



Securitisation & Balance Sheet Optimisation

KPMG in the UK

—

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Introduction

Securitisation has been a core balance sheet management tool for banks and other institutions for decades, whether as a means of asset sale or for funding (e.g. Covered Bonds). Over the past 15 years a sophisticated private market has also developed for bank capital and risk mitigation. The use of these tools is becoming increasingly established for banks as part of a toolbox of risk mitigating and funding/capital generating options.

Current structures are seen as increasingly less contentious by regulators, politicians and market participants given structural changes and long-term performance since the global financial crisis. Whilst for banks, funding structures are universally accepted as one core tool, capital and risk transfer trades have remained more contentious with regulatory acceptance widely recognised in the EU and UK. Increasingly they are also being adopted in other jurisdictions such as Canada, Hong Kong, and in a limited fashion in the US.

These techniques can also provide significant value to other regulated institutions such as life insurance companies. For example, some UK life insurance companies have used securitisation techniques to provide rated levels of certainty of cash flows to allow theoretically attractive asset classes such as equity release mortgages, whose mortality and morbidity characteristics align with their liabilities, to achieve efficient capital treatment under the Solvency II matching regime. This paper's contention is that these techniques will, and should, have wider applications for such counterparties and indeed may be even more relevant post the reform of Solvency II, which is currently underway in the UK if this reduces current requirements for 'fixity' in matching cashflows for efficient capital treatment.

Whilst regulatory change is now perpetual, the current basket of incoming regulatory changes are moving the goalposts substantially. For banks, the pathway and likely rules for the implementation of Basel 4 is now clear in the EU, UK, and Canada. Unfortunately, the rules also signal increasing regulatory fragmentation, and substantial capital increases for some. Certain EU proposals also muddy the waters by attempting to standardise securitisation treatments unhelpfully. The result will substantially increase the need for sophisticated capital generation tools for banks whilst potentially making it harder to use them as has become common, at least for risk transfer/capital.

Solvency II reform is also on the immediate horizon for insurance companies within the EU and UK. In the UK, the drive to liberalise matching to allow for highly predictable cash flows means it is likely that there may be scope for further utilisation of securitisation techniques to aid with risk appropriate capital generation and efficiency.

This paper is designed to capture the current state of the market, covering themes, trends and the high-level impact of the current regulatory shifts. KPMG's team is involved in each stage of these processes, and is happy to assist with any questions or projects in these areas.

Alec Innes – Partner.



“ Whilst for banks, funding structures are universally accepted as a core tool, capital and risk transfer trades have remained more contentious ”

“ These techniques can also provide significant value to other regulated institutions such as life insurance companies. ”

01

Banks: **Securitisation Issuance** **Market Review**



Securitisation Trends & Issuance Review

Market update

Executive Summary

- The 2022 rise in euro and sterling rates was relentless
- Securitisation bond yields ramp-up through 2022 – driven largely by rates, but with wider credit margins too
- 2022 EU deal volume was down significantly from 2021. UK deal volume was on par
- By the end of 2022, payment arrears in RMBS had still not increased

Benchmark rates

2022 saw volatility and rises in rates and government bond yields across Europe

Chart 1a - Euro benchmarks

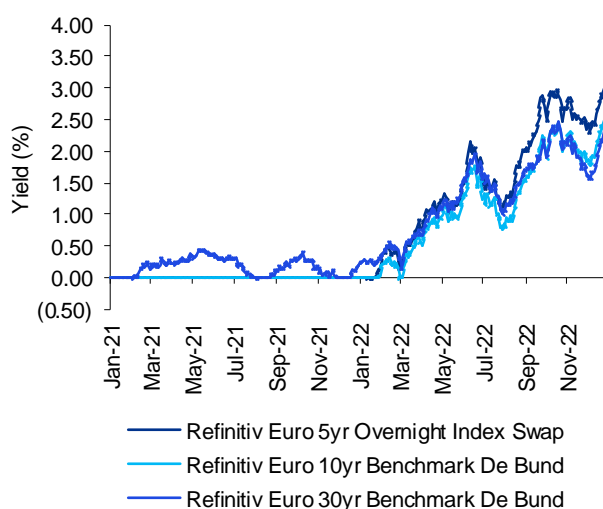
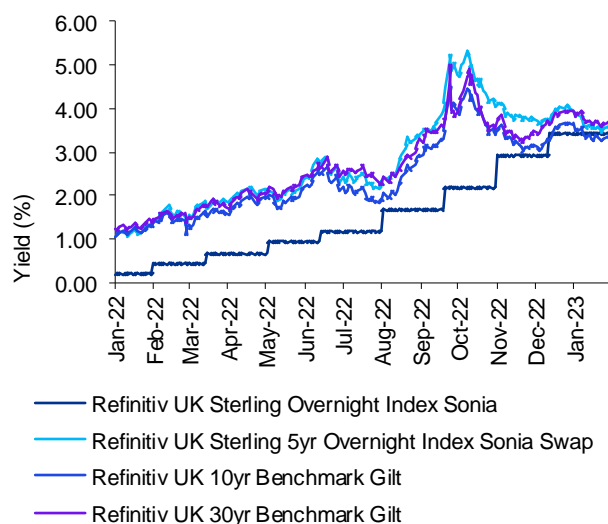


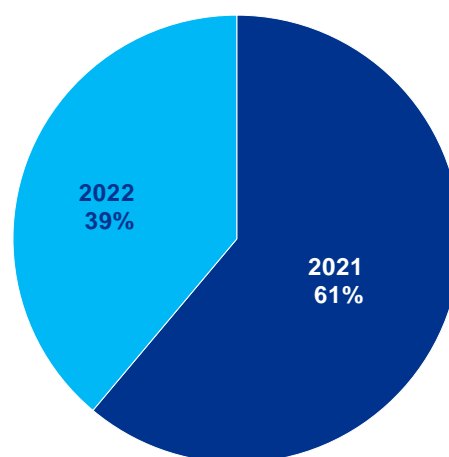
Chart 1b – Sterling benchmarks



Market activity

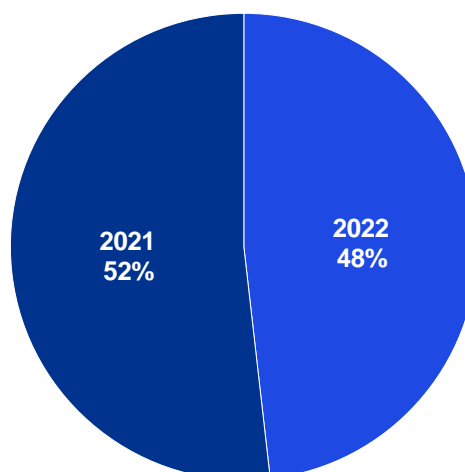
In EU ABS and RMBS markets, deal volume in 2022 was down significantly from 2021.

Chart 2a – split of total EU ABS/RMBS 2021-2022 deal volume by year



In contrast, in the UK, despite the Liz Truss budget and market disruption, 2022 deal volume was on par with 2021.

Chart 2b – split of total UK ABS/RMBS 2021-2022 deal volume by year

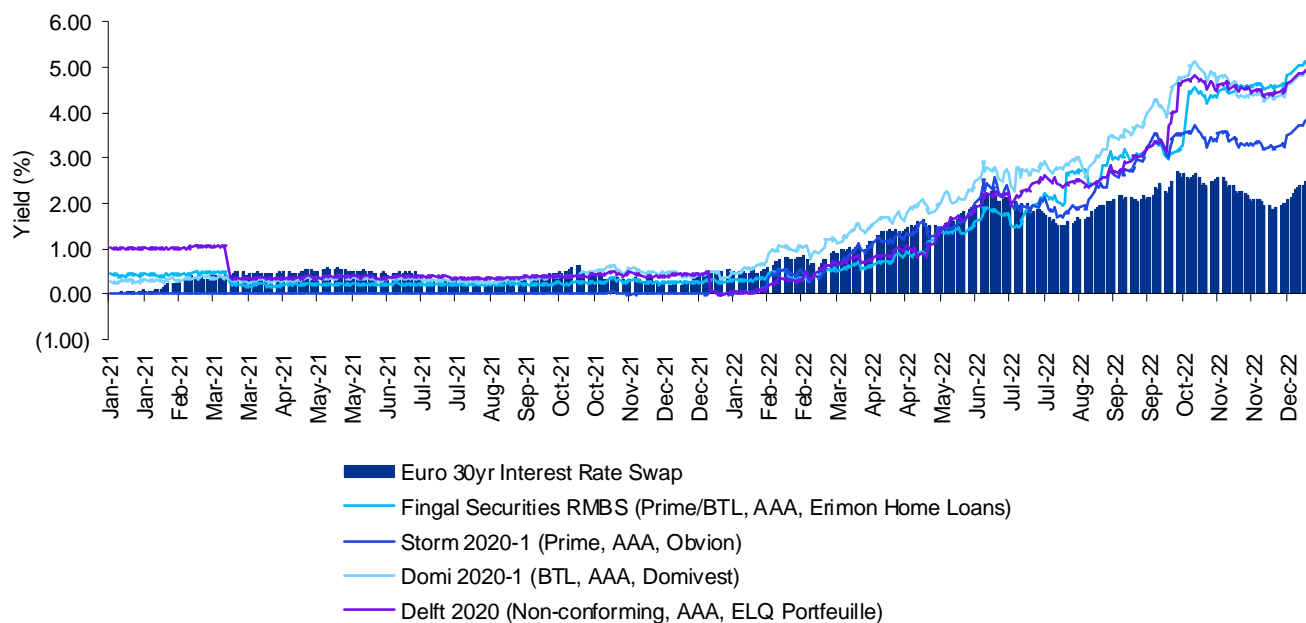


Securitisation Trends & Issuance Review (cont.)

Bond yields

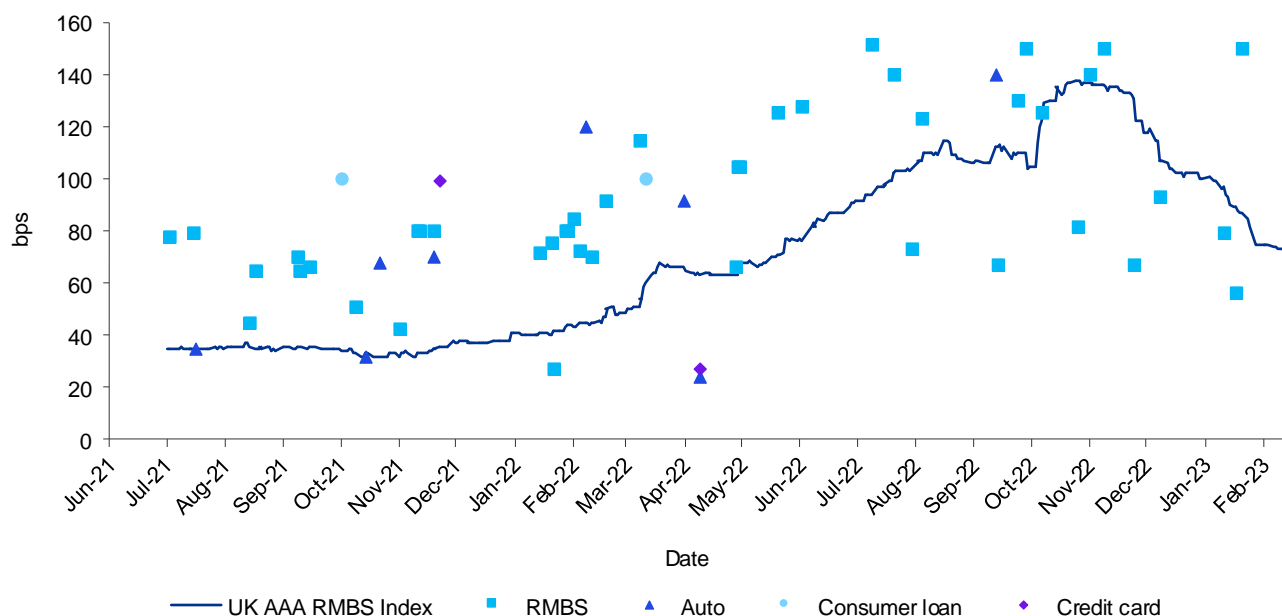
Yields on traded securitisation tranches rose steadily through 2022. In 4Q22, credit spreads notably widened.

Chart 3a - RMBS AAA yields on selected EU issuance



Yields on UK traded securitisation tranches rose steadily through 2022. But through 1Q23 they have been tightening

AAA UK ABS WA Issuance Spreads



Securitisation Trends & Issuance Review (cont.)

RMBS performance

Volatility in wholesale market funding through 2022 was not mirrored in the performance of underlying assets. Even through 4Q22, arrears remained low and steady in the EU and UK.

Chart 4a - Europe Prime RMBS 90+days arrears for Moody's rated securitisations

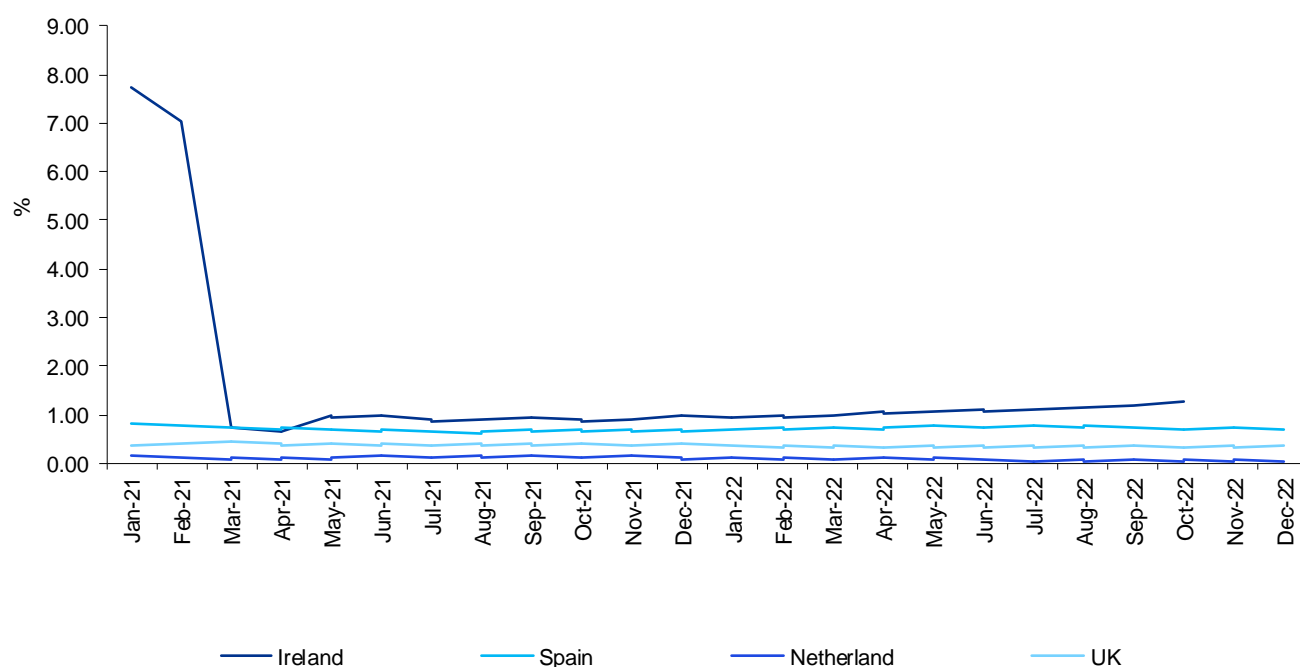
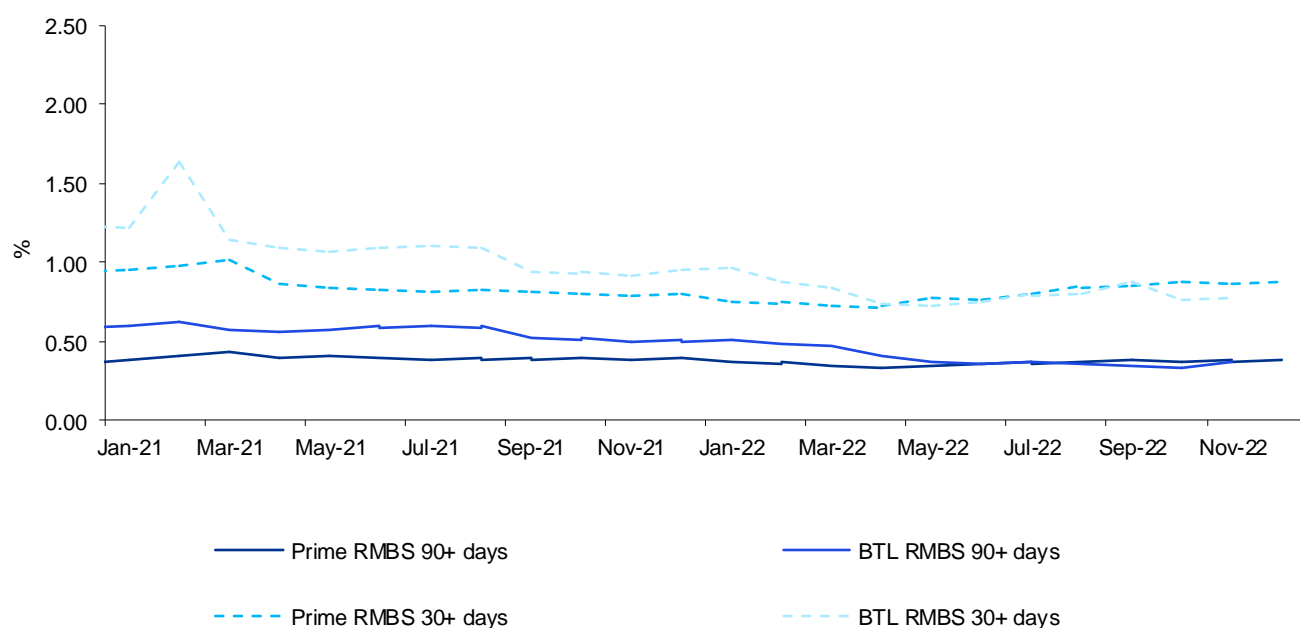


Chart 4b - UK RMBS 30+ and 90+ days arrears for Moody's-rated securitisations



SRT Trends & Issuance Review

Summary

- SRT transactions (or CRT, Credit Risk Transfer transaction) are one of the tools at the disposal of banks to optimise their balance sheet in the context of ever-growing capital requirements
- SRT transactions are executed mostly privately and volume/pricing are less volatile than public ABS, which helps support issuance in difficult markets
- There was record issuance in 2022 in Europe and 2023 is expected to also show strong volumes
- However, the market is facing regulatory headwinds, notably with the implementation of the Basel IV Output floor in less than 2 years' time

Review of recent issuance and trends

The SRT market (and synthetic in particular) was fairly resilient during the pandemic. As the below graphs shows volumes quickly rebounded to their pre-pandemic level in 2021 and 2022 saw a record number of transaction issued, including from more new entrants than seen in previous years.

A number of factors generally support issuance in this mostly private market, such as the close-knit relationships between originators and investors. Transactions can be negotiated and customised for investors (often bilaterally since it is not uncommon to have a single or 2 investors only taking the junior/mezzanine pieces). So even when public markets are choppy, transactions can be selected and adapted to suit investor needs, thus fending off those market shut-downs that can be seen in public securitisation markets.

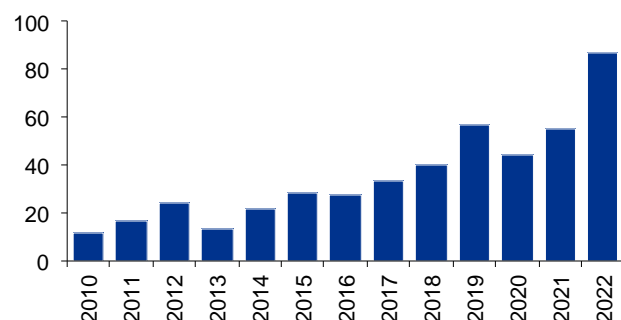
Also, given the cost (and dilutive effect) of raising more capital, SRTs remain an attractive balance-sheet fine 'tuning-tool' which we expect will support continued strong issuance in 2023.

In terms of geography, the market continues to be mostly dominated by European issuance although 2022/early 2023 saw increased issuance from Canada and also the first deal from Hong Kong. A lot of issuance from the US market normally originates from agencies (Fannie Mae and Freddie Mac) and US CRT bank issuance has recently been challenged by the regulator.

In terms of asset classes, SME and corporate sectors account for the vast majority of issuance. However, other asset classes including consumer, CRE, infrastructure, leasing and mortgage portfolios are also now widely used as collateral pools.

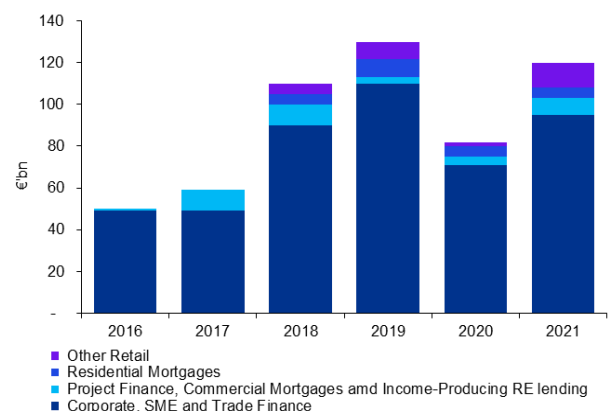


Number of SRT transactions per year



Source: M&G, Citi, sci

Underlying pool size at inception by asset class



Source: IACPM

SRT Trends & Issuance Review (cont.)

Regulatory headwinds

SRT transactions (or CRT, Credit Risk Transfer transactions) are one of the tools at the disposal of banks to optimise their balance sheet in the context of ever-growing capital requirements. This was true for the transition from Basel II to Basel III but also very much topical for the introduction of Basel IV and the upcoming implementation of the standardised output floor. Indeed, recent statements from the likes of Barclays in their most recent results indicate that the impact of Basel IV will lead to total RWA inflation of around 10% pre mitigation, underscoring the increasing value of securitisation as an RWA mitigation technique.

These sorts of regulatory headwinds are not new in this market, the very existence of which depends on the capital regulatory framework. SRT market participants are accustomed to answering public consultation, notably from the EBA and also used to integrating new guidelines and/or regulation as they are published.

However, in the case of the Basel IV output floor, due to come into force in January 2025, there is genuine concern that issuance of certain asset classes may be impacted.

A report published last year by Risk Control compares the effect of the output floor i) on the non-securitised asset pool and ii) on the securitisation capital structure, to determine if/when the floor would become binding over time in both cases (the floor is expected to be phased in progressively over a 5-year period, starting at 50% of the standardised RWA to 72.5%).

All things being equal, if the floor becomes binding on the liability side (securitisation) quicker than on the asset side, the securitisation loses some of its relative appeal compared to current EU rules. The findings in the aforementioned report indicate that this is likely to affect mostly the SME and corporate assets classes (versus mortgages or consumer lending) which then is likely to reduce lending to the real economy. Banks indeed will not be able to redeploy the regulatory capital they would have released otherwise (if they choose to abandon a transaction) to their existing or new customers. This appears to be true both for STS and non-STS transactions.

Unless EU regulatory authorities (unexpectedly) mitigate the effect of the output floor, we are likely to see an impact on SRT issuance from EU IRB banks in terms of possibly lower volumes, most likely on the corporate SME / Corporate asset classes as per the Risk Control report.

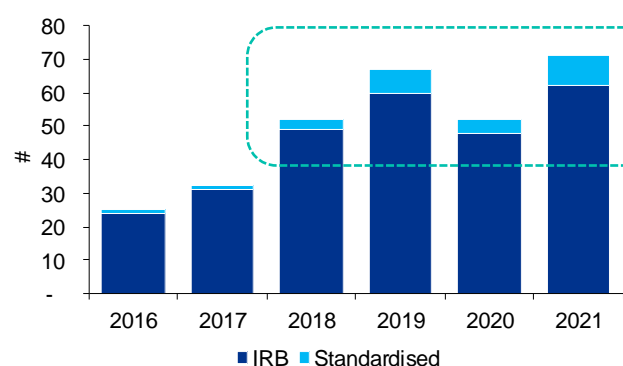


SRT Trends & Issuance Review (cont.)

New entrants & new geographies

A trend that we anticipate to continue is the potential for new entrants, in particular for standardised banks which have been more active in the sector notably since 2019 and the change in methodology hierarchy between SEC-SA and SEC-ERBA (prior to that they needed to obtain expensive external ratings). As illustrated in the graph below, the number of standardised issuers has been on the rise since 2018.

Number of synthetic SRT trades by RWA approach



Source: IACPM

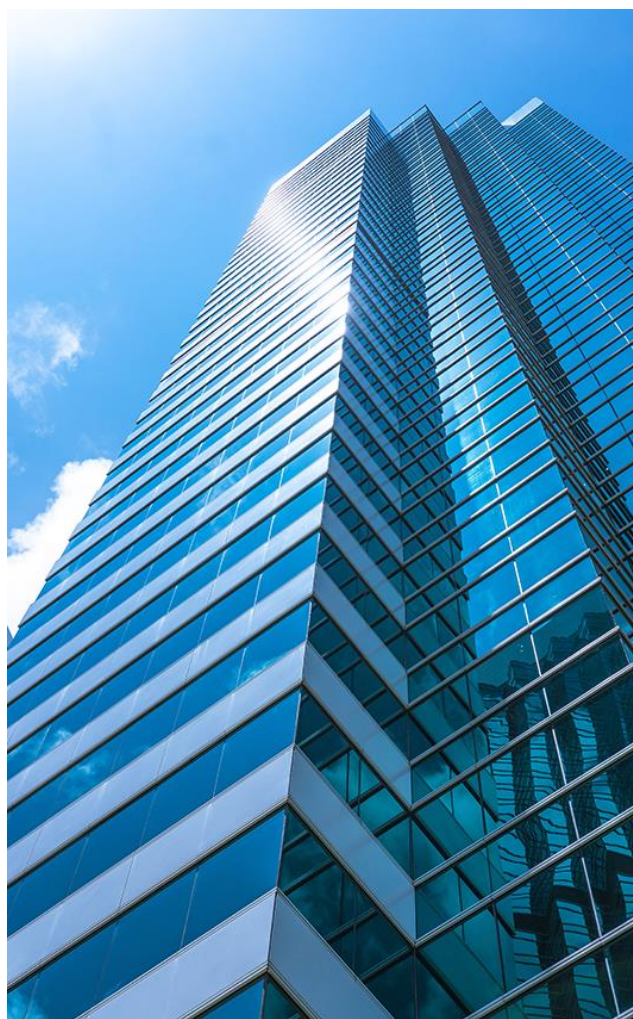
On average, over 80% of the trades are done on IRB portfolios, however, the proportion of standardised pools has increased from about 0 to 14% during the six year period 2016-2021.

In light of the implementation of the Basel IV Output floor (see previous page), which will affect banks applying the IRB methods, we expect the proportion of standardised issuers to increase (both in relative and absolute terms). Indeed, standardised banks will not be affected by the floor while IRB banks may either issue fewer transactions or switch/revert to the standardised methodology.

Considerations for a first-time issuer

For first-time issuers, the time and resource investment in setting up an SRT origination platform may be daunting. Banks can expect to spend at least a year ahead of their first issuance in setting up internally the data, reporting, governance and compliance infrastructure required for a successful program. Typically banks need to understand this investment, to launch a core program of similar importance to their Covered Bond platform, rather than issuing a one-off transaction.

It is also essential for originating banks to demonstrate the sustainability of their SRT issuance platform, in order to build strong investor relationships. Concretely, to take one example amongst others, they would need to demonstrate the proper implementation of Chinese walls from the originating/lending function, as investors need to be comfortable that people servicing the positions will not be aware that there is a guarantee in place.



SRT Trends & Issuance Review (cont.)

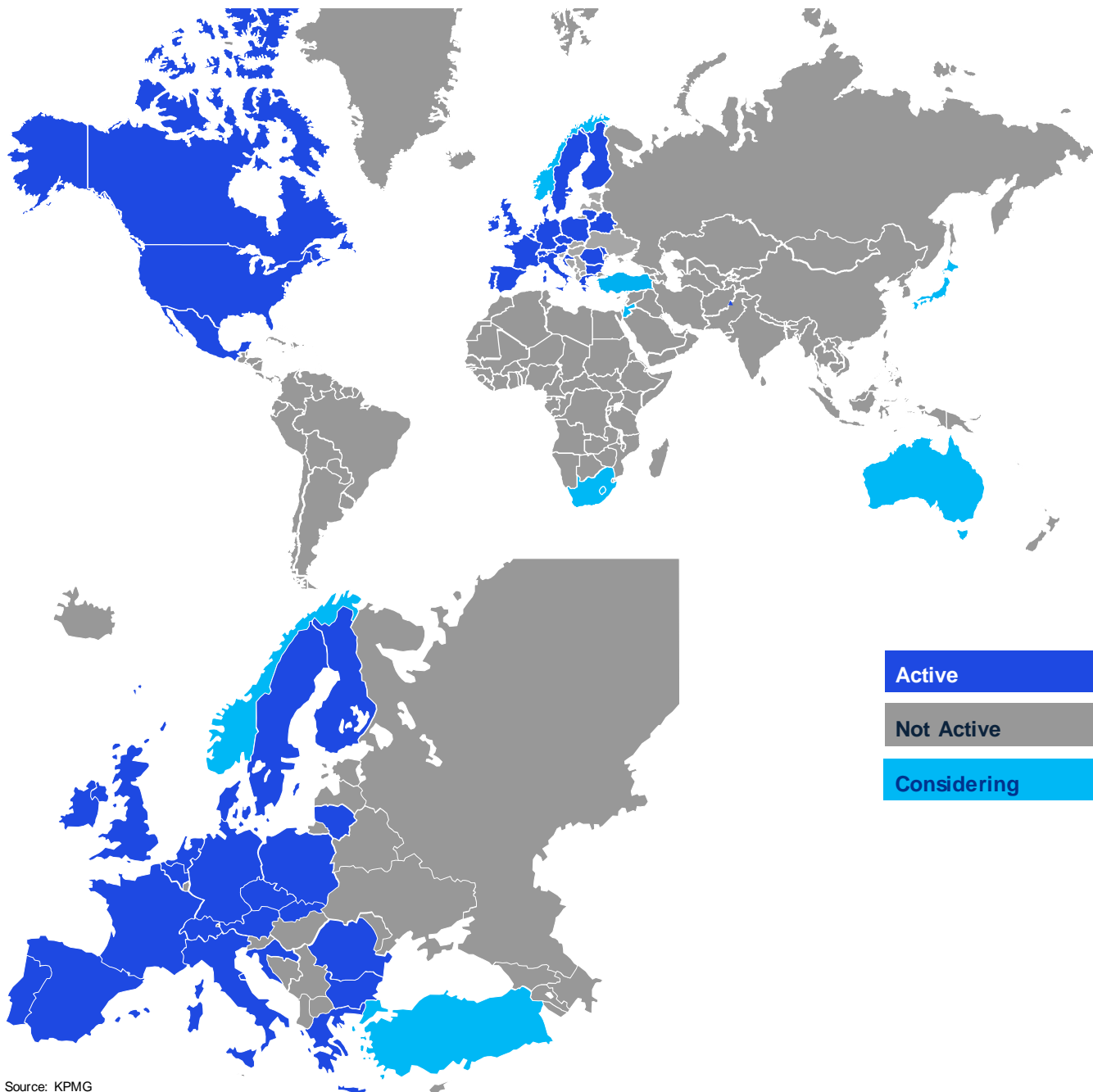
New geographies

As stated previously the SRT market remains more developed in Europe (excl. UK) with c. 55% of issuance volumes in 2021. We expect this trend to continue in the short term at least given the stance of the regulator in the US which put a brake on SRT issuance from banks in the US.

Some geographies outside Europe were busy in 2022 and Q1 2023 such as Canada (with at least another transaction expected for the end of this year). Last year also saw the issuance of the first ever SRT from Hong Kong which complied with both the Hong Kong Monetary Authority and PRA rules.

In Europe, 2022 saw the first synthetic securitisation in Romania and Bulgaria (these were done with multi-lateral banks as anchor investors).

As the maps show below, new jurisdictions are opening up to synthetic SRT securitisations or considering doing so.



Source: KPMG

A photograph of a vast lavender field under a cloudy sky. The lavender plants are in full bloom, with rows of purple flowers stretching towards the horizon. A dark blue rectangular box is overlaid on the left side of the image, containing the page number and title.

02

Securitisation & ESG Considerations

Securitisation & ESG Considerations

Summary

There is no standard approach to sustainability disclosures for securitisation transactions.

ESG-related securitisation issuance is a very small part of the market, and is unlikely to progress until a securitisation-specific disclosure standard is adopted in the UK and EU.

The market will grow, but slowly and from a low level.

Investor issue to watch: ESG links to non-originator benchmarks can create an embedded derivative that investors must fair value under IFRS 9.

Sustainability criteria

In securitisation, a green or social bond (ESG-focused securitisation) should comprise one of the following three elements:

Financing for assets that have a positive impact on ESG factors (e.g. energy efficient mortgages, electric auto loans/leases or consumer loans to underserved borrowers);

Use of the proceeds or capital relief used to re(finance) in full or in part assets that have a positive impact on ESG factors; or

Commitment by the originator to achieve sustainability-related KPIs.

Market activity

Estimates of ESG-focused securitisation issuance vary, but they all comprise a very small part of the total market. In recent years, example ESG-focused securitisation issuance in the UK and EU include:

Company	Year	Country	Amount	ABS type	Description
Yorkshire Building Society	2021	UK	GBP 1,932m	Social RMBS	Social collateral and social proceeds: Part of the proceeds used towards social projects including higher-rate savings products and/or competitively priced mortgage products to underserved customers.
Kensington Mortgage Company Limited	2021	UK	GBP 470m	Social RMBS	Social collateral and social proceeds: Backed by a pool of prime, performing, first-ranking owner-occupied mortgages to underserved borrowers with complex incomes.
Obvion Hypotheken	2022	Netherlands	EUR 500m	Green RMBS	Green collateral/green proceeds: Backed by energy efficient mortgages, aligned with Taxonomy Regulation.
Auxmoney	2022	Germany	EUR 350m	Social ABS	Social collateral and social proceeds: Backed by a pool of unsecured consumer loans to underserved borrowers.
Toyota Financial Services	2023	Italy	EUR 470m	Green auto	Green collateral/green proceeds: Backed entirely by a hybrid and electric vehicles for private borrowers.

Reporting frameworks

The International Capital Market Association (ICMA) has published various voluntary sets of principles. Some securitisations have been aligned with the ICMA Green Bond Principles or the ICMA Social Bond Principles, with certification in some cases under the Climate Bonds Standard.

The EU's green bond standards are in progress: a proposed green bonds regulation should be approved this year. Nonetheless, the proposed standard does not support ESG securitisations: it is issuer-focused, the taxonomy does not apply directly to securitisations, and securitisation notes are not 'financial instruments' as defined in the Sustainable Finance Disclosure Regulation. In June 2022, having reference to draft green bond standards, the European Banking Authority proposed changes to accommodate securitisation. We are not aware of any draft regulation to implement changes in line with the EBA's proposals.

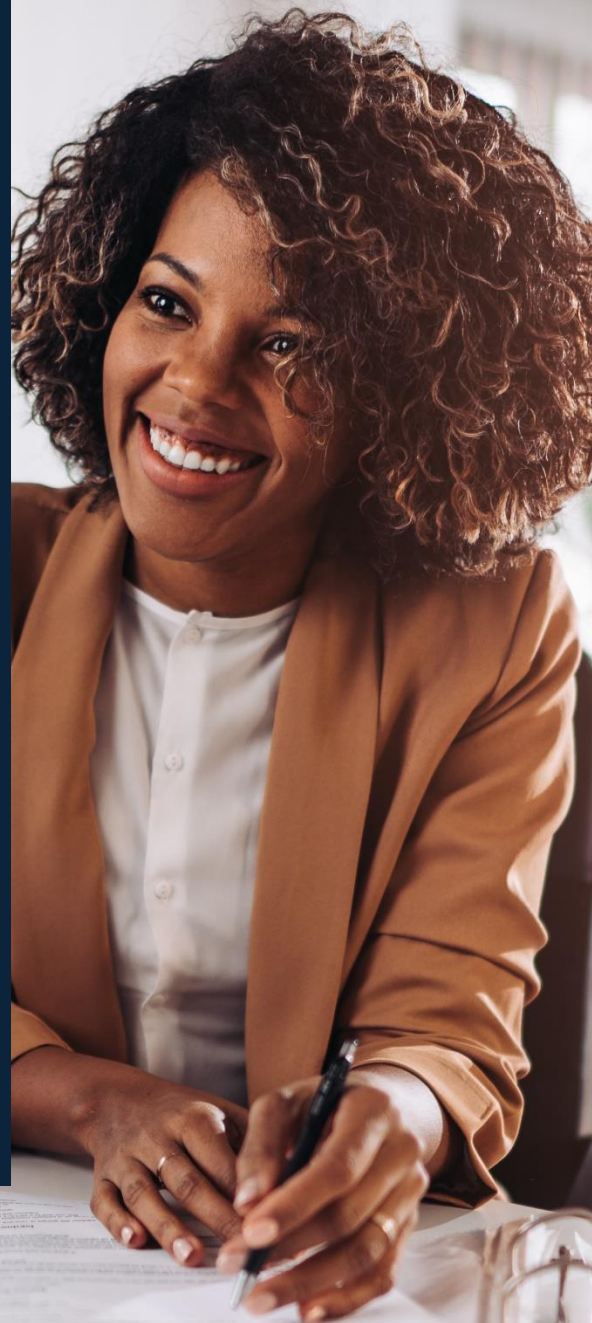
In the UK, discussions are ongoing but guidance is absent. Changes to UK securitisation regulations are wrapped-up in the government's post-Brexit Future Regulatory Framework Review. Enabling ESG securitisation is a part of that review, including for instance sustainability disclosure requirements and FCA regulation of ESG data assurance providers. However, concrete proposals have yet to be published.

Embedded derivatives

As the ESG securitisation market develops and transaction features become more sophisticated, issuers and investors will need to keep a watchful eye on unintended accounting impacts. For issuers, contractual features linked to a sustainability index (sustainability features) will need to be assessed whether they meet the definition of embedded derivative. If such embedded derivative does not meet the bifurcation requirements of IFRS 9, then the entire instrument has to be accounted for as fair value through profit and loss (FVTPL). Investors or lenders will also need to assess whether sustainability features in basic lending arrangements meet the Solely Payments of Principal and Interest (SPPI) criteria of IFRS 9 and if not, then such instruments may also have to be accounted for at FVTPL.

03

Insurance: Existing Securitisation Structures and Potential Uses



Insurance Securitisation Trends

Securitisation under Solvency II

The Solvency II definition of securitization follows that of European Union Securitisation Regulations, with Securitisation Positions falling into three broad categories:

- STS: Senior
- STS: Non-Senior, and
- non-STS

This categorisation determines the capital requirements in respect of positions held in securitised products; STS are aligned to similarly rated corporate bonds, whereas non-STS has significantly higher capital requirements.

Insurers with Internal Models are permitted to apply Internal Ratings based upon regulator approved internal rating methodology which in combination with its STS classification determines the Securitisation Position's SCR.

However, for Standard Model firms (those without an internal model), positions without a rating applied by an External Credit Assessment Institution (ECAI) attract particularly penal capital requirements.

UK Insurer Notable Use Cases

Standard Mortgages

Until recently, UK Life Insurers' only substantial exposure to (non-ERM) RMBS was via participation in the Dublin Bay RMBS issued in 2019. This was a pool of seasoned Irish mortgages, mostly owner-occupied with some buy-to-let. It was securitised with an MA eligible tranche, to widen the pool of potential investors to UK Life Insurers.

The capital structure included an AAA MA eligible fixed amortisation note placed with UK life insurers. This note was supported by a companion non-MA eligible AAA note sized to absorb prepayment risk at the same point in the capital structure: marketed to a different cohort of investors able to take prepayment risk. The remainder of the capital structure followed similar structure to a standard RMBS.

However, with the UK equity release market becoming increasingly competitive, some UK Life Insurers have begun to foray into funding standard mortgages directly, seeking to create a market for long term fixed mortgages (> 10 years) previously unavailable in the UK market.

Equity Release Mortgages

UK Life Insurers fund the majority of the equity release mortgage (ERM) market in the UK, using these assets to back long-dated annuity liabilities.

To benefit from its favorable prudential treatment, most of these firms operate within the Solvency II Matching Adjustment ('MA') regime which strict requirements on the features of assets that can be held.

Raw ERM loans (due to their inherent prepayment risk) are deemed MA ineligible, and as a result, firms must use securitisation technology to create notes that are MA compliant.

Structuring MA compliant senior notes requires application ECAI equivalent internal credit rating stresses to derive a fixed payment profile. These stresses and the nature of the underlying asset can make the junior note uneconomic to third party investors (i.e. a thicker than normal junior tranche).

For this reason, insurers tend to securitise assets that they own, funding the whole capital structure to produce a positive net outcome: e.g. a junior note held outside the regulatory portfolio and a senior MA compliant note with an off-setting capital benefit held inside.

Conversely, some annuity writers have begun venturing into higher LTV ERMs, PRA guidance in 2017 places restrictions upon the LTV of eligible ERMs for internal securitisations, meaning ERMs above a certain LTV threshold can no longer be included as collateral and must be held outside the MA fund. Consequently, some firms have now begun to look at ways to include outside investors in lower rated tranches or externalise the securitisation entirely.

Student Loans

Another prominent exception to the above full consolidation 'rule' is the 2017 UK student loan securitisation.

The UK government sold pre-2012 income contingent student loans via the ICSL securitisation, incorporating a long dated fixed amortisation/MA eligible tranche to appeal to UK annuity writers.

We expect to see similar transactions repeated in the coming years

Insurers: An Alternative Structure

We consider below an alternative capital structure, inspired by Dublin Bay, that could be generically utilised for any of the time tranching securitisation use cases listed on the previous page (or otherwise) to meet the constraints and optimise the economics within the Solvency II Matching Adjustment regulations.

Prepayment risk stands as one of the primary determinants governing the restructuring of loans into fixed amortisation notes eligible under Solvency II Matching Adjustment regulations.

It is all the more important now than any time in recent memory given the higher and more volatile rates environment that drives much of prepayment behaviour. This renders structuring techniques that create capital structures with prepayment resilient MA eligible notes all the more valuable.

Typically, in the internal securitisation structures employed by UK annuity writers, the junior note serves as the principal means of absorbing cash flow volatility introduced by prepayments (as well as other risks).

An alternative to this and/or a fully off-balance sheet structure employs one or multiple companion senior notes throughout the capital structure. These companion notes absorb cash flow timing risk up to their respective rating level, cushioning the fixed amortisation MA eligible notes from prepayment risk, with these notes typically distributed to investors more willing to accept the risk.

Whilst introducing these companion notes will involve transfer of some of the economic benefit of the loan origination, doing so will bring the following benefits to annuity writers:

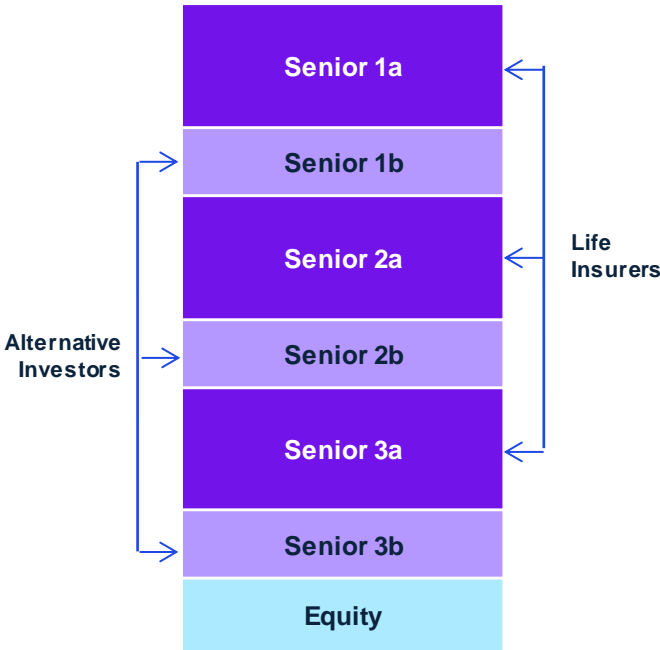
- 1. More resilient and longer dated senior notes, less susceptible to downgrade as a result of prepayment shocks and a better match for liabilities.
- 2. Smaller and shorter dated junior note, resulting in greater proportion of gross spread available to senior notes.
- 3. Proceeds from the sale of the companion notes can be recycled back into further origination.

The variable maturity notes would typically be priced at a discount, with the pull to par acting as compensation in case of early redemption, in the absence of make-whole protection.

The above approach can be incorporated into the external securitisation approach described in the previous section and used for a variety of other underlying collateral exhibiting significant prepayment risk, such as long-term fixed residential mortgages or ERM.



Example Structure



Insurers: Credit Hedging

Credit risk is seen by annuity writers as the primary rewarded asset risk, with well managed portfolios of fixed income assets having the potential to drive surplus returns for life insurers over the life of the liabilities that the assets back.

As a consequence, however, the capital requirements held in respect of credit risk can make up a substantial portion of the insurers overall solvency capital requirement (SCR).

Therefore, it is important that insurers develop as part of their 'toolkit', ready means of managing aggregate credit risk exposure and optimising cost of capital held in respect of credit risk. Particularly so given that an increasing proportion of annuity writer asset portfolios are held in illiquid assets not readily marketable.

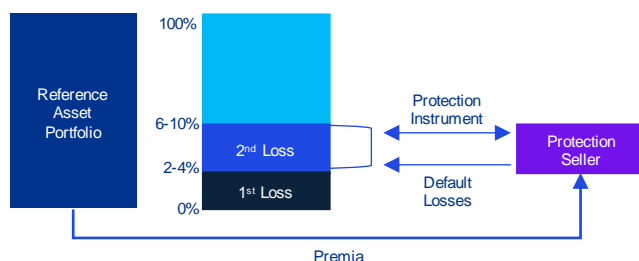
We explore below how synthetic securitisation techniques and a closely related transitions and downgrades structure can offer a means of achieving this aim.

2nd default loss credit hedge

Insurer effectively buys protection on the mezzanine tranche of an unfunded synthetic securitisation on a subset of their own asset portfolio. In the simplest case this would be constrained to liquid credit.

However, the construct can easily be extended to a reference portfolio containing private assets, with appropriate valuation and ratings language.

Attachment point would typically be set at the best estimate default loss and the detachment point in the region of 1in200 expected default loss, so as to maximise benefit in stress but not overpay for losses already embedded in best estimate / beyond 1 in 200.



Pros

- Tried and tested securitisation technique
- Provides capital relief when spreads widen as protection asset increases in value

Cons

- Pays out on default only and may expire before it ever pays out
- Only partial pick up in value in stress
- Maturity mismatch increases cost of capital relief over time
- Complex to price and value



Matching Adjustment 2nd Loss credit hedge

The capital of a Matching Adjustment Portfolio is predominantly a function of the change in the fundamental spread ('FS') in stress, consisting of both default loss and cost of downgrade components. Indeed the main driver of capital is the later:



Therefore to effectively optimise capital, a matching adjustment firm would require an 2nd loss credit hedge that encapsulates both these components.

This can be achieved by analogue to the above, replacing default losses with default and downgrade losses.

Alternatively, direct reference to a contract specific calculation of the fundamental spread, with corresponding attachment and detachment points defined. Pay out under the contract would be defined with reference to the loss of matching adjustment attributable between the realised level and the attachment point.

Pros

- Capital relief targets main driver of capital requirements (ratings transition)
- Likely to fully pay out in a 1:200 stress

Cons

- Short term but can still be effective
- Valuation complexity
- May look expensive

A low-angle, upward-looking perspective of several modern skyscrapers with glass facades. The buildings are arranged in a way that creates a sense of height and scale. The sky is a clear, bright blue. The glass reflects the sky and the surrounding buildings, creating a complex pattern of light and color. The overall mood is one of modernity and urban development.

04

Regulatory Developments

Latest Regulatory Developments

Efforts to provide clear standards

Regulatory attitudes towards securitisation have come a long way since the financial crisis in both the UK and the EU. As focus has shifted from fixing the sins of the past to securing growth for the future, the skepticism of regulators, politicians and policymakers has shifted over the past decade as they have come to appreciate the important role that securitisations play in a well-functioning financial system.

This has led to two broad regulatory developments over the past decade – improving safeguards and creating incentives. In the former category, both the EU and UK have worked to both clarify and raise the bar on significant risk transfer and from 2017 introduced the new set of Basel standards for calculating securitisation risk weights. In the latter category we have seen regulators apply preferential capital treatment to Simple Transparent and Standardised ('STS') transactions, first in the cash market, and from 2021 in the synthetic space as well. In parallel there have been efforts to simplify and clarify rules around NPE securitisations to support this market.

This regulatory focus to create a clear and common set of standards continues as we see, for example, Regulatory Technical Standards on excess spread or the UK Treasury making amendments to EU Securitisation Regulations in the so-called 'Edinburgh Reforms'. However, these continuing efforts are primarily building on a regulatory edifice that is mature and well-developed.

Basel IV

A perhaps more interesting picture is created when we zoom out and look at the wholesale revisions to banking capital standards in Basel IV. The EU issued draft proposals on implementation in October 2021 and the PRA has recently followed suite with its Consultation Paper (CP 16/22) in November 2022. Both with a go-live date of January 2025. We should not under-estimate the importance of these proposals – collectively they represent the biggest change to capital rules certainly since the financial crisis and arguably since Basel II in 2006.

In our view, the new Basel IV rules will only increase the importance of securitisation as a tool in bank's capital management toolbox. In part this is to help manage the transition as portfolios risk weights and returns change through the new Basel IV lens. However, more fundamentally, one of the key developments of Basel IV is the introduction of an 'output floor'. The effect of this, is that banks using the Internal Ratings-Based (IRB) approach will have a new minimum threshold to pass, with capital levels 'floored' based on a minimum percentage of the less risk-sensitive standardised approaches. In our view, to manage this new metric effectively, firms will need to develop a much more centralised and active portfolio management of their balance sheet. One of the key tools to do this effectively – securitisations.

The last 10-12 years has therefore seen the regulatory framework for securitisation become more complex but also important ways much more supportive. When this is combined with the wider overhaul in capital standards in Basel IV, we see the regulatory landscape as being a key driver and catalyst for increased activity in this space.

Latest Regulatory Developments (cont.)

UK Solvency II Reform (Solvency UK)

The UK is undergoing a major overhaul of Solvency II regime, introduced in 2016 when the UK was still part of the EU.

In November 2022, HM Treasury published its package of proposals under the reforms including a significant reduction in the risk margin for insurers.

Below are several aspects of the proposals relevant in the context of UK Insurers use of securitisation, namely:

- Widening of asset eligibility criteria to assets with highly predictable cash flows, introducing potential for a change in the degree of re-structuring required to attain MA eligibility. It is expected this area of the reform package is targeted at the treatment of assets at the boundary of cash flow predictability such as construction phase infrastructure.
- Senior Manager Regime Fundamental Spread sufficiency attestation to be introduced, which could have an impact on the relative attractiveness of new securitized products.
- The introduction of notched ratings (rather than the letter rating approach of credit quality steps under SII 1.0), will improve the alignment between ratings and economics of assets intra rating letter and smooth the impact of rating transitions but will require significant model change.
- Similarly, the confirmed removal of the BBB cliff edge will likely encourage more rational investment behaviors around fallen angel assets. However, it remains to be seen whether this change will drive greater investment into sub-IG assets.
- Acceleration of the approval process of new assets is also a keystone of the reforms which combined with other components of the reforms could facilitate greater use of securitised assets and/or structural asset overlays.

In summary, the Solvency UK has the potential to unlock a large amount of insurance capital for investment in UK securitised assets. However, this remains very much theoretical at this point, whilst the technical detail of its implementation into regulation is yet to be published by the PRA and regulator-industry-political discussions on the reforms continue.

EU Solvency II Review

Separate to the reforms going on in the UK, in September 2021, the European Commission tabled a proposal for a directive that would amend Solvency II regime in the EU. The legislation is currently making its way through the EU Parliament.

The broad purpose of the legislative amendments were to enhance the effectiveness of the existing Solvency II regime, identify areas for improvement and address the adequacy and alignment to market conditions of long-term guarantees.

The main areas covered were:

1. Proportionality – increasing size threshold for exclusion from scope of Solvency II.
2. Reporting – amending reporting requirements for low-risk undertakings.
3. Long-term guarantee measures - to enhance the efficiency of the volatility adjustment as a countercyclical adjustment
4. Macro-prudential tools – the ORSA by insurers would integrate macroeconomic considerations, with inputs required from supervisory authorities
5. European Green deal – requiring that insurers identify any material exposure to climate change risks within climate scenario analysis
6. Supervision – improving supervisory reporting to on authorisations.

Although the EU amendments share much of the same broad intended purpose of the UK reforms, they do not encompass the same scope. It is therefore unclear whether the amendments will bring about any significant change to the attractiveness of securitisation techniques or investment in securitised products to EU Insurers.

05

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06

Appendix A

Securitisation Primer & Basic Concepts

Introduction

The following slides provide a high-level introduction to securitisation

What is Securitisation?

A financing transaction in which the cash flows to investors come directly from a portfolio of assets, without any recourse to a transaction counterparty such as the originator

How does Securitisation work?

Financial assets are sold (typically a beneficial interest is sold) to a Special Purpose Vehicle (SPV), which funds the purchase by issuing debt in a note (i.e. bond) format.

Multiple note tranches are issued, such that senior notes benefit from the subordination of more junior notes. Subordination is an important source of credit enhancement (a buffer against loss) for senior investors.

Cash flow from the asset portfolio is allocated to investors in a defined order (the 'waterfall'). In contrast to a cash securitisation, in a synthetic securitisation risk is transferred to investors via contract (financial guarantees and credit derivatives).

Why use Securitisation?

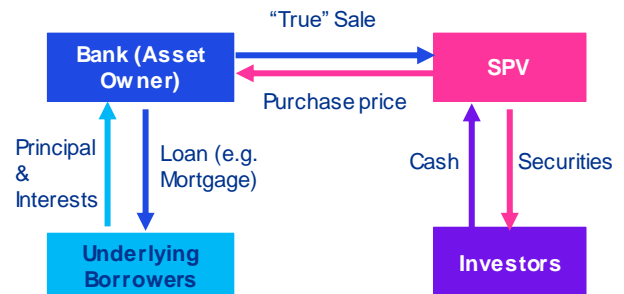
1. Reduce funding costs
2. Diversify funding sources
3. Transfer risk

What assets can be securitised?

In a securitisation, collateral should comprise financial assets that are granular and diverse enough such that performance data (e.g. default, prepayment) is capable of statistical analysis. That allows for a certain level of confidence about how similar assets will perform in the future.

Typical assets are loans, leases, mortgages and receivables, which can be secured (e.g. an auto loan) or unsecured (e.g. credit card debt).

Simplified structure:



Key roles in a securitisation:

- Seller/Originator: the asset owner who sells the assets to the SPV is typically also the originator (i.e. original lender)
- Issuer: an SPV that is bankruptcy remote, meaning it is not an operating company. It issues debt to purchase financial assets and enters into contracts with transaction counterparties (e.g. asset servicer). It is typically an 'orphan' company (owned by a charitable trust)
- Investors: purchasers of the notes issued by the Issuer



Securitisation mechanics

Tranching optimises risk-reward allocation to different pools of investors, lowering the blended cost of funds in the transaction

Sample securitisation liability structure (indicative)



Tranching and target investors

Note tranching is done to optimise the balance of reward (note yield) with risk (probability of loss) sought by different categories of investors, to achieve the lowest blended cost of funds.

Losses are borne by note tranches differently, based on the transaction waterfall that defines in what order portfolio cash flows are allocated (see overleaf).

Risk retention

Under UK, EU and U.S. rules, the Seller in a securitisation (typically the asset originator) is required to retain 5% of the capital issued by the Purchaser (the SPV Issuer). This risk retention normally comprises the junior-most 5% of the SPV's liabilities (though there are other options, like a vertical slice). Risk retention capital is often in the form of an unrated, high yielding, deeply subordinated note, held together with a residual value certificate which sweeps surplus cash flow back to the Seller.

Credit Enhancement

Credit enhancement for investors is comprised of: (i) subordination (which funds over-collateralisation); (ii) liquidity reserves (cash reserves or other support); and (iii) excess spread (surplus cash flow stemming from the difference between portfolio yield and SPV expenses and interest costs).

Rating agencies

Publicly listed securitisations are rated by rating agencies. However, even private securitisations are structured with reference to rating agency methodologies, or bank internal methodologies that are very closely based on agency methodologies.

Securitisation mechanics (cont.)

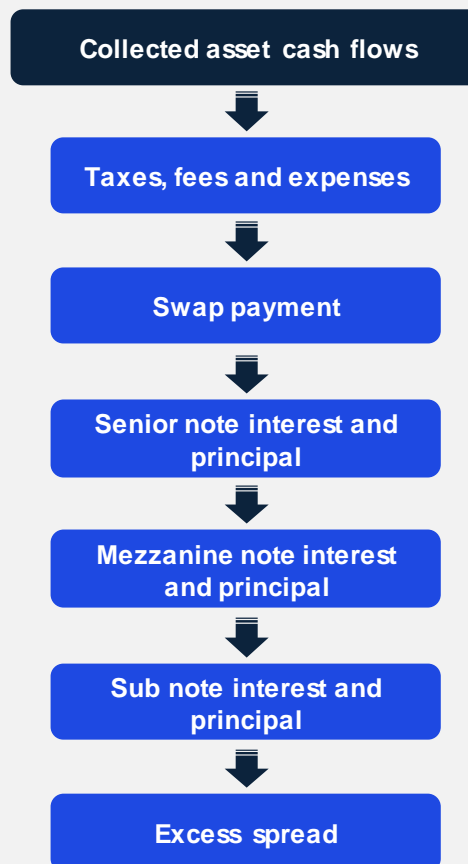
Waterfall

The waterfall (normally 'Priority of Payments' in legal documentation) is the order in which funds available for distribution (e.g. from interest and principal, and cash available in reserve accounts) are distributed to the various tranches on the liability side.

The payment waterfall(s) may be combined or separate, depending on whether the available proceeds are divided between interest proceeds and principal proceeds. In addition, there will be several different versions of the waterfall, depending on circumstances: e.g. sequential payment of note coupons in the normal course, but allocation of all available cash to fully repay senior notes in the event of a trigger event.

Waterfall triggers differ based on the asset class. In CLOs (collateralised loan obligations), when the value of the collateral drops below a certain point, interest payment on more junior tranches is diverted to repay senior tranches. In this example, we call the interest payment on the junior tranche 'deferrable', which in practice would cap the public rating that can be assigned to that tranche. Such mechanisms are common and can be customised to a given transaction. This is why investors (and rating agencies) pay close attention to the exact cash flow allocation rules, as it directly impacts their return.

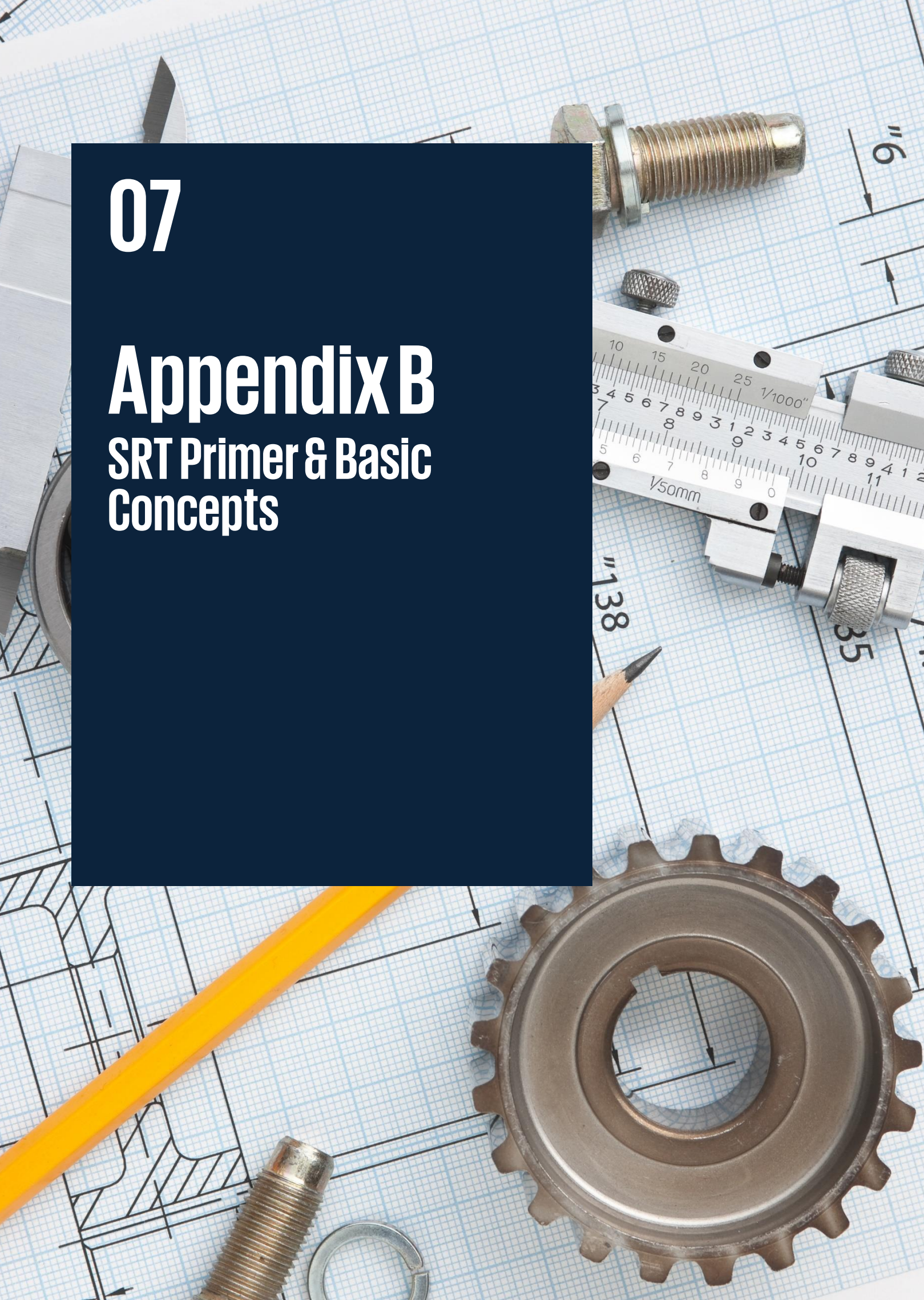
Typical cash flow payment waterfall



07

Appendix B

SRT Primer & Basic Concepts



Definition & Key concepts

Credit institutions:

Regulated banks within a regulated jurisdiction; a number of European countries (Germany, France, Spain, Italy, Poland and the UK) account for a large share of issuance and this paper focuses on EU regulated institutions but the concepts are also applicable to other jurisdictions.

Transferring the credit risk:

Credit risk mitigation can be instrumented in different ways, often via financial guarantees and credit derivatives. Also, investors can provide credit protection either on a funded or unfunded basis (using credit linked-notes). The eligibility of such credit mitigation instrument is detailed in the CRR, Part 3, Title 2, Chapter 4).

Regulatory capital:

Regulatory capital is the amount of capital that a financial institution is required to hold by its regulator and is usually expressed as a capital adequacy ratio. $[CAR = \text{Tier 1\&2 capital} / \text{RWA}]$

When a bank achieves SRT, it can derecognise the RWA of the original assets, thus lowering the denominator of the capital ratio and increasing the Capital Ratio.

The original Basel I recommendation was 8% but this ratio has evolved to include conservation and countercyclical buffers. In practice most European banks target CET 1 ratio well above 10% (the aggregate CET 1 ratio of ECB supervised bank was nearly 15% as of Oct 2022).

Significant Risk Transfer ('SRT') transactions allow credit institutions to achieve a reduction in the amount of regulatory capital that they are required to hold by transferring the credit risk on a portfolio of assets to other parties either via a true sale securitisation or a synthetic transaction.

Assets:

SRT portfolios cover a variety of underlying instruments, typically SME and corporate loans but a wide range of other assets including leases (auto, equipment...), consumer loans, credit cards, mortgages, project finance and infrastructure loans. The transaction structure will be impacted by the nature of assets and the typical Risk Weight they carry. In any case, high capital consuming assets (with high risk weights) and relatively low risk are ideal from an economic stand-point.

True sale securitisation or a synthetic:

A large share of SRT transactions can be done as synthetic trades given the lighter operational and legal burden of this type of transactions (i.e. no requirement to set up a separate SPV, no true sale of the assets, no need for typical securitisation parties to be contracted, account banks, back-up servicer....). However, a number of transactions can also be done as cash securitisations to also offer funding to originators at the same time. This was not a salient feature in time of unconstrained liquidity with ultra-low interest rates but may be considered in the current rising rate environment. Also, until recently under Basel II rules, credit institutions following the standardised approach had to place the whole capital structure of the securitisation i.e. senior, mezzanine. The revision of hierarchy of approaches in 2018 allows standardised back to use the SEC-SA approach (which in practice means that tranching under a standardised approach can be similar to a SEC-IRBA (i.e. credit protection covering the mezzanines and/ or First Loss Piece).



True Sale vs Synthetic Securitisation

The below table outlines the key differences between a true sale securitisation, where the ownership of the pool of assets is transferred to a special purpose entity and synthetic securitisation where the assets stay on the originator's balance sheet (hence why these transactions are commonly called 'balance sheet' securitisations). The sale of assets in a true sale does not necessarily mean however that the assets are derecognised for accounting purposes as it is often the case that the risk and reward substantially stays with the originator.

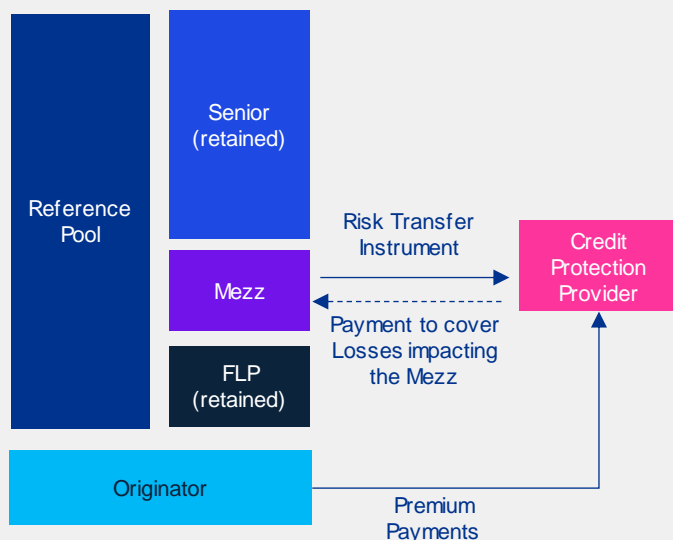
True Sale vs Synthetic Securitisation		
	True Sale	Synthetic
Sale of Assets	Yes, sold to a special purpose vehicle	No, assets remains on the originator's balance sheet
Purpose for bank	Funding	Credit risk hedging/capital management
Servicing of the portfolio	A Servicer needs to be appointed but likely to be originator (often with Back-up servicing clauses)	Originator, nothing changes
SPV required?	Yes, to delink the risk of the assets from the originator	Possible for funded structures involving the issuance of notes (CLN) but not required (typically cheaper to do without)
Accounting treatment of securitised assets	May be derecognised by the originator if accounting rules are satisfied	Stays on the originator's balance sheet but a credit hedge is also recognised
Regulatory derecognition	Exposures derecognised	Exposures derecognised
Syndication	Widely distributed with traditional syndication	Very small number of investors and/or bilateral deals
Capital structure	Senior and mezzanine tranches sold to market (no first loss)	Usually mezzanine and/or first loss placed with investors
External Ratings	Often	No/rare
Interest rate risk on underlying loans	Hedged separately	N/A
Currency risk on underlying loans	Hedged separately	N/A
Secondary market	Usually, tradeable bonds	Usually, non-transferable credit protection with no secondary market

Indicative Structures

Indicative structures

Synthetic securitisations structures to implement capital relief transaction may take different format notably depending on the nature of protection providers. In the below structure, the unfunded transaction typically resembles the one used by multilateral development banks such as the EIF (EIB Group) or EBRD. Given the high ratings of MDBs (the aforementioned institutions are AAA rated) an originator can allocate a 0% risk weight to the covered tranche even on an unfunded basis. This option would be the cheapest to implement but only works given the high credit quality of the guarantor

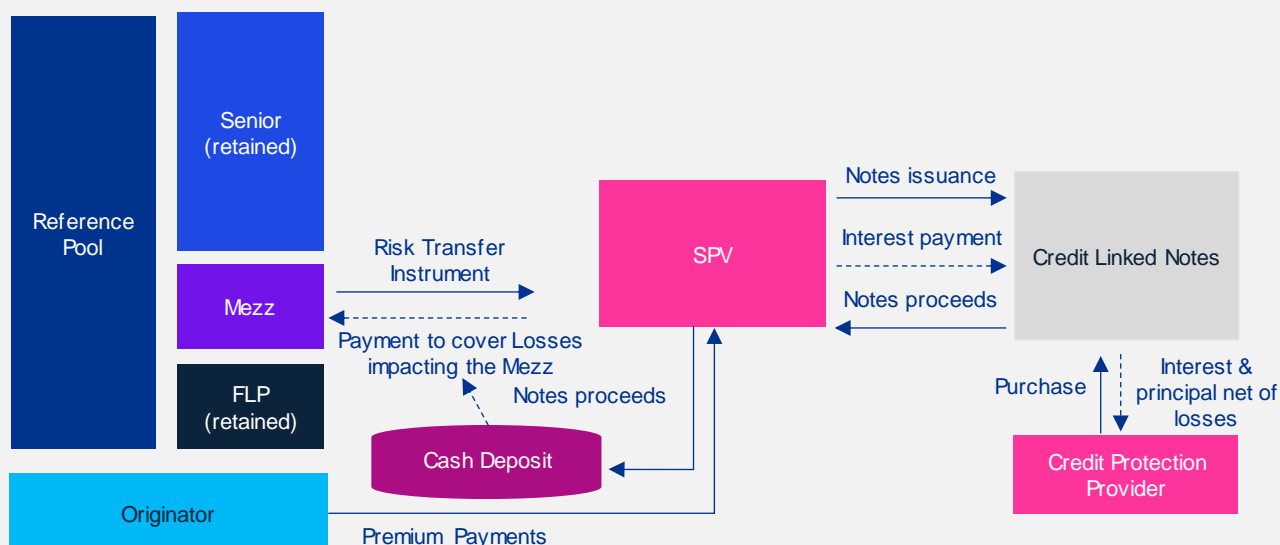
Unfunded synthetic securitisation



Should the credit protection provider in the transaction be a non-rated counterparty (e.g. credit fund) the originator would need to have the protection provider post collateral to secure to contingent protection payments (should losses impact the covered tranche). This structure could therefore be adapted in a funded way (using financial guarantees or credit derivatives still).

The second structure below illustrates a funded trade where private investors purchase the credit linked notes issued by an SPV. From that perspective all the contingent protection payments are fully funded (and invested in cash deposits) ready to bear losses. This structure is typically used where investors are unrated (e.g. credit or hedge fund) and the originator needs certainty that the guarantor will not default on its obligation to cover credit losses (should they be allocated to the covered tranche). Other intermediary structure exist where the CLNs are directly issued by the originator (maybe less favored by regulators compared to SPV structures but more cost efficient).

Funded synthetic securitisation (with SPV)



Securitisation Risk Weight Calculations

Under SEC-IRBA

The CRR describes in article 259 the calculation of risk-weighted exposure amounts under the SEC-IRBA. This notably depends on the attachment and detachment points of the tranche and how they compare to the capital charge on the non-securitised portfolio (i.e. the Kirb parameter for IRB portfolios).

$RW = 1250\%$, when $D \leq K_{IRB}$
 $RW = 12,5 * K_{SSFA}(K_{IRB})$, when $A \geq K_{IRB}$
 $RW = \left[\left(\frac{K_{IRB}-A}{D-A} \right) * 12.5 \right] + \left[\left(\frac{D-K_{IRB}}{D-A} \right) * 12.5 * K_{SSFA}(K_{IRB}) \right]$, when $A < K_{IRB} < D$

$$K_{SSFA}(K_{IRB}) = \frac{e^{a*u} - e^{a*l}}{a(u-l)}$$

$$a = -\left(\frac{1}{p * K_{IRB}} \right)$$

$$u = D - K_{IRB}$$

$$l = \max(A - K_{IRB}, 0)$$

Where $p = \max[0.3, (A + B * \left(\frac{1}{N}\right) + C * K_{IRB} + D * LGD + E * M_T]$

The RW is subject to a 15% floor for non STS transactions and 10% for STS transactions.

The parameters, A, B, C, D and E shall be determined according to the following look-up table:

		A	B	C	D	E
Non-retail	Senior, granular (N ≥ 25)	0	3,56	-1,85	0,55	0,07
	Senior, non-granular (N < 25)	0,11	2,61	-2,91	0,68	0,07
	Non-Senior, granular (N ≥ 25)	0,16	2,87	-1,03	0,21	0,07
	Non-Senior, non-granular (N < 25)	0,22	2,35	-2,46	0,48	0,07
Retail	Senior	0	0	-7,48	0,71	0,24
	Non-Senior	0	0	-5,78	0,55	0,27

Non-neutrality

The p factor in the formula above plays an important part in ensuring the principle ‘non-neutrality’ of the transaction whereby if an institution were to securitised a portfolio and fully retain the tranches on its balances sheet, the regulatory capital would be higher than the initial portfolio (to avoid any arbitrage). This was actually one of the possible arbitrage under Basel I.

The level of this parameter directly affect the RW on the securitisation and its calibration is key.

Securitisation Risk Weight Calculations (cont.)

Under SEC-SA

The CRR describes in article 261 the calculation of risk-weighted exposure amounts under the SEC-SA. As for the SEC-IRBA, the RW depend on the attachment and detachment points of the said tranche and how they compare to the capital charge on the non securitised portfolio (i.e. K_A parameter for standardised portfolios).

$RW = 1\,250\%$, when $D \leq K_A$
 $RW = 12,5 * K_{SSFA}(K_A)$, when $A \geq K_A$
 $RW = \left[\left(\frac{K_A - A}{D - A} \right) * 12,5 \right] + \left[\left(\frac{D - K_A}{D - A} \right) * 12,5 * K_{SSFA}(K_A) \right]$, when $A < K_A < D$

↓

$$K_{SSFA}(K_A) = \frac{e^{a*u} - e^{a*l}}{a(u - l)}$$

↓

$$a = -\left(\frac{1}{p * K_A} \right)$$

$$u = D - K_A$$

$$l = \max(A - K_A, 0)$$

$p = 1$ for a securitisation exposure that is not a resecuritisation exposure

Where K_A is adjusted for delinquencies

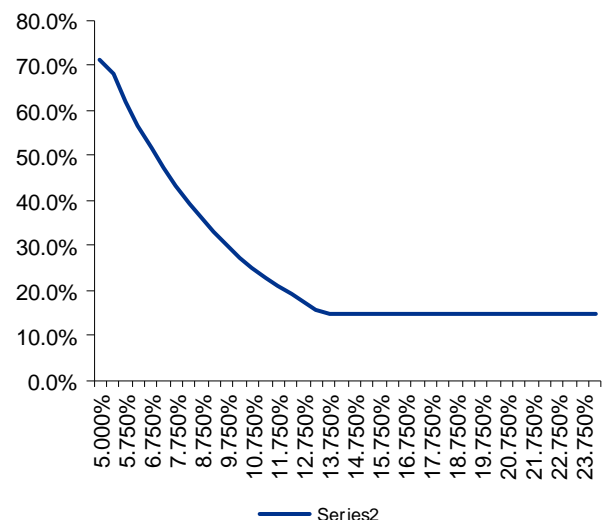
$$K_A = (1 - W) * K_{SA} + W * 0.5$$

The RW is subject to a 15% floor for non STS transactions and 10% for STS transactions.

Often transactions are structured such that the minimum risk weight calculated on the senior (retained) tranche is minimum (i.e. set at the relevant floor) although it may not always be the case depending on how the structure is expected to amortise (but rare).

The opposite graph illustrates how the risk weight on a senior tranche in a non-STS securitisation goes down to the 15% floor as the attachment point increases.

Senior RW vs. senior attachment



Numerical examples

Simplified example – without XS spread

The below tables illustrate the potential economic incentive for an originator in doing an SRT transaction (using hypothetical parameters):

Portfolio Assumptions

- £500mn portfolio size
- 75% Risk Weight
- 356mn RWA
- 12.50% Target CET1
- Tax Rate 30%

The after-tax cost of capital is lower than the CET 1 ratio and this may indicate that the trade may be beneficial to the originator. Of course each originator has its own target for the cost of capital. Also the above example is a day one calculation of potential capital benefit but the transaction need to be examined over its entire life (which may include consideration on calls).

Based on a portfolio size of £500m and a blended portfolio RW of 75% the RWA consumption of the portfolio is £356m (i.e. £500m x 75%).

Assumed transaction structure

Securitisation tranche	Percentage	RW	Retained	Guarantee Fee
Senior	91.50%	15.0%	Yes	--
Mezz	7.00%	--	No	7.0%
Junior	1.50%	1250.0%	Yes	--
XS	--	1250.0%	Yes	--

Capital release

Category	GBP amount
Ex-ante	44,531,250
Ex-post	20,296,875
Release	24,234,375
Release ratio	54.42%
Cost of release	2,450,000.00
Cost of release After Tax	1,715,000
Cost of Capital Day 0	10.11%
After tax	7.08%



SRT benefits

The below table summarises the key benefits to originators and investors in executing SRT transactions:

To the originator	To the investor
Capital released enables further lending or simply the strengthening of capital ratios (CET1 and MREL notably)	Access to diversified credit risk that may otherwise be inaccessible (e.g. SME lending); leverage off lending expertise of originator at little cost
Limit (concentration) management and freeing up of credit lines	Potentially attractive returns
Preserve corporate relationships (vs. straight divesture of the assets; particularly true for large syndicated corporate loans)	Risk sharing partnership with originator and possibility to tailor transactions

Reduces P&L volatility created by provisioning requirements between stage 1 assets migrating to stage 2 since hedge accounting under IFRS 9 is recorded as a gain

Regulatory framework – SRT basics

Demonstrating significant risk transfer

If a prudentially regulated bank can demonstrate to the regulator that it has removed the credit risk on a portfolio from its balance sheet, then it is allowed to disregard the RWEA of the asset pool and instead recognise the risk weighted assets corresponding to the retained tranches in the securitisation.

The set of rules and criteria to determine whether significant risk transfer has occurred is set in the Capital Requirement Regulation ('CRR') initially published in 2013 and amended in 2019 (notably including new securitisation risk weight calculation) and 2021 (with the adoption of the STS regime for balance sheet securitisation amongst others).

There are a number of quantitative tests to meet (which are detailed in the CRR but also in proposed regulation), however the 'spirit' of SRT is that capital relief achieved has to be commensurate with the credit risk transferred to third party investors (which can be a credit fund, a hedge fund, multilateral development banks...). In other words, it would increase systemic risk to allow banks to decrease significantly their capital requirements while retaining too much credit risk on their balance sheet (for a given portfolio of assets). The regulator therefore pays close attention to any technical features included in transactions that may mitigate the extent to which investors (protection sellers) may bear losses on the underlying portfolio during the life of the transaction (implicit support).

Because the regulation does not cover all technical aspects presents in transactions, in particular precise structural features (amortisation type, nature of excess spread...), the EBA published a discussion paper in 2017 (intended for discussion) that in practice serves as guidelines for the treatment of certain of those features, in particular the most contentious ones:

the type of amortisation between the various tranches of the structure, most typically a senior a mezzanine and a junior tranche (full pro rata across the capital structure with and without triggers, sequential)

- the presence of Excess Spread (none, use-it-or-lose it, with trapping mechanism) and its size
- Types of calls (time calls, SRT calls, clean-up calls)
- Cost of credit protection and instances where it would be deemed as too expensive (thus providing implicit support)

Any of the features that could make the protection buyer suffer losses instead of the protection seller would jeopardise the validity of SRT by the regulator and may result in the capital release being voided.

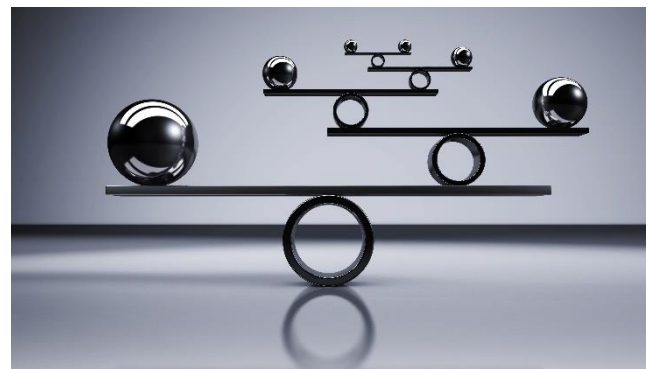
STS framework

The introduction of the new Securitisation Regulation in January 2019 also put in place a framework for STS (Simple Transparent and Standardised transactions) that allows originators to apply lower threshold to the securitisation risk weight (in particular a 10% RW threshold vs. a 15% non-STs threshold). Although these criteria initially only applied to cash securitisations, they were then adapted to balance sheet (i.e. synthetic) securitisations in 2021 as part of a package of measures implemented as relief measures due to the Covid situation, which was a positive development for the market as a whole.

An evolving regulatory framework

Regulation is part and parcel of the SRT market as it drives the dynamics, technical features and economics of those transactions. The European market where most of volumes come from is the most advanced and recent history has offered a lot of clarity with regards to what rules were applicable – although sometimes disappointing market participants. For instance, the EBA does not generally provide any grand-fathering when introducing technical standards. In a recent draft RTS publication, the EBA clarified the criteria for homogeneity in STS portfolio as well as the requirement for forward looking trigger to switch amortisation. However, those features had no grand-fathering which means that any transaction already claiming STS status but failing those newly published standards would stop being STS compliant when the measures become effective.

This is somewhat mitigated by the presence of regulatory calls in most transactions, allowing originators to call the deal should they fail SRT criteria due to unforeseen changes.





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