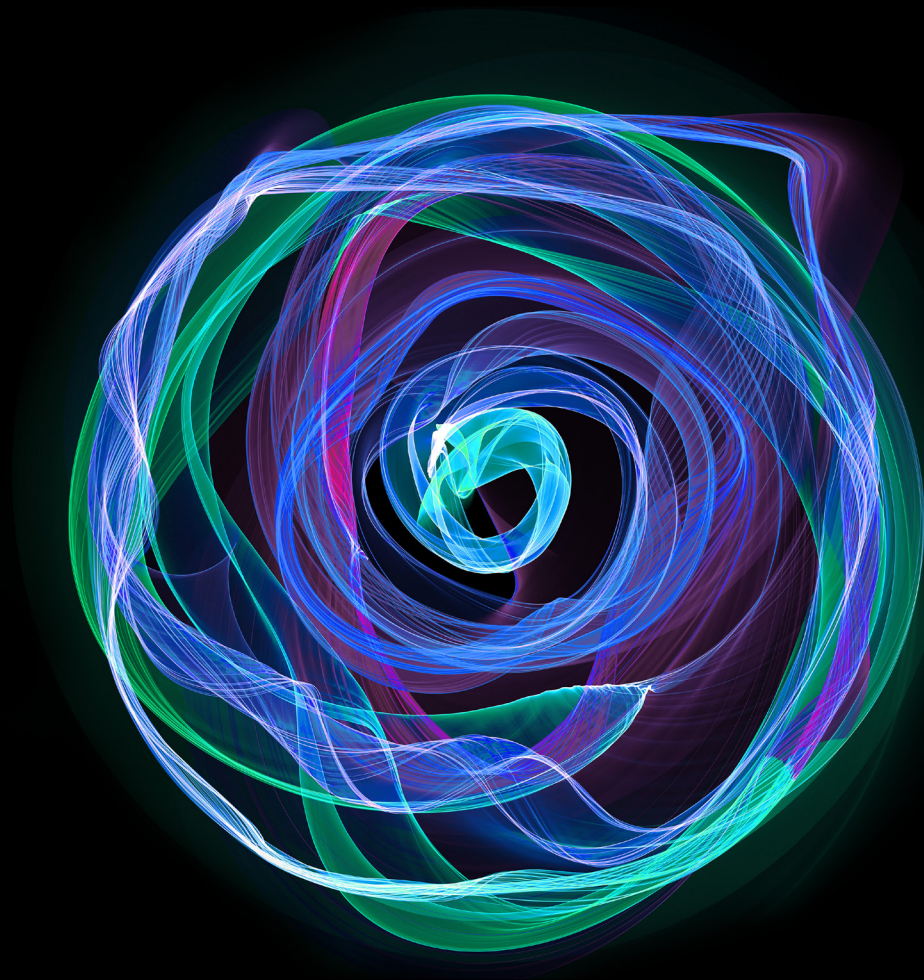


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SAM Interpretation Series
Treatment of Instruments within Market Risk

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Introduction

With just over 4 years into insurers reporting under the Solvency Assessment and Management (SAM) framework, many insurers have changed gear from implementation to capital optimisation. This naturally results in different interpretations of the Financial Soundness Standards for Insurers (FSIs) emerging. With uncertainty on how to treat specific investment instruments within market risk, it becomes necessary to delve a bit deeper into different treatments observed.

The Basics

Market risk is the risk of loss arising from movements in market prices on the value of an insurer's assets and liabilities or of loss arising from the default of the insurer's counterparties. Exposure to market risk is measured by the impact of movements in financial variables such as stock prices, interest rates, real estate prices and exchange rates¹.

Market risk is made up of the following components:

- Interest rate risk
- Equity risk
- Property risk
- Currency risk
- Spread and default risk
- Concentration risk
- Illiquidity premium risk

The FSIs require that insurers consider the underlying characteristics of the instrument and its exposures to various financial variables when assessing which of the above market risk components to apply².

Interpretations

We have seen specific areas of interpretation emerge around the treatment of Fixed Deposits (FDs), Negotiable Certificates of Deposit (NCDs) and Floating Rate Notes (FRNs) within the market risk component of the SCR standard formula.

It is largely accepted that concentration risk (to the extent that Part C and D of Attachment 5 of FSI 4.1 does not apply) and currency risk (if the value of the instrument is sensitive to currency exchange rates) would apply to these instruments. However, uncertainty emerges when one considers the treatment of these instruments with the interest rate risk and spread, and default risk modules.

Some instruments can be issued by non-banking financial companies. These instruments are specifically excluded from the below interpretations.

Illustrative Example

To illustrate the impact of the different interpretations, we present the market risk results as at 30 June 2022 for a hypothetical insurer with the exposures as follows.

	Asset Exposures	LGD	CQS	Market Value
1	Government Bond	45%	N/A	10 000
2	NCDs	45%	10	30 000
3	FRNs	45%	10	30 000
4	Cash in a SA Bank	45%	10	50 000
5	FDs	45%	10	40 000
6	Reinsurer ABC	45%	5	50 000

	Asset Details	Coupon Rate	Maturity Date	Nominal Value
1	Government Bond	8%	31/12/28	11 000
2	NCDs	6%	31/12/22	30 000
3	FRNs	6%	31/12/22	30 000

The above exposures relate to distinct counterparties that do not need to be aggregated when applying the shocks. NCD and FRN coupons are payable quarterly and Government bond coupons are payable semi annually.

We have assumed that the undiscounted net technical provisions equates to 51 730 and has a discounted mean term of 6 months.

References

1. Paragraph 4.1 of FSI 4.1 2. Paragraph 4.4 of FSI 4.1

Fixed Deposits

Overview

A FD typically has the following features:

- The interest rate is typically fixed or linked to a benchmark rate (for example Prime) at the outset.
- The investment cannot be redeemed prior to the maturity date without a penalty fee.
- The term of the investment can vary.
- The instruments are not tradeable.

Interpretation 1

Type 3 exposures are exclusively for cash held at banking institutions. Therefore, this treatment of FDs assumes FDs are cash.³

This interpretation may hold for short dated FDs that exhibit characteristics similar to cash.

Additionally and owing to the ability to redeem the FD prior to the maturity date with a penalty fee, FDs may be considered to exhibit characteristics similar to cash, regardless of term. However should this be the case, these instruments on the economic balance sheet should be valued as the initial deposit plus accrued interest less the penalty fee that would be incurred.

Interpretation 2

Type 1 exposures include exposures where the counterparty may be rated. In addition to a defined list of exposures, the sub-module also makes allowance

for assets not captured elsewhere in the calculation of the market risk requirement. This could imply that the FDs should be socked within the Type 1 exposures.⁴

This treatment of FDs is also supported by Position paper 111, which suggests that the Type 3 sub-module was primarily created for cash at a bank where there is immediate access.

Results

The diversified market risk capital charge is as follows:

- Interpretation 1 – 11 311
- Interpretation 2 – 13 775

Under Interpretation 2, a 2.5% penalty fee/charge is applied to the FDs.

In estimating the above market risk impacts of the FD interpretations, we have assumed that NCDs and FRNs are shocked within the interest rate risk and spread risk sub-modules.



References

3. Paragraph 9.8 of FSI 4.1 4. Paragraph 9.6 of FSI 4.1

Negotiable Certificates of Deposit

Overview

A NCD typically has the following features:

- The interest rate is typically fixed or linked to a benchmark rate (for example Prime) at the outset.
- The investment cannot be redeemed prior to the maturity date but can be traded in the secondary market.
- The term of the investment can vary.

Interpretation 1

The CIC code classifications provided with the SAM annual returns categorises NCDs as transferable deposits. If treated as transferable deposits, they may be treated similar to FDs and consequently shocked within the Type 3 sub-module based on their highly liquid characteristics and primary risk being default of the issuer that may be similar to cash.

Interpretation 2

Similarly to FDs, the interpretation arising relates to whether NCDs should be shocked within the Type 1 sub-module under the “Assets not captured elsewhere in the calculation of the market risk capital requirement” category.

Interpretation 3

Financial assets must be measured at fair value in all instances, regardless of whether IFRS allows for these assets to be measured at cost in some instances. Because a secondary market for these instruments exists, the fair value of these instruments equal their market prices within the secondary market at a particular point in time. The market value of these instruments in turn, is affected by changes in the credit spread and interest rates of the instruments.⁵

Interest rate risk arises when the market value of assets are sensitive to changes in market yield curves or interest rate volatilities and that all assets that are sensitive to changes in the yield curve should be included in the calculation of the interest rate risk capital requirement⁶. Spread risk arises when the market value of assets are sensitive to changes in credit spreads over the risk-free interest rate term structure⁷.

It may therefore be appropriate to stress NCDs under the interest and spread risk components if we follow the inherent nature of the instruments.

Results

The diversified market risk capital charge is as follows:

- Interpretation 1 – 12 846
- Interpretation 2 – 14 256
- Interpretation 3 – 13 775

In estimating the above market risk impacts of the NCD interpretations, we have assumed that FRNs are shocked within the interest rate risk and spread risk sub-modules and FDs are shocked within the Type 1 module.

References

5. Paragraph 5.7 of FSI 2.1 6. Paragraph 5.2 of FSI 4.1 7. Paragraph 9.1 of FSI 4.1

Floating Rate Notes

Overview

A FRN typically has the following features:

- A bond where the coupon rate is typically linked to a benchmark index (for example JIBAR) at the outset.
- The investment can be traded in the secondary market.
- The term of the investment can vary.

Interpretation 1

The CIC code classifications provided with the SAM annual returns categorises FRNs as transferable deposits. If treated as transferable deposits, they may be treated similar to FDs and NCDs and consequently shocked within the Type 3 sub-module based on their highly liquid characteristics and primary risk being default of the issuer that may be similar to cash.

Interpretation 2

Similarly to FDs and NCDs, the interpretation arising relates to whether FRNs should be shocked within the Type 1 sub-module under the “Assets not captured elsewhere in the calculation of the market risk capital requirement” category.

Interpretation 3

Similarly to NCDs, because a secondary market for these instruments exists, the fair value of these instruments equal their market prices within the secondary market at a particular point in time. The market value of these instruments in turn, is affected by changes in the credit spread and interest rates of the instruments.

It may therefore be appropriate to stress FRNs under the interest and spread risk components if we follow the inherent nature of the instruments.

Results

The diversified market risk capital charge is as follows:

- Interpretation 1 – 12 885
- Interpretation 2 – 14 291
- Interpretation 3 – 13 775

In estimating the above market risk impacts of the FRN interpretations, we have assumed that NCDs are shocked within the interest rate risk and spread risk sub-modules and FDs are shocked within the Type 1 module.



Conclusion

As George Elliot put it: “All meanings, we know, depend on the key of interpretation.”

The fact that certain financial instruments are not explicitly referred to within the FSIs has led insurers to adopt various interpretations for the treatment of these instruments within market risk. This paper has specifically considered the interpretations that have emerged in the treatment of FDs, NCDs and FRNs.

Through the illustrative examples, we have observed that each interpretation has an impact on the market risk charge with results being dependent on insurer specific balance sheets.

It should also be noted that there are likely to be knock on impacts on other components such as LACDT and Underwriting risk (owing to the Type 1 default risk link) when deriving the overall SCR number.

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