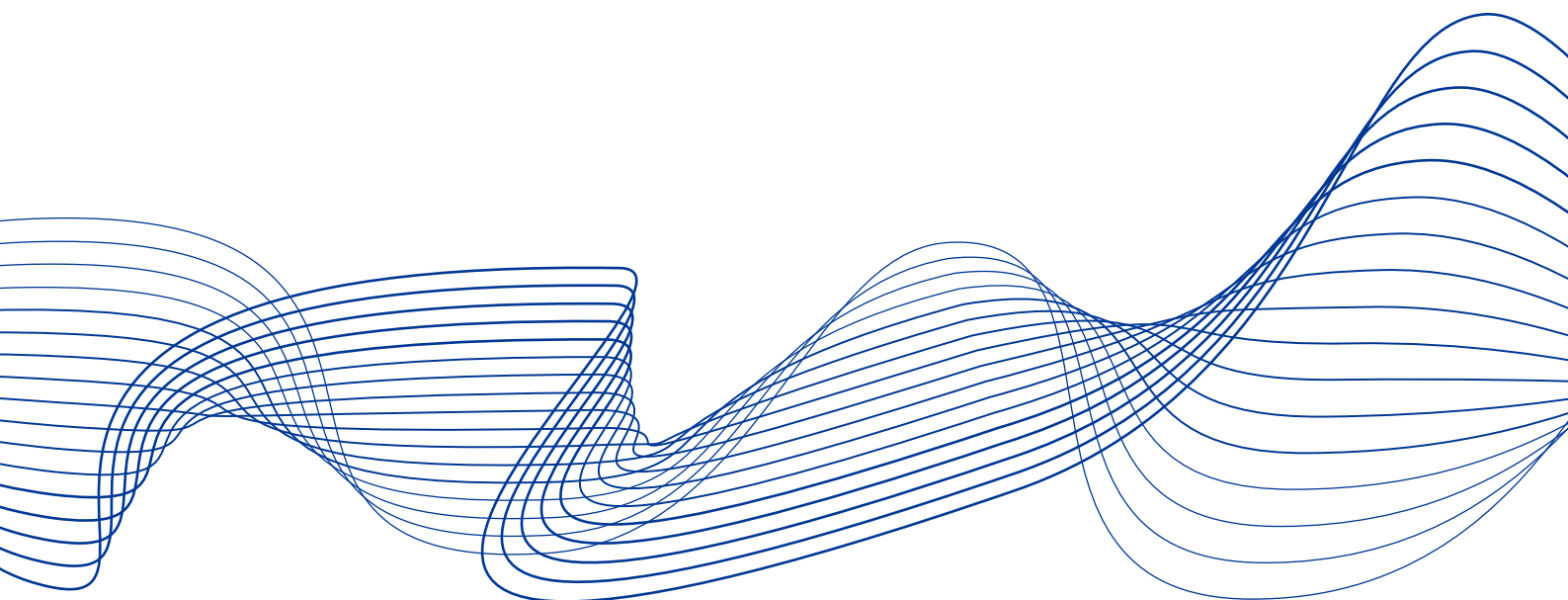


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The European significant risk transfer securitisation market

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Abstract

The European significant risk transfer (SRT) securitisation market is increasingly being used by major EU banks to manage risk and capital, but is not well known. SRT can provide an extra source of capital, flexibly and at a reasonable cost. Despite the bespoke nature of transactions, the SRT market has expanded significantly in the recent past to the point where it has now become a dependable way for banks to release capital, manage their balance sheets and improve their capital ratios. Banking supervisors assess SRT transactions to evaluate the degree of risk transfer from banks to investors, allowing institutions to achieve capital relief when this is considered sufficient. The market has become a permanent feature in European banks' capital management toolkit, alongside other standard but better-known instruments. Drawing on the ECB's unique and comprehensive database of SRT securitisations issued by large European banks supervised by the Single Supervisory Mechanism (SSM), we provide an overview of the main features of the European SRT market, a typology of the structures currently in use and an account of the market's evolution over the past five years. In so doing, we attempt to shed light on the main conceptual features of SRT securitisations in relation to non-SRT securitisation structures, as well as the regulatory processes behind capital relief that have been instrumental in supporting their increased use by European banks.

Keywords: Securitisations, significant risk transfer, capital requirements, guarantees, asset quality, lending conditions, government policy and regulation.

JEL Codes: G21, G28, G29



1 Introduction

The significant risk transfer (SRT) securitisation framework gives banks a way of deleveraging their balance sheets by transferring the risk of a tranche of a loan portfolio to an investor in such a way that they obtain regulatory capital relief. This is not a new market; banks have been using it to reduce risk weighted assets (RWAs) since the 1990s.

The SRT market¹ has developed considerably in Europe recently. SRT was introduced into the EU regulatory framework in 2006² following the Basel II agreement. The global SRT market is in fact predominantly European, with some analysts putting the share as high as 85% of the total (see Renault, 2021). This has been supported by the introduction of harmonised supervision in Europe, with the creation of the SSM in 2014 to supervise significant European banks and the clarification of criteria by the European Banking Authority (EBA) on what constitutes “significant risk transfer” (see EBA Discussion Paper on SRT EBA, 2017 and the EBA Report on SRT, 2020).³ This has provided assurances that SRT transactions meet the spirit of the rules set out in the EU regulatory framework. The implementation of Basel III has also incentivised banks that were required to hold more and higher-quality capital to free up RWAs instead of raising equity, making the use of SRT transactions more attractive.

The importance of the SRT securitisation market for European banks and the European economy cannot be overstated. Banks use it to free up balance sheet capacity for new lending to the real economy and guide capital deployment towards more profitable lending projects. Generally they use synthetic transactions, or on-balance sheet securitisations as they are referred in European legislation.⁴ More traditional cash transactions take a secondary role. Several large European banks have already embedded SRT securitisation programmes in their regular capital and business planning, and smaller players are increasingly incorporating them in their toolbox. Given the increasing importance of SRT, a well-functioning market is important to maintain banks’ ability to manage capital and lend to the economy.⁵

While capital optimisation is the primary reason banks issue SRT transactions, there are also other purposes. Some use them to manage credit risk and reduce credit risk concentrations. In extreme cases this can lead to banks placing a very high proportion of a transaction with investors, up to 95%,⁶ to achieve matched funding and asset deconsolidation. Others use SRT to improve the quality of the balance sheet and offload NPL exposures at a significant discount, with the aim of

¹ The SRT market is also referred to as the capital risk transfer, bank risk-sharing transactions and “reg cap” trades market. This paper will use the term SRT, as this is the terminology used in the EU regulatory framework.

² Through [Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions \(recast\)](#) (OJ L 177, 30.6.2006, p.1) (the Capital Requirements Directive or CRD).

³ European Banking Authority (2017), “[Discussion paper on the Significant Risk Transfer in Securitisation](#)” and (2020) “[Report on significant risk transfer in securitisation under Articles 244\(6\) and 245\(6\) of the Capital Requirements Regulation](#)”.

⁴ Synthetic SRT transactions transfer tranches of credit risk to third parties while maintaining the protected exposures on the bank balance sheet.

⁵ See, McCaul, E. (2022), “[Supervisory priorities and securitisation](#)”.

⁶ In the EU, originators, sponsors or original lenders of the securitisation need to retain on an ongoing basis a net material economic interest in the securitisation of not less than 5% under Article 5 of Regulation (EU) 2017/2402 of the European Parliament and of the Council of 12 December 2017 (OJ L 347/35, 28.12.2017) (the EU Securitisation Regulation).



derecognising assets from the balance sheet and reducing NPE ratios, often causing a reduction in available regulatory capital.⁷

The financial interlinkages stemming from the transfer of credit risk from the banking system to investors achieved in the SRT market need to be better understood for potential systemic risk mitigation and amplification considerations. While this paper focuses on the supply side of the market, we attempt to shed some light on the demand side: the typical investors in SRT transactions are professional investors in pension funds, credit funds, large asset managers, supranational institutions such as the European Investment Fund (EIF) and insurance companies.

The European banking system has faced strong profitability challenges over the recent period, but the SRT market has enabled banks to free up capital without equity dilution to existing investors while continuing to support lending. A proper understanding of this market and its impact on banks' capital management, the real economy and overall financial system is increasingly necessary given its importance.

The SRT market is now mature and the factors underpinning its growth and functioning should be well understood by regulators and policy makers. The systemic risk considerations of this growing segment are also worth considering as the market continues to grow and develop further.

In the first part of this paper we describe the main features of SRT, showing the differences between securitisation and hedging and illustrating the mechanics behind capital relief. We present the main features of typical SRT transactions used by European banks, also describing the regulatory framework and the regulatory criteria that have to be met to achieve SRT.

In the second part we use a unique and comprehensive database of SRT transactions notified to the SSM by large European banks to provide an analysis of the EU SRT market, showing overall trends in terms of volume, type of securitisation, capital benefit, asset classes and geography. The database contains information on all SRT transactions originated by supervised banks between 2018 and 2022, including both performing and non-performing loan portfolio transactions. Large European banks are expected to provide information on their SRT transactions to the competent authority as a condition of recognition. In the case of the SSM, the information that is requested is described in the **Public guidance on the recognition of significant credit risk transfer** (2016).

While the European SRT market includes both cash and synthetic securitisations, this paper mainly focuses on synthetic transactions, which have become by far the largest segment in recent years.⁸

⁹ In the final section we assess the key market and regulatory features currently shaping the market and conclude with our thoughts on how it will develop from here.

⁷ See Boudiaf, I.A. and Gonzalez, F. (2022), "**An empirical study of securitisations of non-performing loans**", Occasional Paper Series, No 292, ECB, Frankfurt am Main, May 2022.

⁸ For a description of the European NPL market, another significant segment of the SRT market, please see Boudiaf and Gonzalez (2022).

⁹ For an introduction to securitisation technology, see e.g. European Systemic Risk Board (2022), "**Monitoring systemic risks in the EU securitisation market**" or ECB (2008), "**Securitisation in the euro area**", Financial Stability Review.



Box 1

Securitisation, significant risk transfer and capital

While historic precedents can be traced back to the 1860s in the US in the shape of farm railroad mortgage bonds (Deku and Kara, 2017), modern securitisation markets started in the USA with pass-through residential mortgage-backed securities (RMBSs), which were introduced by Ginnie Mae in 1970. These were followed by private-label RMBSs in 1977, Fannie Mae's introduction of collateralised mortgage obligations (CMOs) in 1983 and non-mortgage-backed asset-backed securities (ABSs) in the mid-1980s.

Securitisation was boosted by the 1988 Basel Accord (Basel I) and its lack of differentiation between high- and low-quality loans when setting bank capital requirements. According to Allen (2004) it incentivised securitisation of low-risk loan portfolios and retention of high-risk loans. Regulatory arbitrage also motivated the introduction of collateralised debt obligations (CDOs) and structured investment vehicles (SIVs) in the late 1980s. From the late 1990s onwards, credit derivatives were used to create "synthetic" variants as a way of ramping up issuance.

Basel II was implemented in 2002, in an attempt to deal with some of the weaknesses of Basel I. This increased the risk-sensitivity of capital requirements. The change introduced new kinds of regulatory arbitrage, further boosting securitisation volumes. Capital charges on tranches rated AA/Aa3 or better fell to the point where banks were incentivised to retain much of the risk associated with securitised assets, either directly (by buying highly-rated tranches) or indirectly, via various puts and guarantees (Acharya and Richardson, 2009). Banks introduced resecuritisation products, including ABS-backed CDOs and leveraged super-senior CDOs; these were just a few of the many innovative products brought to market to expand leverage. A supporting factor in all this was the fact that credit rating agencies underestimated the risk associated with securitisation, as they did not adequately account for the tail risk associated with systemic risk events. These developments led to the great financial crisis, in which resecuritisation products played an important role. Since then, the use of resecuritisation has disappeared – but the associated stigma has continued to impact more traditional securitisation products to this day.

Policy makers reacted to the financial crisis by bringing in new regulatory requirements (the Dodd-Frank Act in the US and Basel III internationally). In response to the multiple failings in the securitisation intermediation chain, regulators attempted to realign incentives and address structural weaknesses as a way of reviving the securitisation markets. At a high level, these regulatory initiatives aimed to increase disclosure, mandate risk retention ("skin in the game"), restructure ratings agencies and impose capital requirements. In Europe this was complemented with securitisations labelled simple, transparent and standardised (STS) as part of a Capital Markets Union (CMU) Action Plan.

Issuance in Europe was limited in the 1990s. It was not until the introduction of the euro in 1999 that European securitisation markets started to develop significantly, advancing considerably between 2002 and 2008. European securitisation did not develop in the same way as the US because European banks preferred issuing covered bonds rather than mortgage-backed securities, primarily due to their lower capital requirements and funding advantage. In addition, the Treaty on



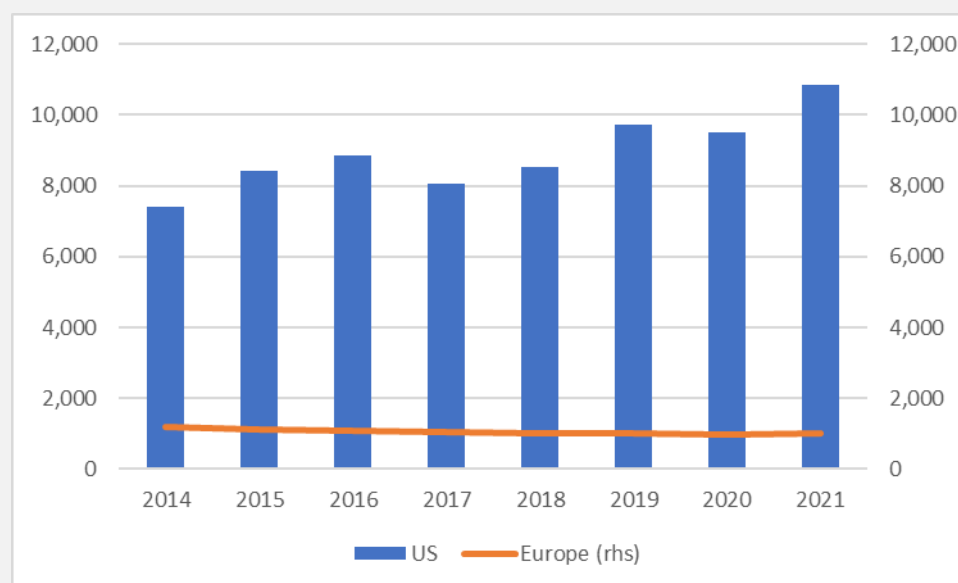
the Functioning of the European Union barred the establishment of government-sponsored agencies, as provision of guarantees could result in unfair competition.

Finally, compared to the US, the European securitisation markets lack sufficient homogeneity in terms of product, which adds to pricing difficulties due to lack of data and benchmarking. This makes securitisation a harder product for banks and investors than the alternatives (Deku and Kara, 2017).

The European traditional securitisation markets have stagnated since the implosion of the great financial crisis and the introduction of stricter regulatory measures following Basel III. After a period in which European banks issued securitisations in large volumes to use as eligible collateral with the central bank to shore up liquidity buffers, the outstanding volume of traditional securitisation has plateaued in recent years. This compares unfavourably with the healthier volumes recorded in the USA; by the end of 2021 the size of the European securitisation market was only about 9% of that in America. Even if one strips out the entire US agency market to allow for a fairer comparison, the European market still only reaches 28% of its US equivalent.

Chart A
Outstanding traditional securitisations

(EUR billion)



Source: AFME.

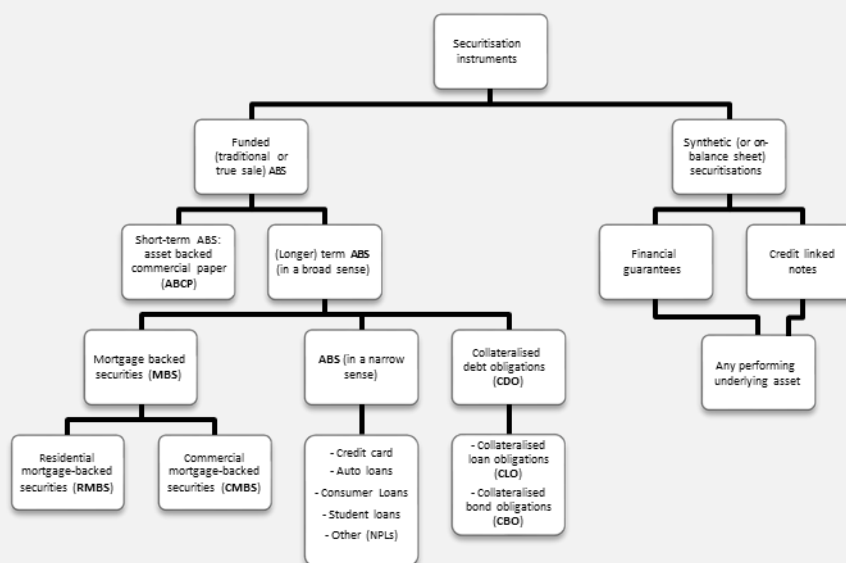
Note: both series are in EUR billion.

While the traditional securitisation market has stagnated in Europe in the recent past, the volume of SRT securitisations has increased significantly. To assess the significance of SRT securitisation it is useful to visualise the key securitisation structures seen in the market today. For example, resecuritisation structures no longer exist in the current landscape.



Securitisation can be implemented in two ways: (1) a true sale (or cash flow-based or funded) traditional securitisation, where banks transfer legal ownership of the underlying assets to an SPV;¹⁰ or (2) a synthetic securitisation, where the underlying assets remain on the balance sheet of the originator, and only the risk of these is transferred to investors through financial guarantees or credit risk derivatives such as credit-linked notes (CLNs). While SRT can be achieved in either way (true sale or synthetic), synthetic securitisations account for the bulk of activity. Chart 2 gives an overview of the key securitisation structures, largely following Criado and van Rixtel (2008).

Chart B
Securitisation structures



Source: largely follows Criado and van Rixtel (2008).

SRT can be achieved in any of the structures depicted in Chart B, provided the regulatory and supervisory conditions are met (See Section 2). However, synthetic securitisations currently make up the bulk (over 80%) of SRT transactions. Overall, we estimate they represent around 55% of the total outstanding securitisation market in which SSM banks operate, with the remaining 45% motivated by reasons such as liquidity or funding (See Section 5).

The SRT market has become a permanent element in the capital management toolkit of many European banks, alongside more standard and better-known instruments such as AT1 bonds and common equity. While the Modigliani and Miller (1958) theorem implies that capital structure is irrelevant to firm value and so securitisation should not exist because it offers no advantages over other alternatives, in the real world there are a plethora of different structures to respond to numerous distortions and frictions. Therefore securitisation can play a role. For example, banks perceive equity capital as expensive and are quick to show the “costs” they would incur if they had to give up some of their subsidised debt financing, given that most tax systems encourage debt and

¹⁰ Due to accounting rules, the underlying assets in the SPV are consolidated back on the bank’s books. Despite the consolidation, the assets are effectively separated from the bankruptcy estate of the bank and therefore significantly mitigate the investor’s counterparty risk exposure to the originator.



penalise equity. The presence of implicit or explicit government guarantees could also impact the relative attractiveness of debt versus equity (Admati et al., 2011). Recent analysis shows that better capitalised banks enjoy a lower cost of equity (Belkhir et al., 2019).



2 What is significant risk transfer (SRT)?

SRT is the concept used in the EU regulatory framework to refer to capital relief trades. Initially introduced in Basel II in 2004, it allows banks to reduce their capital requirements if significant credit risk is transferred. The EU regulatory framework introduced the Basel concept in the Capital Requirements Directive (CRD) in 2006. This was repealed in 2013 and replaced by CRD IV,¹¹ which implemented Basel III in Europe.

Transfer of credit risk to third parties entitles a bank to claim capital relief under the Capital Requirements Regulation (CRR). Competent authorities assess SRT transactions following a comprehensive review to ensure they comply with the CRR rules and authorities' expectations. In particular, the CRR stipulates that SRT transactions must meet quantitative tests (Article 244 governs cash transactions and Article 245 synthetic ones). These require the transfer of at least 50% of RWAs in the mezzanine tranche of a transaction for a three-tranche structure, or at least 80% of the nominal amount of the first loss position for a two-tranche structure. In addition to the quantitative tests the transaction has to meet a commensurate risk transfer test, which requires that the capital relief obtained by the bank be less than the losses transferred.¹² There is also a set of qualitative criteria related to the economic substance of the transaction, further conditioning recognition (Articles 244(4) and 245(4) CRR). See Box 2 for a more detailed description.

As an alternative to the quantitative and commensurate risk transfer tests, the CRR states that SRT recognition may follow a permission-based approach when a commensurate transfer of credit risk to third parties is backed by the bank's adequate internal risk management policies and it is done for the purposes of the institution's internal risk management and internal capital allocation.¹³

In substance, the magnitude of capital relief plays a pivotal role in the supervisory assessment. The capital relief benefit should be lower than the risk transferred to avoid transactions being used to obtain capital relief in excess of the genuine risk transfer at any point in time over the life of the transaction.

Once SRT is achieved, under Articles 259 to 264 CRR the bank is permitted to reserve capital not against the underlying portfolio, but rather against the retained tranches in the transaction. The bank may reserve significantly lower capital against the retained tranches post securitisation compared to the requirement before securitisation (see Chart 1). This is because banks usually retain only the senior tranche, which typically accounts for more than 80%-90% of the underlying portfolio but has a very low capital requirement, and sometimes also a thin junior tranche which is deducted from capital. If actual losses are higher than the protected mezzanine tranche¹⁴ a bank could face an ad-hoc capital need, as the risk weights calculated for the retained securitisation

¹¹ The CRD IV package includes the Capital Requirements Directive and [Regulation \(EU\) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation \(EU\) No 648/2012](#) (OJ L 176, 27.6.2013, p.1) (the Capital Requirements Regulation or CRR).

¹² Under current rules, the CRR does not define any minimum cut-off level for the commensurate risk transfer, leaving it at the discretion of the supervisor to judge whether the margin between capital relief and transferred risk is sufficiently prudent.

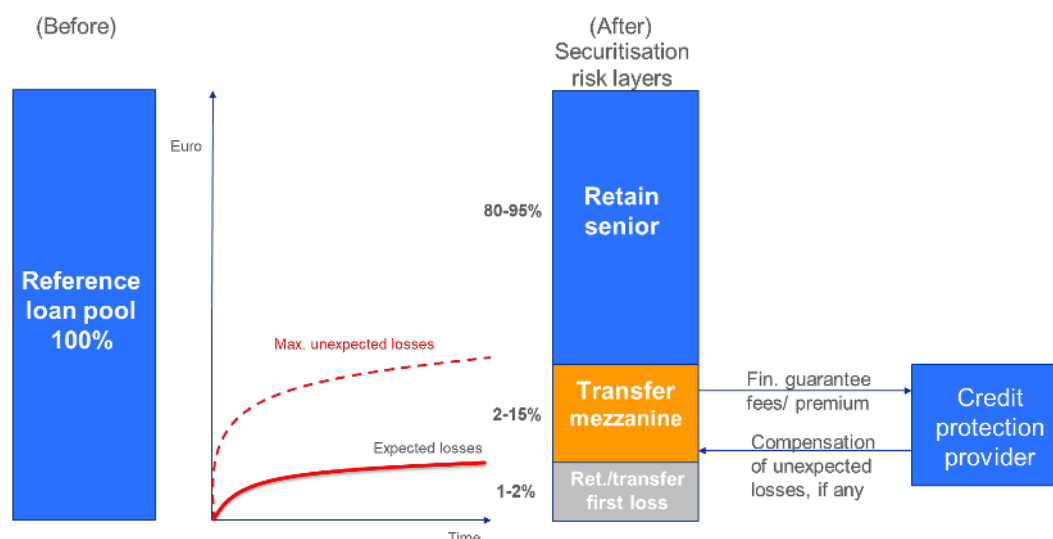
¹³ Art. 244(4) CRR.

¹⁴ The protected mezzanine tranche would cover the estimated losses at origination.



adjust dynamically. This can increase the capital requirement over time, and lead to a capital shortfall if the bank's capital position is insufficient.

Chart 1
Typical synthetic SRT securitisation transaction



Source: own elaboration.

Chart 1 shows a typical market structure for a synthetic SRT securitisation transaction. This can be a bilateral transaction between an investor or credit protection provider and a bank, or a syndicated deal. Let's assume a bilateral deal in which bank and investor agree a financial guarantee or, less commonly, a portfolio credit default swap, which defines the different tranches for which the risk of losses is transferred or retained. To mitigate counterparty risk to investors, most synthetic SRT transactions benefit from collateral posted by the investor in favour of the bank, either in a custodian account or directly deposited with the bank.

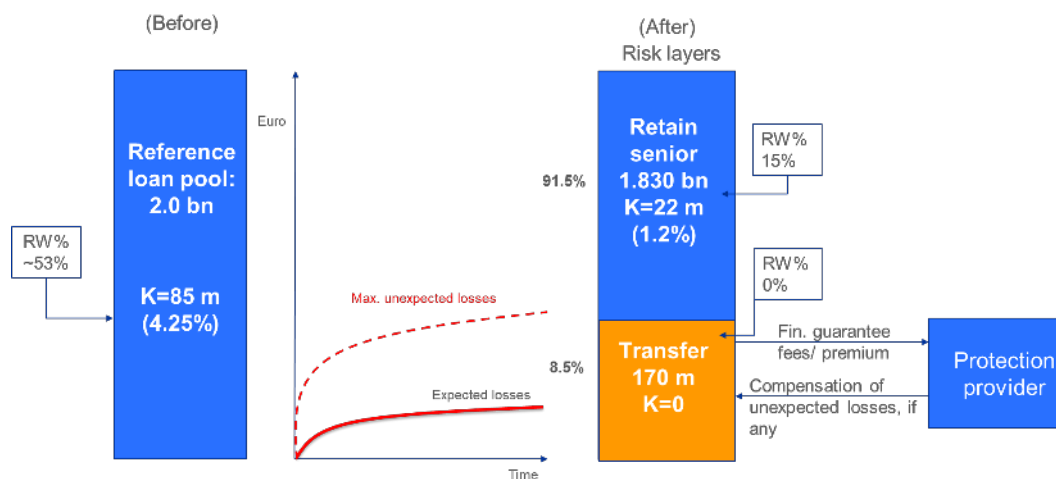
The investor is the direct risk protection seller to the bank, and will compensate the Bank if losses occur in excess of the first loss tranche, which typically covers the first expected loss in the underlying reference portfolio. In a three-tranche transaction this tranche is usually not transferred to an investor, but retained by the bank. However, in a two-tranche transaction the first loss tranche is normally transferred. In return, the Bank pays protection fees on the financial guarantee to the investor. Unlike in a traditional securitisation, no special purpose vehicle is required for this type of structure, which increases simplicity and is cheaper.

The bilateral and bespoke nature of the transaction means that it may be illiquid and may not allow for external leverage. To promote liquidity, some banks try listing their future deals with publicly available information or conducting an auction among investors, sometimes selling the deal to more than one investor. They may also issue credit-linked notes directly; these are usually listed, and data is posted with public securitisation repositories and on the bank's website.



Chart 2

Numerical example of a typical synthetic securitisation transaction



Source: own elaboration.

Chart 2 shows a numerical example as way of demonstrating the key benefits for a bank in pursuing a synthetic SRT transaction. In this example, the underlying reference loan pool is EUR 2.0 bn. The risk weight (RW) is around 53%, so a bank with an 8% minimum capital requirement¹⁵ has to set aside EUR 85 million to meet its minimum capital requirements for the portfolio.¹⁶ The bank may decide to obtain credit risk protection through an SRT securitisation transaction with a view to saving on capital requirements. To simplify the calculations,¹⁷ let's assume it decides to transfer both the first loss and mezzanine risks to a credit risk protection provider or investor. Taking the capital requirements prescribed by the regulatory securitisation approach used by the bank, the investor and the bank determine that 8.5% of the total portfolio will be allocated to the first loss and mezzanine tranches, and the remaining 91.5% to the senior tranche. The senior tranche has a much lower 15% RW so consumes EUR 22 million of capital; the mezzanine and first loss tranches have a 0% RW, as the risk is transferred to an external investor¹⁸ and no longer sits on the bank's balance sheet. Overall, the transaction saves the Bank EUR 63 million of capital required in comparison to holding the portfolio on its balance sheet without risk transfer. This saving has to be weighed against the cost of the financial guarantee fees over the life of the transaction to assess the economic viability of the transaction. If the costs outweigh the lifetime capital benefits

¹⁵ An 8% minimum capital is a simplification. In practice, all banks are required to hold well above the 8% minimum capital plus an additional margin. Accordingly, the cost/benefit analysis should consider the reduction in additional capital requirements above the regulatory minimum.

¹⁶ This is EUR 2 billion x 53% x 8% = EUR 84.8 million, which implies a Kirb of 53% x 8% = 4.25%, but banks would generally seek higher capital ratios than the minimum 8%. A bank with a target CET1 ratio of 14% would put around EUR 150 million of capital aside for the underlying portfolio, which would make pursuing the SRT transaction much more compelling.

¹⁷ The calculations do not embed any risk retention requirements which would need to be accounted for by the originating bank to comply with Art. 6 of the EU Securitisation Regulation.

¹⁸ The protection is fully collateralised. The benefit would be slightly lower if the guarantor was rated "A" and offered no collateral.



compared to the cost of alternative capital sources such as equity, the Bank will not pursue the transaction.¹⁹

Lastly, in a synthetic transaction the originator and the investor can agree to a “synthetic excess spread”; this is an amount which will be deducted from any losses suffered on the securitised pool before the investor is required to make a protection payment. The aim is to replicate the effect of “excess spread” in a cash deal, where a lender does not suffer real cash losses if the interest paid on performing assets is sufficient to compensate for losses on those that default.²⁰ The excess spread sits at the bottom of the waterfall and absorbs the first losses. It enhances the viability of the transaction and is a relevant feature in deals involving asset classes with higher default rates but higher yields.²¹

The bank will continue to be exposed to the credit performance of the underlying pool after the SRT transaction. If the portfolio suffers a significant credit deterioration beyond the unexpected losses (the dashed curve in Charts 1 and 2), the senior (unprotected) tranche retained by the bank could be hit. While the bank reserves capital against the retained tranche, the loss curve is not deterministic, nor are the risk weights allocated to the tranche. These are dynamically calculated over time, which could lead to the bank having to increase its capital in an unpredictable manner. This illustrates the “point in time” nature of the capital released by securitisation. The capital benefit achieved with SRT is essentially a gain due to the reduction in risk-weighted assets. There is no matching issuance of common equity, which is more permanent in nature. If the credit performance of the underlying pool deteriorates, the bank is obliged to reserve more capital against the retained tranches, which could wipe out the initial capital benefit achieved when the SRT was originated.

As protected portfolios do not usually all mature at the end of the life of a transaction, SRT structures normally allow a reduction of the protected tranche size in line with amortisation. However, if riskier loans do not prepay at the same rate as good ones, there is a risk that a subsequent economic downturn would cause a spike in defaults in excess of the protection available. One important aspect of the work supervisors do when assessing SRT with an originator bank is to minimise the likelihood of unexpected hits to the senior tranche, so as to preclude a sudden call for additional capital.

2.1 SRT securitisation compared with hedging

To illustrate the power of SRT synthetic securitisation as a tool for transferring credit risk it is useful to compare it with a close alternative: hedging.²² Say for example that a bank willing to transfer some of its credit risk in a portfolio goes for a pure hedge and gets a guarantee for a portion of the

¹⁹ Banks will typically run a cost benefit analysis to critically judge whether the cost of equity generated by a potential SRT transaction falls below the internal hurdle rate (IRR). If the cost of equity due to SRT goes above the IRR, the transaction will not be executed. Cost of equity includes all fees paid by the bank to structure the transaction (advisory, legal, etc). Other elements considered are the funding cost and the tax benefit.

²⁰ Since this amount is just an agreed number (rather than, as in a cash deal, the actual cash received from borrowers) it is called the “synthetic excess spread”.

²¹ Supranational investors tend to require a synthetic excess spread in the synthetic transactions they participate in.

²² This is covered in the credit risk mitigation framework; see Part III Chapter 4 of the CRR.



loan pool. The guarantee provides pro rata protection against losses in the portfolio, with no tranching or subordination as there would be in the case of securitisation.

A bank choosing to hedge between X and 100% of a portfolio, as an alternative to a securitisation, will generally reserve a lot more capital compared with securitisation. In the example in Table 1, the bank wants to transfer 5% of a reference loan pool of EUR 100. This has a RW of 100%. The bank has two options: 1) a pure hedge via a guarantee of 5% of the pool (i.e. X=95) or 2) a SRT securitisation in which the bank gets credit risk protection via a guarantee for the first 5% of losses in a tranching securitisation transaction.

Table 1
SRT securitisation vs. hedging

Loan Pool of EUR 100 with a RW of 100%: bank transfers 5% of portfolio risk

	Impact on bank capital
Pure hedge (pro-rata coverage, no tranching)	Capital reserved= $95 \times 100\% \times 8\% = 7.6$
SRT securitisation (with tranching and subordination)	Capital reserved: 15% (senior tranche securitisation) $\times 8\% \times 95 = 1.14$

Source: own elaboration.

It is easy to see that the SRT securitisation transaction will require much less capital (85% less capital in our example) than the hedging option. This is because the senior tranche will have a much lower RW than the reference loan pool due to subordination (15% RW for the senior tranche in our example). In the securitisation transaction the bank is protecting the first 5% of losses, whereas in the pure hedging option the bank is protecting on a pro rata basis against 5% of the losses in each loan default occurring in the portfolio. The securitisation offers stronger protection, as the bank suffers no losses, net of the protection payments from the guarantee, until the cumulative losses exceed 5%, whereas under the hedge it suffers a pro-rata share of all losses.

The size of the credit protection in the SRT securitisation of the lower tranches (mezzanine and first loss) may be reduced as the transaction amortises over time. Most transactions include a pro rata amortisation mechanism, otherwise the cost of protection would become unmanageable.

Amortisation can either be sequential (in order of seniority), pro rata or a mixture of the two (typically senior and mezzanine tranches follow pro rata, with the first loss tranche amortising once the more senior tranches have been fully paid down). This could lead to a situation where credit protection is not available if the lower tranches have already been or are about to be amortised



when significant losses occur.²³ This risk does not arise in a pure hedge, where a total percentage of losses will be covered by the guarantee regardless of the speed of amortisation of the reference portfolio. In other words, the guarantee in a pure hedge outside the securitisation is more resilient, since it is used only to absorb losses (on a pro rata basis) and does not amortise over time.²⁴

Supervisors focus on this sort of thing when assessing the robustness of SRT in a transaction over time. It is not sufficient to demonstrate that both quantitative and commensurateness tests are met at inception. SRT must also be reliably expected over the life of the transaction, for example when the protected tranches (mezzanine and/or first loss) have amortised significantly. To assess the reliability of SRT over time, supervisors will look at the risk profile of the pool, including correlation and concentration in the underlying exposures (e.g., correlation across borrowers, concentration at borrower, geography and sector level) and modelling limitations that might underestimate the bank's loss estimates for the portfolio. Supervisors insist on performance triggers which switch the amortisation mechanism from pro rata to sequential and limit the extent to which protected tranches amortise in adverse scenarios.

2.2 SRT transaction structures

Chart 3 illustrates the typical SRT transaction structure. This is a bilateral transaction between a bank and a credit risk provider or investor. The investor is the direct protection seller to the bank. When the investor is a well rated insurer or supranational institution, they tend not to pledge collateral as the bank can rely on the high credit quality of the investor to justify capital relief. This is called an unfunded SRT transaction. The absence of collateral makes unfunded SRT simpler, cheaper and more flexible, but leaves the bank exposed to the risk of the credit protection provider being downgraded or defaulting, which could lead to the termination of SRT benefits.

When the investor is a lower rated counterparty, for example a credit fund or a weaker insurance company, the bank will request security in the form of a cash deposit or highly liquid securities to mitigate the counterparty credit risk and reduce the capital requirements associated with the exposure. This is called a funded structure (Chart 4) and may require a trustee or custodian. Alternatively, to avoid the need for a trustee or custodian, the bank can issue credit-linked notes (CLNs); these which allow the bank to take cash directly from investors or deposit their money in an account at the bank, subject to rating triggers. Bilateral structures like this are simpler and cheaper than special purpose vehicle (SPV) or securitisation special purpose entity (SSPE) structures (Chart 5).

SPV structures can also be used in synthetic securitisations and the securities that are issued have the benefit of being transferable and repo-able. In this case, SPVs use CLNs. CLNs are more convenient when there are several investors in the transaction.²⁵

²³ The SRT transaction could have sequential instead of pro-rata amortisation. In a pro-rata amortisation schedule the first loss and mezzanine tranches can amortise very quickly, eliminating any potential subordination benefits for the senior tranche.

²⁴ However, as loans are repaid these loans are no longer insured, reducing the size of the protection.

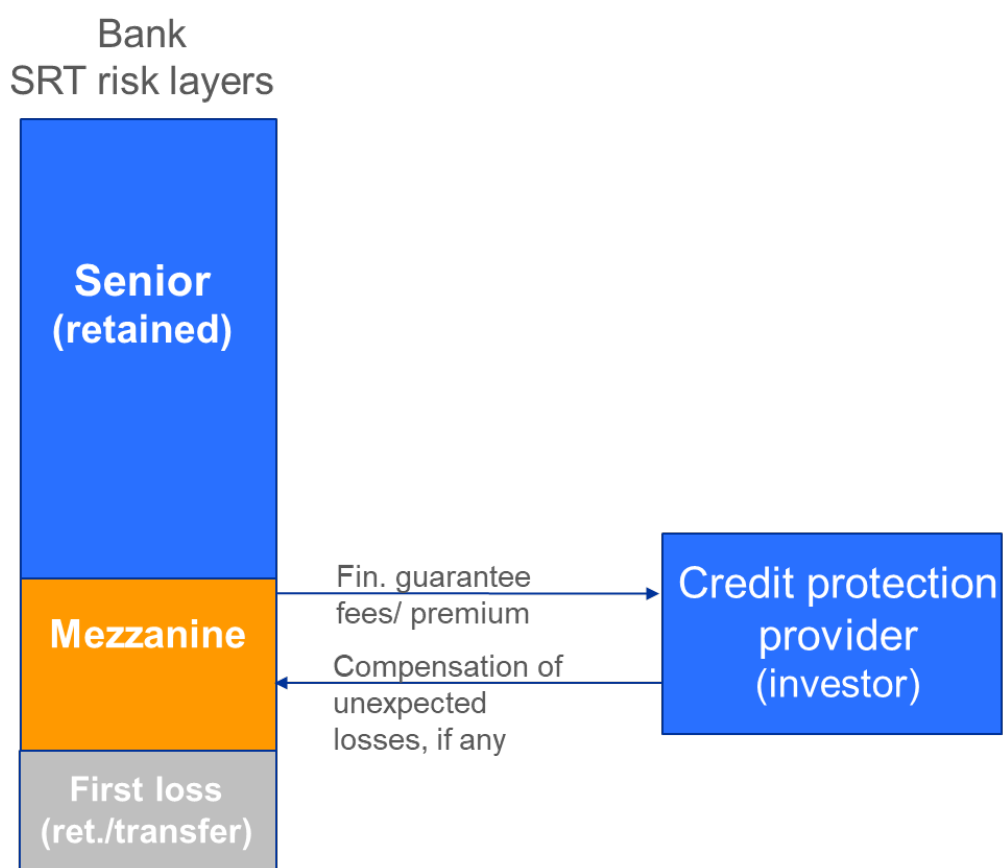
²⁵ See e.g. Tavakoli, J. M. (2008).



Finally, banks can issue CLNs directly, rather than through an SPV. However, this is not common in Europe. The bank issues a bond to one or several investors and the principal of this is written down when losses occur, impacting the protected (mezzanine) tranche. These notes have the same transferability and repo-ability benefits of CLNs issued by an SPV, but crucially do not require a vehicle to be set up. This can have tax benefits, depending on the jurisdiction, and is simpler in terms of structure. However, unlike with SPVs, investors buying these notes are exposed to bank credit risk directly.

Chart 3

Unfunded SRT structure

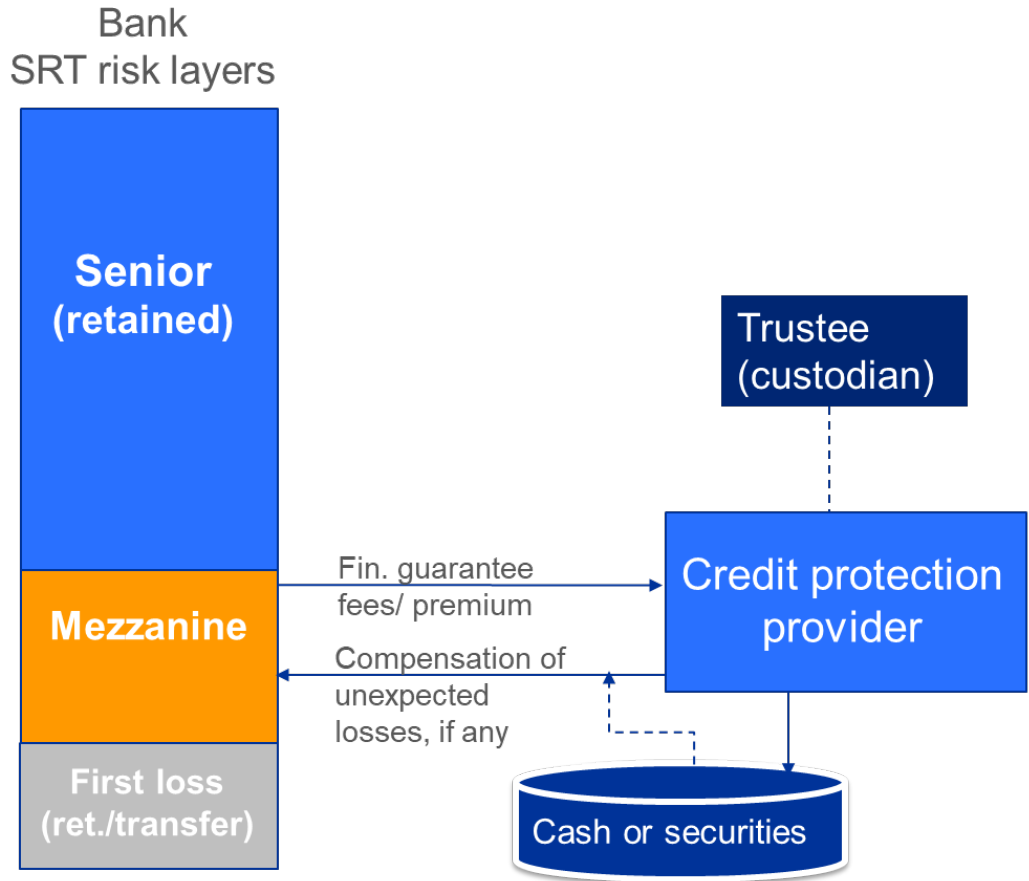


Source: own elaboration.



Chart 4

Funded SRT structure

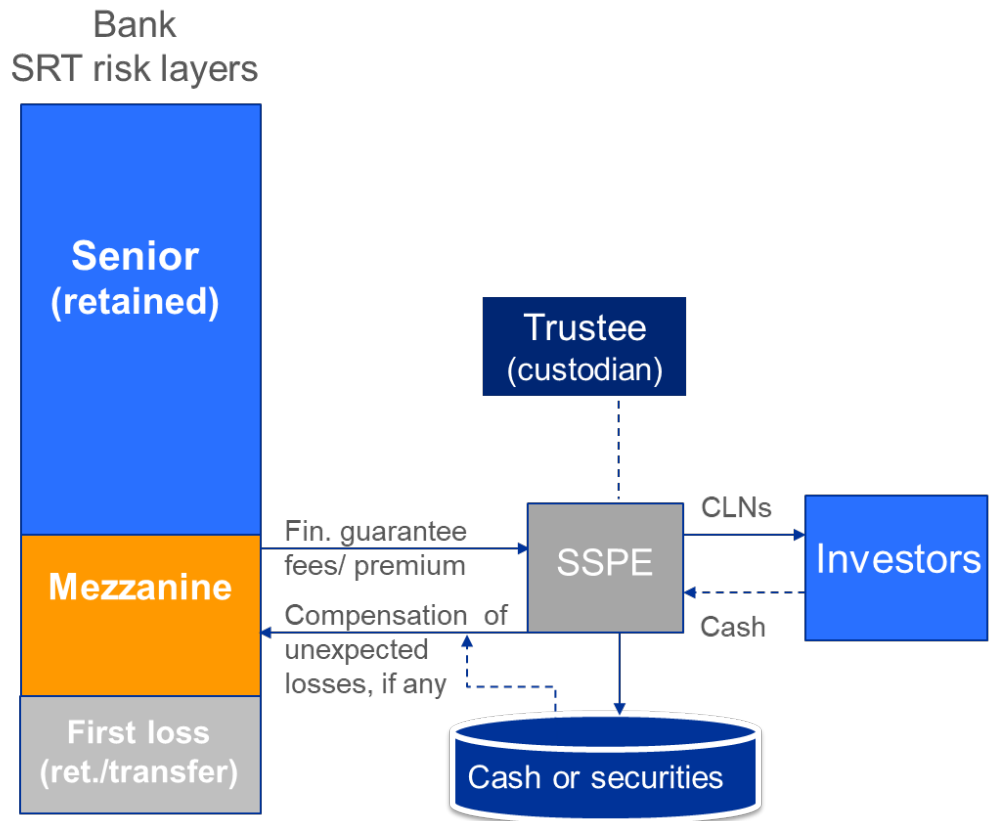


Source: own elaboration.



Chart 5

Funded structure with a securitisation special-purpose entity issuing credit-linked notes to investors

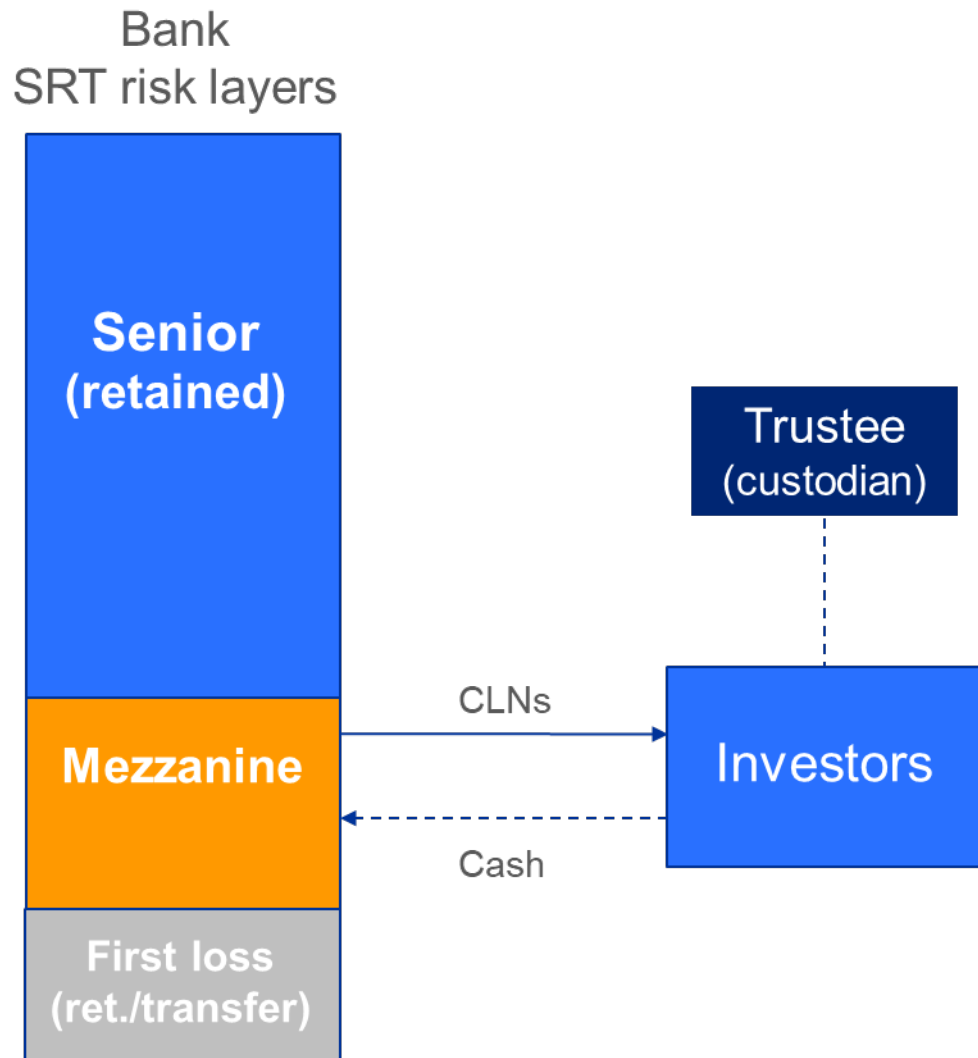


Source: own elaboration.



Chart 6

Unfunded SRT structure



Source: own elaboration.



3 The EU regulatory framework for SRT securitisation

The evolution of the European market SRT in recent years is directly linked to the way the EU regulatory framework has developed. The introduction of SRT in the EU Capital Requirements Regulation in 2013 provided the key framework for assessing it. Box 1 discusses the two main capital relief routes banks can follow. However, the CRR lacked sufficient detail for banks to be confident that a particular SRT transaction would yield capital relief after assessment by the supervisors. This detail was provided by the 2017 EBA discussion paper. While the paper did not have a direct application on law or regulation, it represented a significant leap forward in providing clarity for the market because the Joint Supervisory Teams (JSTs) at the SSM responsible for assessing SRT transactions used it as the basis for their assessments. The 2017 EBA paper, together with some further clarifications included in the SSM supervisory approach, helped make the regulatory process for SRT clearer. This allowed banks issuing SRT securitisations for capital relief to better understand the supervisory process and made it more predictable. In subsequent years the EBA continued working on SRT and in 2020 published a further set of supervisory recommendations, which are in the process of being implemented.²⁶

Framing this development in the SRT market, the EU implemented its Securitisation Regulation in 2019.²⁷ This impacted the entire securitisation market, not just the SRT segment, and included the introduction of the simple, transparent and standardised (STS) regime. The regime allows banks to structure transactions to obtain cheaper funding and lower capital requirements if certain conditions on simplicity, transparency and standardisation are met. In 2021 the EU extended the STS regime to certain synthetic SRT transactions,²⁸ providing a further positive impulse to the market.

Box 2 Capital relief routes

Articles 244/245 CRR regulates capital relief. Banks may follow three routes to get capital relief for securitisations:

- **The SRT route:** banks should transfer significant risk to external parties;
- **The full deduction route:** banks should deduct or risk-weight all tranches by 12.50;
- **The permissions-based route** (a derogation from the other two); Banks must demonstrate they have adequate internal risk management to assess the transfer of risk.

²⁶ See European Banking Authority (2017) and (2020).

²⁷ **Regulation (EU) No 2017/2402** of the European Parliament and of the Council of 12 December 2017 laying down a general framework for securitisation and creating a specific framework for simple, transparent and standardised securitisation and amending Directives 2009/65/EC, 2009/138/EC and 2011/61/EU and Regulations (EC) No 1060/2009 and (EU) No 648/2012 (OJ L 347, 28.12.2017, p.35).

²⁸ **Regulation (EU) 2021/557** of the European Parliament and of the Council of 31 March 2021 amending Regulation (EU) 2017/2402 laying down a general framework for securitisation and creating a specific framework for simple, transparent and standardised securitisation to help the recovery from the COVID-19 crisis.



Under the SRT route, Articles 244(2) and 245(2) CRR set out two fundamental tests to achieve SRT. The first relates to mechanical risk transfer, which requires the sale of a minimum portion of non-senior tranches to external investors. This depends on the capital structure of the transaction. In a two-tranche structure, the bank should sell at least 80% of the first-loss position; in a three-tranche structure, the bank should sell a minimum of 50% of the RWAs of the mezzanine position.

The CRR allows the competent authorities to object to SRT if the capital relief is not commensurate with risk transfer. Even if the mechanical test is met, an authority can oppose a risk transfer if it is not sufficient (e.g. where the capital relief achieved after entering into the transaction is equal or higher than the effective risk transfer).

Article 244(4) CRR outlines the permissions-based approach as an alternative way to obtain SRT recognition. The key considerations are adequate internal risk management policies and methodologies to assess the transfer and an appropriate allocation of internal capital. The permissions-based approach is less prescriptive compared to the other SRT routes, and focuses on the internal framework developed by a bank to assess and manage the significant risk transfer.

In addition, SRT transactions need to meet further important criteria:

1. The documentation must reflect the economic substance of transaction (Art. 244(5));
2. The credit protection must meet standard risk management requirements;
3. The documentation/credit protection must satisfy the following conditions:
 - *No materiality threshold trigger*
 - *No credit quality trigger*
 - *No credit (quality) enhancement (except amortisation)*
 - *No fee/yield increases triggers*
4. The originator must not maintain effective control of securitised exposures (traditional securitisation);
5. The documentation must clearly specify arm's-lengths condition between the bank and the investor.

In Table A below we provide a numerical example to illustrate how the mechanical and commensurateness tests work for a typical three-tranche transaction. We assume that the securitisation is backed by an underlying pool of corporate exposures with a notional amount of EUR 1 billion and a risk weight (RW) of 55%. This represents a total estimated loss (expected and unexpected loss) of EUR 44 million (equivalent to a Kirb of 4.4%).²⁹ The bank applies SEC-IRBA to calculate capital charges for securitisation positions.

²⁹ Under Art. 255 CRR, institutions have to determine Kirb by multiplying the risk-weighted exposure amounts that would be calculated under Chapter 3 of the CRR in respect of the underlying exposures as if they had not been securitised by 8% divided by the exposure value of the underlying exposures. Kirb includes both expected and unexpected loss.



Table A
Hypothetical SRT transaction

(Euro)

Tranche	Thickness	Retention by bank	Risk weight	RWAs of securitisation positions in EUR
Senior	94.00%	100%	15%	141,000,000
Mezzanine	4.50%	0%	1117%	502,650,000
First-loss	1.50%	100%	1250%	187,500,000
			Total	831,150,000

Sources: own elaboration.

The mechanical test depends on the capital structure of a securitisation. Since this is a three-tranche transaction, it applies to the mezzanine tranche; the originator has to sell at least 50% of the RWAs related to the mezzanine tranche.

The bank decides to sell the mezzanine tranche in full while retaining the senior and first-loss positions. The decision to sell more than 50% of the RWAs of the mezzanine tranche is driven by the objective of maximising capital relief, given the costs required by investors. To fulfil this objective, the originator optimises the size of the tranches that would lead to a low-risk weight under SEC-IRBA for the retained senior tranche. In practice, this process turns into a first-loss position with a 1.5% thickness that includes 0.6% of lifetime expected loss and 0.9% of unexpected loss of the underlying portfolio. The lifetime expected loss is the product of the one-year expected loss (0.2%) and the weighted average maturity of the transaction (3 years). The mezzanine tranche absorbs the remainder of the unexpected loss (3.30%)³⁰ with a thickness of 4.5%. The senior tranche benefits from the credit enhancement provided by the mezzanine and first-loss tranches. The bank does not intend to qualify for the STS label for this transaction. This implies an RW of 15% for the senior tranche under the SEC-IRBA approach.

The transaction would have a capital requirement post securitisation for the retained junior and senior tranches of EUR 26,280,000³¹ – 40% less than before securitisation for the full underlying

³⁰ The senior tranche attaches with a buffer of 1.6% above a Kirb of 4.4%.

³¹ This is the total of the retained tranches (senior and first-loss piece) multiplied by the minimum capital requirement (8%).



portfolio (EUR 44,000,000).³² Applying the commensurateness test described above, the originator manages to release 40% of capital by pursuing the securitisation while transferring 69% of total risk, i.e. it places 3.3% of the total Kirb (4.4%) with external investors or 3.3% of the total risk of 4.8%. Total risk includes lifetime expected loss and unexpected loss, in line with the EBA SRT Recommendations (2020). As the capital relief is lower than the risk transferred, the test for commensurateness is also met.

Should the originator decide to transfer only 50% of the mezzanine tranche, the mechanical test will still be met but the bank would not achieve full capital optimisation. The bank would have to maintain capital for the retained portion of the unsold mezzanine position, erasing any potential capital benefit that could have been obtained by securitisation. While the commensurateness test is met (i.e. the capital release is negative (-5.4%) and 34% of the risk would be transferred), the transaction will not be executed as the capital required after securitisation is higher than it was before, making the transaction uneconomical for the bank from a pure capital requirement perspective.

Table B

The commensurateness test

Risk transfer must be higher than the capital relief achieved in securitisation

(Euro)

	Mezzanine tranche 100% sold	Mezzanine tranche 50% sold
Capital post-securitisation	26,280,000	46,260,000 ³³
Capital pre-securitisation	44,000,000	44,000,000
Capital relief	$(26,280,000 - 44,000,000) / 44,000,000 = -40\%$	$(46,260,000 - 44,000,000) / 44,000,000 = 5.14\%$
Risk transfer	$3.3\% / 4.8\% = 69\%$	$0.5 \times 3.3\% / 4.8\% = 34\%$
Commensurateness test	Met: 69% risk transfer > 40% capital relief	Met: 34% risk transfer > negative 5.14% capital relief

³² This is the total nominal of the underlying portfolio (EUR 1 billion) multiplied by the RW (55%) and the minimum capital requirement (8%).

³³ Under Art. 267 CRR, the RWAs post securitisation will be capped to the RWAs pre-securitisation. The institution may assign the senior securitisation position a maximum risk weight equal to the exposure-weighted average risk weight that would be applicable to the underlying exposures as if the underlying exposures had not been securitised.



Source: own elaboration.



4 Data and sources of information

For the purpose of this study we draw on an internal and centrally maintained ECB repository of securitisations issued by banks in the SSM with the aim of achieving SRT. As explained in Section 2, SRT enables originating banks to reduce own funds requirements for an underlying portfolio, in accordance with the risk transferred or sold via securitised tranches.

The database includes all transactions notified to the ECB that had already been originated and were not subject to negative supervisory feedback between late 2017 and early 2023.³⁴

This unique non-public sample consists of a total of 670 transactions issued by 53 significant institutions that notified transactions to the SSM following its **Public guidance on the recognition of significant credit risk transfer** over the five-year period 2018-2022.

The SSM Public guidance lists in Annex I the information supervised banks are expected to provide to the ECB on their SRT securitisations. This includes A) general information on the transaction (e.g. the nature of the transaction, notional value, weighted average life, initial public documentation, etc.); B) information on the securitised exposures (e.g. the type and asset class(es) of the securitised exposures, currency, the total risk-weighted exposure amounts, the amount of expected and unexpected losses of the underlying assets, etc.); C) information on the securitisation positions (e.g. risk weighted assets post-securitisation, amount of capital deductions, magnitude of risk transferred, attachment and detachment points of the transferred positions, etc.); D) other aspects of the transaction (e.g. early amortisation provisions, time calls and clean-up calls, excess spread, liquidity or credit facilities, any legal opinions, etc).

The key transaction data above must be further supplemented by the bank with qualitative information on the economic rationale for the transaction, a description of the risks retained, details of the bank's internal approval process, a copy of the bank's SRT policy to ensure that the transfer of risk is effective on a continuous basis and a modelling of cash flow over the life of the transaction.

This must be provided to the JST following a prescribed timeline in relation to the pre-issuing and issuance of the transaction, in line with the ECB guide. The JST may engage informally with the bank once a transaction has been notified and uses the data to conduct its SRT assessment of the transaction. The JST then submits this information and its assessment to the centrally maintained dataset. This dataset is then used for benchmarking and horizontal supervision purposes, including supporting JSTs when conducting future SRT assessments. The ECB continuously reviews securitisation transactions that have achieved SRT at issuance.

The information required in Annex I of the SSM Public guidance is non-exhaustive. Supervisors may require additional information from time to time to conduct their analysis. This implies that the centrally managed dataset may be complemented with information from additional supervisory analyses, including for example, for each of the transactions, details on the underlying portfolio size and quality, the presence or absence of a government guarantee scheme, the amount of capital

³⁴ "No negative supervisory feedback" is equivalent to no ex-post derecognition of the SRT via a formal supervisory decision.



benefit achieved, the investor or credit protection provider and the cost of protecting the mezzanine/first loss tranche.

This dataset is used here for the first time with the main objective of raising public awareness and shedding light on this important segment of the securitisation market. We do not attempt to perform any econometric analysis. The bespoke nature of SRT transactions and the relatively low frequency of transactions by banks render robust econometric analysis difficult due to the small sample size. In addition, only aggregated information is presented, to preserve the necessary confidentiality of private market information. For example, we have avoided showing individual price information on the cost of protection or any other data that may be used to benchmark past or future SRT transactions.

Therefore, the analysis presented in the following section is necessarily simple and straightforward, but we think it is still sufficient to identify the key trends and features of the market over the recent past.

In addition to the ECB's centrally maintained database used in this analysis, we have conducted ad hoc surveys among key originating banks active in the SRT market to assess aspects not covered by the data. In particular, we assess the demand side of the market (the investor protection providers). We have also resorted to public datasets from the Association for Financial Markets in Europe (AFME) and supervisory Common Reporting Framework (COREP) data to reflect the overall size of the securitisation market.³⁵

Other external datasets on SRT transactions exist. In particular, market associations³⁶ have started to recognise the importance of SRT and begun to survey members on their SRT securitisation activities to gather data. Other more commercially oriented datasets³⁷ exist as well. In general, though, these datasets tend to be incomplete, as they depend on either the willingness of market participants or association members to report their transactions, or the capacity of data gatherers to collect the information. In this sense, the dataset used in this analysis is unique, as it comprehensively covers all transactions that have benefitted from capital release during the reference period.

³⁵ AFME (2023) **Securitisation data report Q1 2023**. The Capital Requirements Regulation specifies the reporting obligations under COREP and FINREP for credit institutions. These are further detailed in **Commission Implementing Regulation (EU) 2021/451** for the application of Regulation (EU) No 575/ with regard to supervisory reporting of institutions and repealing Implementing Regulation (EU) No 680/2014.(OJ L 97, 19.3.2021, p.1).

³⁶ International Association of Credit Portfolio Managers (IACPM) (2023) **"2016-2022 Survey Confirms that Risk Sharing is Becoming Mainstream"**.

³⁷ See for example **Structured Credit Investor**.



5 The evolution of the SRT market (2018-2022)

The SRT securitisation market in the euro area has shown significant growth since 2018. Interestingly, while the volume of synthetic securitisations more than doubled during the five-year period, the volume of traditional cash SRT securitisation transactions stagnated, as shown in Chart 7. The non-performing loan securitisation market, another important component of the SRT market, saw strong volume in 2021, when the support offered by national guarantee schemes in Italy and Greece, together with regulatory expectations, led to banks issuing record volumes of NPL securitisations.³⁸

In general banks see that synthetic on-balance sheet transactions are simpler to execute but there are additional reasons for the higher use. These include a) confidentiality restrictions: especially with corporate assets, the bank may be restricted from disclosing information about the loans publicly, making a traditional public securitisation unfeasible; b) highly concentrated portfolios: the tranching requirements of the rating approach for these assets is usually much more punitive than the IRBA/SA approaches, once again making unrated synthetic securitisation more attractive; c) SMEs: the rating-based approach for these assets is more punitive for these types of assets due to their heterogeneous characteristics, so an unrated synthetic is usually preferred; d) investor preference: some investors prefer synthetics because they only want exposure to credit risk, not the operational and/or cash flow risk associated with traditional deals.

On the other hand, more granular assets like auto loans are much more likely to be securitised traditionally because the rating approach is more favorable due to the benefit of the existence of an excess spread in the transaction structures. On balance, banks appear to take an opportunistic approach when deciding whether to go for a traditional or synthetic transaction, choosing the approach that suits a given portfolio best.

5.1 Key market indicators

In this section we will focus on the key indicators in the SRT market. Chart 7 shows market participants have a strong preference for using synthetic securitisations to manage RWAs and capital compared to traditional cash securitisations.

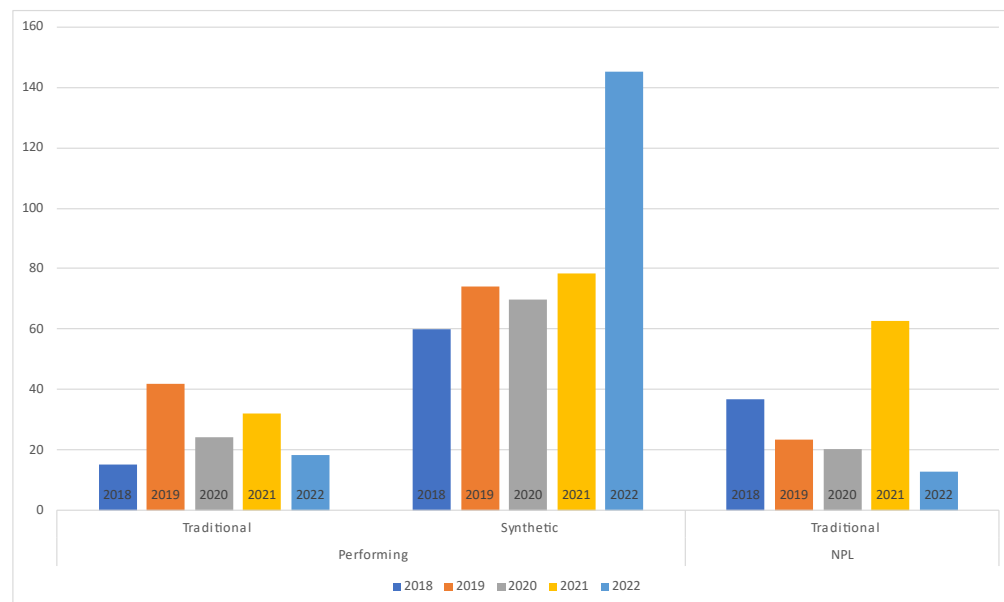
³⁸ NPL securitisations rely on traditional cash SRT transactions. For more details on the NPL securitisation market see Boudiaf and Gonzalez (2022).



Chart 7

SRT transaction volume per year
Notional amount of performing SRT transactions

(EUR billions)



Source: ECB data.

In the remainder of this section we focus on performing transactions. Chart 8 shows both the average nominal size of performing synthetic and traditional securitisations and the number of SSM significant institutions active in both segments. The average nominal size of synthetic transactions is almost three times larger than that of traditional cash transactions over the sample period. This reflects the use banks make of traditional cash SRT transactions to obtain capital relief on small, very specific portfolios.

Synthetic SRT securitisation has been most widely adopted by significant institutions, with the number steady increasing to reach 27 using this approach in 2022. By contrast, traditional cash securitisations are used by a low but steady number of banks; around 7 to 10. There was no noticeable increase over the sample period, and most of these are also regular issuers of synthetic deals. In total, 53 banks over the period benefitted from SRT securitisations, either in the form of synthetic (more common) or traditional cash transactions.

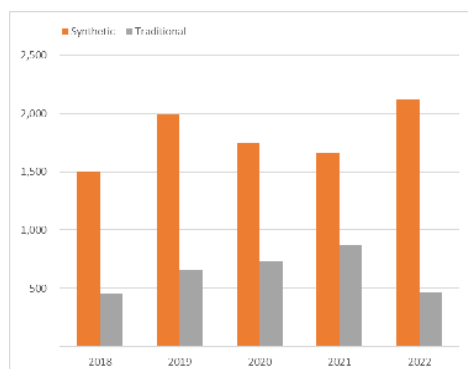
Despite the rapid adoption of synthetic securitisation by more banks, this trend can still be expected to continue in future years. The market is concentrated in just a few large institutions. The top four SSM banks account for around 60% of total notional volume, although this share has been decreasing as more banks adopt SRT. These institutions embed synthetic SRT securitisations in their yearly capital planning exercises and can therefore maintain a steady and regular annual flow of transactions. They form an important backbone for the SRT securitisation market, providing a reliable flow of deals to a growing investor base.



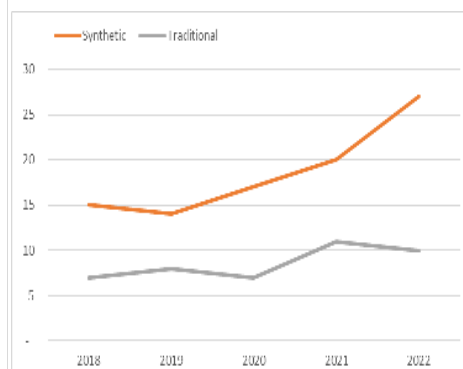
Chart 8 SRT performing transactions per year

Average SRT transaction size per year

(EUR millions)



Number of banks issuing SRT transactions



Source: ECB data.

With the introduction of a detailed European regulatory framework, banks and investors started reaping the benefits of a more predictable SRT process in 2018. Two regulatory pronouncements issued in 2017 clarified the regulatory framework: the EBA Discussion Paper on SRT and the Securitisation Regulation. The EBA paper fostered a common understanding of criteria for SRT recognition across banks and supervisors, increasing the predictability of capital relief before executing transactions. The Securitisation Regulation established a general framework for securitisation, and also set out a specific framework for simple, transparent and standardised (STS) securitisation.

Regulation alone does not explain the positive overall performance of the SRT market during the period, though. Banks experienced a challenging environment, with low profitability, low interest rates and increasing capital pressures from the EU commitment to implement Basel III introduced over a decade ago, which required them to hold more and higher-quality capital. These factors incentivised banks to increasingly use SRT to release balance sheet capacity.

Freeing up RWAs through SRT securitisation can be more economical for banks than raising capital. Chart 9 shows SRT delivered strongly on capital optimisation; capital relief in euro terms increased more than three-fold during the period to a record EUR 5.6 billion in 2022. Total CET1 created by SRT securitisations over the period represented 0.5% of the total CET1 of 27 euro area banks active in SRT securitisation, while notional securitised assets represented around 3.5% of their total assets. The strong use of synthetic securitisations by SSM significant institutions is noticeable in the capital relief figures, representing 70-90% of the total capital relief achieved by SSM banks.

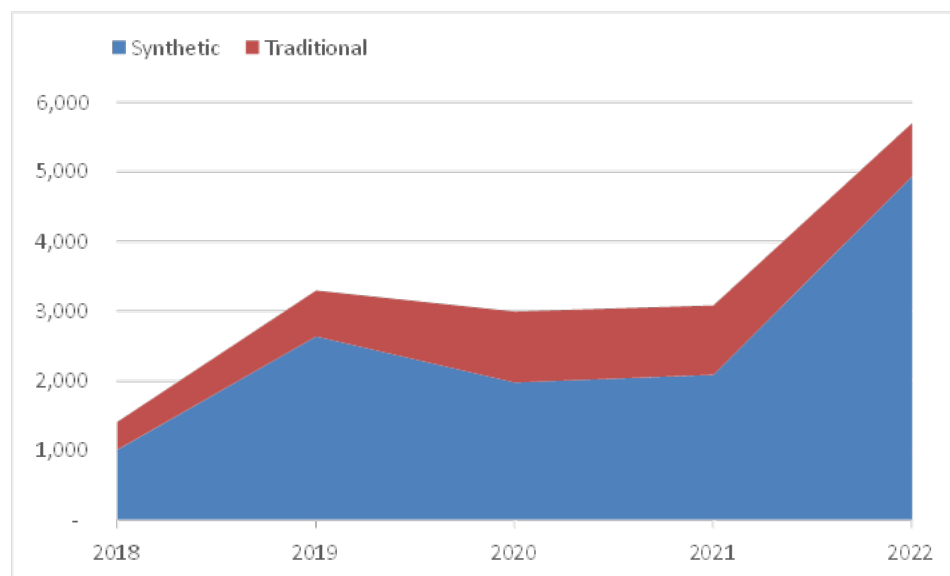


Chart 9

Total capital benefit from SRT per year

Performing loan transactions

(Euro millions)



Source: ECB data.

2020 was a significant year for the SRT market. Although volumes were down compared to previous years, there was a healthy volume of transactions despite dramatic moves in credit markets and the high uncertainties caused by the coronavirus (COVID-19) crisis. Pandemic-related capital preservation measures such as dividend restrictions, along with countercyclical ones such as less conservative provisioning approaches, moratoria, government support and waivers resulted in bank capital ratios increasing. After the initial disruption brought by the pandemic, these various measures lessened the need for capital relief trades.

Notional volume and number of transactions picked up in 2021, marking a new high, after a decline in 2020. Again, moratoria measures, significant government support and waivers granted by supervisors in capital and liquidity allowed banks act in a countercyclical manner and channel significant lending to the economy. An important factor in the year was the extension of the use of the STS framework to on- balance sheet synthetic transactions.³⁹ This allowed banks, especially those using the standardised approach, to achieve capital relief at an attractive cost. The introduction of the STS framework reduces both the risk weight floor on retained senior tranches and the size of the mezzanine tranche that needs to be placed to obtain credit protection at a given level of capital saving. The overall result is that SRT on-balance sheet synthetic transactions become more attractive for banks.

³⁹ See Regulation (EU) 2021/557.



2022 marked the high point in terms of SRT volume. Despite the significant uncertainties caused by geopolitical tensions, with the war in Ukraine and monetary policy normalisation due to double-digit inflation, the year saw a rush of deals, particularly in the final months, that well surpassed previous records. While 2022 saw a few banks coming to the market for the first time, we attribute the increase to institutions already active in SRT seizing the opportunity to release capital pressures and reduce RWAs by increasing their SRT issuance; no significant regulatory or supervisory change took place.

5.2 Investor side

The demand side of the market is not subject to ECB supervision, but it is interesting to identify the key investor types active here. A survey conducted with key originating banks provides the high-level estimate shown in Table 2

Table 2

SRT investors

Key investor categories active in the SRT market

Type of firm	Estimated share of total SRT market credit protection sold
Credit funds specialised in SRT transactions	45%
Insurance companies	5%
Pension funds	5%
Supranationals, public development funds	15%
Asset managers	30%

Source: survey ECB data (June 2023).

The largest investor type is a set of specialised credit funds (around 45%). This category contains a diverse set of firms including hedge funds and private equity funds, in addition to SRT-focused credit funds and general credit funds. Lured by high premiums, these are highly focused and



specialised credit portfolio managers operating in competition with larger asset manager firms (around 30%). The larger asset managers incorporate SRT investing in their diversified offering of investment strategies (equity, public fixed income, private debt, etc.). The role of insurance companies (5%) has increased from no activity to a growing presence in recent years. Insurers operate from the liability side of their balance sheets; the market is not economical for them on the asset side because of the onerous capital requirements Solvency II imposes on securitisation investing. Large European pension funds (5%) have had a continuous presence with well-established investment processes in this segment of the market. Supranational investors, namely the European Investment Fund, have played a significant but variable role over the years.

The profile of the demand side is clearly composed of professional and sophisticated credit portfolio managers. The survey also indicates that the number of investors is steadily growing in almost all categories. Market participation is limited to professional investors who appear prepared to understand and sustain the risks associated with these structures.

5.3 Country-level perspective

The SRT market is predominantly concentrated among banks in the four largest EU Member States, but this has been diminishing to an extent, with banks from other jurisdictions gaining an increasing share.⁴⁰ Chart 10 shows the evolution over the period for synthetic performing transactions. French banks account for over 30% of the SRT volume over the entire period, with Italian banks showing a very steep increase in in the last year of the sample (2022).

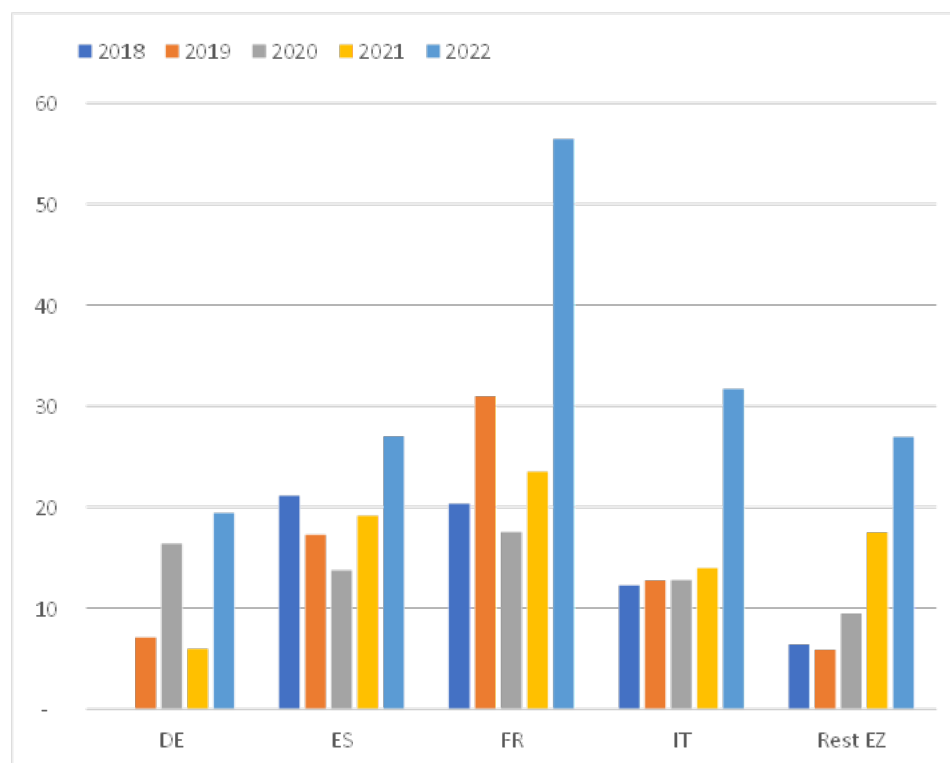
⁴⁰ Countries with a non-negligible SRT activity over the period have been Austria, Greece, Finland, Ireland and the Netherlands.



Chart 10

Synthetic SRT transactions by country and year (2018-2022)

(Euro billions)



Source: ECB data.

5.4 Type of asset class and risk approach

Chart 11 shows the underlying asset classes in the last year of the sample (2022) for both synthetic and traditional performing transactions. Large corporates account for over half of transactions. Residential and commercial mortgages (both 7-10%) make a similar contribution to SME loans (9%).

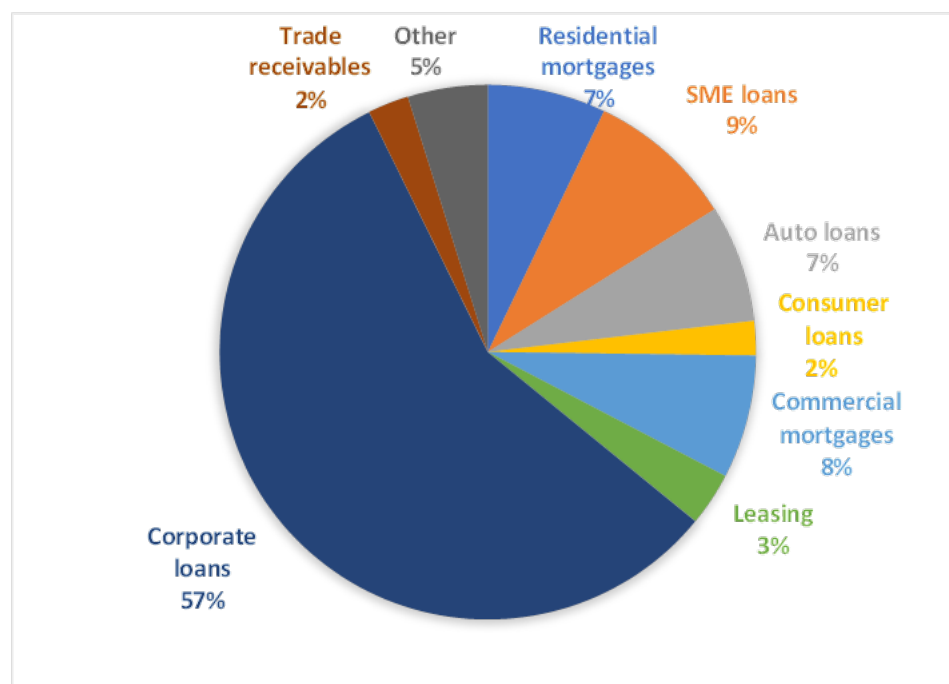
Not surprisingly, there is a prevalence of asset classes with high capital requirements, such as corporates and SMEs. Mortgages are not capital-intensive in general, but duration is very long compared with other asset classes, which compounds capital pressures due to the maturity effect. Mortgage transactions were almost non-existent prior to 2018, but increasing interest from insurers and the need for some banks to free up balance sheet capacity for certain high-RWA mortgage portfolios has meant that this type of transaction has become a permanent feature in the SRT market.



Chart 11 shows that the SRT market is well diversified in terms of asset classes. In fact, the market can cater for almost any type of underlying asset, with transactions backed by shipping loans, renewable energy projects, project finance and capital call facilities, for example.

Chart 11
Underlying asset classes in SRT transactions (2022)

(Euro)



Source: ECB data.

Note: includes both synthetic and traditional SRT deals (performing loan transactions).

The cost of credit protection is in general commensurate with the risk profile of the underlying assets. For mezzanine tranches, typically the tranche in SRT transactions that is protected, annual protection costs could range from 3-4% of value for very low-credit risk assets (e.g. residential mortgages) to up to 15-17% for high-risk assets. However, these are only indicative figures; estimates are constantly changing in line with market conditions and other factors, such as the level of subordination of the protected tranche, collateral, counterparty risk, interest rates, the cost of equity, etc. Inflationary pressures following the pandemic and geopolitical tensions have reset the interest rate environment and the cost of equity. Guarantee fees for comparable transactions have risen by around 25% since the outbreak of the pandemic and the Russian-Ukraine war.

Finally, Chart 12 shows the risk approach used by banks to calculate the regulatory capital requirements associated with their synthetic SRT securitisations. The CRR prescribes a hierarchy of calculation methods:

- the securitisation internal ratings-based approach (SEC-IRBA);



- the securitisation standardized approach (SEC-SA);
- the securitisation external ratings-based approach (SEC-ERBA).

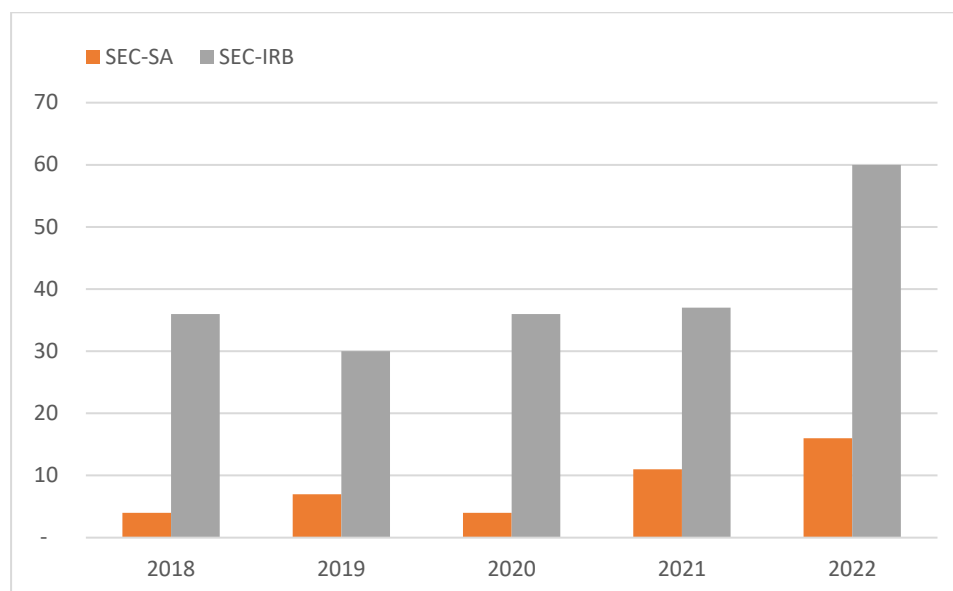
If a financial institution cannot apply any of these methods, it must give the securitisation exposure a risk weighting of 1,250%. In addition to the regulatory constraints associated with the use of SEC-IRBA, the extent to which the hierarchy is enforced will be determined by whether a bank possesses the level of knowledge and information necessary to generate the necessary calculations.

Note that Chart 12 shows only synthetic performing SRT securitisations, which represent the bulk of SRT trades for SSM banks. These are private transactions between banks and professional investors, so there is practically no use of public external ratings. In addition, RWAs for tranches under SEC-ERBA are less attractive than with the other approaches. Therefore only the IRB or standardised approaches are shown in the chart.

The claim that only IRB banks are active in the SRT market is a long-standing myth. In fact, an increasing number of banks using the standardised approach to risk operate in it too. This has particularly been the case since 2021, when more advantageous STS rules started to apply. However, it is nevertheless true that investments in securitisation technology expertise and regulatory requirements are unavoidable sunk costs for banks wanting to enter the market. These represent a relatively high bar for smaller and less sophisticated banks that mainly rely on the standardised approach for their capital calculations.

Chart 12

Risk approach used for capital requirements in synthetic transactions by year



Source: ECB data.

Note: number of banks.



6 Conclusion

The SRT securitisation market in the EU has developed significantly since the introduction of Basel III. Over the past five years the market has been supported by a clearer regulatory and supervisory environment. The positive developments experienced during the pandemic in 2020-2021 were followed by record transaction volumes in 2022, despite the geopolitical and macroeconomic crisis, and have helped consolidate the standing of the SRT market as a resilient and dependable capital management tool for European significant institutions, as well as a reliable source of investment opportunities for investors.

The increasing number of banks and investors participating is paving the way for a larger and more diversified market. As more banks adapt their risk management, IT, accounting, legal and capital management infrastructure to the new technology, supply is set to increase. Once these investments have been made, banks have an incentive to continue using SRT and expand their offering.

The majority of SRT transactions are conducted using synthetic securitisations. The investors in these products are professional credit risk managers, and they will play an important role in developing the market. This paper has not assessed their role specifically, but investors' appetite for risk transfer is evident from the record volumes seen in recent years. Further work on the demand side of the market is needed. It would be of great interest to see what investors' approach to SRT will be when faced with a significant downturn in the credit cycle, which has not been experienced so far. This would reveal any excess risk taking by the various investor groups actively participating in the SRT market. An analysis of risk interlinkages could shed light on risk transmission away from the European banking system.

Regulation and adequate supervisory attention and capacity have been enabling factors for the growth of the SRT market. Since the introduction of the CRR and the various clarifications issued by the EBA and the SSM, banks can expect predictability when issuing transactions. The expansion of the STS label to on-balance sheet synthetic transactions in mid-2021 makes it more economical for banks to achieve SRT, which will be a further supporting factor for the market in future.

However, regulation is not static and future changes could impact the positive trajectory of the SRT market. The effect of final and full implementation of Basel III in Europe remains to be seen. Particular attention would need to be paid to the introduction of a risk weight floor for IRB banks or any new regulatory technical standards on SRT.⁴¹ Further work would be necessary to ensure future regulatory measures are well calibrated to the overall objectives agreed by the EU in international prudential and market regulation agreements and eliminate unintended consequences.

The SRT market is a growing segment of the EU securitisation market. This is remarkable given that the overall EU public securitisation market has stagnated compared with that in the US. On some estimates, the (non-agency) public US market was four times larger than that of the EU in

⁴¹ See e.g. Clifford Chance (2021). "[EBA Report on Significant Risk Transfer in Securitisation](#)".



2020, with outstanding balances of USD 3,297 billion US dollars against EUR 793 billion; in 2014 it was only three times larger.⁴² The gap has widened significantly in recent years, probably due to the triple effect of the exceptional monetary policy measures which reduced banks' need for financing, the entry into force of the Securitisation Regulation, and the implementation of the Basel III prudential framework for securitisations in the EU, unlike in the US (JC of ESAs, 2022). Overall, the US public market is considered more integrated and developed than the EU due to its longer history and, crucially, the role played by government agencies in creating significant economies of scale (Deku and Kara, 2017).

Overall, we believe the market has reached sufficient critical mass to make SRT a permanent feature in European banks' capital management toolkit and we expect it to continue growing. As more banks and investors join, the current assessment process will need to become more efficient to avoid bottlenecks while still maintaining adequate supervision. Standard documentation, like the ISDA swap agreements, could be a positive way forward. The market could also develop and disseminate key data to improve transparency and overall awareness, but it should continue to be limited to professional investors who are prepared to understand and sustain the risks associated with these structures. SRT has the potential to be the enabling financial technology that could accelerate the green energy transformation, from brown assets still sitting on banks' balance sheets to green ones (Gonzalez and Giovannetti, 2023). We are already starting to see the overall impact of the investments made by banks, investors and regulators since it was introduced.

The collapses of Silicon Valley Bank, Signature Bank and Credit Suisse might encourage banks to start using securitisation more frequently to reap capital and liquidity benefits. The forced wipe-out of all Credit Suisse AT1 bonds imposed by the Swiss authorities triggered a surge in the premia demanded by investors for bank debt and common equity. More expensive funding and tougher capital raising conditions could incentivise banks to issue more securitisations for cost reasons.

Further research is needed to understand the effects of SRT on the banking system. This includes comparing the capital ratio trajectories of banks using SRT against those that do not, and investigating how the approach shifts risks to other areas of the financial system. From a financial stability perspective, we also need a better understanding of the factors that underpin the positive track record so far. This paper is a first attempt to cast light on an increasingly important market for the banking system and the economy.

⁴² Carving out the US Agency Securitisations, See Joint Committee European Supervisory Authorities – Securitisation Committee. (2022) "[Advice on the review of the Securitisation prudential framework](#)"



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