6	xx	x	x
Entity 7	x	x	x
Entity 8	xx	x	x
P&C businesses (2)	**xx**	**x**	**x**
Entity 1	x	x	x
Entity 2	xx	x	x
Entity 3	x	x	x
Entity 4	x	x	x
Entity 5	x	x	x
Entity 6	x	x	x
Entity 7	x	x	x
Entity 8	x	x	x
Entity 9	xx	x	x
Holding company (3)	**xx**	**x**	**x**
Group (1+2+3)	**xxx**	**x**	**x**

Figure 1 – Aggregated ALM estimate of the Duration and Convexity gaps

From this metrics, we conclude that the sensitivity of the Group solvency II Available Financial Resources (AFR) or Eligible Own Funds (EOF) to 1bp change in rates (DV01) is m€ *xx* and m€ xx if rates decrease by 100bps.

Business context

The Duration and Convexity Gaps (and more generally the interest rates risk) of an insurance company come mainly from the following:

1. On Life and Saving business, the sold policies are long term (saving and retirement purposes), meaning that the liabilities cash-flows tend to be longer than the assets cash-flows : fixed-income bonds available in the market are generally not long or not numerous enough to match the liabilities. Then, the projected net asset-liabilities cash-flows, over time, are first positive before turning negative at some point in the future. This implies a reinvestment risk on those positive net cash-flows: because assets are reimbursed before the liabilities are paid, the insurer has the risk of the uncertainty on the interest rate at which it will reinvest.
   A life insurer, including L&S entities, generally has liabilities longer than assets (a positive duration gap) and therefore adversely exposed to rates decrease. It is a « delta-one » sensitivity.

2. On Life and Saving business still, the sold contracts embed guarantees on the annual minimum rates credited to the policyholders. Even if this type of business has decreased and the new guarantees are lower than in the past, high guarantee levels (>3%) remain in some entities. Some of those minimum rates could be guaranteed for the whole contract's life or each year. Any of this kind of guarantees is equivalent to an option (on the assets portfolio backing the liabilities) sold to the policyholders. As for any option, this creates negative convexity for the insurer, to the interest rates downside in the present case. If the portfolio's yield falls below the guarantee level, then the insurer remains contractually committed and must contribute up to the minimum level promised. Said another way, when interest rates decrease, the negative sensitivity of the insurer to the interest rates increases (in the same way the delta of a vanilla option would increase when it becomes closer/in-the-money). It is a second order sensitivity (sensitivity of the first order sensitivity).

3. On Life and Saving business again, another type of negative convexity arises from the risk of lapses: when rates suddenly increase, then the policyholder may prefer to take its money out. The rationale is that the policyholder could invest elsewhere at the new higher rates level, while its existing contract will take much longer to provide him with a similar rate. This is because the backing assets portfolio includes older fixed-income assets bought in the past at lower rates. In that process, the insurer may be constrained to selling bonds to face the cash out-flows, realizing losses in that new market context. Again, the risk to rates of the insurer, on the upside now, would increase. This reflects again the profile of as sold interest rates option. Indeed, having a positive duration gap, and taking benefit from an increase in rates, life insurers see this negative convexity on the upside to lower their gains in such scenario. Potentially up to generate losses. Then the change in value of the life insurer upon change in rates adopts the shape of a bell.

4. Finally, on P&C business, the insurer holds generally assets which this time are longer than the liabilities. The sold policies are generally short-term in particular on businesses like car/motor/house insurance. Then the duration gap is negative; the insurer is adversely exposed to the increase of interest rates. As no guarantees, no return is promised to the customer, this the same type of risk as 1., i.e. « delta one » except that it is the opposite way.

Managing the interest rates risk

Duration Gap:

In order to manage the Duration Gap, we increase (most of the time) or decrease our sensitivity to rates on the asset side mostly by using derivatives like spot and forward IRS, or forward bonds. Those are the preferred instruments for mitigating the reinvestment risk (putting the maturity dates close to bonds redemptions).

Assets duration can also be increased buying long dated fixed income bonds, but additional constraints are to be considered such as liquidity or availability of such instruments on the market.

Convexity Gap:

As mentioned previously, 2 types of negative convexity arise with changes in interest rates.

The risk of decreasing interest rates which would widen the Duration Gap (increase of the risk) is usually mitigated through the purchases of receiver swaptions. This type of strategy has been widely used in the past years with the prolonged decrease in interest rates.

The risk of increasing interest rates which is likely to trigger lapses is hedged by Constant Maturity Swap (CMS) Caps or Payer swaptions.

It is important to note that those risks are monitored on a holistic basis, generally at entity's level i.e. higher than the ALM portfolio / segment level, benefiting from some mutualization. Entities ALM portfolios are generally made of sold contracts with a high degree of homogeneity but often with guaranteed rates ranging for several percentage. They are not managed at a granular level compared to insurance contracts portfolios.

Why hedge accounting is complex?

First, it is important to remind that the identification of a net hedged risk does not qualify for hedge accounting under IAS 39 / IFRS 9.

Whenever possible, we apply Cash flow hedge accounting and qualify the reinvestment risk as the hedged item. This has been widely used for hedges of duration gap but requires to identify in the investment portfolio of entities appetite for reinvestment with specific predetermined tenors/maturities.

Hedging strategies to address the deficit of asset returns to the guaranteed rate of insurance liabilities (item 2 above) are not eligible to hedge accounting since they consider net open portfolios of insurance liabilities with open portfolios of investments and derivatives.

Regarding lapses, surrender option in life insurance contracts cannot be separated from the host contract since it does not meet the definition of an embedded derivative. Thus, there is no natural offset between the volatility of the surrender option and the hedging derivative.

For the same reason, the complexity in isolating the optional component is a challenge to meet the "*separately identifiable and reliably measurable"* criteria mentioned in IAS 39 / IFRS 9

Interest rate caps & payer swaptions are often used to provide protection, however the challenge to support a high correlation hedge effectiveness to an eligible hedged item prohibits hedge accounting.

Moreover, under IAS 39, the use of options in cash flow hedge relationships results in volatility through the P&L due to the time value component. IFRS 9 addressed this issue with the "cost of hedging approach" allowing to differ to OCI the time value component but brings additional complexity for other hedging strategies.

IFRS 17 partly addresses the P&L volatility issue for insurance contracts measured under the Variable Fee Approach (VFA) where invested assets and hedging derivatives are part of the underlying items as defined in the IFRS 17 standard.

In addition, when derivatives are not part of the underlying items, the risk mitigation option (IFRS 17 para B116 and BC101-BC109) for VFA contracts allows to reflect those economic hedges and achieve an attenuation of the P&L volatility.

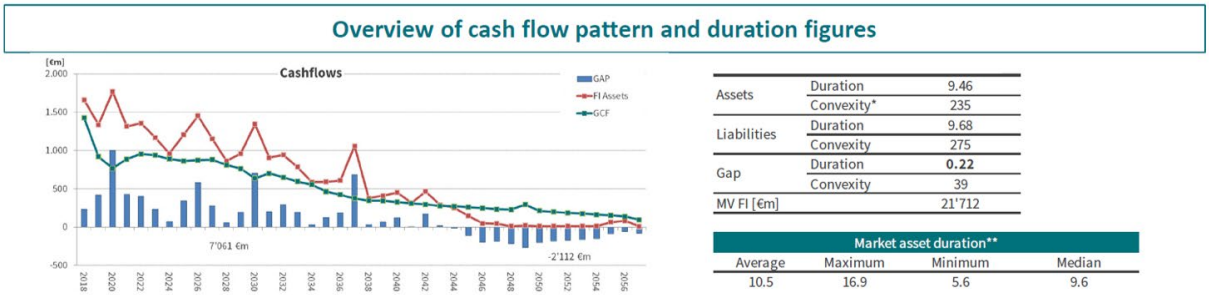
However, IFRS 17 does not allow to mitigate P&L volatility for insurance contracts measured under the general model (BBA).

One solution would be to expand the risk mitigation option to non-derivative financial instruments as well as to all insurance contracts (in particular indirect participating contracts with guarantees for which there is no conceptual reason to present accounting mismatches when using the OCI option while a solution exists for VFA contracts with guarantees)

Illustrations

Duration Gap:

1. Extract from one entity's ALM committee documents, illustrating the cash-flows pattern of life carrier (€ 22bn). It exhibits that assets cash-flows ("FI assets") are generally in excess during the first years, creating the reinvestment risk for the longer-tern when cash-flows turn in deficit.



Assets	Duration	9.46
	Convexity*	235
Liabilities	Duration	9.68
	Convexity	275
Gap	Duration	**0.22**
	Convexity	39
MV FI [€m]		21'712

Market asset duration**			
Average	Maximum	Minimum	Median
10.5	16.9	5.6	9.6

Figure 2 – Cash-flows profiles of a life insurance entity

The Group's AFR profile upon changes in rates. We observe that the sensitivity is not linear but displays a negative convexity i.e. increases to the downside (increase of the risk, we lose faster as long as rates decrease more than initially), decrease on the upside (decreasing path of our gains). This comes from both negative convexity we are exposed to.

Convexity Gap:

2. With whole life guaranteed rates products, some entities exhibit the highest (negative) convexity across Operating Units. Receiver swaptions are used for mitigating part of it.

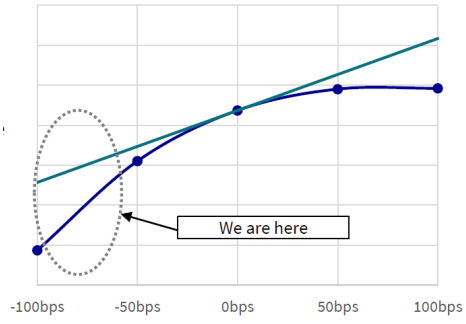


Figure 3 – Sensitivity upon interest rates