

ICMA Impact Study for CSDR Mandatory Buy-ins

February 2015

Index	<u>Page</u>
Summary of findings	3
I: Introduction	5
Context: why this study	5
Methodology and scope	6
II: The survey results	9
Impact on bond markets	9
Impact on repo markets	12
Qualitative responses	15
III: Costing mandatory buy-ins	18
Bond market	18
Repo market	20
Conclusion	21
Conclusion	22
Annex I: The survey template and guidance notes	23
Annex II: An overview of buy-ins	29
Annex III: A summary of the provisions for mandatory buy-ins in CSDR	33

This paper is provided for information purposes only and should not be relied upon as legal, financial, or other professional advice. While the information contained herein is taken from sources believed to be reliable, ICMA does not represent or warrant that it is accurate or complete and neither ICMA nor its employees shall have any liability arising from or relating to the use of this publication or its contents.

© International Capital Market Association (ICMA), Zurich, 2015. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without permission from ICMA.

Contact: RegulatoryPolicy@icmagroup.org

Researcher and author: **Andy Hill**

Summary of findings

For many commentators, and possibly even some market users, the inclusion of a provision for **mandatory buy-ins** in the Central Securities Depositories Regulation (CSDR), passed into law in 2014, has gone largely unnoticed. Yet this piece of market regulation, buried among what is primarily meant to be settlement regulation, will have a profound and dramatic impact on liquidity and pricing for the European capital markets. While less talked about, the implications for the European capital markets resulting from mandatory buy-ins are comparable with those of more high profile regulatory initiatives such as Basel III, MiFID II, or the Financial Transaction Tax.

Essentially, the provision for mandatory buy-ins will supersede the current rights of a counterparty to a non-cleared financial transaction who, at their discretion, can force delivery of securities (or cash) in the event of a settlements fail¹. Rather than buy-ins being a contractual remedy available to a failed-to counterparty, under CSDR it will become a mandated obligation of the failed-to counterparty, the chosen place of settlement (the CSD), or even the trading venue on which the transaction was executed.

The automatic and inflexible nature of mandatory buy-in regulation presents an additional level of risk to market-makers who provide offer-side liquidity in securities that they may not necessarily hold in inventory. Given the impact of Basel III on the cost of banks' balance sheets, market-makers generally run very low levels of inventory, and so in most cases they will be offering securities that they do not hold. In the event that they are unable to cover these short-sales, either in the cash or financing markets, in a timely manner, they will be subject to a mandatory buy-in and so incur an unpredictable, and so largely unquantifiable, cost. According to a new study by the European Central Securities Depositories Association (ECSDA), a mandatory buy-in regime, if applied to today's markets, would result in over 1.8 million buy-ins being executed per annum, representing a total transaction value of €2.5 trillion². To adjust for this additional risk and potential cost to their service, market-makers will be forced to add a premium to their market offers, or may simply choose not to show offers in certain securities.

This study illustrates that if, or when, mandatory buy-in regulation is implemented (scheduled for early 2016), liquidity across secondary European bond and financing markets will reduce significantly, while bid-offer spreads will widen dramatically. The results suggest that even the most liquid sovereign bonds will see bid-offer spreads double, while secondary markets in less liquid corporate bonds may effectively close. The survey further suggests that for many less

¹ A definition and overview of 'buy-ins' is provided in Annex II, and a summary of CSDR mandatory buy-in regulation is provided in Annex III.

² [See ECSDA Comments on the upcoming CSDR technical standards and technical advice on settlement discipline, February 19th 2015](#)

liquid bonds, including sovereign and public issues, market-makers will retrench from providing liquidity altogether.

The €5.5 trillion European repo market will also be radically re-shaped³, driving more reliance on very short-dated repo funding ('exempt' repo), while the more stable, fixed-term repo markets will see dramatic widening of spreads for more liquid securities, and a total withdrawal of liquidity for less liquid securities, including some sovereign and public bonds, and most corporate bonds.

The study, as well as measuring the impact on bond and repo market spreads, also attempts to monetize this impact based on available market data and current market structure. The costs are significant, running into several billions of euros per annum, even allowing for the inevitable market contraction that mandatory buy-ins will cause. This does not include the significant investment that will be required by CSDs and market participants in order to support the proposed settlement discipline mechanisms⁴.

The study provides a very real sense of how bond and repo market prices will need to adjust for a mandatory buy-in regime, as well as the possible scale of liquidity retrenchment. This is a cost to the users of the bond markets: investors, both institutional and retail, and, ultimately, the issuers themselves, both public and private, who will inevitably have to pay an increased 'illiquidity premium' through their primary issuance. In other words, this is a cost to the real economy.

³ Based on the Level 1 text for CSDR, almost 45% of the current European repo market would be brought in-scope of mandatory buy-ins.

⁴ See AMFE response to ESMA Consultation Paper on Technical Standards under the CSD Regulation

I: Introduction

Context: why this study

While committed to the spirit of the CSDR and supportive of constructive initiatives to improve settlement efficiency and safety in the European capital markets, ICMA has for a long time advocated against the introduction of a mandatory buy-in regime, arguing that a mandatory buy-in regime, as opposed to a discretionary buy-in regime, would not only be extremely challenging to design and implement, but would have adverse impacts on liquidity and pricing in the European bond markets (both sovereign and corporate) as well as securities financing markets. This would not only be an additional cost and an increase in market risk borne by investors, but would in turn increase the costs and risks for both sovereign and corporate issuers. At a time when deteriorating liquidity conditions⁵ are becoming an increasing concern for a number of national and international regulatory bodies, exacerbated by the extraordinary monetary policy measures of many central banks, the introduction of mandatory buy-ins will only serve to compound the challenges faced by the European capital markets and beyond. Furthermore, mandatory buy-ins, rather than improving settlement efficiency, by impairing both bond market and securities financing liquidity, will deliver the counterproductive result of worsening it.

Despite the intense efforts of ICMA and other market representative bodies to highlight to the European Commission, ESMA, and the various national regulatory commissions the risks of imposing a mandatory buy-in regime, mandatory buy-ins were passed into European law with CSDR in September 2014, with a view to implementation by early 2016.

Currently, ESMA is consulting on the regulatory technical standards (RTS) for the implementation of CSDR, including mandatory buy-ins, and on December 18th 2014 published a Consultancy Paper, with a deadline for responses of February 19th 2015 (a summary of the proposed RTS for mandatory buy-ins is provided in Annex III). ESMA has requested that respondents, as much as possible, provide data and analysis to support their recommendations. In constructing its response, and to evidence the very real costs and market impacts of mandatory buy-ins, ICMA surveyed its members responsible for providing liquidity (i.e. two-way pricing) to the European fixed income and securities financing markets to quantify and assess the impact this would have on their pricing and ability to provide a market-making service to investors.

⁵ See [ICMA, 2014, 'The current state and future evolution of the European investment grade corporate bond secondary market: perspectives from the market'](#)

Methodology and scope

In January 2015, ICMA conducted a survey of its European sell-side members, both through its European Repo Council (ERC) and Secondary Market Practices Committee (SMPC). The survey targeted traders and trading desks responsible for market-making in government, public, and corporate bonds, both for outright cash bond markets and securities financing transactions ('repo'). The survey had both quantitative and qualitative components. The quantitative component asks how market-makers for various fixed income asset classes would change their offer price for securities that they did not hold in inventory ('in the box') when moving from a discretionary buy-in regime to a mandatory buy-in regime. To quantify the impact of this, respondents were also asked to quote the average bid-ask spread that they currently show for the relevant securities⁶. The qualitative component allowed the respective market-makers to comment on the impacts they anticipate to their market and business as a result of the imposition of mandatory buy-ins.

Asset classes

While there is a vast range of potential asset classes and sub-classes within the €14.4 trillion⁷ European fixed income market that will be affected in different ways, in the interest of simplicity the survey was narrowed to three main classes as outlined in MiFID II/R, namely: sovereign bonds, public bonds⁸, and corporate bonds. In turn, these were sub-divided into 'liquid' and 'illiquid'⁹, again referring to the proposed definitions outlined in MiFID II/R, and with guidance to the proposed CSDR RTS that afford different extension periods (the time before a buy-in is enforced) for liquid and illiquid securities.

A number of respondents chose to sub-divide further, separating out types of sovereign bonds (core, non-core, or even by national issuers). In these cases, the spreads and changes for the different sub-classes were averaged. Similarly, some respondents chose to break-out the responses based on bond maturity. In this instance, the average spread/change for five-to-ten year maturities was selected. Therefore, the results may underestimate the impact for less liquid, or longer maturity bonds. For consistency, respondents were asked to quote spreads/changes in terms of price (cents), rather than yield. For a number of asset classes, such as less liquid or high yield corporate bonds, some respondents used yield, in which case a Dv01

⁶ Bid-offer spreads did vary, sometimes significantly, across asset classes, particularly for illiquid securities, and in a few cases the respondents did not want to reveal their average bid-offer spreads for some asset classes. However, the resulting average bid-offer spreads are considered relatively representative of the market norms.

⁷ Source: [European Central Bank](#)

⁸ Defined as public sector or state guaranteed bonds, including certain classes of covered bonds.

⁹ It also needs to be remembered that the proposed RTS in MiFID II/R for defining 'liquid' and 'illiquid' are controversial, with a predominant market view that a significant universe of fixed income securities that would be defined de facto as 'liquid' would by most standards be considered 'illiquid'.

of 8c per bp was applied. The decision was made to exclude Greece sovereign bonds where these had been included in responses.

The survey template, including guidance notes, is included in Annex I.

Bond prices

Respondents were allowed to apply their own calculations for adjusting prices for a mandatory buy-in regime, however a suggested formula was provided in the survey notes:

Perceived probability of failing at the end of the extension period x potential maximum cost of a buy-in (+ any additional potential costs such as cash penalties and related admin costs/hassle factor)

Repo prices

CSDR suggests that only the first-leg of very short dated repos will be exempt from mandatory buy-ins. Based on the proposed RTS, the maximum possible term for exemption for SFTs appears to be 12 days for repos of liquid securities and 21 days of illiquid securities (applying the time allowed for the extension period, the buy-in timeframe, and the possibility for deferral in the case that a buy-in is unsuccessful). To assess the impact on term-repo pricing, respondents were asked to provide the change in price for a one-month repo offer for the various asset classes, under a mandatory buy-in regime. The suggested guidance here was the same formula for adjusting cash prices, but converted to a one-month repo rate equivalent (in bps).

Respondents and data

ICMA reached out to its various buy-side members involved in market-making for bonds and repo. While attempting to encourage a diverse range of respondents, including both European and international banks providing market-making services in European government, public, and corporate bond markets, as well as repo, ICMA made special effort to ensure responses from the recognized larger, more active institutions in these markets. Thus, while only 19 members responded with usable quantitative data, combined these represent a significant proportion of market-maker turnover and liquidity.

Of the 19 respondents, all provided data related to repo pricing, while 17 provided data related to bond pricing (although a few did not respond to public and/or corporate bond pricing, possibly due to them not being actively involved in these markets).

A number of additional responses were received which were more general, suggesting that price adjustments would be based on a security-by-security basis, or that they would only show

offers based on inventory or liquid repo markets. While their qualitative assessments were taken on board, in such cases the quantitative impact was considered too sweeping or conditional for inclusion.

Some respondents indicated that in certain, less liquid markets, they had already taken the stance of not showing offers unless pre-positioned, for either outright cash or repo. These instances were also excluded from the analysis, resulting in the average spread increase for such asset classes being based on only those respondents suggesting that they would continue to show markets. In one outlying case, a respondent suggested that they would not adjust any offer in the asset classes where they are currently make markets. Despite being an anomaly, and given that they also provided detailed data, this was considered a legitimate position and so was included in the averaging.

From this perspective, ICMA is satisfied that the survey responses, in aggregate, are largely representative of the overall market impact. While a number of the respondents represent the larger market-making institutions, no weighting was applied to the results, which is represented as a simple average. Again, this may suggest that any bias errors point to an underestimation of the full impact on pricing and liquidity.

All respondents were afforded anonymity and assured that their data would only be publicly disclosed, through this report, in aggregate form.

II: The survey results

Impact on bond markets

The below charts illustrate the impact of mandatory buy-ins on offer prices across the six asset classes. In moving to a mandatory buy-in regime, a number of market-makers will no longer show offers in securities that they do not hold in inventory; this impact is also illustrated.

Figure 1: the impact on bond market bid-offer spreads

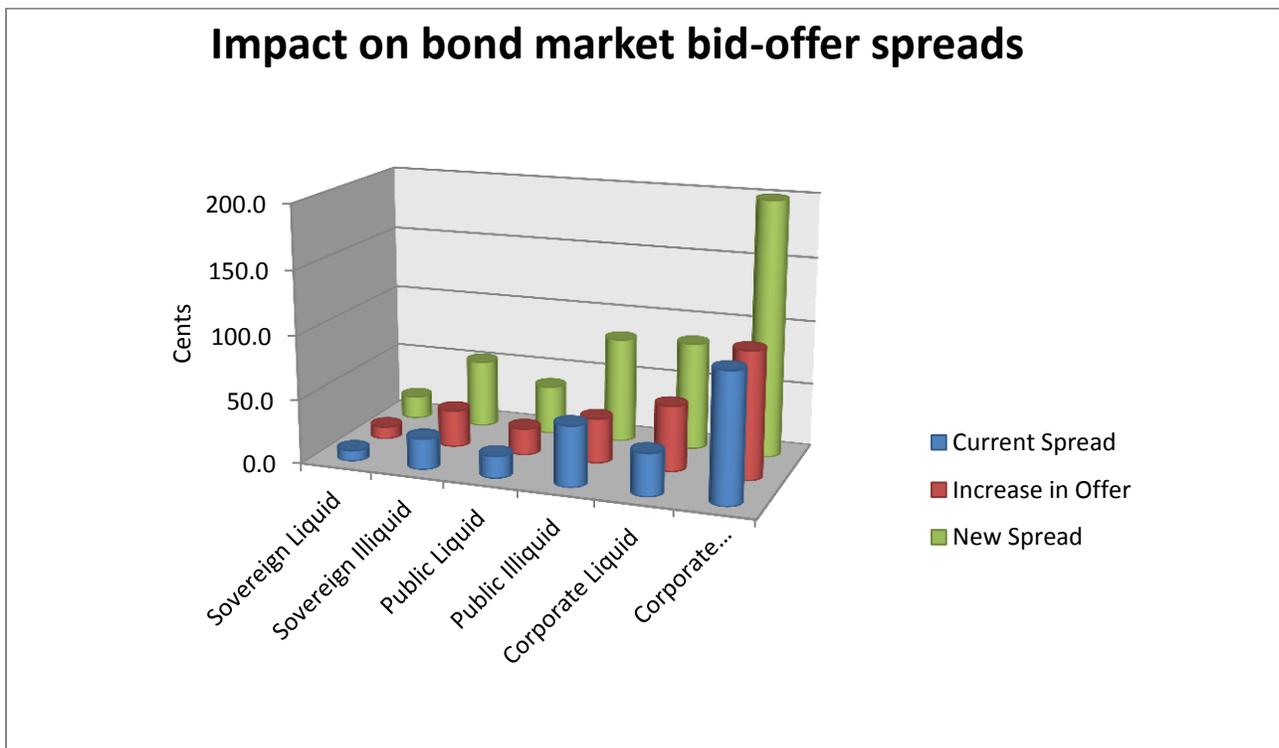


Figure 2: the relative increase in bid-offer spreads

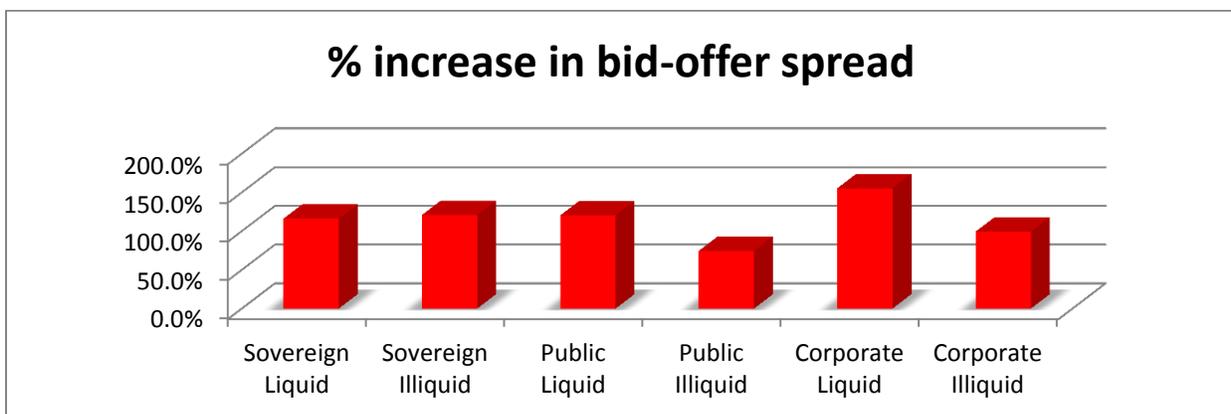
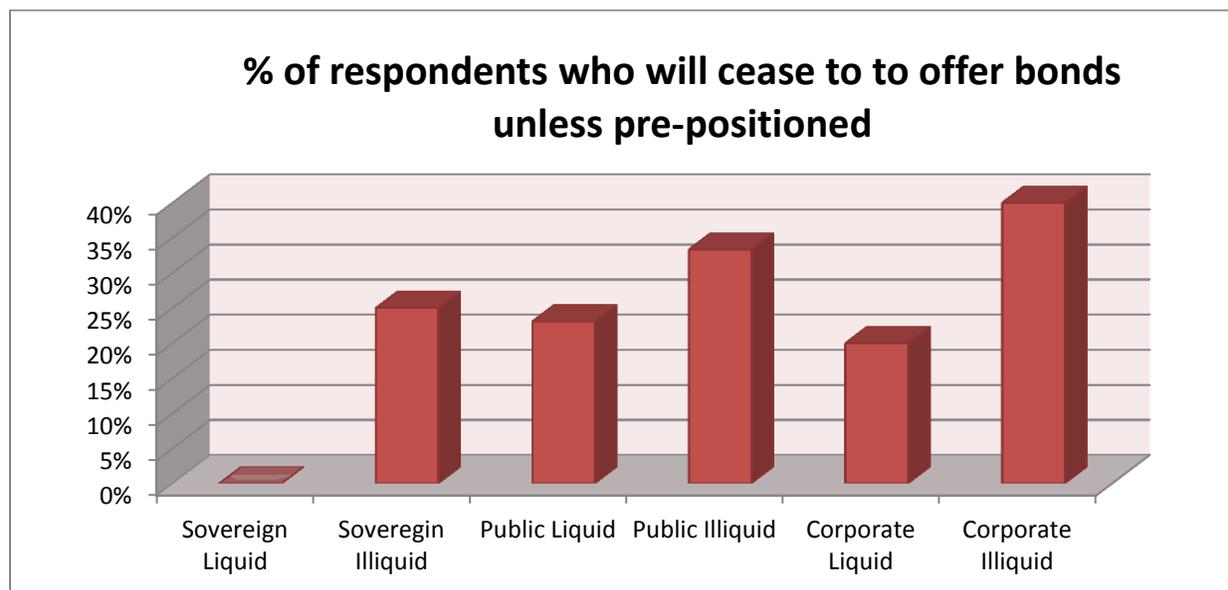


Figure 3: percentage of respondents who will cease to offer bonds unless pre-positioned



Government bonds

	Respondents	Current avg. spread	Increase in offer	New spread	% increase	% ceasing to offer
Sovereign Liquid	17	8.4	9.7	18.0	116.0%	0%
Sovereign Illiquid	16	24.2	29.2	53.3	120.7%	25%

While the least impacted in absolute price terms, government bonds are significantly impacted in relative terms, with bid-offer spreads more than doubling for both liquid and illiquid bonds. The responses suggest that post the introduction of mandatory buy-ins, market spreads for liquid sovereign bonds will be similar to where spreads for illiquid bonds are today. In the case of illiquid sovereign bonds, 25% of respondents reported that they would no longer show offers to clients unless they are already positioned in the bonds.

Public bonds

	Respondents	Current avg. spread	Increase in offer	New spread	% increase	% ceasing to offer
Public Liquid	13	17.3	20.9	38.2	120.3%	23%
Public Illiquid	12	47.2	35.1	82.3	74.4%	33%

Liquid public bonds, similar to sovereign bonds, are severely impacted in relative terms, with bid-offer spreads more than doubling. Furthermore, around a quarter of respondents reported that they would no longer show offers in liquid public bonds unless they held them in inventory. Not surprisingly, illiquid public bond pricing will also be severely impacted (increasing by around 75%), and a third of respondents will no longer show offers in bonds they do not hold in the box.

Corporate bonds

	Respondents	Current avg. spread	Increase in offer	New spread	% increase	% ceasing to offer
Corporate Liquid	15	33.0	51.2	84.2	155.2%	20%
Corporate Illiquid	15	100.2	99.5	199.7	99.3%	40%

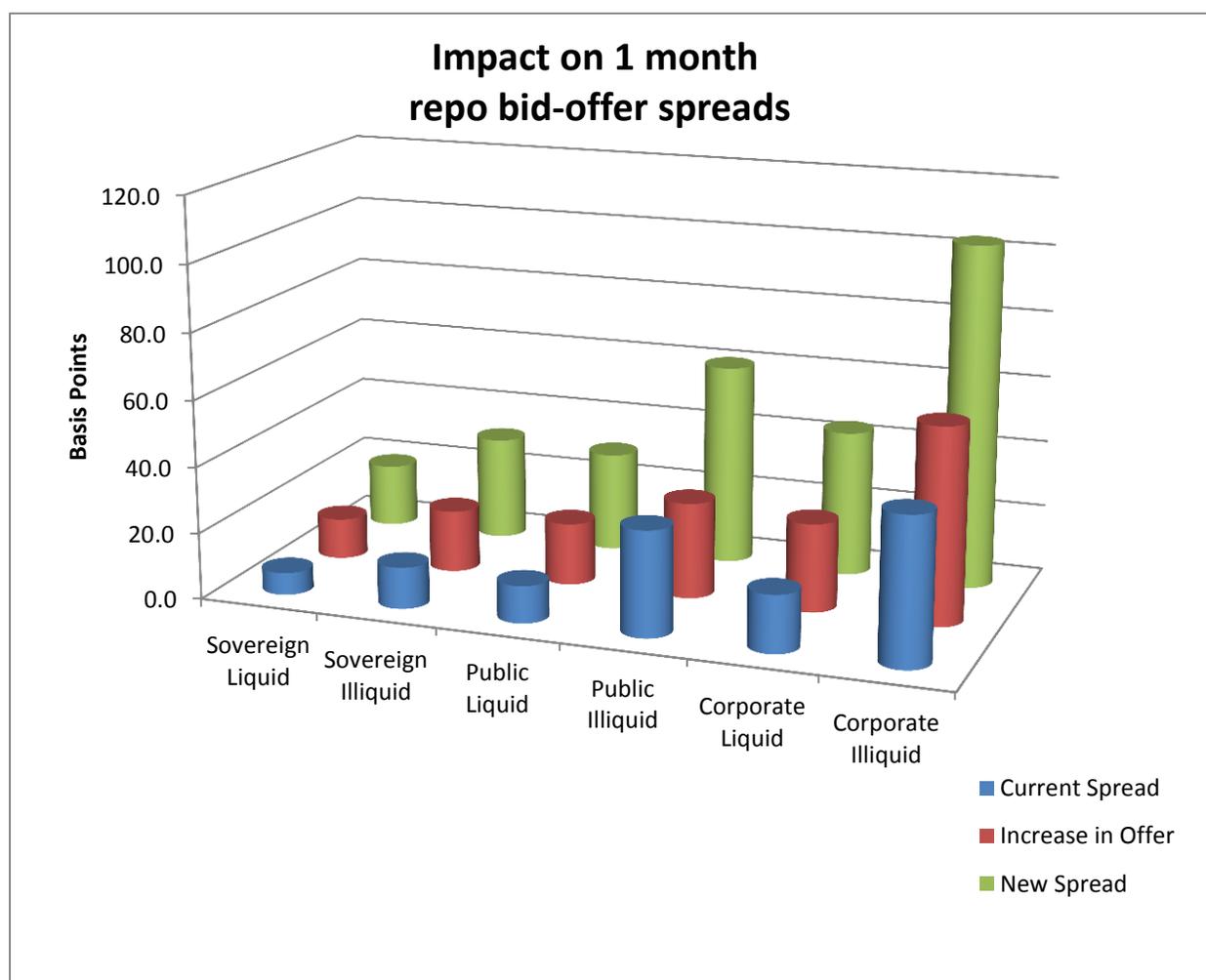
Liquid corporate bonds, in relative terms, are the most severely impacted, with spreads widening by an average of more than 150%. One fifth of respondents also reported that they would no longer show offers in bonds they did not already hold. Meanwhile, illiquid corporate bond bid-offer spreads are set to double, with 40% of market makers no longer showing offers in bonds that are not held in inventory.

Impact on repo markets

Term repos are a major structural component of the €5.8 trillion European repo market. Around 45% of the outstanding market is termed for over a week, and over 20% is termed for more than a month¹⁰. Mandatory buy-ins will apply to all securities financing transactions apart from very short-dated or open maturities.

The below charts illustrate the impact of mandatory buy-ins on one-month repo rates across the six asset classes. In moving to a mandatory buy-in regime, a number of repo market-makers will no longer show term offers in repos unless match-funded to the same term. This impact is also illustrated.

Figure 4: the impact on one-month repo bid-offer spreads



¹⁰ The term profile, size, and other data related to the European repo market can be found in the semi-annual [ICMA European Repo Market Survey](#).

Figure 5: the relative increase in 1mth repo bid-offer spreads

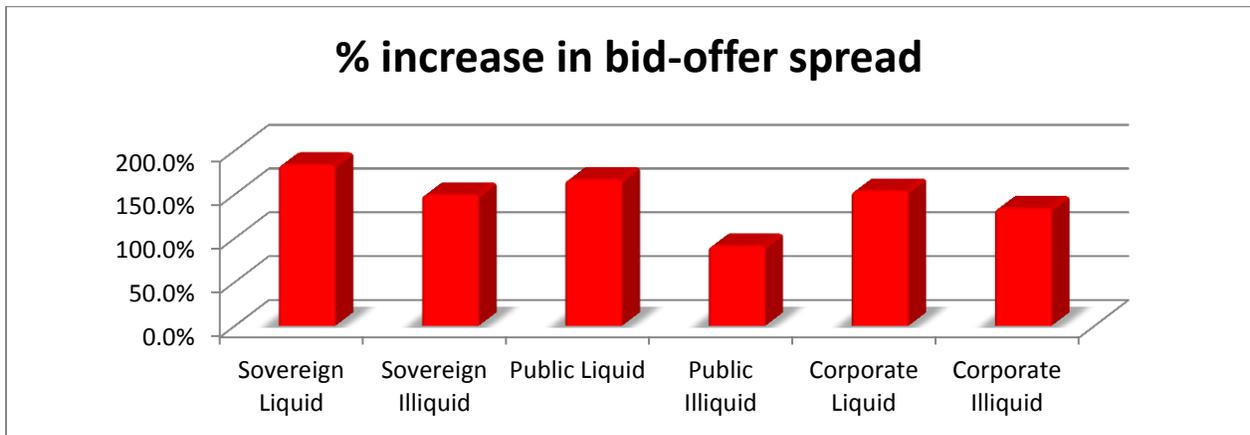
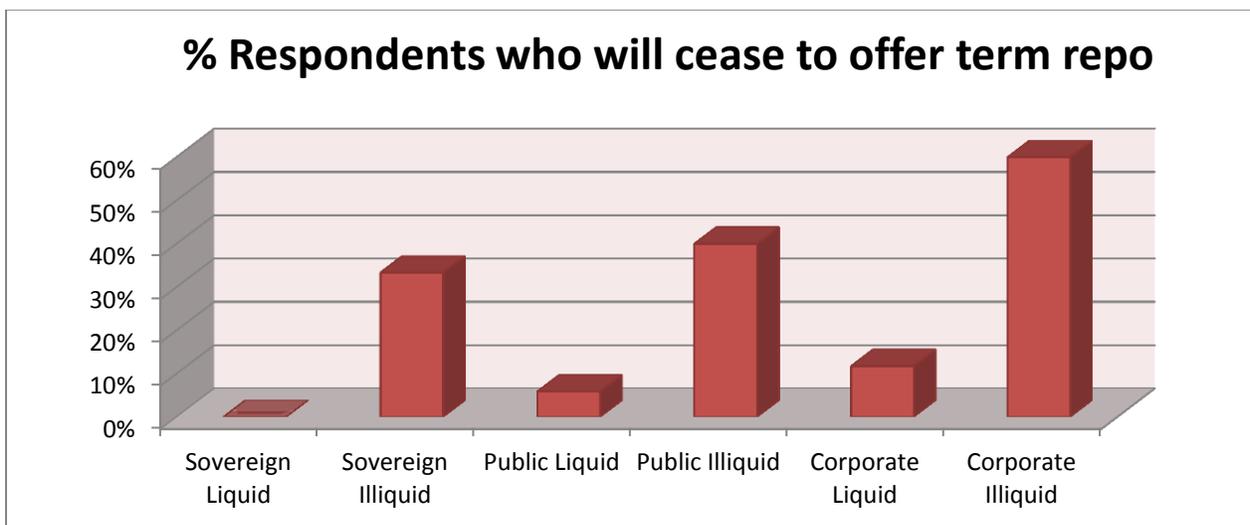


Figure 6: percentage of respondents who will cease to offer term repo



Government bond repo

	Respondents	Current avg. spread	Increase in offer	New spread	% increase	% ceasing to offer
Sovereign Liquid	19	6.7	12.3	19.0	183.6%	0%
Sovereign Illiquid	18	12.5	18.7	31.2	149.3%	33%

Term government bond repo markets are currently highly liquid and trade on relatively tight spreads. The data from respondents suggests that this will cease to be the case once a mandatory buy-in regime is introduced, with spreads for less liquid sovereign bonds widening by 150%, while the spreads for more liquid government bonds will almost triple. Furthermore, a third of respondents indicated that they would no longer show term offers in less liquid sovereign bonds.

Public bond repo

	Respondents	Current avg. spread	Increase in offer	New spread	% increase	% ceasing to offer
Public Liquid	17	11.2	18.7	30.0	166.6%	6%
Public Illiquid	15	31.8	28.9	60.7	90.9%	40%

Term repo spreads for liquid public bonds, similar to government bonds, will widen significantly (by over 160%), however only one respondent reported that they would cease to show term offers. For less liquid public bonds, however, not only will spreads double but 40% of respondents suggested that they would no longer show term offers.

Corporate bond repo

	Respondents	Current avg. spread	Increase in offer	New spread	% increase	% ceasing to offer
Corporate Liquid	17	17.3	26.6	43.9	153.9%	12%
Corporate Illiquid	15	44.2	59.2	103.4	133.8%	60%

Term repo rates for liquid corporate bonds will widen significantly (more than 150%), however most respondents suggested that they would still show term offers at these increased rates. For less liquid corporate bonds, however, the majority of the repo market will no longer show term offers, with those who do more than doubling their bid-offer spread.

Qualitative responses

A number of respondents provided commentary to support their data responses, as well as voicing concerns about the likely repercussions of introducing a mandatory buy-in regime for the bond and repo markets, and the differing impacts across various asset classes. A number of responses, or abstracts, are provided below. It is important to note that not a single respondent commented on any potential positives arising from mandatory buy-ins.

General bond market liquidity

- Mandatory buy-ins create a disincentive to lend illiquid securities, which will impact the liquidity of certain securities in cash and secured financing markets, including peripheral sovereign bonds. This could prevent dealers from fulfilling their role as market-makers.
- The introduction of mandatory buy-ins will introduce transaction costs to the market which will be reflected either via wider bid-offer spreads, or the retrenchment of liquidity (i.e. 'no offer').
- Mandatory buy-ins will most apparently impact liquidity and pricing for (i) non-benchmark issues; (ii) more seasoned (older) issues; (iii) illiquid bonds; and (iv) retail targeted issues. Furthermore, this will most likely impact smaller and larger trades (since the former carries the most risk and the latter is more difficult to cover), and in turn this will impact the larger institutional investors as well as smaller retail investors.
- Liquidity will become significantly impaired due to the risks and costs of buy-ins principally for illiquid sovereigns and corporate bonds. In most cases, these will become order-only markets. High yield and subordinated financials will be most impacted among corporate bonds.
- With the risk of buy-ins for illiquid bonds, we should see the market move to an order-only basis (as during the crisis 2008). In most cases, dealers will only show offers if there is a guaranteed repo, they know they can cover the same day, or they hold inventory on their books (which is less likely given balance sheet constraints from other regulation).
- Unwinding client portfolios will take much longer and involve higher costs.
- Mandatory buy-ins will create reduced liquidity for the bond and repo markets, and higher price volatility.

- Short-sale offers even in liquid public and corporate bonds may become an exception.
- Market volatility will rise, while the frequency of trading and the ability for market-makers to provide liquidity will reduce. The smooth functioning of the futures market will also likely be challenged.
- Estimating the business cost of mandatory buy-ins accurately is difficult since the cost of buy-ins is largely unpredictable. However, given the nature of buy-ins, in most cases it is likely to be highly significant.

Corporate bonds

- For corporate bond markets, the impact is not formulaic. Rather, the entire market will become dysfunctional, and move to an order-based model. Liquidity will disappear since there will be no ability or willingness to intermediate demand/supply mismatches.
- There is very little liquidity in term repo for corporate bonds currently. Mandatory buy-ins would cement this condition for good.
- Short covering by repo in the corporate bond market may no longer be possible.

Repo markets

- Repo liquidity for less liquid assets is expected to reduce due to buy-in sensitivity.
- Running a repo matched-book will become increasingly more complex and riskier, since financing a term repo with a short-dated repo would create buy-in exposure for the repo trader that could not be passed-on. Therefore, it is likely that repo books will become truly matched-funded, with no exposure to mismatched-dates. This is at a time when liquidity in the repo market is already deteriorating.
- Mandatory buy-ins will negatively impact term repo liquidity in all but the most liquid sovereign and public bonds. Bid-offer spreads would also increase in these markets (by as much as 30 or 40bp). We would no longer offer any 'illiquid' bond for term.
- Nobody will offer repo beyond the buy-in threshold, except for super-liquid sovereign and public bonds.
- There will be more demand for fixed term repos to reduce the risk of recalls for open trades and to pass-on buy-in risks. In many cases, dealers may wait for the repo to settle before they will want to show an offer in a bond.
- Expect an increasing concentration in the short-term repo market, with fewer offers in the term markets.

Quantitative Easing

- The policy of QE by the ECB will compound the liquidity impacts of mandatory buy-ins, since the supply of less liquid and lower quality assets will be reduced, compressing repo market supply and heightening the probability of fails.
- Following the introduction of QE, market liquidity will already have thinned. Thus, the impact of mandatory buy-ins will be even worse.
- It is imperative that the ECB and/or NCBs provide liquidity to the repo market to stem the deterioration in market liquidity and to reduce the risks of buy-ins. National finance agencies may also be required to become lender of the last resort for sovereign bonds.
- Mandatory buy-ins, combined with QE, will have the expected impact of creating a non-performing European bond market.

Other considerations

- We will have to consider the reputation of clients when showing prices.
- Mandatory buy-ins will remove the ability that currently exists to net failed purchases and sales in the same security but traded for different settlement dates (which reduces aged fails as well as the need of multiple buy-ins in the same security).
- For both cash and repo counterparties, there will be a need to select counterparties carefully to minimize buy-in risks.

III: Costing mandatory buy-ins

Estimating the cost of implementing a mandatory buy-in regime is challenging due to the lack of granular data for both European bond and repo market activity. Furthermore, it is difficult to estimate what the impact of mandatory buy-ins will be on activity and the scale of the likely market contraction. However, it is possible to estimate the cost based on assumptions related to available data, and based on current market structure and levels of activity.

Therefore, the approach in this analysis is to estimate the cost of mandatory buy-ins for bond markets based on €1 trillion annual volume. The total cost can then be calculated based on the estimated total volume of the European bond markets.

A more estimable measure of the repo market is provided by the ICMA semi-annual European Repo Market Survey. While it does not provide overall volumes, it is possible to extrapolate from the outstandings across different maturities a conservative estimate of the annual volumes required to maintain these outstandings.

Bond market

The annual cost to the bond market (which will be borne by investors and issuers) per €1 trillion of volume is calculated using the following assumptions:

- The current split of secondary market volumes across the 3 main asset classes (applying Trax market data from 2014¹¹) remains stable: roughly 89% for sovereign bonds, 4.5% for public bonds, and 6.5% for corporate bonds.
- The ratio of liquid to illiquid bonds is determined by the proposed MiFID II/R RTS.

Applying the survey data for increases in offer prices across the different asset classes, the overall cost to bond markets is estimated to be in the region of €1.4 billion per €1 trillion of annual volume.

¹¹ The Trax data used is the estimated European secondary bond market volumes for 2014, for all currencies, disaggregated by the asset classes used here. The data provided is denominated in USD as a base currency, but has been converted to Euros using the 2014 average exchange rate (ECB). ICMA gratefully acknowledges the terms of use of this data, and draws attention to the disclaimer pertaining its provision and use, which is published on Page 20 of this report.

Estimating the cost to the bond market

	Volume	Liquid	Illiquid	Offer increase liquid (cents)	Offer increase illiquid (cents)	Wtd avg offer increase (cents)	Cost
Sovereign	€888,401,825,280	99.5%	0.5%	9.7	20.9	9.76	€ 866,724,821
Public	€44,998,638,919	86.3%	13.7%	18.7	35.1	20.95	€ 94,257,749
Corporate	€66,599,535,801	80.1%	19.9%	51.2	99.5	60.81	€ 405,003,099
Total	€ 1,000,000,000,000						€ 1,365,985,669

Most estimates are that the total annual volume of the European bond market is significantly higher than €1 trillion. Trax data for 2014 shows bond market volumes of more than \$32 trillion (€24 trillion)¹². This seems high relative to other, more anecdotal estimates, but even if the true number is a fraction of this, or allowing for the inevitable contraction of market activity that mandatory buy-ins will prompt, the resulting annual cost will still run into several billions of euros.

¹² Trax further estimates that their data represents only 65% of all European bond market transactions

Repo market

The most reliable publically available source of data for the size and structure of the European repo markets is the ICMA European Repo Market Survey¹³. While the survey is widely accepted as a relatively accurate reflection of the European repo market, using the data creates a number of challenges: the data is a snapshot reflection of outstandings, rather than turnover; term maturities are bucketed into ranges; it is difficult to break out asset classes by term; and there is no indication of liquid vs. illiquid. In using this data, the following assumptions are applied:

- The current estimated market size¹⁴ of €5.8 trillion remains stable.
- The current term structure of the market remains stable.
- Based on the term maturity buckets, the median number of days for each bucket is a suitable proxy for the weighted average term of outstandings. (This is likely to underestimate the full impact, since activity tends to decrease the longer the term.)
- The estimated annual turnover for each term bucket is that required to maintain the level of outstandings. This is only a proxy measure of actual activity, and is likely to be significantly skewed to the low side. In reality, repo market volumes may be multiples of the numbers assumed here.
- For the sake of simplicity, the analysis applies only to sovereign bonds, and not to public or corporate bonds (again, this is likely to create an underestimation of the total cost).
- For the sake of simplicity, it is assumed that 100% of underlying repo assets are liquid by the MiFID II/R RTS.
- Applying the proposed RTS for in-scope SFTs, all liquid bonds are considered in-scope for the '1 week to 1 month' bucket.
- The average increase offer cost for a 1 month repo (from the survey) is proportionately applied across all terms for in-scope repos (i.e. it will halve for two months, but double for two weeks, etc.)

Applying the survey results for increases in term repo offers, the conservative estimated annual market cost is more than €3 billion. Again, it is reasonable to assume that after the introduction of mandatory buy-ins, volumes in term repo markets will reduce significantly as the market structure transitions to a very short-dated (out of scope) market.

¹³ [The data is taken from the June 2014 survey](#)

¹⁴ Note that the ICMA European Repo market Survey is thought to capture only 80% of total market activity

Estimating the cost for the repo market

Term bucket	Median days	Market size (mm): % of total	Outstanding (mm)	Annual volume (mm)	Cost (bp)	Adjusted cost (bp)	Cost (€)
			€ 5,800,000				
1wk-1mth	18.5	22.6%	€ 1,310,800	€ 25,507,459	12.3	19.9	€ 2,614,514,595
1-3mths	60	11.7%	€ 678,600	€ 4,071,600	12.3	6.2	€ 417,339,000
3-6mths	135	4.1%	€ 237,800	€ 634,133	12.3	2.7	€ 64,998,667
6-12mths	270	3.6%	€ 208,800	€ 278,400	12.3	1.4	€ 28,536,000
12mths	360	2.8%	€ 162,400	€ 162,400	12.3	1.0	€ 16,646,000
Total		44.8%	€ 2,598,400	€ 30,653,993			€ 3,142,034,261

Conclusion

Based on the available market data, and related assumptions around both the bond and repo market structure, the estimated annual cost to the market of implementing a mandatory buy-in regime, even applying the most conservative estimates, is likely to run into several billions of euros per annum. This cost will directly impact investors, and in turn issuers who will be forced to pay an 'illiquidity premium' for their primary debt issuance. These costs, of course, do not account for the market contraction that is likely to follow the introduction of a mandatory buy-in regime, although this could be viewed as a cost in itself.

Acknowledgment

ICMA would like to thank Trax for the provision and use of proprietary market data to support this cost analysis. ICMA further acknowledges the terms and conditions of its use and representation, and the associated disclaimer reproduced below:

The information contained herein is proprietary to Trax ('Trax' is a trading name of Xtrakter Ltd, authorised and regulated by the Financial Conduct Authority). The information contained in this document is only intended to provide an overview of the subject matter and is not an exhaustive treatment thereof and may not be fit for your purpose. This document and the information contained therein is provided "as is," and Trax disclaims all liability, and makes no express or implied representations or warranties, including without limitation in relation to fitness for purpose, accuracy or completeness of the contents of this email, the attachments or the information contained therein. The information contained herein cannot be presented in other contexts without explicit consent.

Conclusion

This study clearly illustrates the likely impact of mandatory buy-ins for European bond and repo market liquidity and pricing. The inevitable increase in cost and decrease in liquidity that mandatory buy-ins will forge will be borne not by the banks and broker-dealers, but by investors. In turn, this is likely to have cost and risk implications for borrowers, both public and private, and will result in an additional 'illiquidity premium' to their cost of capital. Thus, the negative externalities of mandatory buy-ins impact not banks, but the real economy. Meanwhile, its ability to improve settlement efficiency remains unproven, and if anything, given the liquidity impacts highlighted by this study, it may very well result in the opposite.

While ICMA appreciates that mandatory buy-ins, as part of the CSDR package, is now cemented into European law, and therefore irreversible, analysis such as this clearly underlines the need for more rigorous and transparent independent impact and cost-benefit analyses of certain regulatory initiatives, particularly those that have no existing market-based precedence. While initiatives to improve the efficiency and safety of Europe's settlement systems should be supported, every indication suggests that mandatory buy-ins is an ill-conceived and poorly constructed piece of financial markets regulation with no obvious benefits or likely positive outcomes. Rather it will only serve further to reduce liquidity and stability in the European capital markets. Given the potential costs to the real economy, this study helps to underline the case that this regulation warrants far more public scrutiny and debate before it is eventually implemented.

Annex I: The survey template and guidance notes

ICMA: CSDR Mandatory Buy-in Impact Survey

Background

The provision for mandatory buy-ins under CSD Regulation is likely to have a significant impact on liquidity and pricing in the European fixed-income markets, both for outright cash transactions and the repo market.

The regulation provides that buy-ins must be executed against failing securities transactions:

- After 4 days of failing for liquid (as defined by MiFID II/R) securities
- After 7 days of failing for illiquid securities

This will also apply to the end-leg of all SFTs, and the start-legs of term SFTs that are 9 days or longer in the case of underlying liquid securities, and 15 days or longer in the case of underlying illiquid securities.

Effectively, after implementation, the European fixed income markets will become a 'guaranteed delivery' environment, with the exception of the start-legs of very short-dated repos. This will increase risk to market-makers, particularly where they offer securities that they do not physically hold, and may necessitate changes in market-making behaviour as well as pricing.

The CSDR Level 2 Consultation

On December 18th, ESMA published a Consultation Paper on the Regulatory Technical Standards (RTS) for CSDR, with a response deadline of February 19th. ESMA has made it very clear that in assessing the RTS (as well as in justifying any delay to implementation of Settlement Discipline) respondents need to support their arguments with comprehensive and credible quantitative analysis. In other words, it is down to the market to provide the impact analysis that the EC and ESMA clearly failed to undertake.

ICMA is working closely with AFME, and others, to provide a solid and detailed response that clearly highlights the risks and costs of introducing a mandatory buy-in regime. Without data to support these arguments they will be considered as purely theoretical and are likely to be ignored by ESMA and the EC.

It is therefore imperative that we can illustrate in our response the actual impact that mandatory buy-ins is likely to have on the European fixed income markets in terms of liquidity and spreads. We therefore ask that your firm respond to this the survey to help us provide the critical data and analysis that ESMA requires.

This survey is part of a number of complimentary surveys/data requests being conducted by ICMA, AFME and others, in close collaboration, and which are critical if we are to influence the RTS (and any potential deferral in implementation) of CSDR Settlement Discipline.

The survey

The survey is intended to show the likely impact on pricing and liquidity across a range of fixed income asset classes, both in the outright and repo markets, as a result of trading under a mandatory buy-in regime.

The cash market

The basic question for dealers in outright fixed income bonds is: *in a mandatory buy-in regime, for a security that I do not physically hold in the box, how much will I increase my offer relative to where I would offer the same bond today?*

It is important to remember that short-dated repos will be out of scope of mandatory buy-ins, so even where you cover your short on repo or via stock-loan, you are still exposed to the buy-in risk where the repo does not settle, or is re-called. Bear in mind, also, that Settlement Discipline is expected to reduce liquidity in the SFT markets.

The repo market

A similar question for repo dealers also applies. For the purposes of this survey we have chosen to analyse the likely impact on 1mth repo rates for specific securities (as opposed to GC or tri-party). Essentially, the question here is: *in a mandatory buy-in regime, by how much will I increase my 1mth offer in a given security relative to where I would offer the same repo today?*

A further question for both cash bond and repo market-makers is: *how will this change my business, in general and with respect to certain asset classes, securities, or counterparties?* Please also include some commentary in the survey response to highlight potential business impacts of mandatory buy-ins. For example, it may be that firms no-longer make-markets in some securities or markets. From a repo perspective, managing a matched-book with maturity mismatches could become far more complex in terms of risk-management. There might also be extra-territorial implications that could impact pricing. Then, there are operational considerations related to initiating, managing, and avoiding buy-ins.

Guidance

Some dealers may take a more scientific approach than others in assessing the impact on their offers, and this may also depend on the liquidity of the underlying security, repo availability/rates, settlement efficiency levels, as well as the likely cost of being bought-in.

A simple formula to calculate the buy-in risk premium could be something along the lines of:

*Perceived probability of failing at the end of the extension period x potential maximum cost of a buy-in
(+ any additional potential costs such as cash penalties and related admin costs/hassle factor)*

[NB: an example is provided in the Annex]

Of course, it is also quite possible that for some securities (both for cash and repo), in a mandatory buy-in scenario, that the risk is simply unquantifiable and so dealers may simply choose to show no offer, which should also be reflected in the survey responses.

A further consideration is that it is quite likely that the market environment may change by the time of (and as a result of) Settlement Discipline implementation, as well as there being a number of external factors that will also play a role in improving or worsening settlement efficiency (T2S, cash penalties, deteriorating SFT liquidity/smaller lending pools, QE, etc.).

Process and timing

We suggest that firms appoint a central coordinator who can reach out to the relevant desks and traders to collate the responses and return one completed survey form.

Please note that all responses will be treated in confidence, anonymized and represented in aggregate.

Given the relatively short-time period of the consultation, we request that responses be returned to Andy Hill (andy.hill@icmagroup.org) no later than cob on Friday January 30th, although as soon as possible would be most helpful.

ICMA CSDR Mandatory buy-in impact survey: Page 1

Firm	
-------------	--

Date	
-------------	--

Please state the current (average) bid/ask spread (in terms of cents/points for cash, and bps for repo), and the expected average increase in offer price/rate when offering securities that are not being held 'in the box' and subject to mandatory buy-ins.

Where respondents would no longer show an offer under this scenario, please respond with 'NO'

Instrument ¹⁵	Cash Market		1mth Repo Market	
	Current average bid/ask spread (cents/points)	Increase in offer (cents/points)	Current average bid/ask spread (bps)	Increase in offer (bps)
Liquid sovereigns				
Illiquid sovereigns				
Liquid public bonds				
Illiquid public bonds				
Liquid corporates				
Illiquid corporates				

¹⁵ For definition of liquid/illiquid please refer to the MiFID II draft RTS: http://www.esma.europa.eu/system/files/2014-1570_cp_mifid_ii_part_2.pdf

ICMA CSDR Mandatory buy-in impact survey: Page 2

Please provide any additional commentary on the expected potential impact to your business both in general terms as well as related to the given asset classes.

Asset Class	Cash Market	Repo Market
General		
Sovereign Bonds		
Public Bonds		
Corporate Bonds		

Annex: examples of calculations for impact on offer price under mandatory buy-ins

Example 1: cash bond

Assume an illiquid corporate bond trading on a 50c bid/ask spread. Based on repo rates/availability, assume a probability of 20% for failing at the end of the 7 day extension period. Previous experiences suggest a potential buy-in premium of 150c for this class of bond.

The offer under mandatory buy-ins would need to be adjusted by: $0.2 \times 150c = 30c$. Thus the adjusted spread for the bond would be 80c.

A further consideration might be the possibility of being hit with a cash penalty for 14 days (7 days extension period plus 7 days buy-in timeframe) at the equivalent of 180bp annualized per day. Plus the potential hassle factor of being bought in. You might allow an additional 5c to cover this. Thus the offer would be increased by 35c (taking the adjusted spread to 85c, widening it by 70%).

	Cash Market	
Instrument	Current average bid/ask spread (cents/points)	Increase in offer (cents/points)
Illiquid corporate	50c	35c

Example 2: 1mth repo

Assume a 1mth repo in a liquid sovereign trading at a spread of 5bp. Assume a probability of 1% of failing at the end of the 4 day extension period, and a maximum likely buy-in cost of 50c.

Thus a buy-in risk premium will need to be priced in of: $0.01 \times 50c = 0.5c$. For a 1mth repo, this would equate to $12 \times 0.5 = 6bp$. You may consider this enough to cover additional costs/hassle related to the fail/buy-in.

Thus the repo spread would increase from 5bp to 11bp (widening it by 120%).

	1mth Repo Market	
Instrument	Current average bid/ask spread (bps)	Increase in offer (bps)
Liquid sovereigns	5bp	6bp

Annex II: An overview of buy-ins

Definition

A buy-in is a market based remedy available to the receiving counterparty of securities (the buyer) in a financial transaction in the eventuality that the delivering counterparty (the seller) not delivering the underlying securities on the agreed settlement date (i.e. failing). In the event of a fail, the disappointed receiving counterparty has the right to instruct a third party (the buy-in agent), who is independent from both counterparties in the original transaction, to purchase the securities in the market place for guaranteed delivery (normally for a premium to non-guaranteed delivery) which will then be delivered to the disappointed counterparty at the resulting buy-in price. The original transaction between the disappointed and failing counterparties will immediately canceled, and any price differential between the buy-in price and the original transaction price, will be settled between the disappointed and failing counterparties. The failing counterparty will have been effectively 'bought-in', and both counterparties will have been restored to the same economic position that they would have been in had the original transaction settled on the intended settlement date.

In the case where a trade fails due to the receiving counterparty (the buyer) having insufficient cash, the disappointed delivering counterparty (the seller) has the right to execute the equivalent of a buy-in in the form of a 'sell-out'. This works in exactly the same way as a buy-in, but with the disappointed seller selling the securities to a third party.

An important aspect of buy-ins (and sell-outs) is that they are, in most cases, they are a contractual remedy that exists between the two counterparties to a transaction (the buyer and seller), and that they are discretionary, affording the disappointed counterparty the right to choose if and when to execute the buy-in (or sell-out).

Current market frameworks for buy-ins

Currently a number of contractual remedies exist that put both the disappointed party and the failing party in the position they would have been in had the transaction settled on the original settlement date, which is the objective of a buy-in.

a) ICMA Buy-in rules

Under ICMA rules the disappointed counterparty can instruct a third-party buy-in agent (who is an ICMA member, and usually a market-maker in the relevant security) to buy the securities¹⁶ on their behalf. These securities are then delivered to the disappointed counterparty, while any difference between the buy-in price and the original trade price

¹⁶ In the case of ICMA rules, this will mostly apply to cross-border, OTC fixed income transactions

is settled directly between the failing seller (who is said to be 'bought-in') and the disappointed buyer.

b) ICMA Buy-in Pass-on

Often a single fail can trigger a sequence of fails in the same security. ICMA buy-in rules provide for a 'pass-on'. Where a counterparty is failing on an outward settlement due to an inward fail, on receiving a buy-in notice they are able to pass this on to the counterparty failing into them. In this way it is possible to connect the individual fail at the start of the sequence with the disappointed counter-party at the end of the sequence, facilitating an effective and satisfactory resolution through the execution of just one buy-in.

c) GMRA Mini-close-out

The Global Master Repurchase Agreement sets out provisions for recourse in the event of a failing repo transaction. In this event, as an alternative to the failing repo being classified as a 'default' event, the disappointed repo counterparty can execute a 'buy-in equivalent' known as a mini-close-out. This allows the disappointed counterparty to terminate a repo that fails on the start-leg and to claim compensation equal to the repo interest that would have accrued under the terms of the trade to the point of termination. In the case of a failing end-leg of a repo, a mini-close-out effectively allows the disappointed counterparty to cancel the end-leg of the repo, and for the disappointed and failing counterparties to settle any cash difference between the cost of replacing the securities in the market (the 'buy-in' price) and the price of the securities used in the repo transaction¹⁷.

d) GMSLA Event of default

The Global Master Securities Lending Agreement sets out provisions for recourse in the event of a failing stock-loan transaction. The provisions for the disappointed counterparty are more-or less the same as under a GMRA in terms of compensation claimable in the event of a failing start and end-leg of a stock-loan.

e) Other buy-in mechanisms

While ICMA buy-in rules cover OTC cross-border bond markets between ICMA members, different remedies and buy-in rules may apply in different markets and jurisdictions.

Furthermore, certain trading venues and central counter-parties (CCPs) also have their own buy-in rules for exchange traded or CCP-cleared transactions. These rules will vary, depending on CCP or, in the case of equities, trading venue, as well as the type of instrument¹⁸. Further

¹⁷ Net of any hair-cuts or variation margining.

¹⁸ It should be noted that the structures for fixed income trading and equity trading in the European markets are very different. In the case of fixed income, the number of different, competing trading venues is likely to increase under MiFID II.

complications arise out of the fact that many CCPs are not able to manage pass-ons since the netting process does not afford visibility of the fails chain.

These various market driven remedies have been designed to protect the disappointed counterparty in a failed securities transaction while recognizing the objective and construct of the underlying transaction (hence different contractual remedies for cash trades and securities financing trades).

Potential issues with executing buy-ins

Anecdotal evidence for non-CCP cleared bilateral fixed income transactions indicates that currently very few of issued buy-in notices result in a buy-in execution. However, where buy-ins are executed, there are often issues around finding holders of the securities that can provide for guaranteed delivery, as well as risks in term of the execution price relative to 'fair value'.

- *Locating securities for the buy-in*
Often, finding holders of the securities who are willing sellers and who can ensure guaranteed delivery can be problematic. This is particularly the case for less liquid securities.
- *Relationship issues*
Buy-ins are usually considered to be a remedy of last resort, and are usually executed only after the failing seller has been given every opportunity to try to settle the trade. Executing buy-ins soon after a fail, or on a regular basis, can cause friction between trading counterparties, and could lead to selective pricing for less liquid securities. Furthermore, many professional investors understand that to get liquidity and competitive pricing in certain securities or asset types, it may be necessary to accept late settlement.
- *Agreeing the price of the buy-in*
While the buy-in agent is expected to take all reasonable steps to achieve the overall best result in terms of price, the fact that the buy-in trade is for guaranteed delivery, and is likely to be in an illiquid security, there is usually a premium to the price of the original trade. In some instances this premium can be significant and may be contested by the counterparty being bought-in.
- *Agreeing a price for cash compensation*
Given that buy-ins are usually executed to settle fails in the least liquid securities, it is possible that the buy-in agent is unable to find securities for guaranteed delivery. In this event the contractual agreement may allow for cash compensation between the disappointed and the failing counterparty, rather than physical delivery of the failed

securities. However, agreeing the appropriate reference price to calculate the compensation can be problematic, and even contentious, not least where the security seldom trades.

- *Identifying buy-in chains*

Often a single insufficient trade can result in a sequence of fails in the same security, particularly less liquid securities. ICMA buy-in rules provide for a pass-on to facilitate the efficient unravelling of a buy-in chain with a single buy-in. However, where there is a lack of visibility across such transaction chains (such as where trades settle across different CSDs), there is a possibility of a single fail leading to multiple buy-ins. This could result in the duplication of processes and costs, as well as potential market price distortions.

- *Cash-securities markets and SFT inter-connectedness*

Where a counterparty short-sells a security, such as through normal market-making activity or as the result of a hedging strategy, they will cover their short using a SFT. While the short-sale is likely to be subject to buy-in risk in the event of a fail, the start-leg of the SFT cannot be bought in, creating a potential exposure for the short-seller. However, given that buy-ins are relatively rare events, along with the absence of buy-in exposure to the lending counterparty which helps to ensure a liquid SFT market, the risk to the covered short-seller can be viewed as minimal.

Annex III: Summary of the provisions for mandatory buy-ins in CSDR

Mandatory buy-ins regulation was passed into European law in September 2014 as a provision under CSD Regulation (Level 1). Article 7.3 of CSDR states:

‘Without prejudice to the penalty mechanism referred to in paragraph 2 and the right to bilaterally cancel the transaction, where a failing participant does not deliver the financial instruments...to the receiving participant within 4 business days after the intended settlement date (‘extension period’) a buy-in process shall be initiated whereby those instruments shall be available for settlement and delivered to the receiving participant within an appropriate time-frame.’

The detailed provisions to support the implementation and enforcement of mandatory buy-ins will be set out in the CSDR regulatory technical standards (RTS), which are expected to be passed into law at the end of 2015. ESMA published the draft RTS in December 2014 as part of a consultation process:

Summary of proposed provisions for mandatory buy-ins in Level II

- The buy-in process shall be part of the contractual documentation applicable to each participant of a CSD, CCP, and trading venue.
- Buy-ins should avoid unnecessary costs for the failing counterparty and avoid any risk taking by the CSD, CCP, and trading venue.
- The CSD, CCP, or trading venue should notify both the failing and receiving counterparties: (a) at the end of the last business day of the extension period; (b) on the last day of the buy-in period with the results.
- Buy-ins can only be executed against the missing amount of securities, and partials must be accepted by the receiving counterparty at the end of the extension period, regardless of counterparties opting out of partial settlement.
- Where buy-ins are only partially successful, the receiving counterparty must accept the amount of securities successfully bought-in. For the residual amount, the receiving counterparty can choose to defer the buy-in or receive cash compensation.
- Where the buy-in fails, the receiving counterparty can choose to defer the buy-in or receive cash compensation.
- In the case of non-cleared transactions, where a counterparty is failing due to an receiving fail, the failing participant or trading venue shall, the day before the extension period lapses, inform the CSD of the details of the receiving fail. This will allow the CSD to identify the chain in order to limit the number of buy-ins to be executed.
- The buy-in period (the timeframe to deliver the securities after the extension period has lapsed) will be 4 business days for liquid securities and 7 days for illiquid securities (as defined by MiFID II/R).

- The extension period (the number of consecutive days a transaction fails before the buy-in is initiated) will be 4 business days for liquid securities and 7 days for illiquid securities (as defined by MiFID II/R).
- For operations composed of several transaction (i.e. repos and securities lending transactions):
 - The second-leg will be treated the same as an outright sale (so in scope)
 - The first-leg will be bought-in where the timeframe to settle the buy-in (extension period plus buy-in period) is shorter than the term of the transaction (i.e. the buy-in can be settled before the second-leg of the transaction).
 - For these transactions, a buy-in against the first-leg will be considered ineffective where the second-leg falls before the buy-in can be settled
 - This suggests that the first-leg of securities financing transactions (SFTs) will be in scope where the term of the SFT is 9 days or longer for liquid assets, and 15 days or longer for illiquid assets (or possibly 13 days and 22 days respectively if the possibility for deferral is allowed for)
- Where a buy-in fails or is not possible, cash compensation shall be determined by:
 - A pre-agreed price to settle cash between counterparties
 - A price determined by the buy-in agent with reference to the closing price of the relevant trading venue the previous day; or where not possible, with reference to market prices available across different trading venues or brokers.
- Where the reference price for cash compensation is less than the original transaction price, the compensation will be set at zero.
- A participant will be deemed to consistently and systematically fail where its settlement efficiency rate is 10% lower than the rate for the relevant settlement system (although no recourse is prescribed).
- CSDs shall provide to affected CCPs and trading venues information relating to failed transactions, including the list of instructions the CCP or trading venue sent for settlement to the CSD, along with information relating to intended settlement date, end of extension period, end of buy-in period, end of deferral period, and payment of cash compensation or settlement or cancellation.