

# European Repo Market Survey

## A look-back at the tri-party securities lending data reported in the ICMA survey

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# A look-back at the tri-party securities lending data reported in the ICMA survey

## Introduction

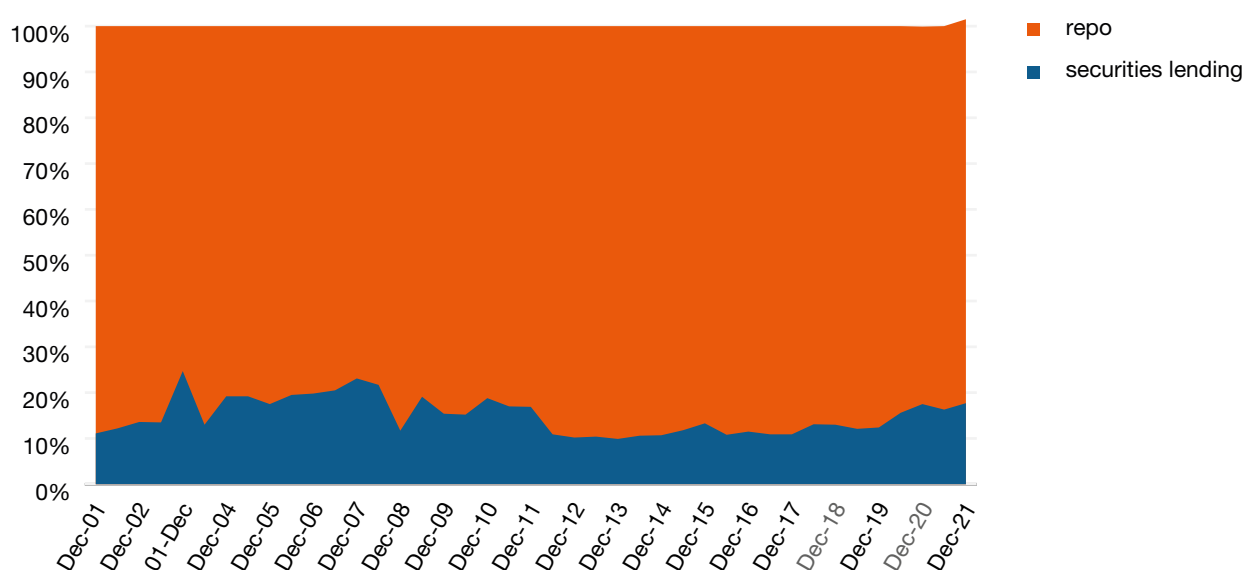
Since June 2016, in parallel to the semi-annual survey of the European repo market, ICMA has collected data on tri-party securities lending (TPSL) directly from the same tri-party agents who report tri-party repo (TPR). These extra data allow the survey to monitor the extent to which the two activities have common drivers and how they interact with each other. This is likely given that repo and securities lending can perform analogous functions and that all the tri-party services offered by an agent will be hosted by a common collateral management system.

It is important to note that the tri-party data collected by ICMA directly from agents are slightly distorted by the inclusion of the non-European business of global custodians providing tri-party services.

ICMA data also only cover securities loans against non-cash collateral, as tri-party agents did not offer cash collateral management during the period under review. Moreover, no data are available on the loan side of TPSL (eg the types of securities lent and the currency of denomination or maturity of loaned securities). This is because tri-party agents are often engaged to manage only the collateralization of loans, while the loans themselves are settled and may even be valued by the borrower and the lender (or the lender's securities lending agent).

The functional overlap between repo and securities lending is apparent from Chart 1 below, which shows the share of business conducted by repo desks which was securities lending. This was cash-collateralized securities lending and largely against fixed-income collateral, reflecting the fixed-income bias of the repo market.

**Chart 1 – Share of securities lending of business on repo desks in ICMA survey**



At times, the securities lending activity reported on repo desks has exceeded 20% of the outstanding business reported in the ICMA survey. There was a sustained step down in the share of securities lending after the Global



Financial Crisis (GFC) and another in June 2012. The latter was due to the first two Long-Term Refinancing Operations (LTROs I and II) introduced by the Eurosystem in December 2011 and February 2012 in response to the eurozone sovereign debt crisis. These refinancing facilities reduced banks' need for market funding. They impacted securities lending on repo desks because it was cash-collateralized and generally intended for funding.

A more gradual secular impact on securities lending on repo desks may have been the general switch away from the use of cash collateral in securities lending because of concerns over the impacts of cash on balance sheets and the Leverage Ratio and, from 2015, by the damage to the economics of cash collateral from the introduction of low or negative repo rates.

The cross-over between repo and securities lending is facilitated by the fact that a simple exchange of securities for cash, particularly where those securities are plain vanilla fixed-income securities, can be documented almost as easily as a securities loan under the GMSLA as a repo under the GMRA (and vice versa). An example is the so-called "reverse stock loan". This is nominally a cash-collateralized securities loan but has a funding purpose and is managed like a repo. Japanese gentan repo represents a similar cross-over.

The choice between documenting a transaction as a repo or as a securities loan is often dictated by whichever master agreement the counterparties have historically had in place with each other. Among non-bank financial institutions, this is often a securities lending agreement, as the securities lending market has been active for longer than the repo market. But the choice may also depend on the type of securities being financed. Securities lending is preferred for equity because this asset class is little used in repo. Occasionally, the choice is the result of imperfect attempts to adapt booking systems designed for securities lending to include repo, as an alternative to the more expensive option of buying a dedicated repo system. Repos then often have to be disguised as securities loans to fit into such imperfectly-adapted booking systems. This was the origin of the reverse stock loan.

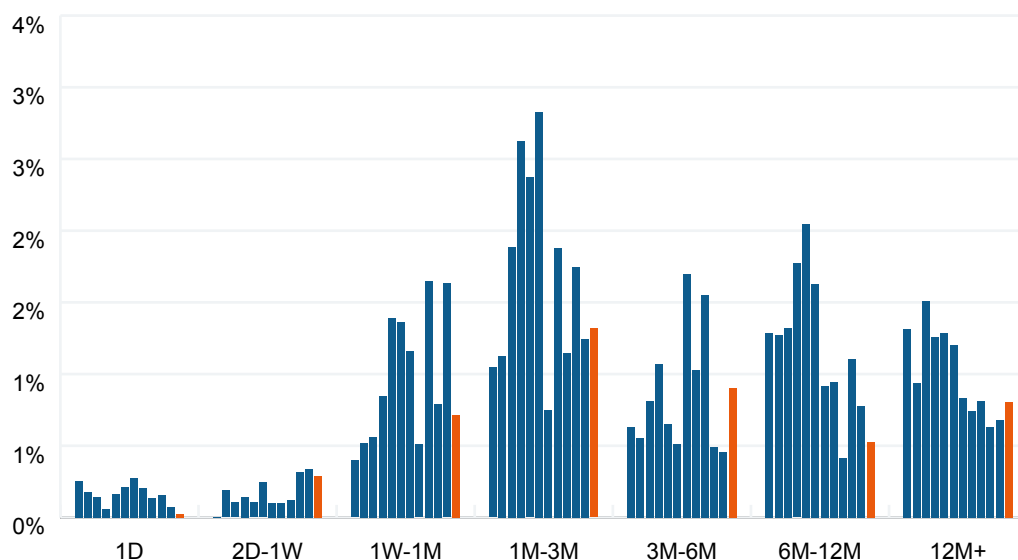
A common driver of repo and securities lending, that has increased in importance since the tightening of regulation following the GFC, is the business of "collateral transformation". This is a temporary exchange of legal title to an asset or assets for title to a more liquid asset or assets. Specific exchanges are called "collateral swaps" or "liquidity swaps" and sometimes, depending on the counterparty, "collateral upgrade/downgrade" trades.

The target of most collateral swaps is High Quality Liquid Assets (HQLA), typically to help intermediaries satisfy their requirements for HQLA under the Basel Liquidity Coverage Ratio (LCR). But collateral swaps can also be used to generate eligible collateral to meet other requirements, including the mandatory collateralization and margining requirements imposed on OTC derivatives by the Basel Uncleared Margin Rules or UMR (implemented in Europe under EMIR).

Collateral swaps can take the form of securities lending against non-cash collateral or can be constructed from a repo transacted back-to-back with a reverse repo of the same term and cash value. The management of the non-cash collateral in such swaps is often outsourced to tri-party agents so would appear in TPSL.

Collateral swapping seems to be evident in the seasonality of TPSL between ICMA survey dates (see Chart 2 below). Since 2017, there has been a jump in every December survey in the share of outstanding TPSL with a remaining term to maturity of over one month and up to and including six months and a relapse in share in every June survey. This is significant because most collateral swaps take place over reporting dates, particularly the year-end, when various balance sheet-based bank levies are also calculated. Moreover, collateral swaps tend to have an original maturity of between one month and six months, which are boundaries set by the 30-day horizon of the LCR and the six-month cross-over between 0/10/15% and 50% stability factors for financial institutions under the Net Stable Funding Ratio (NSFR). However, because many of these swaps are transacted in advance of year-end, by the time of the ICMA surveys (the second Wednesday of June and December), the term remaining to maturity of swaps will have shortened, so collateral transformation probably tends to be reflected more in the one to three-month maturity bracket of the survey than in the three to six-month bracket.

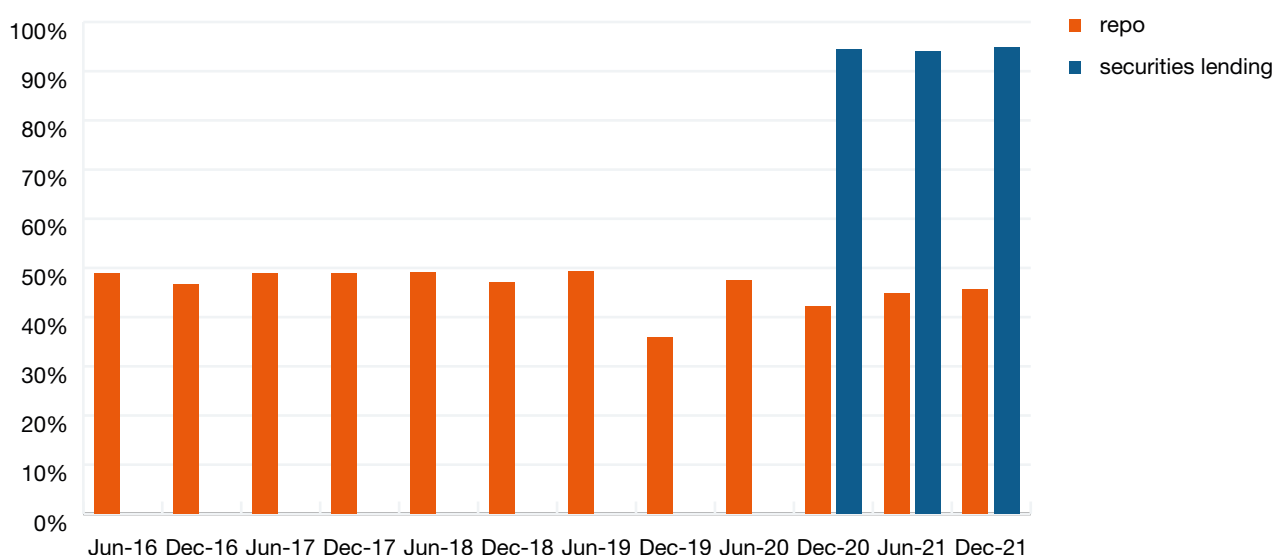
**Chart 2 – Maturity distribution of TPSL managed by the top three agents<sup>1</sup>**



Each column in a cluster is for a survey between June 2016 and December 2021. The red column on the right of each cluster is for the December 2021 survey.

Given that the share of fixed-term TPSL is less than 10% of the total (see Chart 3 below), it might appear that collateral swaps do not commonly take the form of securities loans, as such swaps must be fixed-term in order that the borrower of HQLA holds the asset beyond the 30-day limit on LCR. However, fixed-term loans can be collateralized by open tri-party collateral management programmes, with the loan itself managed and sometimes valued independently by the counterparties. In such cases, tri-party agents would be unaware of whether the term of the loan they are collateralizing is open or fixed-term and can only report the tenor of the collateral allocation.

**Chart 3 – Open transactions in TPR and TPSL reported by the top three agents<sup>2</sup>**



<sup>1</sup> In order to ensure consistency, the data are for the top three agents, as smaller agents reported less regularly. However, one of the top three agents failed to report TPR in December 2016, so it is necessary to interpolate across this date when considering trends. In some other charts, it has been necessary to draw only from the data from the two largest agents.

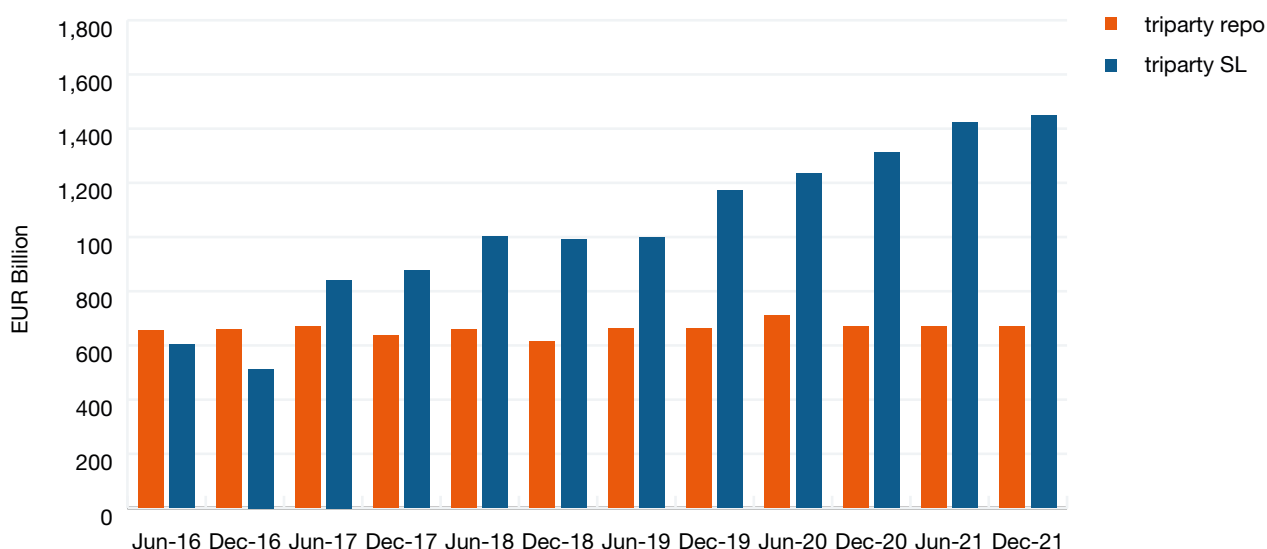
<sup>2</sup> No data is available on TPSL before December 2020

## Comparing tri-party repo and tri-party securities lending

### The size of the tri-party securities financing markets

Data reported by the principal tri-party agents show that, since 2016, TPSL increasingly outpaced TPR, which trended sideways (see Chart 4 below).

**Chart 4 – Outstanding TPR and TPSL reported by the top three agents**



One probable reason for the outperformance of TPSL was that securities lending benefited from increasing interest from investment managers seeking to earn incremental income for themselves to help compensate for the compression of client fees due to stronger competition between managers for investment mandates. For investors, securities lending fees have also been seen as a means of offsetting the erosion of returns by low or negative yields on an increasing range of assets. And lending returns have been made more attractive by collateral scarcity due to the introduction of the Expanded Asset Purchase Programme (EAPP) and the second Targeted LTRO (TLTRO II) by the Eurosystem in 2016 and the introduction of the Pandemic Emergency Purchase Programme (PEPP) in 2020. This is notwithstanding the central bank lending programmes that are supposed to recycle scarce securities back into the market. As investors who lend securities, directly or more usually through agents, tend to rely on tri-party agents for collateral management, increased interest in securities lending can be expected to have disproportionately benefited the parallel agency service of TPSL.

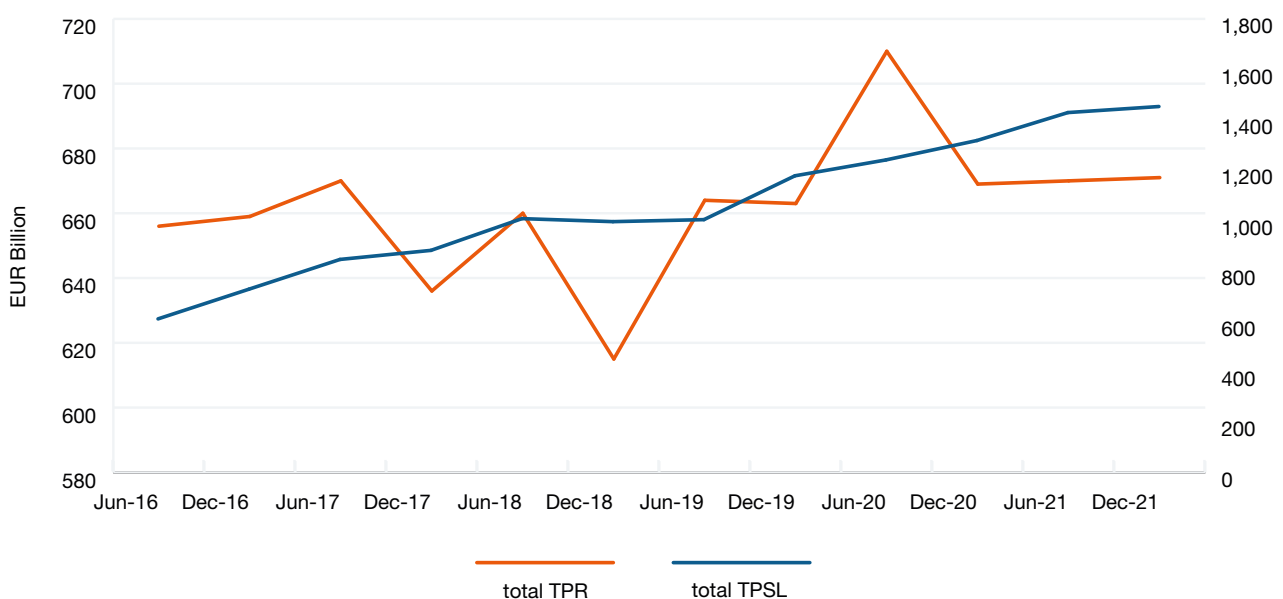
In contrast, repo activity has been affected by intermediaries' efforts to contain the size of their balance sheets in order to reduce risk exposures and minimize regulatory costs, in particular, the Leverage Ratio and bank levies. This was a significant factor between 2008 and 2016. In addition, since 2011 and even more so since 2016, GC repo activity (including TPR) has been undermined by the availability of abundant central bank liquidity. Securities lending has been less constrained by balance sheet issues and funding conditions because it can offer non-cash collateral. And within the securities lending market, the preference for non-cash collateral has been likely to have favoured TPSL, which is purely about the management of non-cash collateral.

TPSL may also have benefited from the extension to non-bank financial institutions of UMR. UMR is reported to have boosted the demand for securities eligible to be used as margin and to have therefore fuelled more collateral transformation. Among those non-bank financial institutions who are long-term investors, the preferred means of collateral transformation is likely to be securities lending rather than repo, for reasons such as their established use of securities lending and the wish to avoid the balance sheet impact of cash collateral. Because securities lending is a more operationally complex business, it is typically outsourced by investors to specialized agent lenders, who

in turn tend to outsource collateral management to tri-party agents. Therefore, other things being equal, more collateral management by long-term investors should mean more TPSL.

Chart 5 below (which is an alternative visualization of the data in Chart 4 above) compares the evolution of the values of TPSL and TPR. It can be seen that TPR has been much more cyclical than TPSL, which simply trended up across the whole period. The downtrend in TPR during 2017 is likely to have been due to the reduced financing needs of eurozone banks following the launch of EAPP and TLTRO II in June 2016. The dip in June 2019 involved eurobonds in US dollars and Asian investors, so may have been reflected the escalation of US-China trade tensions during the first-half of 2019. The fall after June 2020 was driven by the monetary policy response to the Covid pandemic, in particular, the launch of PEPP, which has led to the further substitution of central bank liquidity for market borrowing, including TPR.

**Chart 5 – Outstanding values of TPSL and TPR managed by top three agents**



The greater cyclicity of TPR reflects its role in the financing of intermediaries, whose balance sheets can change size rapidly in response to the demands of asset and liability management, particularly at year-end, when intermediaries seek to shrink their balance sheets. The use of non-cash collateral in TPSL makes it less prone to such volatile influences.

Another key driver of collateral allocation in TPR is the composition of the trading inventories that dealers need to finance. These reflect trading patterns in the repo and cash markets, including the scarcity of particular securities and new issuance, all of which are dynamic factors. In contrast, collateral allocation in TPSL is largely about what securities are held in investment portfolios and which of these are most suitable to be offered as collateral. This supply is relatively stable. In other words, TPR may be more volatile because it is trading and flow-driven, while TPSL may be more stable because it is investment and stock-driven.

In addition, the creditworthiness of collateral may be less of issue in TPR than TPSL. The repo market is used to distribute new issues of securities across the quality spectrum. In contrast, securities are allocated to TPSL usually on the basis of their acceptability as collateral to lenders.



## The tri-party securities lending market

### Collateral types

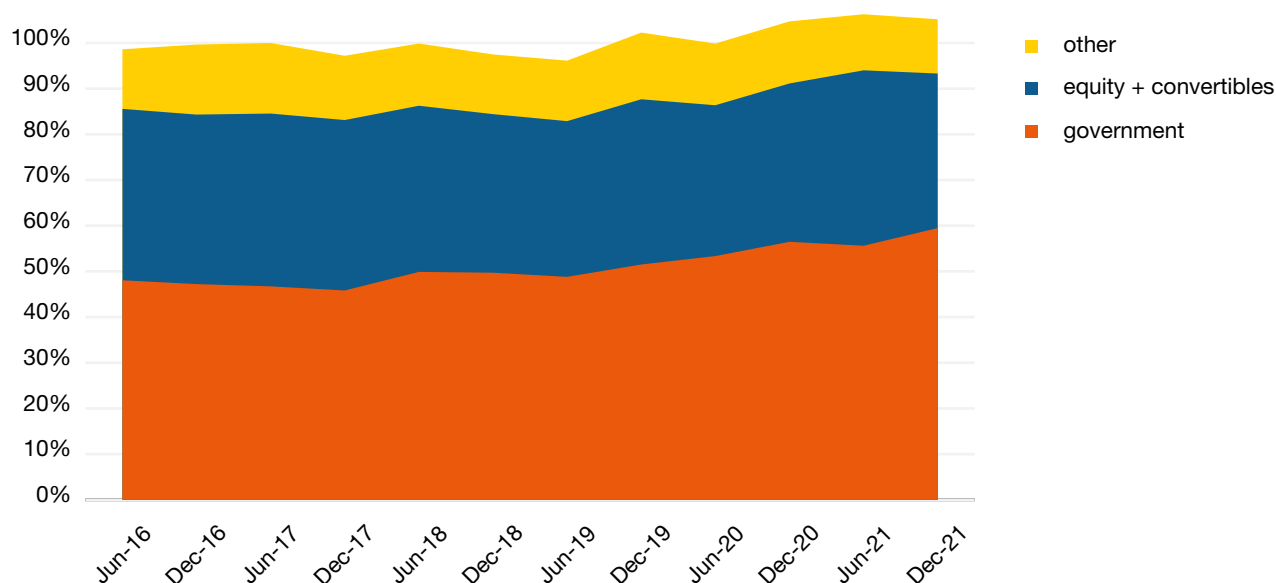
The largest pools of the TPSL collateral reported to ICMA have been in government securities and equity. In December 2021, their shares were 59.5% and (including convertible bonds) 33.8%, respectively (see Chart 6 below).

Most of the equity collateral reported by tri-party agents is managed by agents who are global custodian banks, rather than ICSDs. If the non-European business of the global custodians were to be excluded, fixed-income collateral would likely have taken an even bigger share of TPSL.

The share of government securities in TPSL collateral was similar to the average share of government securities loaned globally, as reported by market data aggregators and published by ISLA (48% in December 2021) but the share of equity in the TPSL collateral data reported to the survey was lower than the aggregators' number of global loaned securities (which was 41%).

ISLA reports put equity in European TPSL at 41% in December 2021 compared to 31% in the data reported to the ICMA. These differences probably reflect a European bias towards fixed-income collateral and fewer global custodians in the ICMA survey.<sup>3</sup>

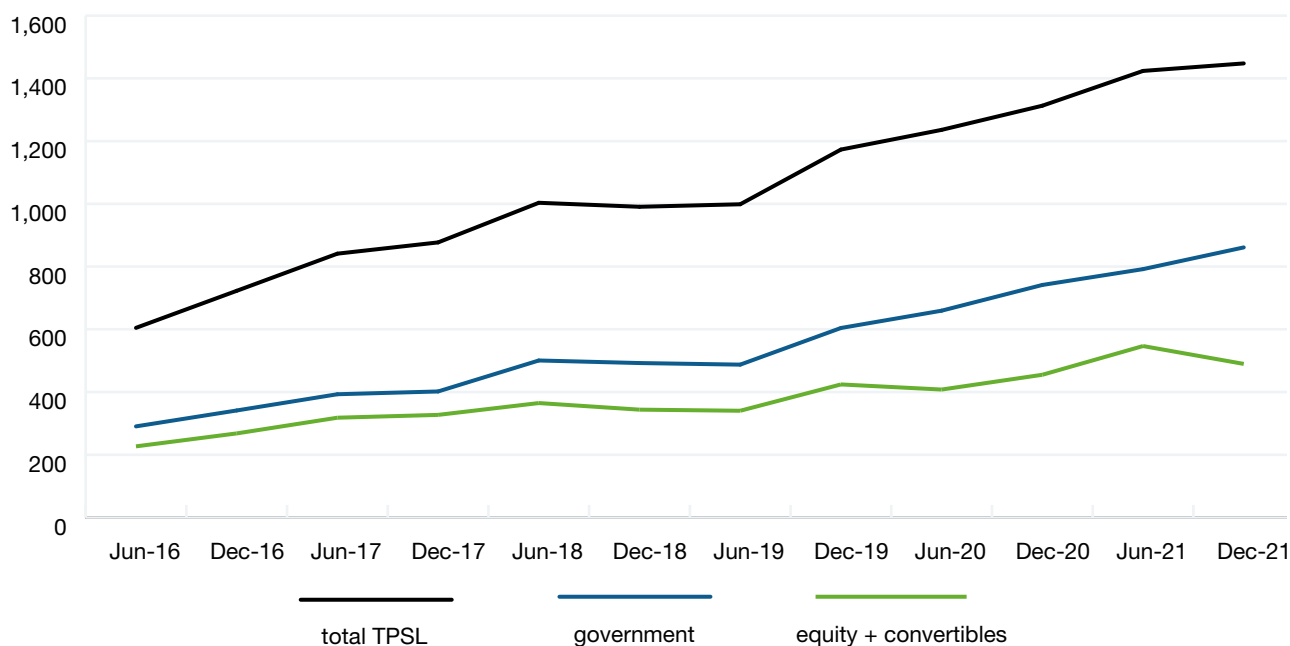
**Chart 6 – Shares of types of collateral in outstanding TPSL managed by the top three agents**



It can be seen from Chart 7 below that the growth in the value of government securities used as collateral in TPSL generally outpaced equity, particularly after 2018. From March 2020, this was initially due to the collapse in equity prices in anticipation of a global economic slowdown as lockdowns were imposed in response to the Covid pandemic. Volatile prices made equity less acceptable as collateral. The subsequent rebound in equity markets, as official support and vaccination programmes restored confidence, helped equity make up some lost ground. However, this recovery peaked in June 2021, even though equity market valuations and supply continued to advance to new heights in December 2021. Meanwhile, the surge in government bond issuance to finance pandemic programmes has continued to support an uninterrupted rise in the allocation of government bonds as collateral, notwithstanding a significant drop in sovereign issuance in the last quarter of 2021.

<sup>3</sup> ISLA's 15th Securities Lending Market Report of March 2022.

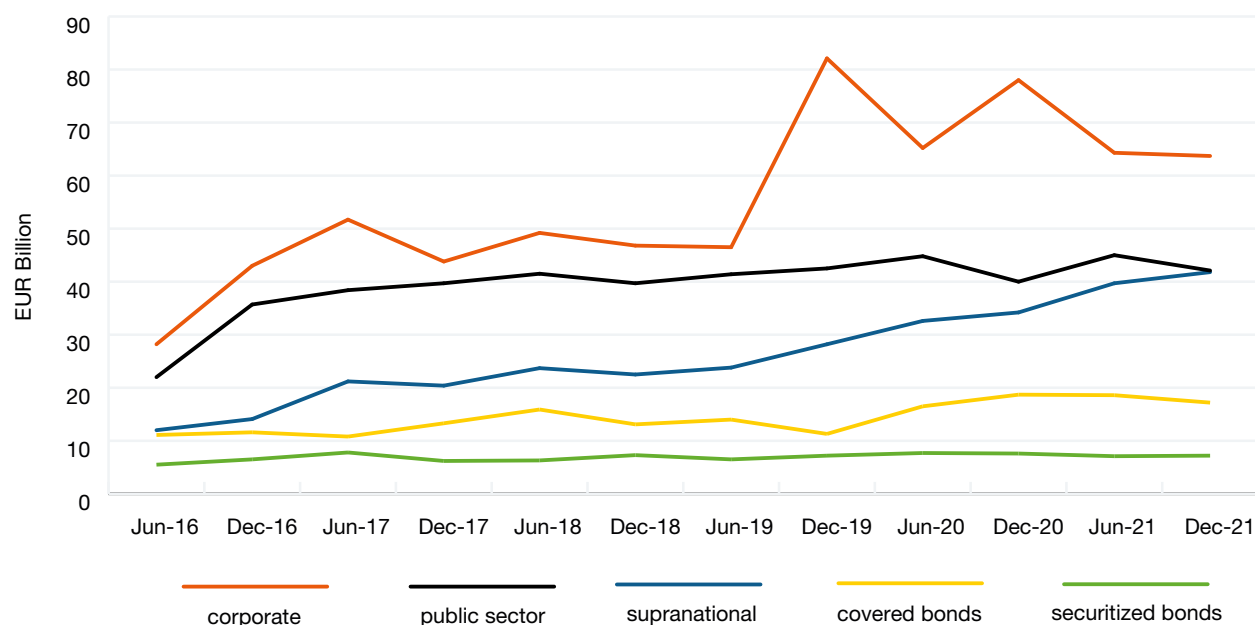
**Chart 7 – Outstanding values of types of collateral in TPSL managed by the top three agents**



*Non-government fixed-income collateral<sup>4</sup>*

Chart 8 below shows the evolution of the values of various non-government fixed-income collateral in TPSL reported by the three largest agents.

**Chart 8 – Outstanding values of non-government debt in TPSL managed by the top three agents**



Corporate bonds provided the largest share of non-government fixed-income collateral in TPSL over the period under review (significantly the largest since December 2019) but also the most volatile component.

<sup>4</sup> The following analysis of non-government debt collateral in TPSL is based on the data of the three largest tri-party agents (other agents have been excluded because of their irregular reporting of collateral).

The rise in the value of corporate bond collateral in TPSL to June 2017 followed a fall in the EUR iTraxx Main 5-year index (which measures investment-grade eurozone corporate credit spreads) by almost 34% over the previous year (see Chart 9 below). The narrowing of credit spreads during this period was attributed largely to the start of the Corporate Sector Purchase Programme (CSPP) in the eurozone in June 2016. Stronger corporate bond valuations are likely to have encouraged their allocation and acceptability as collateral.

**Chart 9 – Outstanding of non-government securities in the outstanding TPSL managed by the top three agents versus the EUR iTraxx Main 5-year Index**



However, despite a continued fall in the iTraxx over the rest of 2017, the use of corporate bond collateral fluctuated sideways. The sideways fluctuation continued over 2018 and most of 2019. To a large extent, this can be attributed to the slowdown in securities lending overall. The allocation of corporate bonds did not appear to have been affected by the deterioration in financial market sentiment over 2018, evidenced in a rise in the iTraxx of some 95% and a sell-off in credit assets and equity at the end of 2018.

In 2019, market sentiment was reversed by the easing of global trade tensions and the resumption of the CSPP in the eurozone in November 2019. The iTraxx fell by 49% over the year and was accompanied by strong issuance of corporate bonds driven by investors searching for yield and issuers benefiting from historically low funding costs (issuance was 24% higher over 2019 than over 2018). Firmer corporate bond prices and larger supply seem to have fed through to increased use of corporate bond collateral by the second-half of 2019, with allocation jumping sharply from EUR 46.5 billion to over EUR 82 billion.

In 2020, the allocation of corporate bond collateral was initially hit by the blow-out in corporate credit spreads in anticipation of the impact on the global economy of the Covid lockdowns. This saw the iTraxx rise by some 117% over the first-quarter of 2020. However, prompt announcements of massive official monetary and economic assistance largely reversed the impact of the Covid shock. The iTraxx tightened by 50% over the first-quarter of 2020, accompanied by another surge in new issuance in the second-quarter (by 72% over the first-quarter). The allocation of corporate bond collateral recovered by the end of 2020.

Part of the growth in the allocation of corporate bond collateral in 2020 has been attributed anecdotally to the substitution of corporate bonds for equity collateral, at least to the extent of moderating the acceleration in the allocation of equity. This may have been because of a reluctance among lenders to take more equity following the spike in price volatility in March and perhaps because the subsequent vigorous price recovery risked making some lenders overweight in equity if they were to take more as collateral.<sup>5</sup>

In 2021, the allocation of corporate bonds fell back but then levelled out, coinciding with the flattening of the iTraxx.

Public sector bonds have been the next most common non-government fixed-income collateral in TPSL but growth was slow after 2016, perhaps reflecting central bank purchases.

The allocation of supranational bonds in TPSL accelerated in 2019, having grown steadily from a low level from 2016. Some of that growth will have been powered by issuance by the European Stability Mechanism (ESM), which peaked in 2015-16 at about EUR 48 billion and, since 2020, by the launch of the SURE and NGEU bond programmes by the EU.

Use of covered bonds as collateral in TPSL recovered in late 2020 and in 2021, almost doubling in size from a low in June 2020. But their use may have been held back by relatively slow issuance since the second-quarter of 2020.

The allocation of securitized bonds recovered during 2020, possibly on the basis of a revival in the issuance of CLOs and ABS in the eurozone.

## TPSL versus TPR

The allocation of non-government fixed-income securities as collateral in TPR reflected the more cyclical evolution of TPR overall.<sup>6</sup> The greater cyclicity of TPR may have been due to Eurosystem asset purchases and facilities such as TLTRO III having a naturally bigger impact on the financing needs of dealers in the repo market than on the composition of the portfolios of securities lenders and therefore the supply of TPSL collateral.

The share of government securities in December 2021 was fairly similar in TPSL and TPR at 59.5% and 54.7%, respectively, although TPR but not TPSL showed signs of a flight to quality in June 2020 in response to the initial Covid shock. But the most noticeable difference between TPSL and TPR was the smaller role of equity and convertible bond collateral in TPR (16.0% in December 2021 compared with 33.8% in TPSL) and the correspondingly greater role of non-government fixed-income securities (35.3% in TPR in December 2021 compared with 13.0% in TPSL).<sup>7</sup>

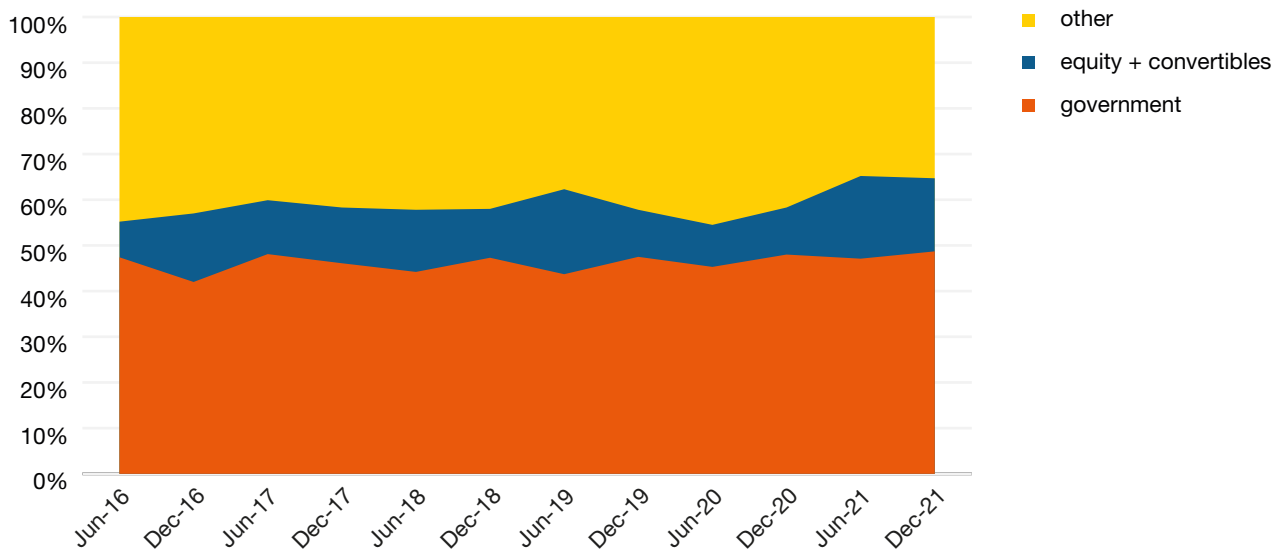
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<sup>5</sup> ISLA's Securities Lending Market Report of March 2022 states that the share of corporate bonds being used as collateral in European TPSL jumped from a historical average of about 10% to over 30% in June 2020 before falling back to 9% in December 2021. The shares reported by ISLA contrast with a recent range of 16-18% and a peak in June 2020 of 18.6% reported to ICMA by the same agents. But the differences may reflect the relative timing of the reports.

<sup>6</sup> If global custodians were to be excluded, the pattern of use for all non-government fixed-income would be highly cyclical and synchronized, particularly in terms of percentage shares, with peaks in December 2016 and 2018, and a peak in all types of non-government fixed-income collateral except corporate bonds in December 2021.

<sup>7</sup> However, the share of equity in TPR reported by the principal agents peaked at 20% in June 2021.

**Chart 10 – Shares of types of collateral in outstanding TPR managed by the top three agents**



The use of equity in TPR jumped in December 2019 and, as in TPSL, again in December 2020 to June 2021. This increased use of equity likely reflected the restoration of confidence in equity after the collapses at the end of 2018 and in April 2021.

The small share of equity in TPR is typical of repo in general. Indeed, the share of equity collateral in the repo market overall is even smaller than in TPR. In the ICMA survey of December 2021, it was a mere 0.4%.<sup>8</sup>

One reason why equity makes up a small share of repo collateral is because the equity market is less financing-driven than the fixed-income market that underlies most repo. This reflects the greater role of intermediaries in the fixed-income markets and the need of those intermediaries for financing to support their market-making. Repo also faces stiffer competition in the intermediation of equity than in fixed-income from non-cash collateralized securities lending and synthetic products, both of which offer greater balance sheet efficiency. It is also possible that the price volatility of equity makes it less suitable as collateral for cash lending, which is the core function of repo, whereas collateral volatility can be helpful in offsetting the correlated volatility of loaned equities.

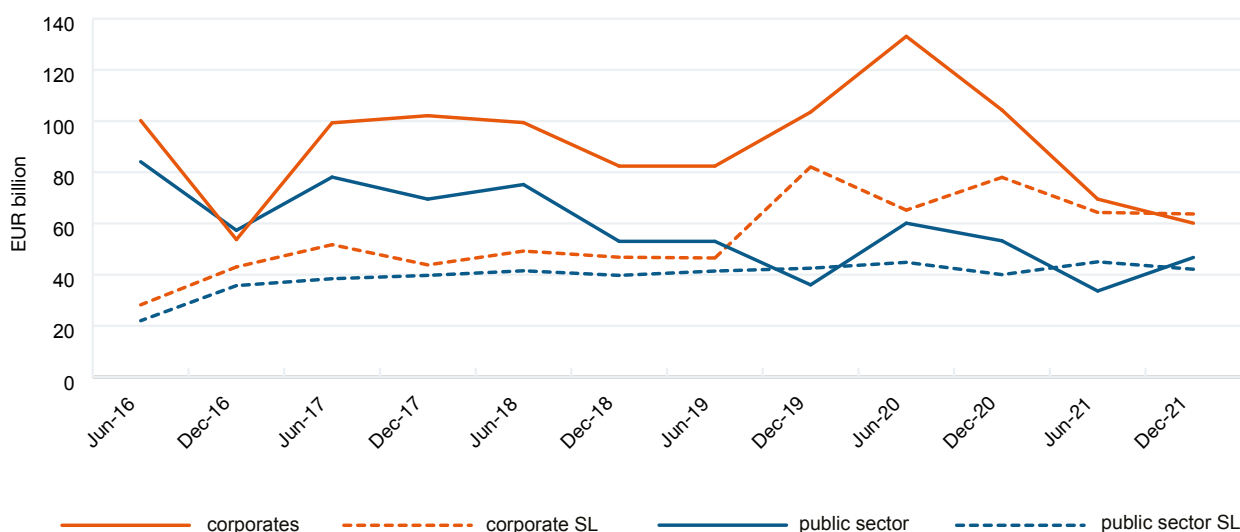
Comparisons of the allocation of non-government fixed-income securities as collateral in TPSL and TPR are shown in Charts 11a and 11b below.<sup>9</sup> The rise in corporate bond collateral in TPR in June 2020 occurred against the background of a significant boost to issuance by eurozone corporates after the initial pandemic shock (which would have been distributed through the repo market).

<sup>8</sup> This number is likely to be an understatement, because of the tendency of financial institutions to organize equity repo trading as part of their equity finance units, which do not contribute to the returns to the ICMA survey made by their repo desks. However, anecdotal evidence suggests that, even if the survey were to encompass more equity repo operations, equity would still not account for a large share of the repo market.

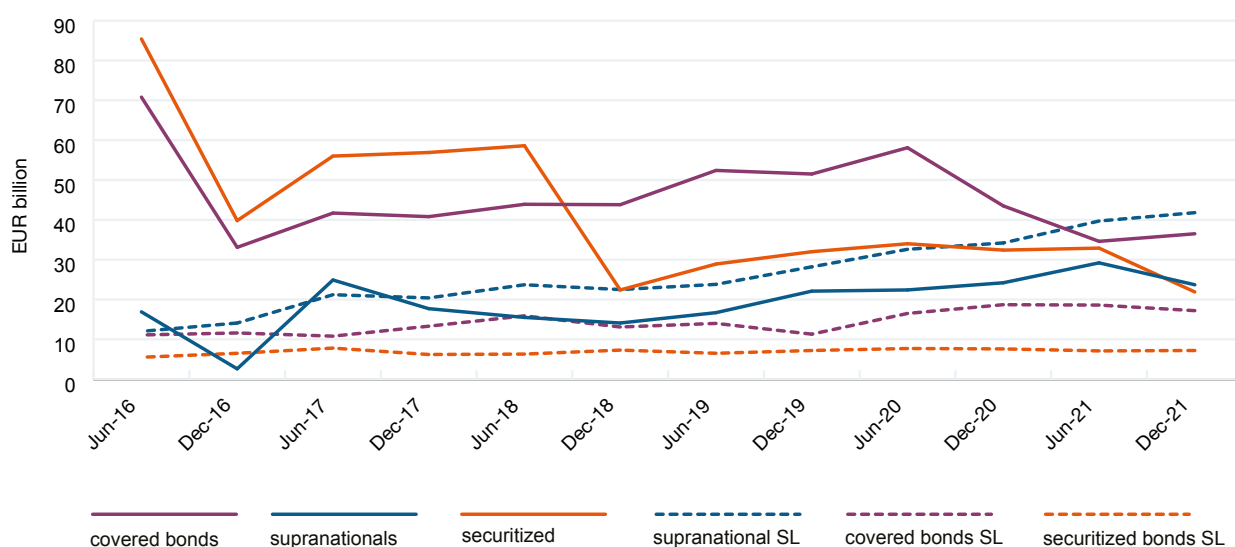
<sup>9</sup> Note that corporate bond collateral in the TPR data includes issues by both financial and non-financial entities, whereas these are split in the TPSL data.



**Chart 11a – Outstanding values of corporate and public sector bonds in the collateral composition of TPR and TPSL managed by the top three agents<sup>10</sup>**



**Chart 11b – Outstanding values of covered, supranational and securitized bonds in the collateral composition of TPR and TPSL managed by the top three agents**



The rankings of the different types of non-government fixed-income securities in TPSL and TPR were the same, except for covered bonds, which were much more common in TPR (above supranationals in TPR and below in TPSL).

Other significant differences between TPR and TPSL include the sharp drops in TPR in securitized bonds in December 2018 (eg MBS, ABS, CLOs, CLNs, etc), at the time of the credit and equity sell-off, and in covered bonds after their allocation peaked in June 2020.

<sup>10</sup> The dip in TPR in December 2016 is due to one agent failing to report, so is best smoothed over.

## Collateral quality

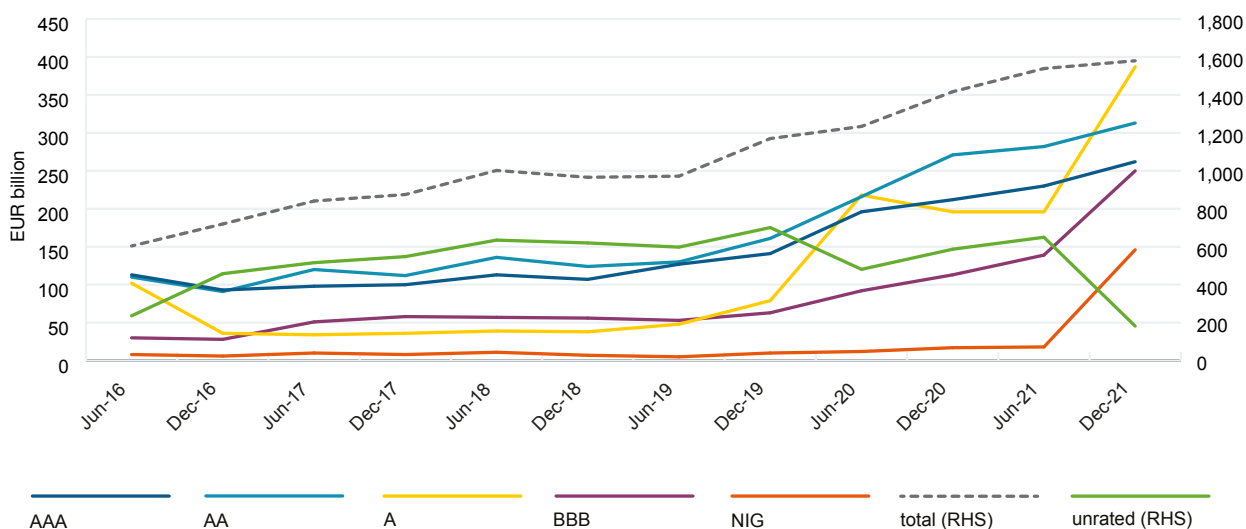
In TPSL, the most significant proportion of the collateral allocated by the top three agents was often unrated over the period under review (up to almost 65% on occasion but down to a record low of 11.5% in December 2021).<sup>11</sup> Most of this is assumed to have been equity. Significantly, unrated collateral was concentrated at the tri-party agents operated by global custodians, who tend to manage more equity collateral than the ICSDs who dominate European tri-party. However, allocations may have included unrated bonds (which constitute some 37% of eurozone fixed-income securities).

Other than unrated collateral, the principal allocation of collateral in TPSL was in AAA and AA-rated collateral. The dominant shares of AAA and AA-rated collateral probably reflects the fact that these grades account for about two-thirds of outstanding European government bonds.

For most of the period, there was a material correlation between the values of collateral that were A-rated and those that were issued by corporates. However, the tripling in the allocation of A-rated collateral in June 2020 seemed to have been driven by public sector and supranational bonds.

As shown in Chart 12a below, there was strong growth in the allocation of BBB-rated and non-investment grade bonds from 2019, which accelerated in December 2021. This increasing allocation of lower-rated bonds is likely to have been fuelled in part by vigorous issuance of BBB-rated and high-yield corporate bonds. In the eurozone, such lower-rated bonds accounted for the bulk of corporate bond issuance after March 2020. There were also anecdotal reports that competition among securities lenders encouraged greater flexibility in the collateral eligibility schedules of securities lenders in 2021.

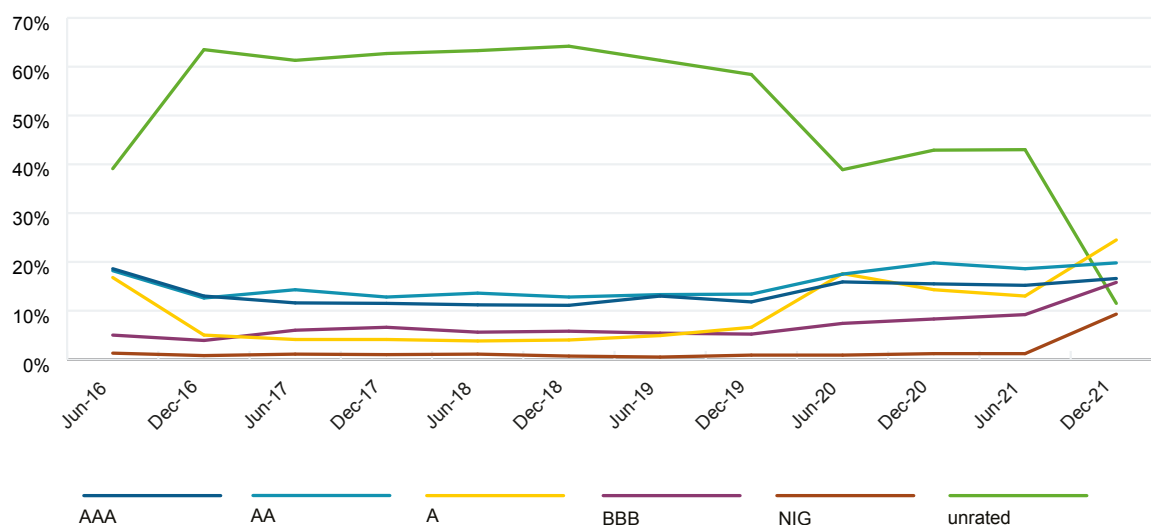
**Chart 12a – Outstanding values by credit rating of TPSL collateral managed by the top three agents**



The shares of different credit ratings in TPSL collateral is dominated by unrated collateral, as shown in Chart 12b below.

<sup>11</sup> It should also be noted that reporting the credit rating of collateral has been a major challenge for tri-party agents.

**Chart 12b -- Shares by the credit rating of TPSL collateral managed by the top three agents**



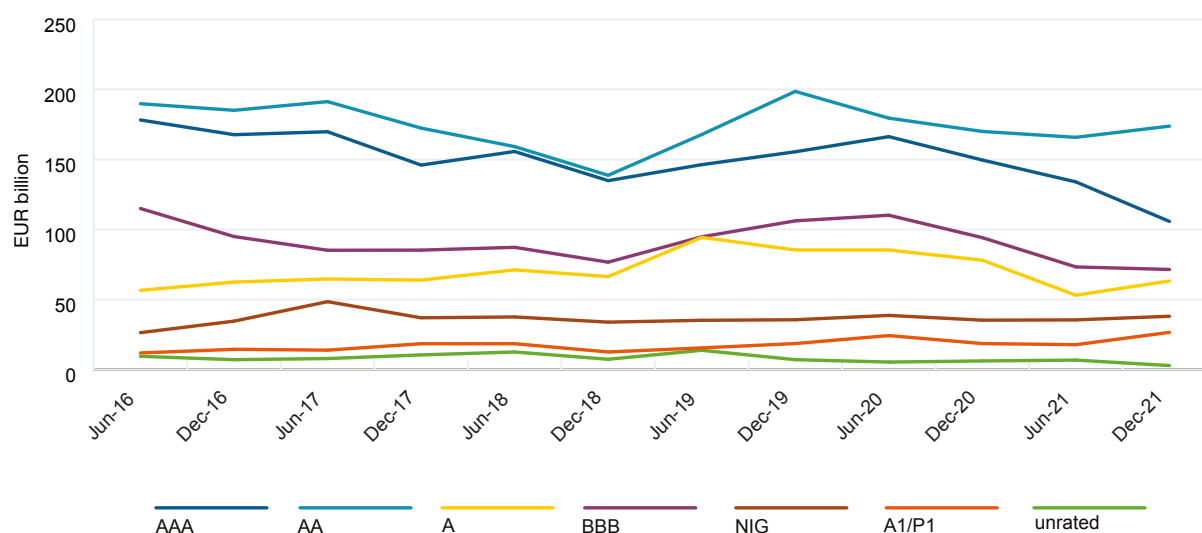
## TPSL versus TPR

In contrast to TPSL, the proportion of unrated collateral in TPR was negligible. As most unrated collateral was likely to have been equity, the reason was likely to have been the bias of TPR and repo in general toward fixed-income collateral.

The other significant difference between TPSL and TPR collateral was the more limited allocation of A-rated collateral in TPR. In fact, BBB-rated and non-investment grade collateral was more important. In other words, TPR collateral was, at the margin, riskier than TPSL collateral. The frequency of lower-rated bonds in TPR may reflect the use of repo to distribute new issues (and their consequent weight in trading portfolios) in contrast to TPSL, where allocation is mainly about safely collateralizing loan exposures using portfolio holdings of existing securities.

Chart 13a below shows that changes in the value of TPR collateral in terms of credit ratings reflected the overall cyclicity of TPR over the period under review, which was largely driven by central bank purchases. These can explain the reduction in the value of AAA, AA and BBB-rated collateral until 2019. The rebound in 2019 may have reflected the temporary suspension of central banks purchases in the eurozone.

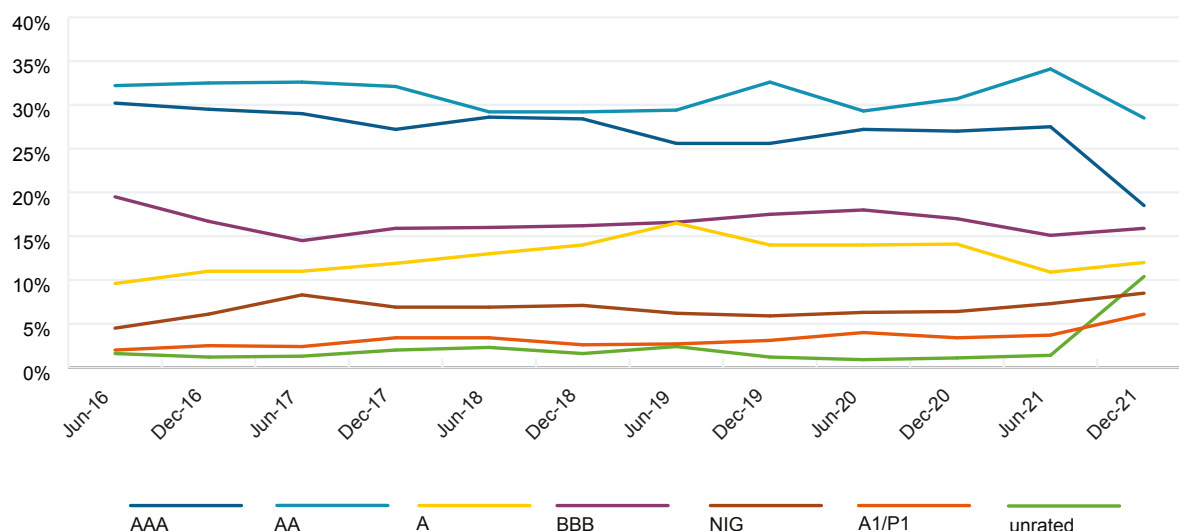
**Chart 13a – Outstanding values by credit rating of TPR collateral managed by the top two agents**



In terms of share, few trends stand out. It can be seen from Chart 13b below that the share of AAA-rated collateral in TPR worked its way lower over the period under review, perhaps due to accumulating central bank purchases. The sharp drop in AAA-rated collateral in December 2021 seemed to have been due specifically to a reduction in the financing of bonds issued by the EU.

AA-rated collateral in TPR surged after June 2020, at the same time as government bond issuance accelerated to fund pandemic relief programmes. This was largely at the expense of A and BBB-rated collateral and, in December 2021, of AAA-rated collateral. Changes in AA and A-rated collateral in TPR were consistent with trends in TPSL.

**Chart 13b – Shares by credit rating of TPR collateral managed by the top two agents**



## Collateral haircuts<sup>12</sup>

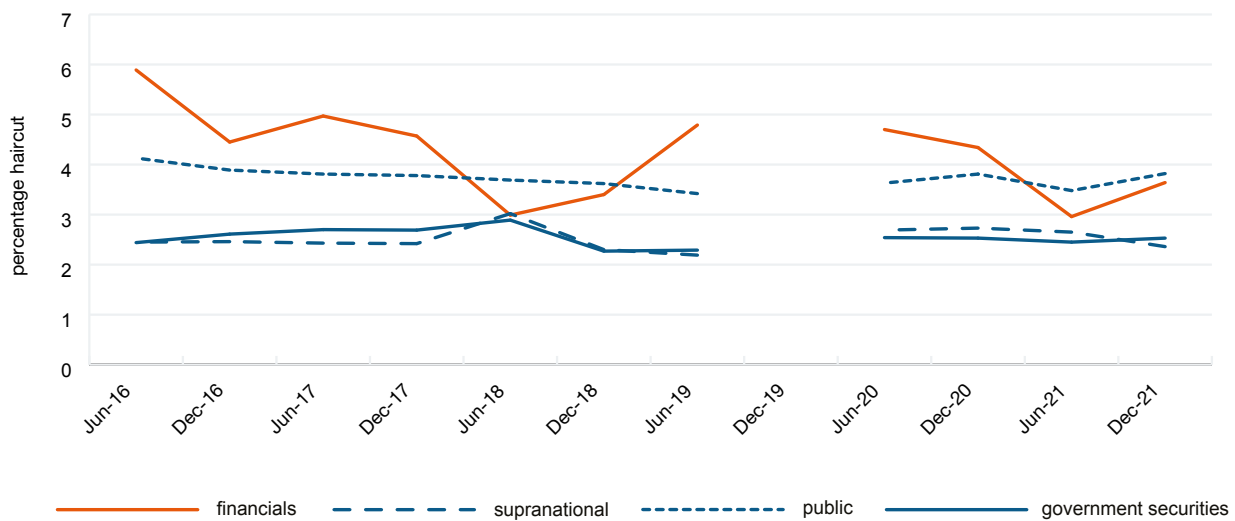
Haircuts on TPSL collateral tended to cluster in three bands over the period under review. The relative levels and widths of these bands were much as would be expected. The lowest and narrowest was for high-grade collateral (government and supranational bonds). High-grade haircuts fluctuated between levels of 2½% and 4%.

Above high-grade collateral was a wider band of haircuts for covered bonds, uncollateralized credit securities, equity and convertible bonds. This band was about 2½-4% wide, so wider than for high-grade collateral and, unlike high-grade collateral, the level of this band changed over the period. Other public sector bonds were between these two bands.

The highest and widest band was for MBS, ABS and other collateralized securities (CLO, CBO, CLNs, etc). This band was, at times, almost 30% wide. It also changed level.

<sup>12</sup> The data on TPSL collateral haircuts need to be treated with caution as haircuts are not collated by the agents from clients' instructions but have to be implied from the differences between loan exposures and collateral value. This may contribute to the volatility of riskier collateral, which is subject to wider price fluctuations, although the volatility of haircuts has been dampened by measuring them in terms of volume-weighted averages. In addition, tri-party agents face challenges in classifying structured securities and assigning credit ratings. There were also random reporting problems. Thus, in December 2018, there was a spike in the weighted-average haircut on corporate bond collateral which was almost certainly an anomaly as it arose from the data reported by just one agent. And in December 2019, one of the principal agents failed to report haircuts leaving insufficient data, for which reason, this survey has been blanked out in the charts showing the evolution of haircuts. Consequently, the data on haircuts on higher-risk securities need to be analyzed for trends rather than changes between surveys.

**Chart 14a – Weighted average haircuts applied to selected types of collateral against outstanding TPSL by the top three agents**



Haircuts on financial collateral were particularly close to those on covered bonds, as might be expected given the role of covered bonds in managing Continental European bank balance sheets. Haircuts on financial collateral were also close to those on equity. Corporate and convertible bond haircuts were higher but at much the same level as each other. Other collateralized securities and ABS suffered the highest haircuts (up to 20-30%).

**Chart 14b – Weighted average haircuts applied to selected types of collateral against outstanding TPSL by the top three agents**

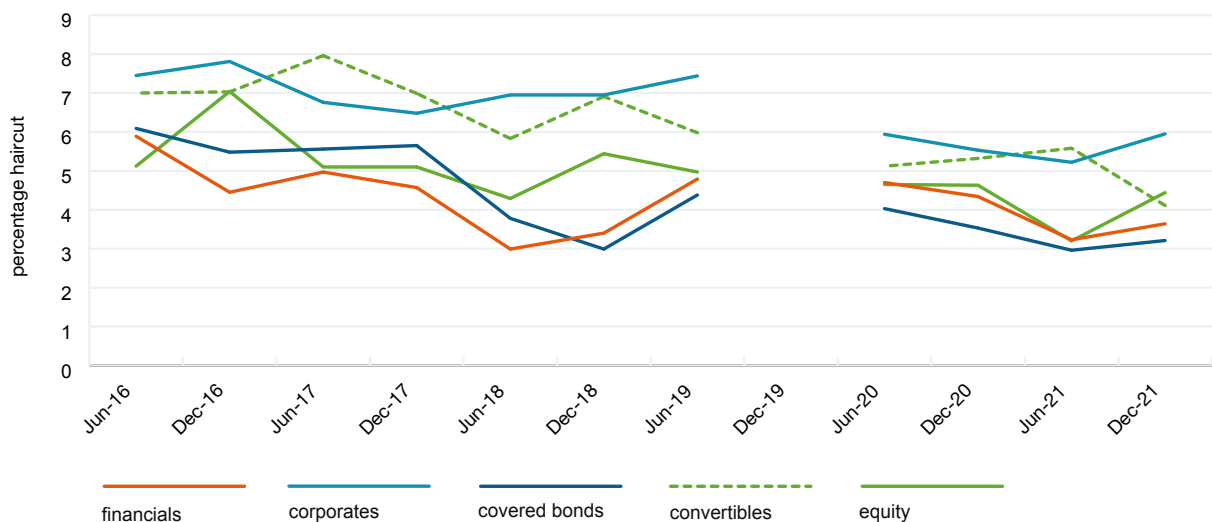
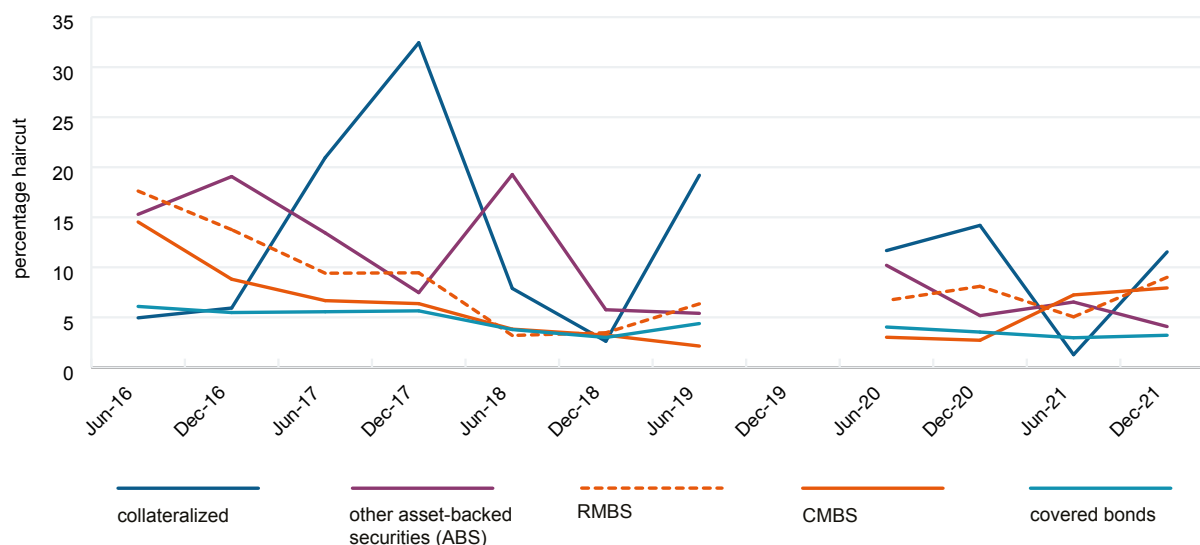


Chart 14b above and Chart 14c below suggest that financial and covered bonds generally set a floor under the haircuts on other credit collateral.



**Chart 14c – Weighted average haircuts applied to selected types of collateral against outstanding TPSL by the top three agents**



The general trend in TPSL collateral was a convergence of the haircuts on higher-risk credit collateral with those on high-grade collateral. Thus, in June 2016, the dispersion of haircuts across all asset classes was over 15 percentage points, increasing to as much as 30 percentage points in 2017 but ending the period under review at about six basis points. In comparison, the dispersion of high-grade collateral over the whole period only changed from five to four percentage points. The convergence of haircuts may be attributed to the restoration of general market confidence by central bank policies.

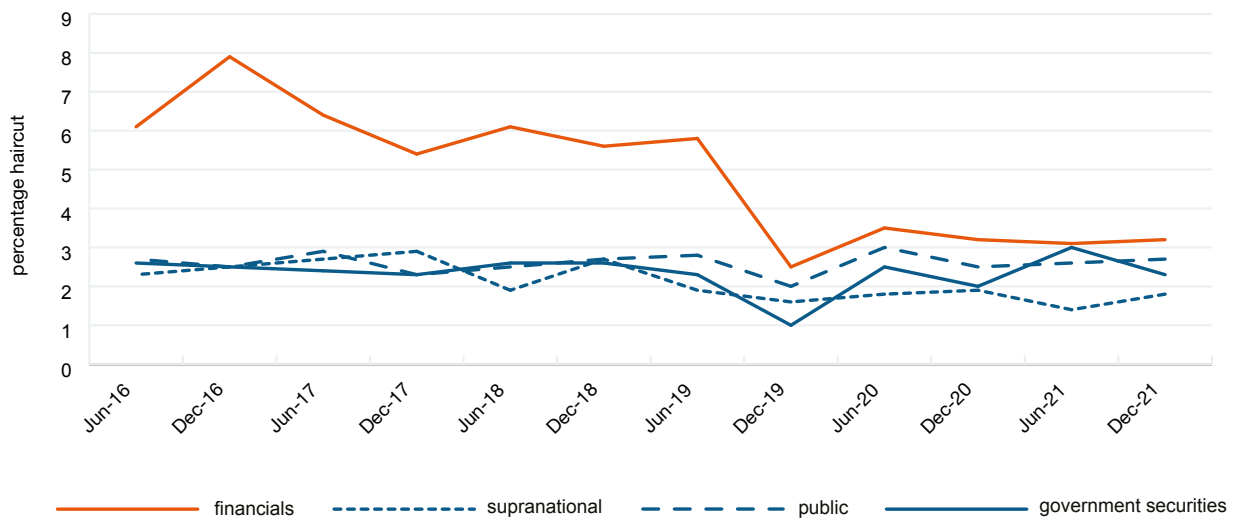
The observable impact of the Covid shock on haircuts was modest and seemed to affect only collateralized collateral other than covered bonds. There was no clear link between haircuts and reported credit ratings for TPSL collateral.

## TPSL versus TPR

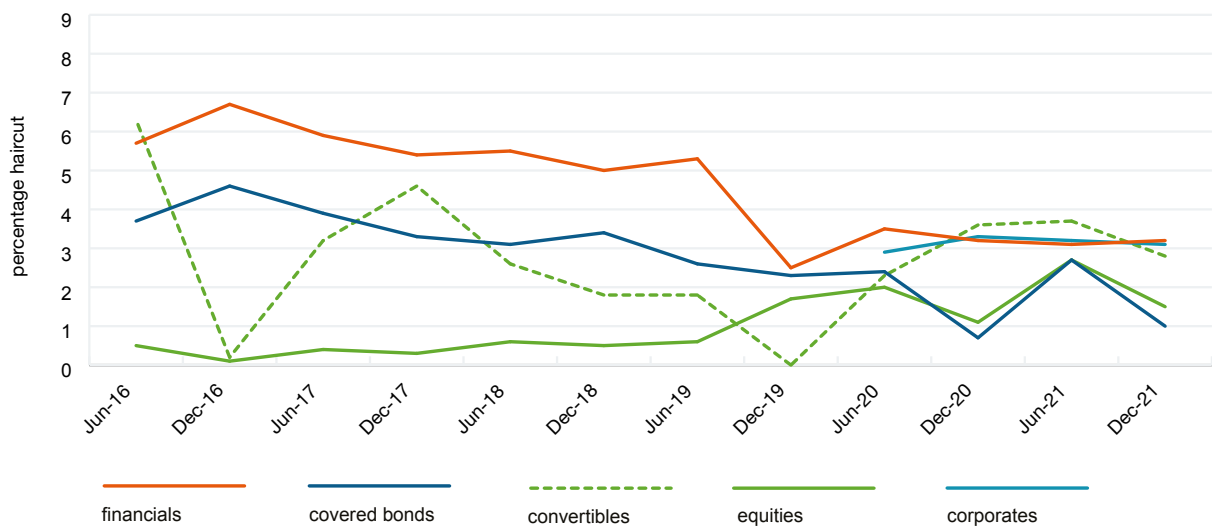
Haircuts on government and public sector bonds were at the same levels in TPR as in TPSL but were lower in TPR on other securities, especially on equity and collateralized securities other than covered bonds. Indeed, haircuts on equity in TPR were lower than on high-grade bonds, at least until December 2019 (see Charts 15a and 15b). However, the exceptionally low haircuts on equity may have reflected the very small size of equity allocations in TPR, which means they would have been more sensitive to the idiosyncrasies of individual allocations.

Another contrast with TPSL was the less distinct banding of haircuts in TPR.

**Chart 15a – Weighted average haircuts applied to selected types of collateral against outstanding TPR by the top three agents**

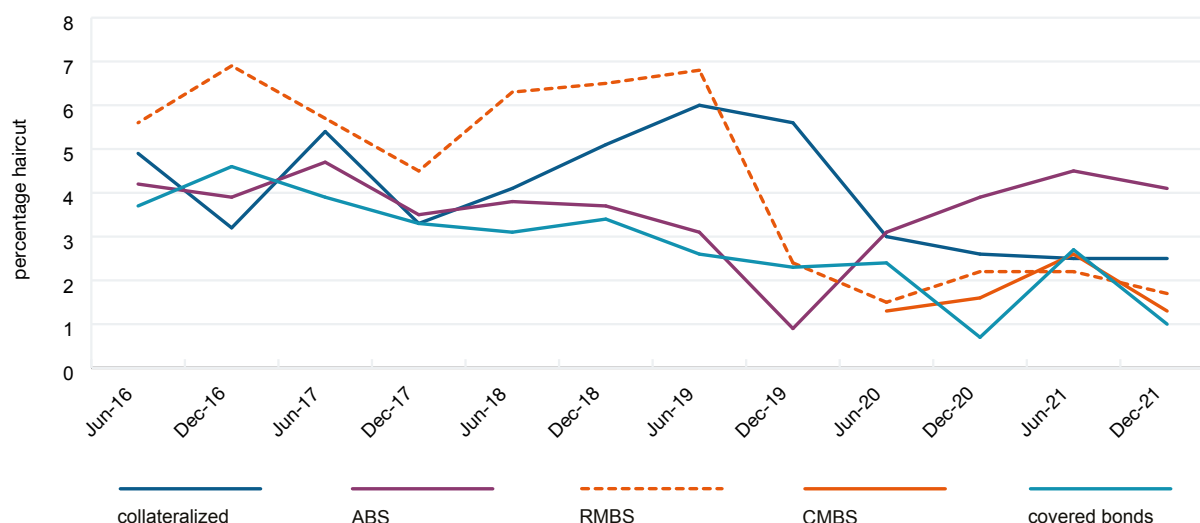


**Chart 15b – Weighted average haircuts applied to selected types of collateral against outstanding TPR by the top three agents**



As in TPSL, covered bonds in TPR set a floor under haircuts on other collateralized securities (see Chart 15c).

**Chart 15c – Weighted average haircuts applied to selected types of collateral against outstanding TPR by the top three agents**



The generally lower levels of haircuts in TPR compared with TPSL may reflect an intrinsically greater degree of risk aversion among securities lenders. It is widely held that, because most securities lenders are non-bank financial institutions who are especially sensitive to reputational risk and for whom securities lending is a secondary activity that offers modest returns, attitudes to risk are more conservative than among the intermediaries who dominate the repo market, who are risk traders and for whom repo is a core activity. These different attitudes are reflected in the fact that haircuts are a standard feature of securities lending but not of repo.<sup>13</sup>

In terms of changes, there was the same general downtrend in TPR haircuts as in TPSL. As TPR haircuts narrowed over 2019 and the first-half of 2020, the range of haircuts was naturally compressed into a band just two percentage points wide in June 2020 (compared with over 15 at the start of the period).

However, the change in haircuts in TPR was less gradual than in TPSL and stepped-down sharply in December 2019 and June 2020, particularly for credit collateral. The background to the drop in late 2019 was a rebound in financial markets from the heightened international economic and political uncertainty of 2018, which had culminated in a sell-off in credit assets and equity at the end of the year. The drop in June 2020 occurred with the rebound of markets from the immediate Covid shock following the announcement of unprecedented economic and monetary measures by governments to ameliorate the impact of the pandemic lockdowns.

There was no obvious correlation between changes in the type of collateral allocated in TPR, credit ratings and haircuts.

<sup>13</sup> Moreover, given that the haircuts in this report have been expressed in terms of weighted averages, the selective use of haircuts in the repo market would tend to result in lower numbers.

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