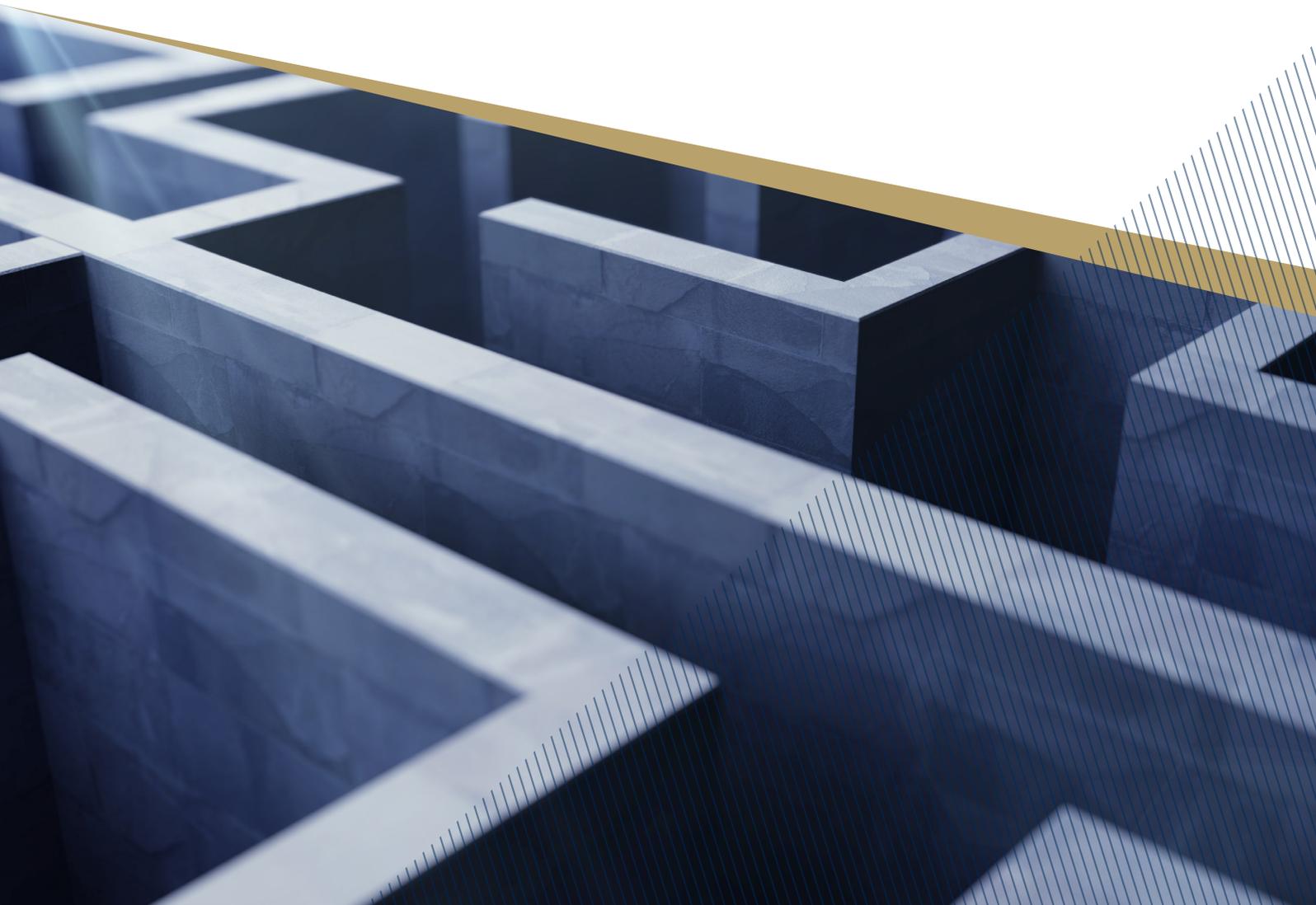# ICMA

International Capital Market Association

How to Survive in a Mandatory Buy-in World

A discussion paper by the ICMA Secondary Market Practices Committee

An overview of the CSDR mandatory buy-in regime, set to come into play in the European fixed income (and equity) markets in 2020, and guidance on how to avoid falling victim to its potential traps and more unusual characteristics.

June 2018

ICMA wishes to emphasize that the 'tips' provided in this paper are not recommendations; rather they are intended to illustrate the adverse behavioural incentives arising from the design of the CSDR buy-in framework.

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Introduction

The concept of mandatory buy-ins in the OTC (non-centrally cleared) bond markets has been an emotive topic since it was first proposed in the lead up to CSD Regulation[1] ('CSDR') in 2014. Its inclusion in the final regulation, as well as its unorthodox design, left the market both dismayed and baffled. The anticipated consequence of the mandatory buy-in regime would be to alter radically secondary market structure and behaviour, and how liquidity is provided within the EU, particularly for less liquid securities such as corporate bonds, SME securities, and emerging markets.[2] The side-effects would be increased market risks and costs for a whole range of market participants, reduced liquidity, and increased market instability; all of which seem to run counter to the intended goals of the regulation.[3] Many, including ICMA, thought that the mandatory buy-in framework was too impractical in its scope and too fundamentally flawed in its design to be implemented, and that it would eventually be abandoned. But in May 2018 the European Commission finally adopted the [regulatory technical standards](#) (RTS), originally submitted by ESMA in February 2016. The EU Council and European Parliament have three months to scrutinize the details, before it is published in the Official Journal. The CSDR Settlement Discipline (SD) package, including mandatory buy-ins, will then come into force 24 months later, likely to be September 2020 and will impact all transactions settled on EU regulated ICSDs and CSDs, with the potential for wider extraterritorial scope.[4]

It appears that the seriousness of the market's concerns with respect to the likely impacts on market functioning and stability have not yet been fully appreciated by many regulators and policy makers. Fortunately, there is still time.

What is a buy-in?

Buy-in mechanisms have existed for decades and are a well understood and widely utilized tool for managing settlement risk. Essentially, in the event of a settlement fail, they provide a buyer of securities the contractual right to source the securities elsewhere (usually for guaranteed delivery),[5] cancel the original trade, and settle between the two original counterparties any differences arising from the net costs of the original transaction and the buy-in transaction. This ensures that the economics of the original transaction are preserved, and that neither party is inadvertently disadvantaged or advantaged as a result of the buy-in. It has to be remembered that buy-ins are not a 'penalty mechanism',[6] they are a contractual remedy to provide for physical settlement of a trade.

Importantly, the settlement of the 'buy in differential' can go either way. So, in the case that the buy-in is executed at a price below the original transaction price, a payment is made by the non-defaulting buyer to the defaulting seller. While intuitively this may seem odd at first, as we will see, it would lead to some very strange outcomes and incentives if buy-ins were not designed this way.

The dynamics and economics of a conventional buy-in mechanism, including the symmetrical nature of the differential payment, are illustrated in Exhibit 1 of the annex.

It should be noted, however, that in most cases, the failing seller who is on the receiving end of the buy-in will incur a cost. Sometimes a significant cost. This has nothing whatsoever to do with the original transaction price, but rather it is the difference between the buy-in price and the current market price at the time of the buy-in, also known as the 'buy-in premium'. As buy-ins are usually executed for guaranteed delivery (see footnote 4), this tends to come at a premium to normal 'best efforts' market levels. Buy-ins also have a signalling effect, particularly for less liquid securities, with holders of the underlying security temporarily marking-up their offers to capitalize on the fact that there is a 'distressed buyer' in the market. It is this difference, between the buy-in price and the market price post buy-in, that the bought-in party will bear when the original transaction is cancelled, and they find themselves with a long position that must be sold or at least marked-to-market.[7] When commentators talk about being bought-in as an expensive 'experience', this is what they are referring to. *This is illustrated in Exhibit 2 of the annex.*

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1 [(EU) No 909/2014](#)
2 The buy-in regime will apply to transactions that settle on EU regulated CSDs and ICSDs.
3 Whilst never explicitly stated, it is broadly understood that the intended purpose of the mandatory buy-in regime is to improve settlement efficiency by reducing the number and length of market fails. ICMA is unaware of any research or analysis that suggests that settlement fails in the European fixed income market are common, or that their occurrence is problematic from either an investor protection or a market efficiency and stability perspective.
4 Article 25 of the RTS requires members of EU CSDs, CCPs, and trading venues to have in place contractual arrangements with their relevant counterparties to enforce the buy-in requirements throughout the settlement chain, including in all jurisdictions to which parties in the settlement chain belong. In other words, the rules of EU CCPS and trading venues are expected to include the CSDR buy-in mechanism regardless of where the member is located or where the transaction is settled.
5 'Guaranteed delivery' can be interpreted in many different ways, but it is generally understood to mean that the seller commits to making delivery on the agreed settlement date, and the buyer has the right to cancel the trade and/or pass on any resulting costs in the event of a fail. In most cases the seller will own the securities and be in a position to make good delivery without relying on any contingent transactions (such as having to recall a repo).
6 CSDR also provides for 'cash penalties' in the event of a settlement fail, which add to the economic cost already incurred by failing delivering parties. Cash penalties are considered to be effective in low or negative interest rate environments, when the normal cost of failing is low.
7 Or, in the case of a short sale, restored to flat, with the same economic outcome.

Other standard features of buy-ins include the appointment of a buy-in agent: an independent third party (usually a market-maker in the security being bought-in), who is appointed by the non-defaulting buyer to source the securities for guaranteed delivery, execute the buy-in, and sell the securities on to the original buyer. Buy-in agents are often able to charge a spread for their service, which will become part of the overall buy-in cost, and so passed back to the original defaulting seller through the buy-in differential payment process. Recently, however, the ICMA Buy-in Rules, which are the longest established and most widely used buy-in mechanism in the international cross-border fixed income markets, removed the need to appoint a buy-in agent, as it was becoming increasingly difficult to find firms willing to act in this capacity, particularly with markets becoming less liquid and more challenging and riskier to transact in.[8]

A 'pass-on' mechanism is another important feature of buy-in frameworks, and is particularly helpful in markets, such as bond markets, where securities are traded frequently between a number of different parties creating settlement chains, and where a single fail by the original seller can lead to multiple fails throughout the chain, ending with the ultimate buyer. Where a party is failing on an onward sale as the result of an inward failing purchase, should they receive a buy-in notification they can 'pass-on' the buy-in to the other side of their failing trade. In this way a buy-in can be 'passed-on' through an entire chain until it lands on the desk of the original failing party. This mechanism enables a single buy-in to settle an entire chain, avoiding multiple buy-ins and the market instability and extreme volatility that this could cause. Again, differential payments are made throughout the chain (in either direction), ensuring that everybody in the chain is restored to the same economic position they would have been in had the original trade settled. Any other outcome for parties in the chain would seem inequitable at best, and extraordinary at worst.

The dynamics and economics of a conventional buy-in pass-on mechanism are illustrated in Exhibit 3 of the annex.

Importantly, buy-in mechanisms, at least in non-centrally cleared markets, are usually discretionary. As already stated, they are a contractual remedy available to non-defaulting parties to be used at their discretion. This allows the non-defaulting party firstly a degree of tolerance in terms of when their counterparty makes good on their settlement (which can be an important consideration in sourcing liquidity), and secondly the ability to optimize the timing of the buy-in. The purpose of a buy-in is simply to ensure delivery of securities (there is normally no economic gain from executing a buy-in), and so it may be important to time the buy-in execution to avoid spates of illiquidity (say over a holiday period) or periods of extreme volatility (when the buy-in process becomes more difficult).

Critically, the discretionary nature of buy-ins also ensures that the 'pass-on' mechanism can work effectively. Transactions in a settlement chain are rarely all for the same settlement date, particularly in bond markets where principle intermediaries regularly hold positions for more than one day before trading out of them. With a discretionary buy-in framework, the respective settlement dates of the individual transactions are relatively irrelevant, since the incentive to issue a buy-in will always lie with the final party in the chain and not with the intermediaries. Thus, it is they that will usually start the buy-in process and determine the buy-in date for the whole chain. If buy-ins have to be executed on or within a mandated number of days of the original fail, this 'pass-on' mechanism no longer works, since there will need to be a separate buy-in related to each original settlement date in the chain. As we will soon see.

It is also worth mentioning that buy-in mechanisms utilized by CCPs tend to work slightly differently to conventional OTC (non-cleared) buy-in mechanisms. Usually, CCP settlement rules will provide for a buy-in to be executed against a failing member fairly quickly, and not necessarily equitably. But this is in the context of managing mutualised risk and usually with respect to highly liquid securities. Also, settlement chains become less relevant, since transactions are netted to the point of a single failing member. So, a very different set of dynamics, risks, and considerations to the world of non-centrally cleared bond markets.

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8   See: Circular to members No. 2 of March 2017: Amendments to the ICMA secondary market rules & recommendations related to buy-ins and sell-outs

The CSDR mandatory buy-in framework

The first distinguishing characteristic of the CSDR mandatory buy-in framework is that it is 'mandatory'. Rather than the buy-in mechanism being a discretionary contractual remedy to help non-defaulting parties manage their settlement risk, CSDR imposes a legal obligation to execute a buy-in. What is more, the original regulation (referred to as the 'Level 1') specifies the time period following the intended settlement date (ISD) within which the buy-in process must be initiated and settled. The point at which the mandatory buy-in must be initiated (known as the 'extension period') is 4 business days (which in the RTS is applied to equities classified as 'liquid' under MiFIR), but this is increased to 7 business days "where a shorter extension period would affect the smooth and orderly function of the financial markets concerned" (in the RTS this is applied to everything else, including all fixed income securities). However, given the design of the CSDR buy-in framework, in many scenarios the optimal time to initiate the buy-in process will be as soon at the trade fails (ISD+1), regardless of any impact this may have 'on the smooth and orderly function of the market'. But more on that later. Similarly, the regulation requires that the buy-in is executed and settled within similar time frames (4 days for liquid equities, and 7 days for everything else). Again, in many, if not most, cases, executing sooner would seem to be better.

For reasons already explained, having a mandated period for when the buy-in must be initiated and in which it is completed is not particularly helpful from the perspective of the non-defaulting party, who may have good reasons for wishing to have control over the optimal timing of any buy-in, either to increase the chances of the buy-in being successful, or to ensure that their liquidity providers continue to show them attractive prices (or any prices) in the future.

The second distinguishing characteristic of the CSDR mandatory buy-in framework is an asymmetry in the way the buy-in differential payment is settled between the original parties. Furthermore, this appears to be the result of a drafting error in the original Level 1 regulation. Article 7 of CSDR, which outlines the mandatory buy-in design, apparently mixes up the direction of payment between the seller and the buyer in the event that the original transaction price is higher than the buy-in execution price. Ordinarily this would be paid by the non-defaulting buyer to the defaulting seller, but the regulation has it going in the opposite direction. As this is a Level 1 matter (and already in law), it cannot be changed (without introducing new legislation), so the pragmatic 'solution' was for the European Commission's legal team to work with ESMA to try to find a workaround in the (Level 2) RTS. This was not possible, and the best they could come up with was an equally problematic compromise. According to the Level 2, if the buy-in price is higher than the original transaction price, the payment goes in the right direction (i.e. from the defaulting seller to the non-defaulting buyer), but in the event that the buy-in price is lower than the original transaction price, the differential "shall be deemed paid". In other words, there is no payment. As we will see, this is critical for how the buy-in mechanism works, the risks borne by all counterparties, the economic outcomes it generates, and the incentives to initiate and execute buy-ins as quickly as possible, as well as the need to initiate multiple buy-ins across transaction chains.

Another controversial and rather unique feature of the original Level 1 buy-in mechanism is that the legal onus to initiate and execute the buy-in process does not necessarily fall on the non-defaulting party (i.e. the trading level entity), but potentially on the relevant 'CSD participant' (i.e. the non-defaulting party's settlement agent or custodian bank), the relevant trading venue, or the actual CSD itself. When it became clear from the subsequent Level 2 consultation that CSDs are not in a position to initiate or manage buy-ins, that trading venues have no obvious means of knowing which trades have settled or not, let alone execute buy-ins, and that settlement agents and custodian banks would need to start asking for margin to protect against the risks created by the regulation, the RTS were amended to look more like a standard 'trading level' buy-in mechanism: with CSDs, trading venues, and participants no longer required to manage the buy-in process, and instead obliged to be part of some complex and unwieldy reporting and monitoring process as well as incorporating the buy-in requirements into their rules and contractual arrangements.

One more key element of the CSDR buy-in framework that needs to be highlighted is its provision for a mandatory cash compensation settlement, in the event that the buy-in cannot successfully be executed. By way of comparison with other OTC buy-in mechanisms, the ICMA Buy-in Rules allow for the buy-in process to run indefinitely, again at the discretion of the non-defaulting party, although they provide that the parties can negotiate a cash settlement should they wish. Furthermore, the initiator can cancel the buy-in at any time and re-initiate the process at their own discretion. The CSDR mandatory buy-in provisions allow for a second attempt at the buy-in, but then cash compensation is mandatory. As with the buy-in price differential settlement, payment of the reference price differential is also asymmetric to the detriment of the original seller.[9]

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9   Cash compensation is based on a reference price (the determination of which being loosely outlined in the RTS), whereby only the price differential is paid between the parties, but the original transaction (and delivery of securities) is effectively cancelled.

Other features worthy of mention are: while CCPs are expected to comply with the buy-in framework, it is not possible to issue a CCP with a buy-in; most securities financing transactions are exempt from buy-ins (i.e. if they have a term of less than 30 business days); the buy-in process requires the appointment of a buy-in agent (or, potentially, the use of a buy-in auction); and that while there is no specific 'pass-on' process outlined in the RTS, it is not precluded (although, as we will see, a pass-on mechanism does not really work for the CSDR framework). Finally, while CSDR applies to transactions settled on EU regulated (I)CSDs, given the international cross-border nature of many markets it is almost certain to have extraterritorial impacts and complications.

How to survive in a CSDR mandatory buy-in world?

As becomes clear, the buy-in mechanism under CSDR is very different to more standard OTC market buy-in processes, such as the ICMA Buy-in Rules. What also becomes apparent is that this is likely to have significant impacts on market structure and behaviour, as well as increasing risks for both liquidity providers and investors. With this in mind, below are five helpful 'tips' to survive in a world with CSDR mandatory buy-ins.

Tip 1: only buy for guaranteed delivery

Investors usually buy securities with a view to owning them. While taking physical delivery is desirable, it may be the case that for less liquid securities some degree of tolerance with respect to delayed settlement is necessary, especially if the intention is to obtain the exposure desired and to execute close to fair market value. Investors also buy securities for a particular reason or mandate, targeting a specified maturity and risk profile, and usually with the intention of holding these as long-term investments. Furthermore, they do not necessarily buy securities in isolation, and often it will be a part of a package including other securities, such as IRS, futures, CDS, an FX-swap, or a short position in a similar security.[10]

In the case of a fail, investors may be indifferent to the that fact that they are mandated to initiate a buy-in, so long as the buy-in is successful. If the buy-in is not successful, say because they are forced to initiate the buy-in process at a suboptimal time or in a highly illiquid security, then the buy-in will result in cash compensation, which is far from ideal.[11] As well as having little or no control over the reference price used to settle the differential period (one can only hope that it is close to or higher than where their books are marked),[12] they may also be left having to unwind any related cash, derivative or FX positions, and so paying the bid-ask spread on these, as well as any related 'slippage' costs.[13]

The only way to ensure that you receive the securities you are purchasing, and to avoid the risks and inconvenience associated with cash compensation, is to pay-up for guaranteed delivery.

Tip 2: never sell short

The efficient functioning of most bond markets relies on market-makers and other liquidity providers to stand ready to show offers in securities that they do not hold, and more so in recent years as increased capital costs have made holding trader inventory uneconomic. When market-makers sell short in this way, they will look to borrow the securities in the repo or securities lending market,[14] hedge their interest rate and possibly credit risk, and look to trade out of their position at the earliest practical opportunity (which could be hours, days, weeks, or even months later, depending on liquidity). Of course, there is always the risk of a settlement fail (say if the repo market is thin), which exposes the seller to the potential risk of a buy-in. In a mandatory buy-in regime, the chances of being bought-in increase significantly.

As already explained, buy-ins can be expensive, due to the buy-in premium. But due to the asymmetry in the CSDR mechanism for settling the buy-in (or cash compensation) differential, the associated risks and costs are further compounded. Given that the buy-in or cash compensation differential is deemed paid when the buy-in or reference price is below the original transaction price, this is the economic equivalent of any seller of securities writing a free at-the-money put option which becomes active in the event of a buy-in[15]. In effect, the differential between the buy-in price and the original transaction price becomes an additional loss for the failing seller, and a windfall profit for the buyer. The economics of the original trade are not restored, as with conventional buy-ins, but rather they are distorted at the expense of the seller and for the benefit of the buyer. The further the buy-in price is below the original transaction price, the bigger the distortion in favour of the buyer to the detriment of the seller. *This is illustrated in Exhibit 4 of the annex.*

For liquidity providers to protect themselves from this risk, the first line of defence is to price-in the asymmetry, and effectively to ensure that any market offer reflects the value of the 'CSDR put'. However, the most effective way to protect yourself is to never sell anything that you do not hold. And by 'hold', that means pre-funded, in your 'box', and ready to deliver. For instance, you may want to think carefully before offering out securities that you own but have loaned on repo.[16] Which leads neatly to Tip 3.

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10   In the case of corporate bonds, for instance, investors are usually interested in the credit spread of underlying investments, rather than the total return (or yield).
11   In the event that the buy-in is unsuccessful, the non-defaulting party has the option to "defer" the buy-in for one more attempt. However, if the second attempt is unsuccessful, cash compensation is mandatory.
12   The reference price for cash compensation is to be determined by: (i) the closing price on the most relevant market in terms of liquidity; (ii) the closing price on the venue with the highest turnover of the relevant security; or (iii) an approved, pre-agreed methodology between the parties.
13   Slippage costs are those arising from executing at prices away from fair market value. The risk of slippage increases in less liquid markets.
14   In the case of sovereign bonds, Short Selling Regulation requires a 'good' repo locate before dealers can sell short.
15   A put option is an option contract giving the owner the right, but not the obligation, to sell a specified amount of an underlying security at a specified price within a specified time frame. "At the money" means that an option's strike price is identical to the price of the underlying security. In other words, the seller of securities gives the buyer the option (for free), in the event of a fail, to buy the securities at a lower price if market prices fall and make a profit in comparison to the original transaction price.
16   This will not apply to triparty repo transactions, where the bonds being loaned cannot be used to repo on as 'specifics', and are generally considered to be re-callable.

Tip 3: think twice before lending out securities

Bond market liquidity is reliant on the ability to recycle holdings through the repo and securities lending markets, which enables market-makers and other liquidity providers to support offers in securities that they do not hold. Many buy-side and sell-side firms lend their securities, either directly or through agent lending programs. This not only generates incremental revenues from their holdings, but it also helps to support market liquidity for these securities.

There is a risk associated with lending securities. In less liquid markets, securities are generally loaned on an open basis, meaning that the holders can recall them at short notice (term markets in credit repo vanished along with the introduction of Basel III capital requirements).[17] This is particularly important when the holder sells a security being loaned, since they will need it back to make good the delivery on their sale. In the event that the securities are not returned on time, they face the risk of being bought-in. There are usually provisions under their repo or lending agreements to remedy the failing repo or loan, but contractually these are very different to a buy-in, both in terms of timing and substance. While it may be possible to pass on the cost of a resulting buy-in through the repo or lending termination provisions, it may not, particularly when the buy-in price is very different to the market price. However, in a market where buy-ins are discretionary and relatively seldom, this risk is largely considered to be manageable.

Under the CSDR regime, the risk of lending securities increases exponentially. While most securities financing transactions (SFTs) are directly exempt from mandatory buy-ins (considered a plus from the perspective of general collateral management), this does not help you if you lend out your securities and do not get them back in time to settle a subsequent outright sale. If you are hit with a mandatory buy-in, you are unable to pass this on to your failing repo counterparty and will have to rely on your repo termination provisions. The greater the probability of being bought in, the bigger this risk. Again, the asymmetry in the buy-in payment process significantly compounds your risk.[18]

Given the risks associated with not getting securities back in time to settle any sales, and the fact that revenues from securities lending are relatively incremental, the conclusion is that lending securities in a CSDR mandatory buy-in world becomes much riskier. The close-out provisions in repo and lending agreements could provide some protection, but only to the extent that they are executed immediately and that the replacement securities can be sourced for guaranteed delivery to ensure settlement of the onward cash sale.

The risks arising from lending securities, and how these risks increase significantly under CSDR, are illustrated in Exhibit 6 of the annex.

Tip 4: buy-in immediately – do not wait

In the non-mandatory buy-in world, buy-ins are relatively seldom. This is largely due to the fact that the vast majority of fails are settled pretty quickly, normally by ISD+2. For reasons already explained, there is very little to be gained from issuing a buy-in immediately, and it is generally more efficient to allow some time for your counterparty to make good on their delivery. However, this general rule becomes more ambiguous in a mandatory buy-in word. Remember, conventional buy-in mechanisms do not seek to change the economics of the original trade or of linked transactions. But the design of the CSDR mandatory buy-in framework, in many circumstances, will change the original economics of trades, and so the behavioural incentives of all involved parties.

Think of the buyer who is failed to in a falling market. As the buyer is potentially long a put that is moving deeper into the money (i.e. it becomes more valuable the further the market price falls), they will no longer want the trade to settle, as they now face a potential windfall from the mandatory buy-in asymmetry. This also means that they will have no incentive to utilize a standard, symmetrical buy-in mechanism, such as the ICMA Rules, and so will wait in the hope that the mandatory buy-in process is triggered at the end of the extension period.[19]

But there is another twist to this anomaly. As described earlier, under standard buy-in mechanisms, parties in failing transaction chains have no incentive to issue a buy-in, since they will simply wait to pass-on any buy-in that comes their way. Hence, one buy-in to settle an entire chain. But not with mandatory buy-ins.

Firstly, as already explained, you may have no choice other than to issue a buy-in if your purchase and sale are for different settlement dates. Under a discretionary buy-in model, the incentive to start the buy-in process will always lie with the receiving counterparty at the end of the chain. And it is they that determines the buy-in execution date for the entire chain, regardless of the different settlement dates of the transactions that make up that chain. If buy-ins have to be executed within

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17 See ICMA, 2017, <u>The European Credit Repo Market: the cornerstone of corporate bond market liquidity</u>
18 If the market falls and you incur a loss due to the 'CSDR put', it is highly unlikely that this additional market loss can be claimed back through any conventional repo or securities lending termination provision.
19 It is not clear whether the non-defaulting party can initiate the mandatory buy-in within the extension period, but in a falling market their incentive to exploit the free option would lead to earlier execution than the end of the extension period in order to minimize the risk of the original trade settling and therefore not receiving the windfall profits.

a specified time line, this no longer works, and buy-ins will be triggered at each settlement date across the chain.

Secondly, even if you can isolate settlement chains to those that happen to have the same settlement date for each transaction (however unlikely that this is), the 'pass-on' mechanism, in most cases, still will not work. If you are part of a chain (with a purchase and a sale) that fails, due to the CSDR buy-in asymmetry, if the eventual buy-in price is below your original transaction prices, your trades will effectively be cancelled and any profits you generated will be lost; even though you are not the cause of the failing chain. It is the economic equivalent of being short a put-spread.[20]

Exhibit 5 of the annex illustrates how the asymmetric design of the CSDR mandatory buy-in can change the original economics of an entire chain of linked transactions.

Therefore, if you are technically flat, with a purchase and a sale, and the purchase fails, alarm bells should start ringing that you run the risk of both trades being cancelled and with it any realized profits (or losses) being wiped out. If the current market is close to or below the original transaction prices, this risk increases significantly. The optimal way to protect yourself is to ensure that you can settle your onward sale, and this means not waiting for a pass-on, but instead initiating a buy-in against your failing purchase, and as quickly as possible (ISD+1) to increase the chances of getting the securities you now desperately need.[21] Ideally, you also want to use a market standard, conventional buy-in mechanism that does not have the CSDR asymmetry (such as an ICMA buy-in), for added protection.

Ironically, if you happened to lose money in this intermediation capacity (i.e. your sale price was lower than your purchase price), then the optimal scenario is not to issue a buy-in, but rather to wait in the hope that the CSDR buy-in at the end of the chain is executed at a lower price, which would mean that your trades, and realized losses, are quite literally wiped out.

So, while it was probably not the intention of the original drafters of CSDR mandatory buy-ins, different parties will have different motivations either to issue conventional buy-ins immediately or to wait for a mandatory buy-in to be triggered. In most cases, parties in a settlement chain will want to issue a conventional buy-in immediately, rather than wait for a pass-on, while the last non-defaulting party in the chain will want to wait for the mandatory buy-in (particularly in a falling market).

Tip 5: avoid settling on EU regulated CSDs (as well as EU trading venues and CCPs)

CSDR applies to all trading parties settling transactions on EU regulated CSDs and ICSDs and, potentially, to all transactions executed on EU trading venues or cleared through EU CCPs, regardless of the CSD jurisdiction.[22] Thus, one way to avoid many of the risks and economic anomalies of its mandatory buy-in regime is, wherever possible, try to settle your trades on non-EU CSDs, as well as avoiding EU trading venues and CCPs that incorporate the CSDR buy-in mechanism in their rules. For global bonds it seems inevitable that a two-tiered market will evolve, depending on where trades are settled (EU and non-EU), with liquidity and better pricing being heavily skewed in favour of non-EU settlement systems and trading venues. *As illustrated in Exhibit 7 of the annex*, intermediaries operating across both EU and non-EU CSDs will face significant additional risk as result of the asymmetric differential payment mechanism under CSDR, particularly where they are settling sales on EU (I)CSDs.

One mooted solution is for entities that operate across both EU and non-EU CSDs, in particular liquidity providers, try to mitigate the risks arising from the CSDR mandatory buy-in regime by asking their non-EU counterparties to sign contracts that effectively externalize the CSDR buy-in framework. But this is not straight forward. It seems highly unlikely that a non-EU entity settling their trades outside of the EU would want, or possibly even be able, to sign up to a buy-in framework with an asymmetric process for differential payments or that resulted in an automatic cash compensation outcome.

Thus, entrenched fragmentation between EU and non-EU capital markets would seem to be another likely outcome of the CSDR mandatory buy-in regime; something that both EU and non-EU issuers with access to global capital markets will also want to consider.

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20 A (vertical) put spread is an option strategy whereby the risk taker is simultaneously long and short two put options with the same expiry but different strike prices (in the case the strike being the prices at which the intermediary bought and sold).
21 ICMA Buy-ins can be initiated as soon as ISD+1
22 See footnote 4

Conclusion

The design of CSDR mandatory buy-ins, from its mandatory nature, to its asymmetric differential payment, to the enforced cash compensation remedy, creates a variety of largely unanticipated outcomes, incentives, and behaviours that are likely to have a profound impact on European securities markets, in particular for less liquid markets such as corporate bonds, SME securities, and emerging markets. In a worst-case scenario, it could lead to multiple buy-ins being executed at the first sign of a fail, creating extreme market volatility and increased instability.

The tactical solution seems to be the prompt use of market-based buy-in mechanisms, such as the ICMA Buy-in Rules[23], initiated and executed within the CSDR extension period, so avoiding the additional risks and economic uncertainties of a mandatory buy-in. Similarly, buy-ins related to repo and securities lending fails could in theory be avoided with the swift execution of existing contractual close-out provisions (assuming that the securities can still be sourced). This at least could help resolve some of the issues and anomalies arising from the CSDR asymmetry, and may even help with extraterritorial harmonization in the case of globally recognized and utilized contractual remedies.[24] But even while this would be helpful, it will still not tackle the more inherent challenges created by the CSDR mandatory buy-in regime. For example, settling chains with a single buy-in will be challenging, particularly where there is an incentive for the non-defaulting party at the end of the chain to wait for the mandatory buy-in process to be triggered.

Without addressing the more fundamental problems in the Level 1 (including the mandatory requirement itself), the likely outcome will be that liquidity providers in both the cash and repo markets will reprice for the additional risk in more liquid securities and withdraw liquidity altogether for less liquid markets.[25] In other words, a transition to a guaranteed delivery, essentially 'long only' market, except for the most liquid instruments. The impacts that this will have for secondary market liquidity and efficiency should also be viewed in terms of the broader economic consequences, not only for investors, who will face greater risks and higher costs, but also for issuers, in particular corporates, SMEs, and smaller sovereign nations, who could face higher funding costs in the primary market as a result of diminished secondary market liquidity.

Perhaps now is a good time for policy makers and regulators to reconsider the consequences of CSDR mandatory buy-ins, assess the potential costs and risks to market participants, and ask themselves if this is consistent with the objective of efficient, resilient financial markets. Settlement efficiency is important, but the CSDR mandatory buy-in framework is not the answer.

ICMA has long supported and advocated for measures to improve settlement efficiency in the European fixed income and collateral markets.

The widely used ICMA Buy-in and Sell-out Rules provide non-defaulting parties with the right to enforce physical settlement of failed trades without incurring any direct losses, while the GMRA effectively allows non-defaulting parties to remedy failed repo transactions. The Buy-in/Sell-out Rules, as well as the GMRA, are regularly reviewed and revised in line with market developments to ensure optimal settlement and replacement efficiency.

ICMA has also been an active member of the European Post Trade Forum, focused on addressing longstanding inefficiencies in Europe's post-trading systems, which are often the cause of settlement fails, as well as advocating for a more robust cash penalty mechanism under the CSDR Settlement Discipline framework as an alternative to a mandatory buy-in regime.

ICMA's official position paper on the CSDR Settlement Discipline can be found on the ICMA website: https://www.icmagroup.org/assets/documents/Regulatory/Secondary-markets/ICMA_CSDR-SD_Position-Paper_April-2017-(updated)-061317.pdf

<div align="right">

Author: Andy Hill
ICMA, June 2018

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23 It seems likely that the ICMA Rules will need to be modified ahead of September 2020 with this in mind.
24 It is highly unlikely, for instance, that non-EU entities will feel comfortable agreeing to asymmetric buy-ins, or the consequential losses arising from these, being passed on from their EU counterparties.
25 This was largely borne out by the results of ICMA's impact study on the CSDR mandatory buy-ins for fixed income markets, conducted in 2015.

Annex

Exhibit 1

How a conventional buy-in works

Let us start with a simple transaction. Market counterparty A sells 100 bonds to market counterparty B at a price of 98.50.


Now suppose A fails to deliver the bonds to B. Despite this fail, contractually and economically, B now owns the bonds (at a price of 98.50) and so has exposure to the market price. A no longer owns the bonds (so no longer has market risk) and is owed the proceeds from the sale (98.50).

B, as the non-defaulting party, has the right (but not the obligation) to execute a buy-in against A to secure delivery of the bonds. B will usually have discretion as to when they execute the buy-in process, which is important from a risk management perspective.

The process begins with B issuing A with a buy-in notification (which will stipulate the date on which the buy-in will be executed). Historically, buy-ins are executed by buy-in agents, independent third parties (who are normally market-makers for the underlying security being bought in).[26] The buy-in agent (BIA), once appointed and instructed by the non-defaulting party (B), will go into the market and purchase the securities, usually for guaranteed delivery, at the best available price. The buy-in agent will simultaneously sell these on to B (this can include a mark-up or spread to compensate them for their efforts, but, in this example, we will assume that they do this for flat).

As soon as the buy-in is executed, B will cancel the original delivery/payment with A, and instead a single cash payment will be made between A and B, which will be the difference between the original transaction price and the buy-in price.
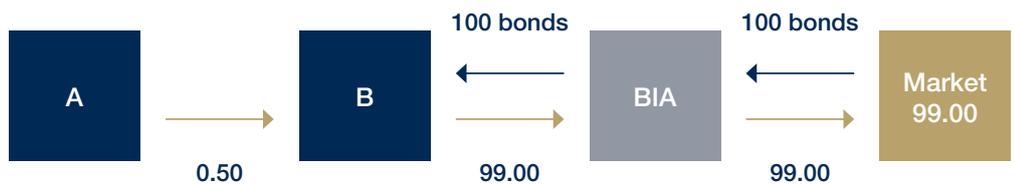
In this case, the buy-in is executed at 99.00 (the prevailing market price). As the buy-in is executed 50c above the original transaction price, A must make a payment to B of 50c. This ensures that the original economics of the trade between A and B are maintained.

Following the buy-in, B has purchased bonds at 99.00, but receives a payment of 50c, meaning that the effective coast remains at 98.50. Meanwhile, A pays 50c, however they are now long the bonds which have a market value of 99.00, 50c higher than the original sale. After re-selling the bonds, or marking them to market, this is the economic equivalent of the original sale of 98.50.

The same process applies if the buy-in price is lower than the original transaction price.
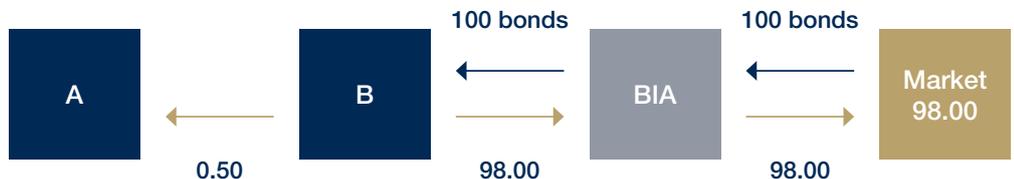
26 It should be noted that since 2017, the appointment of a buy-in agent has not been required under the ICMA Buy-in Rules.

In our example, let us suppose that the market has fallen (which is often the case in buy-in situations), and the buy-in is executed at 98.00. In this case, as soon as the buy-in is executed, B will make a payment of 50c to A (the difference between the original transaction price and the lower buy-in price).

Again, it can be seen that the original economics are maintained. B purchases the bonds from the buy-in agent at 98.00, but makes a payment of 50c to A. This is the economic equivalent of buying the bonds at 98.50 (the same as the original price). A receives a payment of 50c, but they are now long the bonds again with a market value of 98.00, 50c lower than their original sale. This is the economic equivalent of selling the bonds (or marking to market) at 98.50 (the same as the original sale).

Exhibit 2

Is there a cost for bought-in counterparties?

Using the previous example, let us suppose that the buy-in is again executed at 98.00, but that this is above the prevailing market price of 97.75.

In this scenario, B is again economically indifferent to the buy-in price:

- B pays 98.00 to the buy-in agent, but also pay 50c to A (98.50-98.00), which is the economic equivalent of purchasing the bonds at 98.50 (98.00 + 0.50), the same as the original transaction.

- With the market at 97.75, B books a loss of 75c after the buy-in, the same as they would have done before, regardless of the buy-in price.

A receives 50c from B (98.50-98.00), however, when they subsequently re-sell (or mark to market) the bonds at the market price of 97.75 they will post a loss of 25c (98.50 - 97.75 + 0.50) relative to their P&L before the buy-in (a profit of 75c with the market at 97.75). This represents the difference between the buy-in price and the prevailing market price (98.00 – 97.75) and is independent of the original transaction price.

	A	B
P&L before buy-in	+0.75	(0.75)
P&L after buy-in	+0.50	(0.75)
P&L impact of buy-in	(0.25)	0

It is usual for the buy-in price to be higher than the prevailing market price at the time of the buy-in. This could partly be due to the buy-in agent taking a spread or including any execution costs. However, generally the buy-in price will be higher than the prevailing market price due to the buy-in premium. Buy-ins are generally executed for guaranteed delivery, which comes at a premium to normal fair market value. Furthermore, buy-ins send a signal to the market that there is a 'distressed buyer', which also temporarily drives prices above fair value. The less liquid the underlying securities, or the more 'distressed' the market, the greater the buy-in premium is likely to be.

Exhibit 3

How a conventional buy-in 'pass-on' mechanism works

In bond markets it is quite common for settlement chains to be created as a result of multiple counterparties trading actively in underlying bonds. It is important to note that the various transactions through the chain will not be for the same value date, and that counterparties that purchase or sell bonds may hold their long or short position for several days (or longer) before closing it with a subsequent sale or purchase.

In this scenario, we have four trading parties in a chain:

- A sells bonds to B at 98.50.

- B sells bonds on to C at 98.25 (locking-in a 25c loss).

- C sells the bonds to D at 98.75 (locking-in a 50c profit).

If we assume the market level is at 99.00, the corresponding trading P&Ls for each counterparty is shown below (we will assume that A sold their bonds short). The P&L for B (a 25c loss) and C (a 50c profit) are not affected by the market price, since they are flat in this scenario.

	A	B	C	D
P&L	(0.50)	(0.25)	+0.50	+0.25
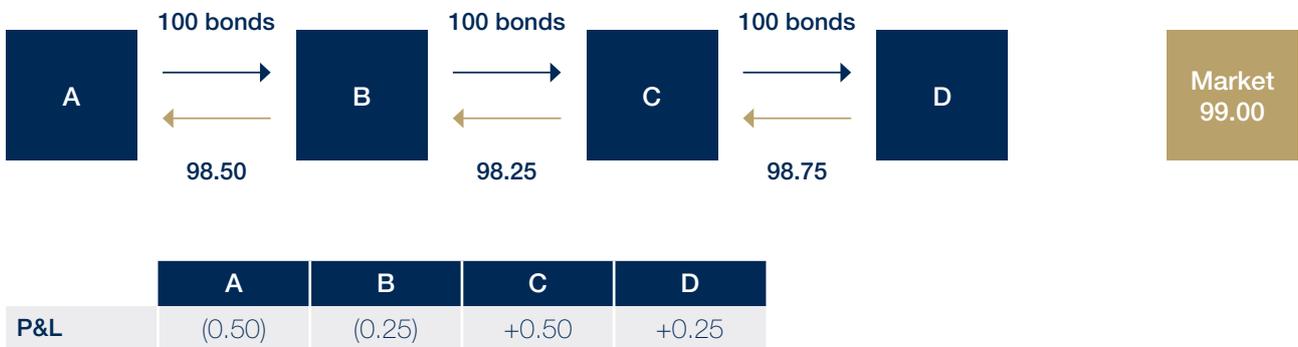
If A fails to deliver to B, this can cause delivery fails throughout the chain, causing B to fail on its delivery to C, and C to fail on its delivery to D. All of these fails can be remedied by a 'pass-on' mechanism, which is triggered by a single discretionary buy-in, initiated by D against C. The fact that the buy-in is discretionary is critical in the context of a pass-on mechanism. As mentioned, the trade and settlement dates through the chain are unlikely to be the same, and so it is important the timing of the buy-in is determined by the last party in the chain (D), and that the buy-in date remains the same throughout the chain.

A pass-on mechanism allows C to pass-on the buy they receive from D to B. In turn, B can pass-on the buy-in to A. In this way, pass-ons can be passed along chains with multiple counterparties, with each party only needing to know their direct counterparties, and the buy-in execution date (again noting that all the original settlement dates in the chain may be different).

Once the buy-in is executed, the buy-in confirmation and price is passed along the chain in the same way as the pass-on mechanism, and the buy-in price differential is paid between each party in the chain based on the difference between the buy-in price and their original transaction prices.

	A	B	C	D
P&L before buy-in	(0.50)	(0.25)	+0.50	+0.25
P&L after buy-in	(0.50)	(0.25)	+0.50	+0.25
P&L impact of buy-in	0	0	0	0

Immediately following the buy-in (which is executed at 99.00), the original deliveries/payments between C and D, B and C, and A and B will be cancelled:

- C will instead make a payment of 25c to D (99.00 – 98.75)

- B will make a payment of 75c to C (99.00 – 98.25)

- A will make a payment of 50c to B (99.00 – 98.50).

From a P&L perspective, all the parties in the chain will be in exactly the same position as had the original trades settled, since the pass-on mechanism maintains the original economics of each transaction. D receives bonds at 99.00 through the buy-in, but is paid 25c by C (so is effectively long at 98.75). C pays 25c to D, but receives 75c from B (realizing its original profit of 50c). B pays 75c to C and receives 50c from A (realizing its original loss of 25c). A's original sale at 98.50 is cancelled, but it can now sell at a higher price of 99.00.[27] But after paying 50c to B, this is the same economically as selling at 98.50.

The ability for a pass-on mechanism to work efficiently and effectively is contingent on the ability for the differential payments to go in either direction, depending on whether the buy-in price is higher or lower than the various original transaction prices through the chain.

Assume in the same example, the buy-in is executed at 98.50. In this case:

- D will pay a 25c differential to C (98.50-98.75)

- B will pay a 50c differential to C

- and there is no payment between A and B.

From a P&L perspective, every party in the chain is left in the same position as they would have been had the original trade failed. D pays 98.50 for the bonds through the buy-in, but pays 25c to C, which is the equivalent of the original purchase of 98.75. C receives 25c from D and 50c from B, which realizes its original profit of 75c. B pays 25c to C, realizing its original loss of 25c. And A is put flat, but able to sell bonds again at 98.50, the same as its original trade.
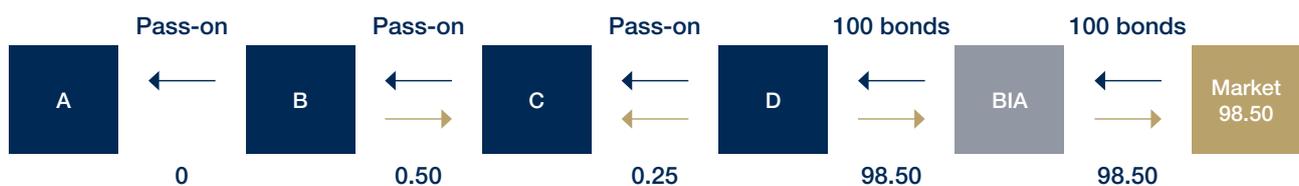
	A	B	C	D
P&L before buy-in	0	(0.25)	+0.50	(0.25)
P&L after buy-in	0	(0.25)	+0.50	(0.25)
P&L impact of buy-in	0	0	0	0

27 Here we assume that the buy-in price is the same as the market price and that there is no buy-in premium. In the more usual case that there is a buy-in premium, this will effectively be passed along the chain through the differential payments, and will ultimately be borne by the original failing party (A). See Exhibit 2.

Exhibit 4

How a CSDR mandatory buy-in works

Let us use the same original simple bilateral transaction from Exhibit 1, where market counterparty A sells 100 bonds to market counterparty B at a price of 98.50.

100 bonds

A → B

98.50

In the event that A fails to deliver to B, CSDR mandates that B must execute a buy-in against A. For bonds, this will be 7 business days after the intended settlement date (ISD). Apart from the lack of discretion as to the optimal timing of starting the buy-in process, and flexibility as to whether or not to appoint a buy-in agent, the mandatory buy-in looks very similar to a conventional buy-in, **in the case that the buy-in price is higher than the original transaction price.**

Assume that the buy-in is at the prevailing market price of 99.00

	A	B
P&L before buy-in	(0.50)	+0.50
P&L after buy-in	(0.50)	+0.50
P&L impact of buy-in	0	0

After the buy-in is executed, A will make a payment to B of 50c (99.00-0.50). This puts both A and B into the same economic position they would have been in had the original transaction settled. B pays 99.00 through the buy-in, but receives a payment of 50c (the same as if they had bought the bonds at 98.50). A's original sale is cancelled, but is able to sell (or mark to market) its bonds at a higher price of 99.00. After the payment to B of 50c, this is the same as selling (or marking to market) its position at 98.50.

Under CSDR, however, this is very different **when the buy-in price is lower than the original transaction price**. Assume that the buy-in is executed at the prevailing market price of 98.00. In a conventional buy-in, B would make a payment of 50c to A (98.00-98.50). But with a mandatory buy-in, there is no payment from B to A, as it is "deemed paid". **This completely changes the economics of the original trade.**
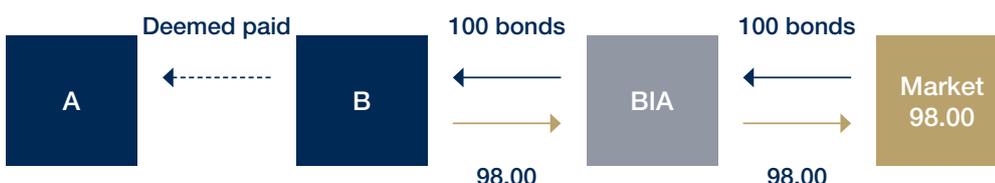
	A	B
P&L before buy-in	+0.50	(0.50)
P&L after buy-in	0	0
P&L impact of buy-in	(0.50)	+0.50

As B now receives the bonds through the buy-in at 98.00, and makes no payment to A, it is 50c better off. A's original sale is cancelled, and it receives no payment from B, so with the market now 50c lower, A is 50c worse off as a result of the buy-in.

Exhibit 5

How CSDR buy-ins change the economics of an entire transaction chain

Let us revisit the transaction chain used in Exhibit 3 to show how conventional pass-on mechanisms allow a single buy-in to settle the whole chain without changing the original economics of each transaction.

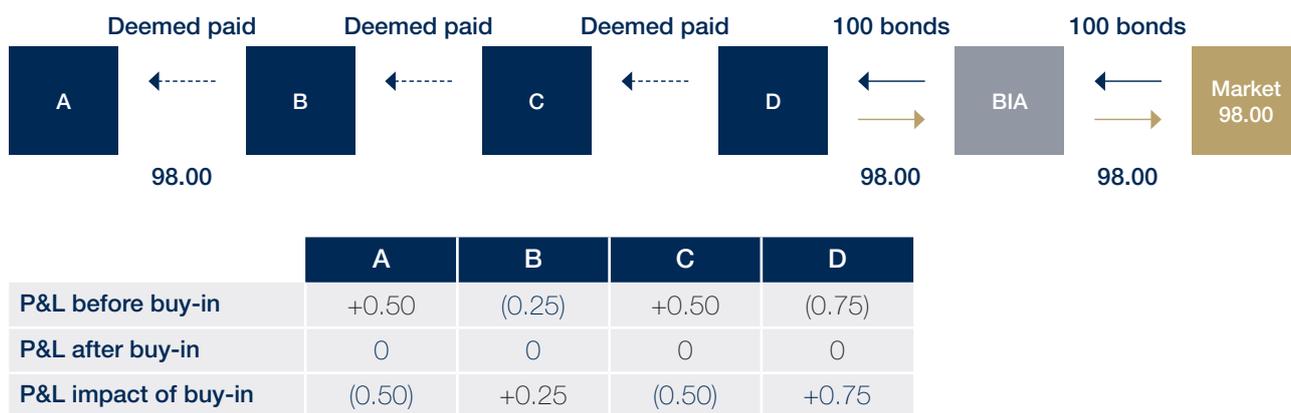|	A	B	C	D
P&L	(0.50)	(0.25)	+0.50	+0.25

In theory, a similar pass-on mechanism could be used in the same way, on the condition that all transactions in the chain have the same settlement date.[28] The result would like similar to a conventional pass-on mechanism, but only in the case that the buy-in price is higher than all the original transaction prices in the chain.
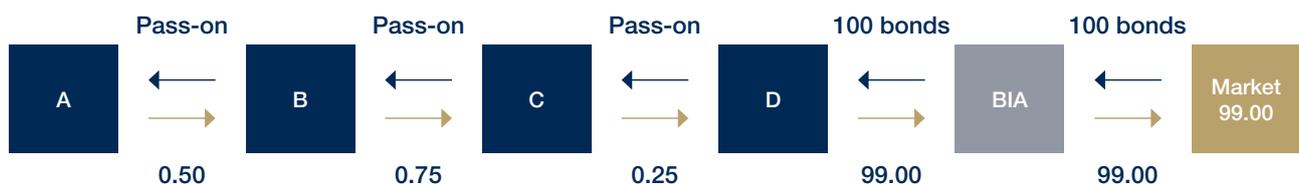
	A	B	C	D
P&L before buy-in	(0.50)	(0.25)	+0.50	+0.25
P&L after buy-in	(0.50)	(0.25)	+0.50	+0.25
P&L impact of buy-in	0	0	0	0

28   This is due to the mandatory nature of the buy-in process which automatically triggers a buy-in 4 or 7 days after ISD. With discretionary buy-ins, there is no set time limit, and so the incentive to trigger the buy-in process will always lie with the final party in the chain, and who effectively sets the buy-in date for the entire chain. With the mandatory buy-in process, a buy-in will automatically be triggered in correspondence to each different settlement date throughout the chain.

Due to the asymmetric payment nature of the mandatory buy-in mechanism, this will not work where the buy-in price is below the original transaction prices and will change the original economics of **each** transaction.

	A	B	C	D
P&L before buy-in	+0.50	(0.25)	+0.50	(0.75)
P&L after buy-in	0	0	0	0
P&L impact of buy-in	(0.50)	+0.25	(0.50)	+0.75

As all the original deliveries/payments are cancelled, but there are no payments between the parties in the chain (as these will all be "deemed paid"), every party in the chain will be economically impacted, including B and C who are technically flat and are not the cause of the original fail.

A, who originally sold at 98.50, will be left long (or flat) again, with the market at 98.00, and hence books a loss of 50c. B originally booked a realized loss of 25c from its original transactions, but with these cancelled and "deemed paid" it is effectively 25c better off due to the buy-in. C, however, originally booked a profit of 50c from its original transaction, so with these cancelled and "deemed paid" it will be 50c worse off a result of the buy-in. Finally, D, who originally bought bonds at 98.75, replaces that transaction with a 98.00 purchase through the buy-in, and is 75c better off.

Exhibit 6

The risks of cash trades linked to SFTs

Start legs

Securities financing transactions (SFTs) are an integral component of liquidity provision in the bond markets. As market-makers cannot realistically hold inventory in every bond for which they make markets, in most instances they will need the ability to sell short in order to provide offers to clients.[29] To do this, they will need to borrow the underlying security, which they do in the repo or securities lending markets.

Using the original example in Exhibit 1, A is able to make good on delivering its sale to B by borrowing the securities from repo counterparty R. However, there is always a risk that R is unable to deliver the bonds being borrowed, in which case A, unless it is able to secure alternative borrow elsewhere, will fail on its onward delivery to B, and so risks the possibility of B issuing a buy-in. In the event of a buy-in, A has the right to cancel the SFT with R, but has little recourse against R in terms of any consequential losses,[30] and so will be exposed to any costs arising from the buy-in. Hence the buy-in dynamics and economics will be similar to those outlined in Exhibit 2.

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29 The ability to short sell cash securities is also integral for efficient and liquid derivatives markets, as arbitrage theory will ensure that derivatives do not deviate too far or for too long from fair value, so long as there are no barriers to taking long or short positions in the underlying cash markets. This is another discussion, but the CSDR mandatory buy-in regime is therefore also likely to have detrimental impacts on liquidity and pricing in derivatives markets, such as bond futures and credit default swaps.

30 In this case the borrower, A, will not be liable for any borrow costs, and, in the case of a repo, will be able to claim any repo interest due (so long as the repo rate is positive). But they cannot buy-in R, nor pass-on any consequential losses.
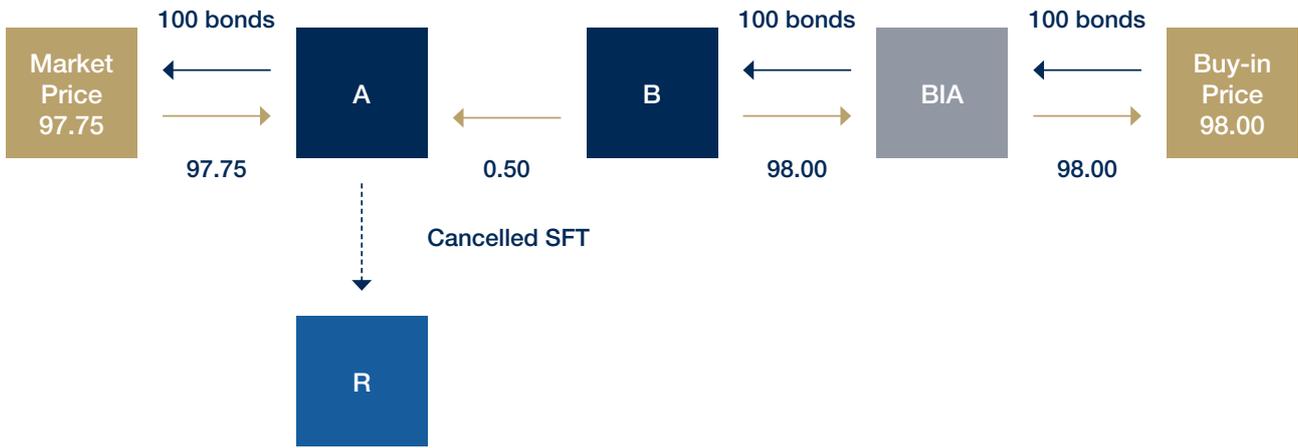
	A	B
P&L before buy-in	+0.75	(0.75)
P&L after buy-in	+0.50	(0.75)
P&L impact of buy-in	(0.25)	0

In a conventional, discretionary buy-in regime, the risks to A will depend partly on the depth and liquidity of the SFT market for the underlying security, and partly on the propensity of B to issue a buy-in, while the cost of being bought in will be the buy-in premium.

In the CSDR mandatory buy-in regime, the risks to A increase significantly. Firstly, because B's propensity to issue a buy-in is no longer relevant, and the likelihood of being bought-in by all counterparties will be considerably higher. Secondly, due to the embedded asymmetry of the buy-in differential, A's expected losses are not just the buy-in premium, but additionally A is now exposed to any market movement should the price move lower.


|	A	B
P&L before buy-in	+0.75	(0.75)
P&L after buy-in	0	(0.25)
P&L impact of buy-in	(0.75)	+0.50

End legs

While borrowing securities can create risks for the borrowing party, which increase substantially under the CSDR buy-in regime, lending securities also comes with risks. Again, these risks increase significantly under CSDR.

Market participants, in particular investors, are incentivised to lend their securities into the repo and lending markets, mainly to earn incremental income on their holdings, but also to support market liquidity in these securities.[31] However, lenders of securities run the risk that in the event that they subsequently sell those securities, the securities they loaned are not returned in time to settle the onward sale.

In our standard bilateral example, for A to make good their delivery for their sale to B, they are reliant on repo counterparty R to return the bonds in good time. If R fails on the return leg of the repo, causing A to fail to deliver to B, B may elect to issue a buy-in against A.
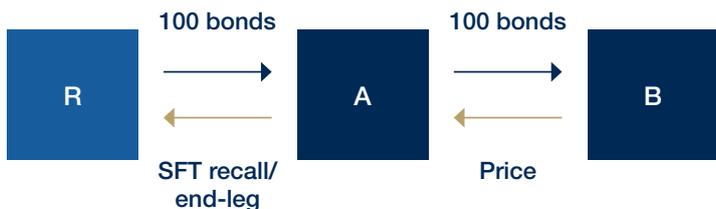
While it is generally not possible to issue or pass-on a buy-in or its associated costs against a failing SFT, repo and securities lending agreements (such as the GMRA and GMSLA) do provide for the non-defaulting (i.e. lending) party to claim the cost of replacing the underlying collateral in the event of a failing end-leg. This process is referred to as a 'mini close-out'.
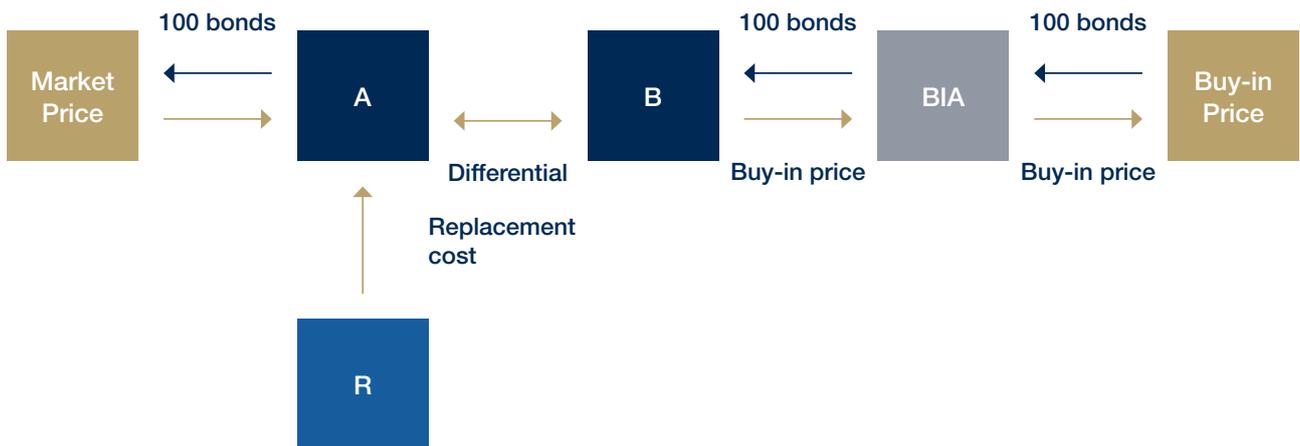

The risk to A is that they are unable to pass the buy-in cost (i.e. the difference between the buy-in price and the current market price) onto R through the mini-close out mechanism. This could be because of different timings in the buy-in and mini close-out processes, during which the market (and so replacement cost) can change. It could also be because the buy-in price is significantly above the market price, with R maintaining that the buy-in price does not reflect the true replacement cost.

The risks arising from lending securities increase under the CSDR regime. Firstly, because of the increased likelihood of parties being bought-in if their securities are not returned in time to settle onward sales (and the risk that the buy-in costs cannot be passed on through the mini close-out process). Secondly, because of the asymmetric process for settling the buy-in differential.

In our example, even if we assume that the buy-in price and the replacement cost are the same (also assuming this is at market, so no buy-in premium), A will still realize losses in the event that the market/buy-in price is below the original transaction price, in exactly the same way as illustrated in Exhibit 4. This is because A will not be able to pass on the additional losses created by the asymmetric mandatory buy-in through the mini close-out process.

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31 As already explained, it is difficult for market-makers to provide liquidity in securities if there is not a deep and liquid lending market for those securities.

Let us assume that A recalls its repo to R to settle its sale to B at 98.50.
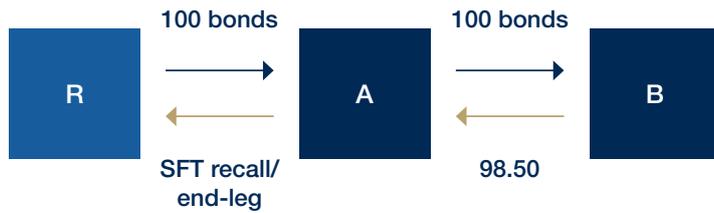
R fails to return the bonds, causing A to fail to B. This triggers a mandatory buy-in with the market at 98.00.

	A	B
P&L before buy-in	+0.50	(0.50)
P&L after buy-in	0	0
P&L impact of buy-in	(0.50)	+0.50

Thus, even though A was not the cause of the fail (this was caused by R's end-leg delivery on the SFT), A realizes a loss under the CSDR regime where the buy-in price is below their sale price. The greater the difference, the greater the loss A will face.

So, even if lenders of securities are able to pass-on the buy-in premium to their failing SFT counterparty, they will not be able to pass on the losses that they will incur in a falling market and that are a direct result of the CSDR asymmetric differential payment mechanism.

Exhibit 7

The risks arising from trading between EU and non-EU settlement systems under CSDR

The asymmetry in the CSDR buy-in differential payment mechanism creates risks for intermediaries or trading parties that transact across both EU (CSDR regulated) CSDs and non-EU (out of scope) CSDs.

In the below example, B buys bonds from A, settling on a non-EU CSD, at 98.50. B then subsequently sells the bonds on to C, settling on an EU CSD at 98.75 (making a profit of 25c).
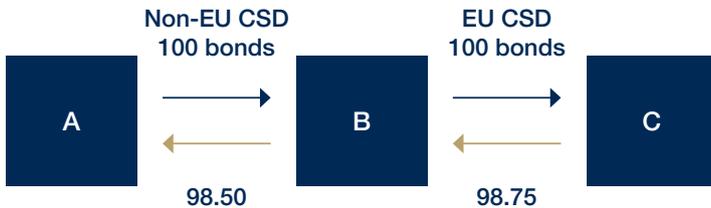

Let us assume that A fails to deliver on its sale to B, in turn causing B to fail to deliver on its sale to C. Under the mandatory buy-in regime, C must initiate a buy-in process against B. It now becomes important that B is able either to pass-on this buy-in to A (say though a contractual agreement), or simultaneously to issue a discretionary buy-in (such as an ICMA Buy-in) against A in the hope that it can pass on any buy-in costs. To the extent that it can do this, B will be protected.
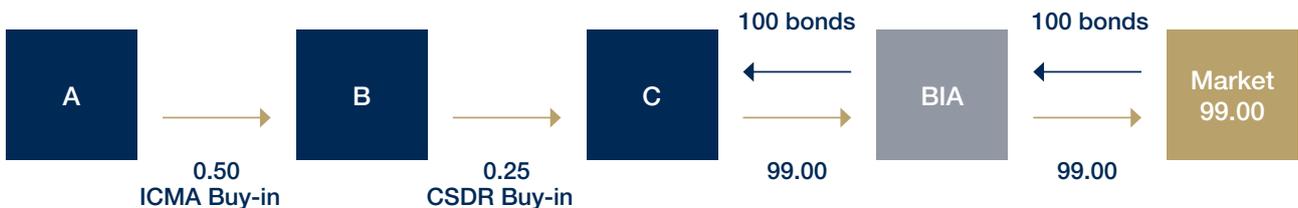
So long as B is able to pass-on the same buy-in price (99.00) to the counterparty for its not EU settled trade (A), B will pay 25c to C and receive 50c from A, restoring the original economics of its two transactions.

However, this will not work in the case that the buy-in price is below the original transaction prices.
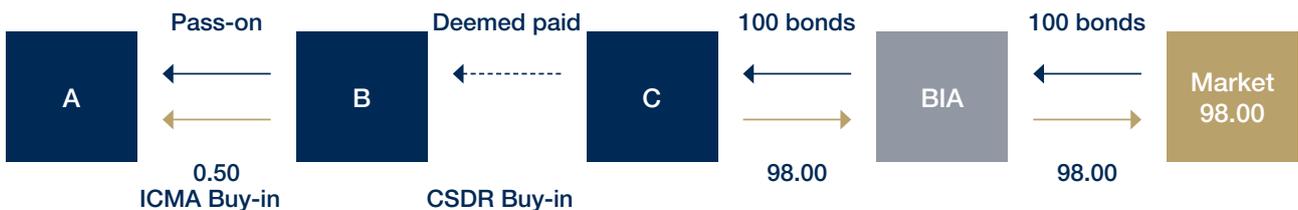
In this scenario, B faces the worst of all possible outcomes, as it is caught between symmetrical and asymmetrical buy-in mechanisms. With the market/buy-in price at 98.00, using a conventional buy-in, it would receive a payment of 75c from C, and pay 50c to A, thus preserving its original trading profit of 25c. But not with the sale transaction being in scope of CSDR, which will cancel its original sale to C with no payment from C to B (since it is "deemed paid"). Furthermore, passing the buy-in to A, through a conventional, symmetrical buy-in process, will mean that B is required to make payment to A of 50c. So not only does B lose its original profit of 25c, but it pays another 50c to its failing counterparty, thus realizing a loss of 75c.

As Exhibit 5 illustrates, intermediaries transacting in scope of CSDR (on EU CSDs) run the risk of having the economics of their original trades altered (often detrimentally), even though they are not the cause of the fail. However, as Exhibit 7 illustrates, intermediating trades between EU and non-EU CSDs is an even riskier proposition, particularly where the sale is to be settled on an EU CSD.