March 2024

ICMA
International Capital Market Association

CSDR Penalties
An ICMA briefing note on ESMA's proposals to revise the CSDR Penalty Mechanism

Overview

ICMA and its members are concerned by the recent ESMA proposals to increase the CSDR penalty rates from current levels by a factor of many multiples. The proposals, which are unsupported by any data or analysis, appear to be out of line with any equivalent market rates or expected returns, are clearly disproportionate in their punition, and, if implemented, would impact detrimentally market pricing and liquidity, thereby undermining the EU's competitiveness as a global financial centre.

In addition, ESMA's proposals do not consider the economics of settlement fails and the relationship with interest rates, the general improvement in settlement efficiency rates observed in recent years, nor the causes of fails, which are largely structural, and only to a limited degree behavioural.

While ICMA has always supported the possible justification for a penalty mechanism, particularly in very low interest rate environments, it has equally maintained that there are far more targeted, proportionate, and impactful tools for improving and maintaining settlement efficiency in the EU. The primary focus should be on these measures, rather than pursuing highly punitive and market-distorting "settlement discipline" measures, which have the potential to undermine seriously the competitiveness of the EU's securities markets.

Context

CSDR,[1] which entered into force in September 2014, includes measures to prevent and address failures in the settlement of securities transactions ("settlement fails"), commonly referred to as "settlement discipline" (or SD) measures. Most importantly these include a mandatory buy-in (MBI) requirement and cash penalties for CSD participants in the event of a settlement fails, both originally intended to become effective from September 2016. As both the market and regulatory community grappled with implementation challenges, particularly with respect to MBIs, the go-live date for the SD measures was extended. Eventually, concerns about the potential negative impacts of an MBI regime on market liquidity and stability also came into play, particularly following the large market dislocations caused by the 2020 Covid pandemic, and in late 2021, a Commission Delegated Regulation was introduced amending the Regulatory Technical Standards (RTS) for CSDR-SD to delay the application of MBIs, while allowing cash penalties to begin operating from February 2022.

Following the CSDR Review,[2] which began in 2022, it was decided by the co-legislators that MBIs would be retained as a last resort option that would only be applied where the rate of settlement fails in the EU is not improving and is presenting a threat to financial stability. In the meantime, other measures to address settlement fails, including possible

1 Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories.
2 Regulation (EU) 2023/2845 of the European Parliament and of the Council of 13 December 2023 amending Regulation (EU) No 909/2014 as regards settlement discipline, cross-border provision of services, supervisory cooperation, provision of banking-type ancillary services and requirements for third-country central securities depositories and amending Regulation (EU) No 236/2012

revisions to the penalty mechanism, should be explored. With respect to penalties, ESMA is mandated to provide Technical Advice to the European Commission on a possible amendment to the current RTS.[3] On December 15 2023, ESMA published a Consultation Paper which puts forward a radical reimagining of the existing mechanism. ICMA submitted its response to the CP in February 2024. ESMA is expected to submit its Technical Advice to the EC in October 2024.

The economics of failing

Before discussing the appropriate levels of a penalty mechanism for settlement fails, or even whether penalties make sense, it is important to understand the economics of settlement fails. The starting point is that, in a normal interest rate environment, **failing is expensive**. In fact, as a general rule, there is little or no economic incentive to fail on the settlement of a securities transaction. When a counterparty fails to deliver the securities that they have sold to their counterparty, not only do they no longer have the benefit of any income or returns from the security, but they are forced to fund it, with the cost being the relevant interest rate.[4] If they are able to manage their cash balances in a timely fashion, we can assume that this will be at a rate close to prevailing overnight money market rates. In a worst-case scenario, they will be overdrawn with their custodian, who will charge them an overdraft rate (these can vary, but a general assumption is that this will be at least 100bp, or 1%, above the money market rate).

So, we can confidently say that the cost of failing to deliver securities is directly related to current money market rates.[5] The higher interest rates, the more expensive the cost of failing. The lower rates are, the less costly. And this is exactly the same cost for all securities, whether bonds, equities, liquid, or illiquid.). The economic incentive to settle trades in a timely manner is exactly the same. In other words, if one asset class has worse settlement efficiency than another, this is likely to be the result of structural issues or a function of relative liquidity, and not because of the cost of failing.

Penalties are therefore an add-on to the natural cost of failing. Accordingly, their relevance, and impact, can only meaningfully be considered in the context of prevailing interest rates.

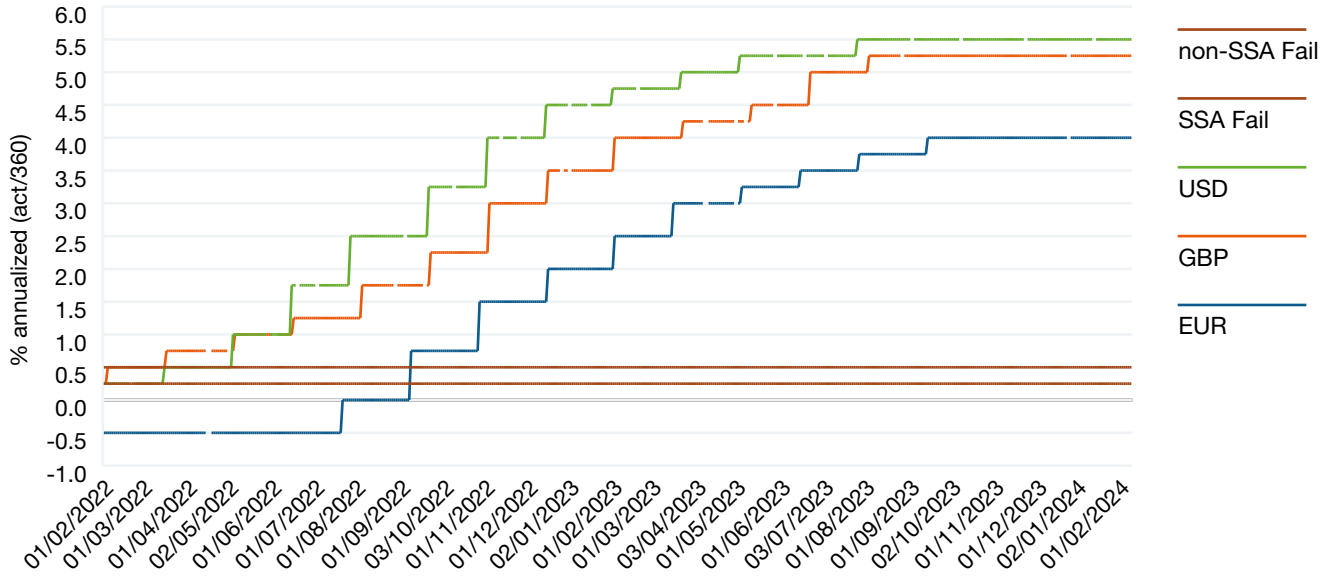
This dynamic was central to the inception and design of the TMPG (Treasury Market Practices Committee) penalty charges applied to settlement fails in the US Treasury market in May 2009, following the sharp decline in interest rates post-Lehman, and subsequently extended to agency and MBS debt securities. There were concerns that in the ultra-low interest rate environment, the incidence of settlement fails in US Treasuries, had increased. This was particularly notable in the case of certain bonds trading "special" on repo,[6] where the repo rate became negative, making failing a cheaper option to borrowing.[7]

Following detailed analysis, the TMPG observed that settlement efficiency in the US Treasury market was not only closely correlated with the Fed Funds rate (as would be expected), but that fails increased when the Funds rate fell below 3%. This observation was used to calibrate the TMPG penalty rate, which was set at 3% (annualized) minus the current Fed Funds target rate. Essentially, this set a floor of 3% as the cost of failing. And it worked. Settlement efficiency in the UST market improved significantly.[8] Furthermore, this also recognizes the diminishing returns of penalties, which effectively become obsolete in a normal interest rate environment.[9]

3 Commission Delegated Regulation (EU) 2017/389 of 11 November 2016 supplementing Regulation (EU) No 909/2014 of the European Parliament and of the Council as regards the parameters for the calculation of cash penalties for settlement fails and the operations of CSDs in host Member States
4 This is based on the assumption that virtually all outright securities transactions are settled on a delivery-versus-payment (DVP) basis.
5 Conversely, the failed-to counterparty not only benefits from the economics of their purchased securities, but they do not have to fund the purchase for the duration of the fail, allowing them to earn interest on this cash.
6 A "special" is where the repo rate for a bond traded notably more expensively than the rate for general collateral (GC), i.e. the (annualized rate) is much lower.
7 It is generally always cheaper to borrow a security than to fail. The exception is when the demand to borrow a security heavily outstrips supply in the repo or lending market, which can drive the repo rate below 0% (annualized rate). The cost of failing can be viewed economically as borrowing securities at 0%.
8 See: https://www.newyorkfed.org/medialibrary/media/research/epr/10v16n2/1010garb.pdf
9 The TMPG penalty framework has remained in place despite higher interest rates, with a minimum penalty rate of 100bp annualized. However, the stated aim of this is to ensure that the framework remains "live" in case needed, rather than driving settlement efficiency in the current rate environment.

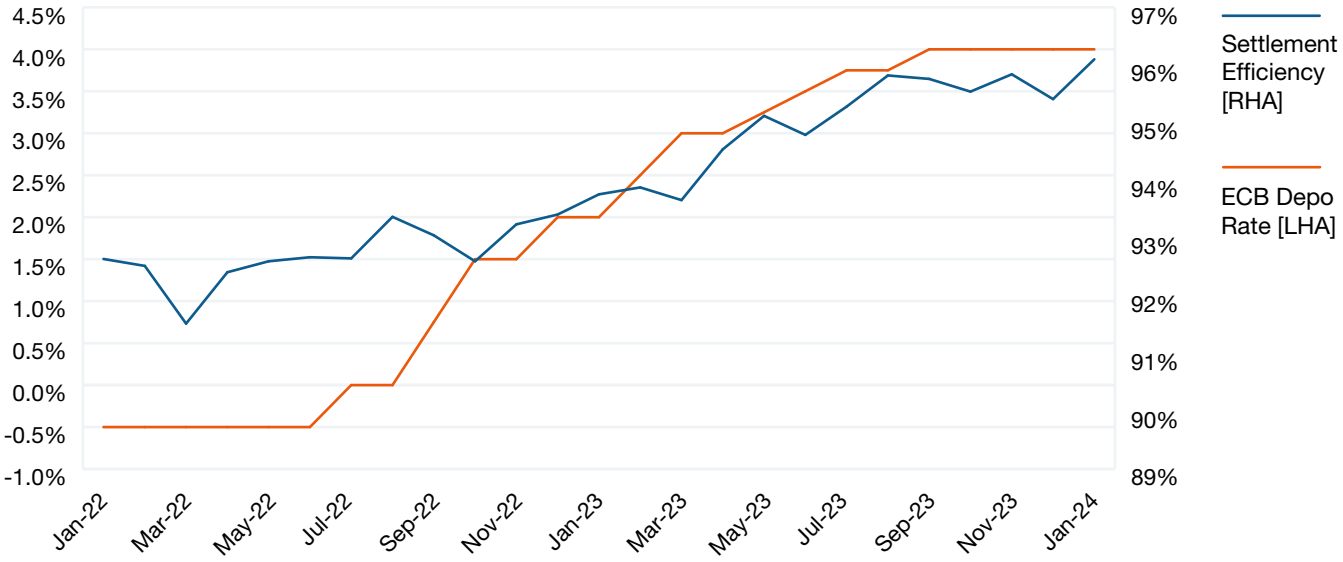
From an EU perspective, the below chart illustrates the effective cost of failing (in EUR, USD, and GBP) since the introduction of the CSDR penalty mechanism. As can be seen quite clearly, the penalty rates have become increasingly irrelevant as interest rates do more than an effective job in penalizing fails. And this is precisely what we observe in settlement efficiency rates since interest rates began rising in 2022 (see Figures 2 and 3).

Figure 1: The cost of failing since February 2022



Source: ICMA analysis using Bloomberg data and ESMA penalty rates

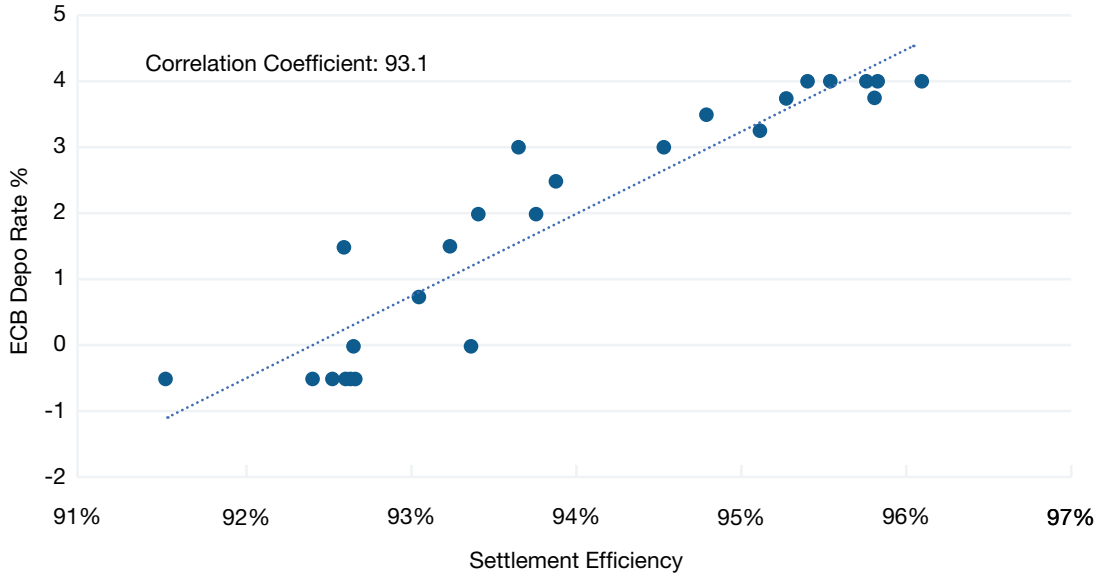
Figure 2: Euroclear Settlement Efficiency[10] and ECB Policy Rate



Source: ICMA analysis using Euroclear and Bloomberg data

10 As per Euroclear internal methodology. Settlement Efficiency calculates as percentage of settled instructions that settled on intended settlement date.

Figure 3: The relationship between Settlement Efficiency and interest rates



Source: ICMA analysis using Euroclear and Bloomberg data

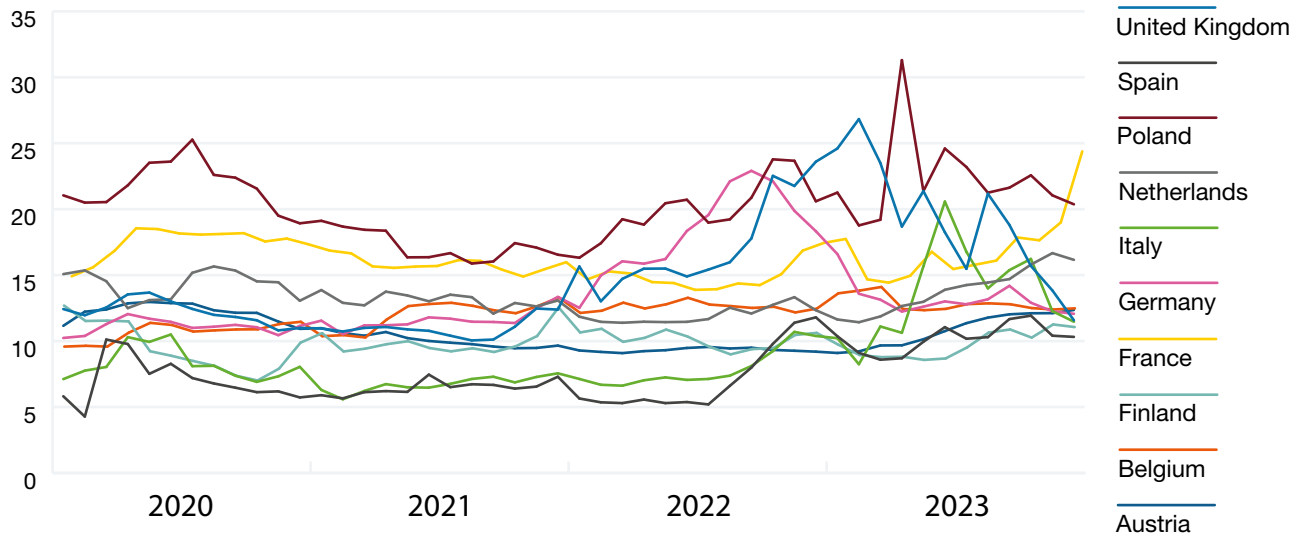
The relevance of repo and lending rates

One of the many functions of the repo and securities lending market is of course "short covering" in order to facilitate the settlement of securities transactions. Not only does borrowing securities help to avoid settlement fails, but it is a significantly cheaper option. However, as rates become lower, the economic incentive to borrow securities lessens. The SEC and TMPG recognized this in 2009, which was fundamental to the thinking behind its penalty framework. Essentially, the cost of failing (natural plus any penalties) should be greater than the cost of borrowing securities.

There is plenty of data available to view historical repo and securities lending rates (noting that regulators should also have access to SFTR data). Here we have used data from DataLend which aggregates monthly BondLend[11] data (volumes outstanding and average borrow fee) for both European SSA bonds (sovereigns, supranationals, and agencies) and corporate bonds.

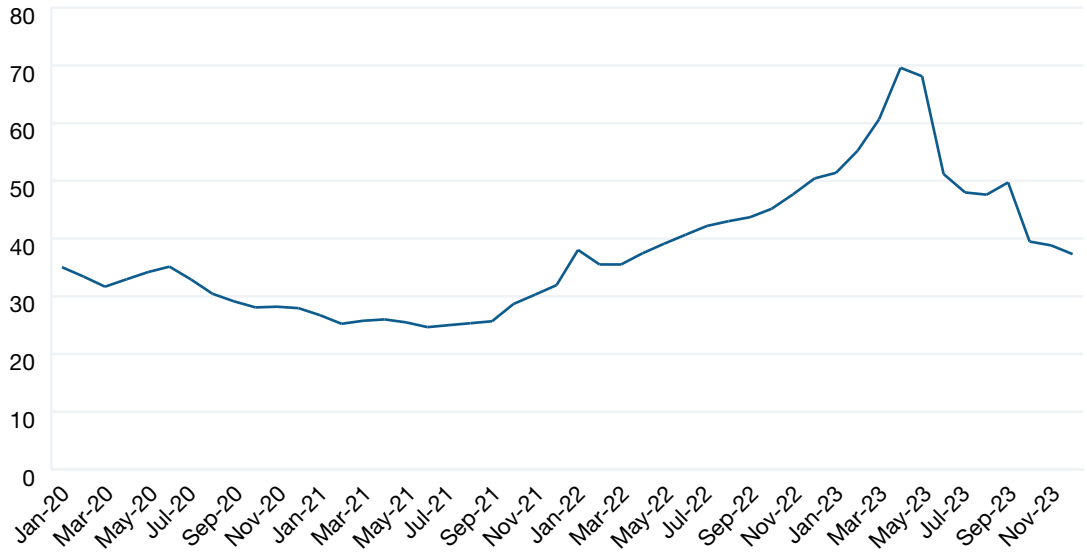
11 BondLend, part of the EquiLend platform, is a widely used securities lending platform, and a good benchmark for market levels and trends.

Figure 4: Top 10 issuer countries (SSA) on loan: annualized borrow fee (basis points)



Source: DataLend

Figure 5: European credit annualized borrow fee (basis points)



Source: DataLend

Taking the average weighted fee from the above datasets, we observe an average (annualized) rate of 14.0bp for SSA bonds (with a high of 31.3bp), and an average (annualized) rate of 38.6bp for credit (with a high of 69.6bp). (To calculate the equivalent repo rate, one can simply deduct these fees from the general collateral or prevailing money market rate.)

These observations are also consistent with ESMA's original thinking when they set the existing CSDSR penalty charges. For SSA bonds this is 0.1bp per day ad valorem, which, based on an application on business (rather than calendar) days, is the equivalent of around 25bp annualized. For all other bonds, this is 0.2bp per day, which is the equivalent of around 50bp annualized.

Of course, we do observe some bonds trading even more expensively (or "special") than the ranges shown here, both for SSA and corporate bonds, particularly where there are large demand-supply imbalances, even exceeding

the natural cost of failing. However, there are still strong incentives to settle a trade, even if the borrow / repo rates are extremely expensive, such as reputational reasons, protecting a client or counterparty relationship, or averting the risk of a buy-in.[12] The repo or lending rate for bonds, usually, is also built into the price, which is something to bear in mind when we start to look at the new ESMA proposals for fails charges.

Analysis of the proposal

In our discussions around the natural cost of failing and the cost of borrowing bonds, as well as the US TMPG floor, we have been talking in terms of tens or possibly hundreds of basis points on an annualized basis. What is so alarming about the ESMA proposals are that they take us into the realms of thousands of basis points. What is even more disconcerting, is that they do so without any underlying analysis or data reference point.

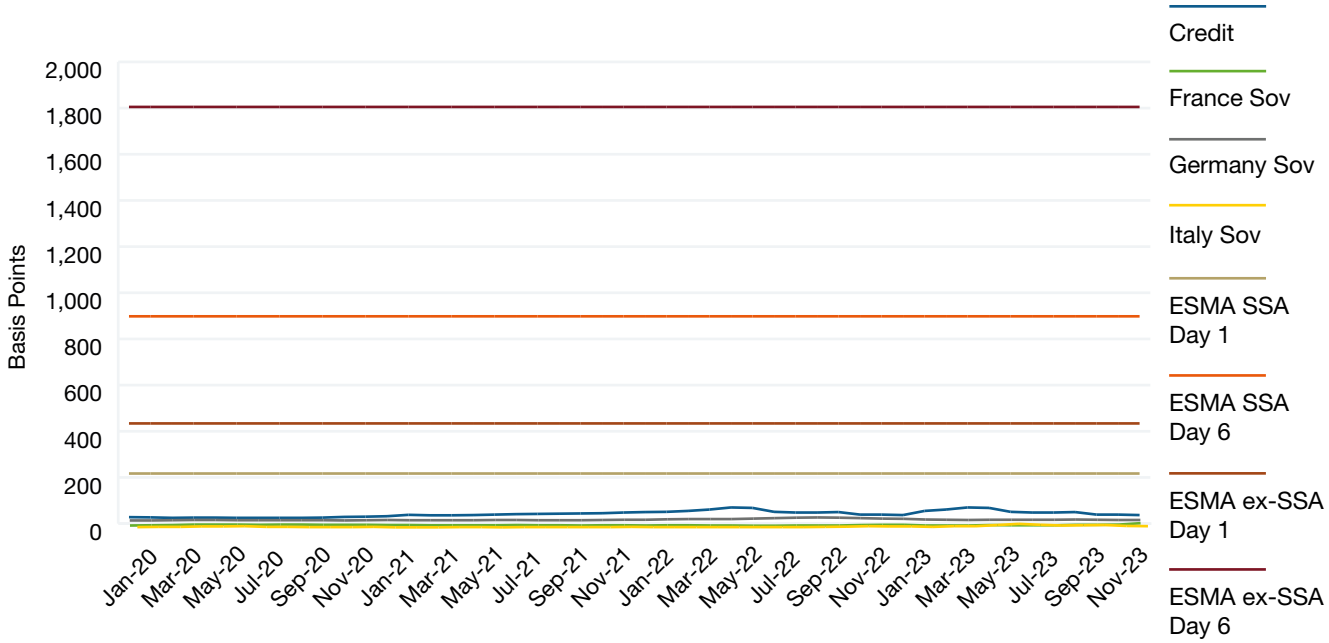
For example, under Option 1 (progressive penalties based on asset class), the charge for SSA bonds starts at 0.6bp per day (220bp annualized),[13] reaching 2.5bp per day on Day 6 of the fail, or 910bp annualized. For other bonds, the progression is from 440bp annualized to 1,830bp. Under Option 2 (progressive penalties based on the MiFIR liquidity assessment of the security), the annualized fee for liquid bonds starts at 910bp, reaching a maximum of 3,650bp on Day 5, before levelling out at 1,830bp from Day 6. Illiquid bonds, meanwhile, start at 370bp, levelling out at a peak of 7,300bp on Day 6.

To illustrate how extreme these penalty rates are, and how far away from market-based rates, we plot them on the same charts of the historical time series of average (annualized) borrow rates for the three largest EUR sovereign debt markets (Germany, France, and Italy) as well as that for European credit (ie corporate bonds). As can be seen, quite starkly, in the below charts, is that the ESMA proposals are not even on the same scale as market-based rates.

12 It is often overlooked in the regulatory discussion around settlement efficiency that contractual buy-ins are a well-established and widely used tool for remedying settlement fails, such as in the non-cleared cross-border bond markets.

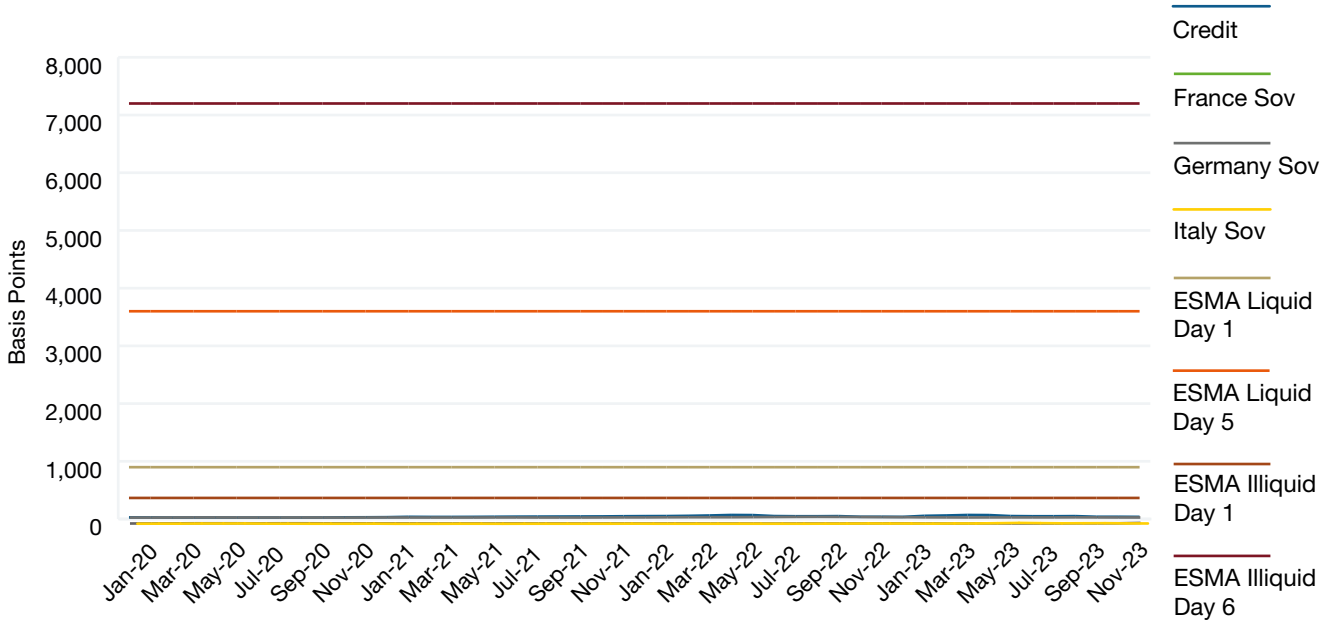
13 In its CP, ESMA illustrates the proposed annualized penalty rates as calendar days / 365. This is different to how CSDR penalties are currently applied which is on a business day basis. However, ICMA has taken the ESMA (act/365) annualized rates as the basis for its analysis.

Figure 6: Market borrow rates and ESMA Proposed penalties (Option 1)



Source: ICMA analysis using DataLend data and ESMA proposed penalty rates

Figure 7: Market borrow rates and ESMA Proposed penalties (Option 2)



Source: ICMA analysis using DataLend data and ESMA proposed penalty rates

As mentioned previously, the cost of borrowing a security is generally factored into its price. The more expensive the cost of the borrow, the more expensive in relative terms the underlying security. From an economic perspective, the cost of failing can also be viewed as an unintended "borrow cost". In the same way that extreme borrow costs can be highly price distortive, so would extreme penalties. And this effect is relatively easy to compute.

To illustrate the price distortion impact of the ESMA proposals, we have chosen two bonds: one SSA and one corporate. The SSA bond is an EU Next Generation (NGEU) bond and the corporate bond is a VW issue.[14] In both cases we have selected 5-to-6-year maturities, essentially targeting the middle of the curve, noting that the distortive effect of penalties will be greater on shorter maturities, and less pronounced on longer dated bonds.

In both cases we took an actual market price observed on January 19 2024 (for standard settlement on January 23 2024). We also show the corresponding dirty-price (DP), which includes accrued interest, and the yield-to-maturity (the annualized return from holding the bond to maturity. To calculate the cost of the fail, we converted the annualized fails rates proposed in the ESMA CP to an "actual/360" basis for consistency, which we added to the natural cost of failing (using the ECB deposit rate as the proxy for this). We then calculate the cost of failing for one day and also one week in terms of both the price and yield impact, as well as the actual monetary cost based on the median value of outright transaction sizes for both SSA and corporate bonds (€5mn and €1mn respectively). We also compare this to the cost of failing when the current penalty mechanism went live in February 2022. For illustrative purposes, we have assumed that the EU bond is labelled as Liquid under the MiFIR assessment, while the VW bond is not.

The price effects are shown in the tables below. What becomes clear is that even if the fail is for one day, the effective cost of failing is significant in the case of the ESMA proposals, but over subsequent days the impact becomes highly distortive – a product of both the proposed progressive approach and the ultra-high penalties being proposed. We "heat code" where the effective average daily cost of failing, as an annualized rate, is above 500bp, 1,000bp, and 2,000bp, on the basis that the natural cost of failing with respect to EUR denominated securities, in the current interest rate environment, is approximately 400bp (annualized). The impact on price and yield in these cases is meaningful and it is difficult to see how these worst-case scenarios, to varying degrees, would not be built into the market price, across all bond classes, regardless of their liquidity profile. Similar to MBIs, even if the risk of failing, particularly for more than one or two days, is deemed to be low, the cost is so extreme that it needs to be taken into account. This inevitably leads to a widening of the bid-ask spread (with the price and yield changes highlighted in the below tables providing an indication of the scale of such price adjustment), or a reluctance by liquidity providers to show offers in securities that they do not hold in inventory.[15] Of course, this cost to liquidity is ultimately borne by investors and issuers.

The analysis also illustrates, very clearly, the impact of interest rates, and the natural cost of failing, by comparing the economics of settlement fails when CSDR penalties were first introduced in February 2022 with that today.[16] This 450bp increase in cost is surprisingly not acknowledged in the ESMA proposals.

14 NGEU bonds are issued by the European Union to fund recovery investment following the Covid pandemic, while VW is the largest private sector employer in the EU outside of the energy sector.
15 ICMA estimates that in bond markets around 20% of all transactions involve dealers selling to clients securities that they do not hold in inventory.
16 Before the ECB began raising rates in July 2022, there was no real cost to failing, even with the CSDR penalties.

Figure 8: The cost of failing and the impact on bond pricing

EU 1.625 12/04/29 (EU000A3K7MW2) SD: 1/23/24
Price: 93.80 (DP: 94.022) / **YTM: 2.785%**
B/A spread: 30c

	Avg Daily Fee	Act/360	Natural rate	Total rate	Adjusted Price	Adjusted Yield	Price Change	Yield Change	Daily cost per €5mn notional
February 2022 interest rates + penalties									
1 D	0.1bp	0.25%	-0.50%	-0.25%	93.795	2.787%	-0.5c	+0.2bp	(€33)
1 W	0.1bp	0.25%	-0.50%	-0.25%	93.764	2.764%	-3.6c	+1.1bp	(€33)
Current interest rates and penalties									
1 D	0.1bp	0.25%	4.00%	4.25%	93.807	2.784%	+0.7c	-0.1bp	€555
1 W	0.1bp	0.25%	4.00%	4.25%	93.847	2.780%	+4.7c	-0.5bp	€555
ESMA Option 1									
1 D	0.6bp	2.16%	4.00%	6.16%	93.812	2.783%	+1.2c	-0.2bp	€804
1 W	1.557bp	5.61%	4.00%	9.61%	93.945	2.761%	+14.5c	-2.5bp	€1,254
ESMA Option 2									
1 D	2.5bp	9.00%	4.00%	13.00%	93.830	2.78%	+3.0c	-0.5bp	€1,698
1 W	5.5bp	19.81%	4.00%	23.81%	94.204	2.71%	+40.4c	-7.5bp	€3,109

VW 4.25 3/29/29 (XS2604699327) SD: 1/23/24
Price: 102.350 (DP: 105.834) / **YTM: 3.740%**
B/A sprd: 40c

	Avg Daily Fee	Act/360	Natural rate	Total rate	Adjusted Price	Adjusted Yield	Price Change	Yield Change	Av Daily cost per €1mn notional
February 2022 interest rates + penalties									
1 D	0.2bp	0.50%	-0.50%	0.00%	102.338	3.742%	-1.2c	+0.2bp	€0
1 W	0.2bp	0.50%	-0.50%	0.00%	102.269	3.756%	-8.1c	+1.6bp	€0
Current interest rates and penalties									
1 D	0.2bp	0.50%	4.50%	4.50%	102.352	3.740%	+0.2c	-0.0bp	€132
1 W	0.2bp	0.50%	4.50%	4.50%	102.361	3.736%	+1.1c	-0.4bp	€132
ESMA Option 1									
1 D	1.2bp	4.34%	4.34%	8.34%	102.363	3.737%	+1.3c	-0.3bp	€245
1 W	3.11bp	11.21%	11.21%	15.21%	102.582	3.689%	+23.3c	-5.1bp	€447
ESMA Option 2									
1 D	1bp	3.60%	3.60%	7.60%	102.361	3.738%	+1.1c	-0.2bp	€223
1 W	9.43bp	33.94%	33.94%	37.94%	103.049	3.590%	+69.9c	-15.0bp	€1,115

Expected impact

Similar to the notion of MBIs, anything that systematically distorts markets by creating disproportionate costs and risks to participants will also create adverse behavioural incentives. In the case of the extreme rates proposed by ESMA, that increase, significantly, every day, **being failed-to becomes immensely profitable**. In fact, in many cases, the economic benefit from not receiving a security will be greater than the returns from the security itself. This could make the proposals self-defeating, creating counterproductive outcomes to the current industry and regulatory efforts to improve settlement efficiency in the EU. For example, this could become an incentive for late matching with settlement instructions with the objective of increasing the probability of a fail.

Partial settlement is an important settlement initiative to reduce fails. In the case that the selling party is unable to deliver the full amount of securities, the purchasing party accepts whatever securities they can deliver, and continues to do so until they receive the full amount. Thus, the settlement will only fail for the amount of securities for which the selling party is insufficient. Extreme penalties, however, create a strong incentive for the purchasing party not to accept partial delivery, and to wait for full delivery, assuming that they have no matching onward delivery themself. This would allow them to make very high returns from ESMA's proposed penalty rates, while still enjoying the benefit of owning the undelivered securities. Furthermore, every day the fail persists, their profits accelrate, making longer duration fails more desirable.

For the same reason as not accepting partial deliveries, the proposed penalty rates would introduce a disincentive for the purchasing party to agree to "shaping", which is the practice of splitting large trades into smaller ticket sizes in order to reduce the risk of the entire trade failing. With the penalty rates being proposed, and assuming there is no matching onward delivery, the purchasing party will want to increase the chances of being failed to as much as possible.

The incentive to use existing, contractual buy-ins also diminishes in the case of extreme penalties. Contractual buy-ins, which are part of the terms of trading, are widely used in the cross-border non-cleared bond markets to force delivery of a failing transaction (or, more accurately, replace the settlement). Buy-ins do not create any additional economic gains for the non-failing party, beyond the economics of the original transaction (they are effectively made whole).[17] However, given the excess profits generated by being failed to, the purchasing party may decide that these more than compensate for the counterparty credit risk from the fail, and hold-off on initiating a buy-in, especially if they are the final party in the transaction chain.

Conclusion

The proposed penalty rates put forward in the ESMA Paper of December 2023, particularly the progressive rates, have no economic or analytical basis, and, if implemented, would undermine the competitiveness and credibility of the EU as a global financial marketplace. The extreme distortions that they would bring about would incentivize adverse market behaviour, as being failed to becomes economically more appealing than facilitating settlement. Meanwhile, these would feed into bid-ask spreads across all bond classes, as well as adversely impairing liquidity.

The proposals put forward should not be used as the basis for a discussion about the validity and calibration of a penalty mechanism. ICMA would again point to the US TMPG framework as an example of a penalty mechanism that is appropriately designed and proportionately calibrated to achieve its intended purpose – that of disincentivizing poor settlement behaviour in low interest rate environments.

17 Buy-ins do, however, usually generate a cost to the failing party. This is due to the securities being bought at an above market price in the buy-in process (this premium to fair value is the result of "guaranteed delivery").

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ICMA promotes well-functioning cross-border capital markets, which are essential to fund sustainable economic growth. It is a not-for-profit membership association with offices in Zurich, London, Paris, Brussels, and Hong Kong, serving around 620 members in 67 jurisdictions globally. Its members include private and public sector issuers, banks and securities dealers, asset and fund managers, insurance companies, law firms, capital market infrastructure providers and central banks. ICMA provides industry-driven standards and recommendations, prioritising three core fixed income market areas: primary, secondary and repo and collateral, with cross-cutting themes of sustainable finance and FinTech and digitalisation. ICMA works with regulatory and governmental authorities, helping to ensure that financial regulation supports stable and efficient capital markets.

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