



European Securities and
Markets Authority

Impact Assessment

Annex IV to the Final Report on draft Regulatory Technical Standards under Regulation (EU) No 909/2014 of the European Parliament and of the Council on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) 236/2012



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1. INTRODUCTION

This impact assessment provides the European Commission and other interested parties with an assessment of the potential impacts of the different options that were considered as part of the decision making process for formulating the CSDR draft regulatory technical standards (RTS) on settlement discipline. Its purpose is to demonstrate how ESMA has ensured that the intended objectives of the CSDR are achieved in a proportionate and effective manner.

To conduct these assessments and to draft the technical standards, consultations were carried out in the form of a discussion paper (DP) and two consultation papers (CP) published on the ESMA website. In addition ESMA hired a specialised consultancy company to support this study. This firm gathered information from a number of sources, including publicly available information, direct interviews with market participants and professional associations, and non-public answers to questionnaires addressed to CSDs, CCPs and other market participants.

ESMA also requested the opinion of the Securities and Markets Stakeholder Group, and worked with members of the European System of Central Banks.

Other CSDR technical standards cover areas related to CSD Requirements and Internalised Settlement. These standards were delivered to the European Commission on 28 September 2015. The delay of the delivery of the RTS relating to Settlement Discipline was caused by the need to analyse the responses received following ESMA's specific CP on the buy-in process, which ended on 6 August 2015. In addition, ESMA needed to continue the discussions with the European Commission on the legal feasibility of the options to be considered regarding the entity responsible for the execution of the buy-in for transactions not cleared by a CCP.

With reference to the quantitative information attached to the identified costs and benefits, it should be noted that in the DP and CPs, ESMA asked respondents to provide data to support this cost-benefit analysis. Unfortunately, data provided by respondents did not include sufficient quantitative evidence to perform a full cost-benefit analysis of a quantitative nature.

In addition, the responses provided to the consultancy company hired by ESMA only partly supported the quantitative nature of this study. When conducting the cost-benefit analysis the consultancy firm analysed information provided by 32 CSDs. Of the 32 CSDs, the data provided by 19 of the CSDs was deemed suitable for the purposes of the study and included in the final analysis by the consultancy firm, based upon their locations (operating in the European Economic Area), their status (with or without a banking license), T2S status (whether the CSDs signed the T2S Framework Agreement) and the currency used (including a range of CSDs both inside and outside the Eurozone). A representative sample was selected, referring to these characteristics. Reference will be made to these CSDs throughout this report. All but one of the 19 CSDs included in the sample operated within the European Union (EU), and the remaining one was part of the European Economic Area. Some had banking licenses, some had signed the T2S Framework Agreement and two were ICSDs.

Where possible, the consultancy firm made estimations of potential costs and benefits from a quantitative perspective. This involved identifying one-off costs or ongoing costs, converting costs to Euros and then using relevant calculation methodologies.

When a range of costs was provided by a single CSD, the central value of the range of costs was assumed to be closest to the potential quantitative cost of that specific option. If a CSD provided only the maximum cost of an option, then this number was used instead. In order to aggregate these costs for all the CSDs sampled, the average was calculated and used as the estimated cost of a specific option.

Other stakeholders considered in the impact assessment included nine CCPs, six banks, some professional associations and one confirmation and allocation platform.

In addition, ESMA worked with the national competent authorities (NCAs) to try to gather relevant data on specific aspects of the technical standards. Data received from the NCAs was generally qualitative and not directly supported by quantitative data. Where possible, ESMA performed its own quantitative impact assessment, or justified some of its policy choices using elements of a quantitative nature that are available to the public, such as academic research papers, or studies elaborated by well-established international organisations (BIS, etc.) and associations (ICMA, ISDA, etc.).

Despite attempts to receive quantitative evidence for the different options, the feedback received from stakeholders was not always useful. There was a lack of quantitative evidence to support the arguments of the different stakeholders and assess the impacts of the various options. This was not caused by a lack of effort, rather by limitations in the data that exists in relation to specific areas of the technical standards. To understand the baseline scenario, it is important to mention that CSDs are not currently subject to any formal harmonised requirements across the EU.

In carrying out a cost-benefit analysis on the draft technical standards, it should be noted that the main policy decisions have already been taken under the primary legislation and the impact of such policy decisions have already been analysed and published by the European Commission;

Measures to prevent fails include penalty schemes and also forced buy-in or sell-out procedures which require trading parties to deliver either cash or financial instruments in the event of non-delivery. This can be used to avoid the potential liquidity risks that can occur due to failed settlement instructions. The publication of data relating to chronic fails and in extreme cases the inclusion of the identities of failing participants can also discourage fails – which can lead to exclusions of failing participants from a securities settlement system in severe cases. In addition to this, CCPs play a role in preventing settlement fails through the use of methods such as trade netting, covering participant defaults which may otherwise have further implications for fail rates or providing incentives for proper behaviour by participants through the marking-to-market of fails, and through the use of their own buy-in procedures.

The following information and cost benefit analyses will provide justifications for the various approaches included in CSDR Technical Standards to improve settlement discipline through the harmonisation of requirements that are in place at CSDs.

2. MEASURES TO PREVENT SETTLEMENT FAILS (ARTICLE 6 of CSDR)

Various types of measures may be set up at different levels of the settlement chain, from the client level to the CSD participant and CSD) in order to improve settlement efficiency.

We have assessed the following measures: allocation and confirmations (2.1), automation and manual intervention (2.2), matching of settlement instructions (2.3) and other CSD functionalities (2.4).

2.1 Allocations and confirmations

TIMEFRAMES FOR CONFIRMATION AND ALLOCATION OF TRANSACTIONS

The CSDR states that investment firms should, where applicable, take measures to limit the number of settlement fails, including at least arrangements between themselves and professional clients to ensure prompt communication of allocations of securities to transactions, confirmations of that allocation and confirmation of the acceptance or rejection of terms – in good time before the intended settlement date (ISD).

Based on this the following cost benefit analysis was applied to deduce the most appropriate timeframes for confirmation and allocation of transactions.

2.1.1 What would be the most effective timeframes for confirmation and allocation of transactions?

Objective	To clarify the most effective timeframes for confirmation and allocation of transactions.
Option 1	Impose same-day confirmation and allocation (on T = trade date) of transactions between investment firms and their professional clients.
Option 2	Impose confirmation and allocation of transactions on T+1 between investment firms and their professional clients.
Option 3	A mixed approach as follows: <ul style="list-style-type: none"> (a) on the business day within the time zone of the investment firm on which the transaction has taken place; or, (b) at the latest by 12.00 CET of the business day following the business day on which the transaction has taken place: <ul style="list-style-type: none"> (i) where there is a difference of more than two hours between the time zone of the investment firm and the time zone of the relevant professional client; or (ii) where the orders have been executed after 16.00 CET of the business day in the time zone of the

	investment firm.
Preferred option	<p>Option 3 is the preferred option.</p> <p>Same-day confirmation and allocation (option 1) would allow early pre-matching of instructions between investment firms and their clients, and thus would:</p> <ul style="list-style-type: none"> - Increase the probability that the transaction settles on the ISD; - Allow for early input and matching of transactions at the CSD. <p>Option 3 would have a similar effect to option one, yet it will allow for more flexibility.</p> <p>Option 2 would lead to longer timeframes between allocations and written confirmations which will not improve settlement discipline in the same ways as option 3, sending allocation and written confirmations on the same business day of the transaction unless the specific circumstances referred to above occur.</p>

Impacts of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	<p>Same-day confirmation and allocation would facilitate early processing of settlement instructions to CSDs and custodians, and thus would:</p> <ul style="list-style-type: none"> - Allow early matching at the CSD; - Increase the probability that the transaction settles on the ISD.
<i>Compliance costs:</i>	<p><i>One-off costs:</i></p> <p>Compliance costs would apply mainly to buy-side companies, as investment firms - or 3rd party middle-offices generally already use confirmation / allocation platforms.</p> <p>Such an option would require the use of electronic means of communications (electronic confirmation/ allocation platforms, use of 3rd party middle-office service providers, use of standardised messaging such as ISO 15022 or ISO 20022).</p> <p>On-going costs should be limited.</p>
<i>Costs to other stakeholders:</i>	<ul style="list-style-type: none"> - The impact on sell-side firms should be very limited, as they already use the required platforms, often using more than one. - The impact for foreign investors investing in Europe would be similar to the impact for European buy-side players.

	<ul style="list-style-type: none"> - Compliance costs (one-off costs and on-going costs) for sell-side firms should therefore be very limited. - Compliance cost (one-off costs and on-going costs) for foreign investors investing in Europe may increase as they would be impacted identically to European buy-side players.
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Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	Confirmation and allocation on T+1 would facilitate processing of settlement instructions to CSDs and custodians on T+1 or early on T+2. It is expected that settlement efficiency would marginally increase, as it is already high in Europe. On smaller markets this measure could represent a significant reduction in the number of settlement fails. It would thus increase the probability that the transaction settles on the ISD. It may not impact upon early matching rates.
<i>Compliance costs:</i>	Compliance costs would be of the same nature as option 1, for both one-off costs and on-going costs. The compliance costs are likely to be slightly smaller than for option 1 as the implementation of the T+2 settlement cycle should generally ensure confirmation on allocation occurs on T+1.
<i>Costs to other stakeholders:</i>	<ul style="list-style-type: none"> - The impact on sell-side firms should be non-significant for the same reasons as for option 1 - The cost for foreign investors investing in Europe should be relatively limited, given the lenient approach envisaged under this option. - Compliance costs (one-off and on-going costs) for sell-side firms should be very limited, and lower than for option 1. - Compliance cost (one-off and on-going costs) for foreign investors investing in Europe should be less significant than for option 1 (same day settlement). - Overall this option is a less efficient option as it delays the timeframe for sending written allocations and written confirmations, which may have a detrimental effect upon the overall settlement efficiency and other market stakeholders as a whole.

Option 3	<i>See Option 3 in the “Objective” table above.</i>
	Description

<i>Benefits</i>	<p>Similar to option 1, with more flexibility in the following cases, which usually account for late confirmation / allocation:</p> <ul style="list-style-type: none"> - late trades; - processing for foreign investors notably in the United States or in Asia. <p>Therefore this option meets the objective of achieving timely and efficient sending of written allocations and confirmations, taking into account the specific scenarios which would otherwise make full compliance extremely difficult.</p>
<i>Compliance costs:</i>	<p>Compliance costs (one-off and on-going) should be similar to option 1, as the main requirement is for same-day confirmation / allocation. However the allowance for flexibility in the case of foreign investors and late trades will reduce overall compliance costs as there will be more time for stakeholders to send the required confirmations and allocations.</p>

USE OF TECHNOLOGIES FOR CONFIRMATION AND ALLOCATION OF TRANSACTIONS

Existing situation

Data collection methodology: Oxera report for Omgeo, data provided by a provider, vendors' websites, answers to the external consultant's questionnaire.

Confirmation / allocation services proposed by third parties (platforms & protocols)

A number of external providers offer services to both buy-side and sell-side clients in order to facilitate post-trade processes on significant volumes.

Platform	Instruments	Volumes in Europe (in M, 2013)	No. of counterparties	Affirmation rate on T	Major functionalities
Platform 1	Equity, Fixed Income	60 (European securities only)	>2000 (World)	94.35%	Confirm/affirm, matching, allocation
Platform 2	Equity, Fixed Income	13 (World)	-	-	Confirm/affirm, allocation
Platform 3	Equity, Fixed Income	-	75 (Only in UK)	-	Confirm/affirm, allocation
Platform 4	Equity, Fixed Income	-	-	-	Confirm/affirm, allocation
Platform 5	Fixed Income mainly (cash & repo), Equity	-	200 (Europe)	-	Matching, allocation
Platform 6	Fixed Income, Equity	-	-	-	Confirm/affirm, allocation

Platform 7	Fixed Income, Equity	-	-	-	Confirm/affirm, allocation
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Table prepared by the external consultant based on information gathered using the previously mentioned collection methods

Those providers propose services on Equities and Fixed Income (including repurchase agreements). Most of those services concentrate on confirmation / affirmation processes (sequential process). All of these providers appear to have well-established records and infrastructures and are renowned in the industry. Yet it should be noted that the use of most of these platforms represents a significant cost which some players may not be able to afford, notably smaller buy-side players.

Impact of the use of 3rd party platforms and protocols on the affirmation process

The use of 3rd party platforms and protocols has a direct effect on:

- the actual existence of an affirmation of the trade;
- the rate of same-day affirmation.

Using the example of one of the leading platforms, it appears that the use of a confirmation / allocation platform by sell-side and buy-side firms brings a significant rate of same-day affirmation. The following figures were provided by this platform on the whole of the EMEA zone (Europe, Middle-East, Africa), which covers Europe.

They represent the share of confirmed and allocated trades over a period of six months in 2014 on the whole of the platform.

Interval	June	July	August	September	October	November
	% Matched Total	% Matched Total	% Matched Total	% Matched Total	% Matched Total	% Matched Total
T	93.72	94.22	94.21	94.07	94.61	94.12
T+1 days	98.48	98.83	98.9	98.63	98.96	98.97
T+2 days	98.82	99.04	99.12	98.9	99.21	99.23
T+3 days	99.83	99.71	99.9	99.89	99.89	99.91
>T+3 days	100	100	100	100	100	100

Table prepared by the external consultants based on information gathered using the previously mentioned collection methods

These figures show the high-level of same-day confirmation and allocation for users of such platforms. There is a total of 94.17% matching rates across asset classes over the period. Nonetheless, on T+2, a number of trades are still not confirmed and allocated:

- Up to 0.98% of the total number of trades on Equity;
- Up to 2.54% of the total number of trades on Fixed Income.

These figures of unmatched trades can usually be attributed to smaller buy-side companies, although some larger entities may be involved in some cases. The use of such platforms also has an effect on the settlement failure rate, allowing for earlier input and matching of transactions, and for lower mismatches as settlement instructions try to match at the CSD level.

Settlement failure rates	Broker-dealer #1	Broker-dealer #2
Automated clients	7%	6.40%
Non-automated clients	13%	7.70%

Table prepared by the external consultants based on information gathered using the previously mentioned collection methods

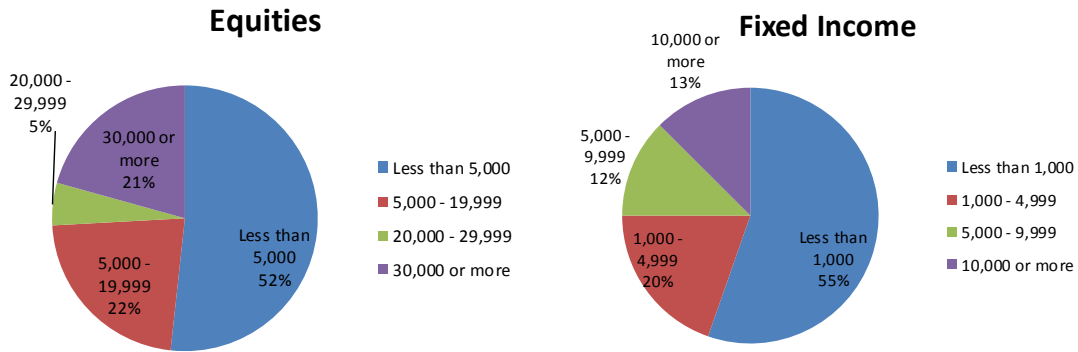
A study by Oxera in 2008¹ based on the analysis of data provided by Omgeo shows the impact of using 3rd party platforms and protocols in order to improve settlement efficiency. This information was based on information provided by two large broker-dealers on equities of EMEA markets at the beginning of 2008.

Confirmation / allocation processes by the buy-side

In 2013 the European Post-Trade Group (EPTG) carried out a survey on the potential impacts of shortening the settlement cycle to T+2. 64 asset managers were interrogated. The sample considered is described below (tables and charts provided by the external consultant).

Where is the firm's main operational location?	What most closely describes main type of portfolio the firm manages?	What are the firm's assets under management?
United Kingdom	29 Hedge Funds	10 Less than 100m 5
Germany	9 CTA trading on behalf of various funds and managed accounts	1 100m - 1 billion 12
GREECE	5 Outsource Provider	1 1 billion - 10 billion 12
Austria	3 General (including segregated clients, UCITS/similar funds etc.)	48 10 billion - 100 billion 20
Romania	3 Pension Funds	1 100 billion or more 15
US	2 UCITS IV	1
Global	2 Non-UCITS	1
France	2 Insurance Funds	1
Switzerland	2	
Norway	1	
Italy	1	
Belgium	1	
Netherlands	4	

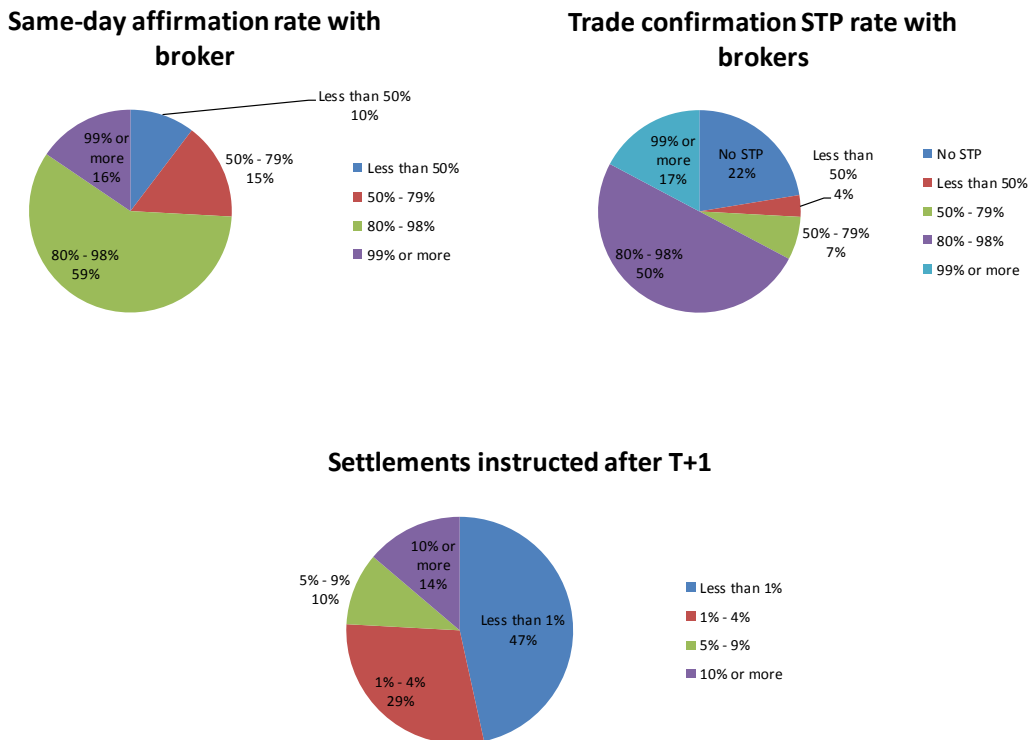
¹ *Building efficiencies in post-trade processing – The benefits of same-day affirmation, June 2008*



Source: Buy-side readiness for T+2, EPTG survey in relation with IMA, AIMA and EFAMA, 2013.

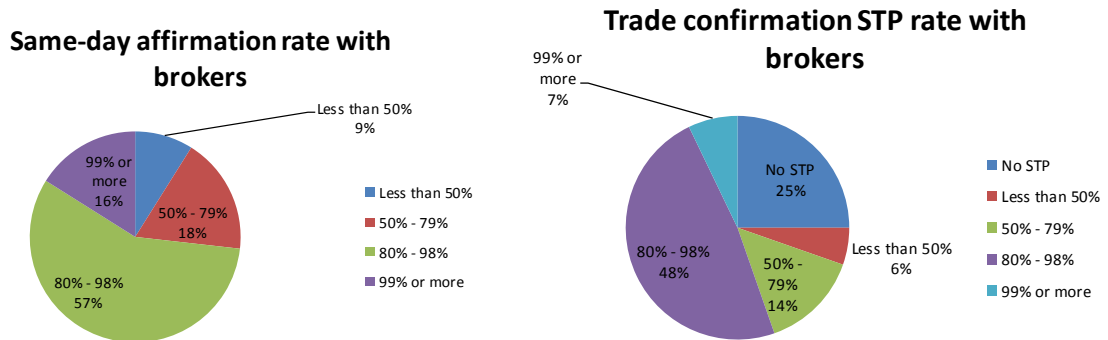
This survey shows the existence of a significant number of asset managers for which the same-day affirmation rate is lower than 80%, with significant numbers of settlements instructed after T+1. In all cases, this can notably be explained by the lack of automated processes with brokers.

Equities

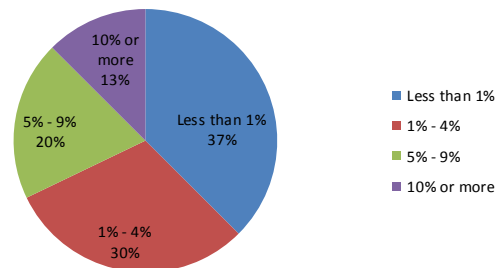


Source: Buy-side readiness for T+2, EPTG survey in relation with IMA, AIMA and EFAMA, 2013.

Fixed Income



Settlements instructed after T+1



Source: *Buy-side readiness for T+2, EPTG survey in relation with IMA, AIMA and EFAMA, 2013.*

The survey drew the conclusions that T+2 could be a real challenge for buy-side firms, for the following reasons:

- 35-45% of EU clients are confronted by a lack of efficiency, these clients representing 20-30% of the trading volume. Among these, a number of clients either use fax or e-mails, or simply do not confirm;
- The report also underlined concerns around the US and Asian based investment organisations, because of time zone differences.

After the actual implementation of the T+2 settlement cycle on 6 October 2014, these conclusions can be seen in a different light:

- Although no formal study was made on the implementation of the T+2 settlement cycle, first feedbacks show that settlement fail rates were not affected negatively;
- At the same time, although the pressure on post-trade processes was certainly increased by this evolution, same-day affirmation is a different matter, as T+2 settlement still offers the possibility to affirm later than the trade date, and instruct settlement on settlement date. In the survey of the EPTG, 35-45% of EU clients

still have efficiency problems and non-straight through processing (non-STP) – this is notably the case for smaller buy-side companies.

Cost of automating confirmation and allocation processes

Today the upper part of post-trade processing involves the following players:

- Sell-sides (brokers or investment banks);
- Buy-sides, of various sizes;
- External middle-officers servicing buy-side clients. This service has developed over the years, yet a significant number of asset managers or other institutional investors still have internalised middle-office functions.

The use of confirmation / allocation platforms, although widely used across the world, represents an investment which requires large volumes of trades to maximise efficiency.

- The following players have the ability to generate volumes and actually use such platforms:
 - o Sell-side players;
 - o Large buy-side players;
 - o External middle-officers offering their services to all kinds of buy-side clients.
- The following players will not necessarily use confirmation / allocation platforms, but may rather use non-electronic formats such as fax:
 - o Smaller buy-sides who have not outsourced their middle-offices to an external provider, and who generate low volumes;
 - o Foreign counterparties who generate low volumes on one particular location.

The same consideration can be made for the use of communication standards such as ISO 15022 or ISO 20022. In a study by the Boston Consulting Group in 2012 for the implementation of T+2 on the US market, the cost for buy-side players, including the automation of confirmation / allocation processes was estimated to be:

- 1M\$ for large players, or EUR 758K;
- 600K\$ for medium players, or EUR 455K;
- 300K\$ for small players or EUR 227K.

These figures although indicative, should nonetheless not be considered fully applicable to the European Market, notably because of the average size of the larger US players in comparison to European players.

Although confirmation/affirmation and allocation happen during the same period of time and before actual matching and settlement at the CSD level, those processes are in fact separate:

- A transaction can be confirmed without the actual allocation on accounts / sub-accounts being known;

- A significant proportion of the allocations are not disclosed on trade date, but on trade date +1, buy-side clients frequently waiting for confirmation of the trade before disclosing the allocation.

In the context of the alignment of settlement cycles to T+2 mainly on stock exchange transactions, it is expected that OTC processes will follow across the value chain, with increasing pressure on market players to provide for affirmation on T+1 or T and use electronic post-trade processing platforms for confirmation. Yet the expected pace of this evolution is not known today.

Having considered the above information it is possible to specify measures for investment firms to limit the number of settlement fails. It is also possible to confirm the requirements relating to the details of the procedures facilitating settlement, and the details of the measures to encourage and incentivize the timely settlement of transactions. By analysing the costs and benefits associated with the potential strategic options available to achieve each option, an impact assessment has been provided on measures to prevent settlement fails.

To facilitate STP it is apparent that ESMA should ensure investment firms offer professional clients the possibility of sending confirmation and allocation details electronically. This view was echoed by the majority of CP respondents who supported further automation to reduce risks. With regard to timeframes there was support amongst CP respondents to ESMA's proposals – similarly for having the same deadline throughout Europe. ESMA decided to set the deadline at 12 pm CET.

2.1.2 Should the RTS require the use of confirmation / allocation platforms and standard communication formats?

Objective	Facilitate settlement and specify the details of the tools for the management of the timely settlement of transactions.
Option 1	Impose the use of confirmation / allocation platforms, standard communication formats such as ISO 15022 or ISO 20022 and the details of confirmation / allocation of messages to all market players, either directly or indirectly through the use of 3rd party providers.
Option 2	Do not impose the use of confirmation / allocation platforms and standard communication formats such as ISO 15022 or ISO 20022 to market players.
Option 3	Require that investment firms offer their professional clients the possibility to send the allocation and the written confirmation electronically, through the international open communication procedures and standards for messaging and reference data

	referred to in Article 35 of Regulation (EU) No 909/2014.
Preferred option	<ul style="list-style-type: none"> - Option 1 would de facto involve high rates of same-day affirmation or affirmation to T+1, and thus improve settlement efficiency. - Option 2 would bring no specific improvement to the market, yet the implementation of T+2 should enhance the existing situation. - Option 3 would improve settlement efficiency by further automating the allocation and written confirmation information electronically, in a similar way to option 1. <p>Option 3 is preferred, as it would further automate the process through the use of an already required communication and information channel.</p>

Impacts of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	<p>This option would allow for better confirmation and allocation rates, and thus facilitate:</p> <ul style="list-style-type: none"> - Early communication of instructions to custodians; - Early matching and higher settlement rates. <p>Such an option would also benefit 3rd party middle-officers, who would have the occasion to provide more services to their clients. Settlement efficiency would marginally increase; it is already high across Europe. Yet on some markets, this approach could represent a significant reduction in the number of settlement fails.</p>
<i>Compliance costs:</i>	<p>This will be the most expensive option, because it will impose the use of a particular standard, instead of leaving the choice to the clients. Compliance costs should be similar to compliance costs for Option 1 in the section above (<u>‘Deadlines for confirmation and allocation of transactions’</u>) to ensure same-day confirmation and allocation, as same-day confirmation and allocation would result in the automation of processes and involve the use of confirmation-allocation platforms. On-going costs should not change.</p>

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	No major improvement expected/no benefit expected.

<i>Compliance Costs:</i>	The costs of compliance with the option would be low as there is no expectation for market players to use the specific communication formats.
<i>Indirect Costs:</i>	There is a significant risk that this option would not help foster a harmonised approach to allocation and confirmation, which would go against the principles of the CSDR.

Option 3	<i>See Option 3 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would allow a smoother allocation and written confirmation process, with the professional client incentivised to move gradually to an electronic message system using international communication procedures and standards for messaging and reference data which further automates the process and uses pre-required communication channels.
<i>Compliance costs:</i>	There may be some compliance costs related to the implementation of the electronic communication systems. These costs would be associated with the technology costs required to ensure clients are able to use the channels for written allocations and confirmations. The option is left to the clients whether to sustain these costs and profit from the related benefits in terms of efficiency.

2.2 Automation and manual intervention

To conduct this cost benefit analysis which considered the various options for allowing for manual intervention, data was sourced from publicly available information. These sources included CSDs, various disclosure frameworks, CSD rules, customer handbooks, user guides, General Terms and Conditions and answers to a questionnaire created by the external consultants working with ESMA.

At the time the research was conducted by the external consultant, information was available that related to automation from 23 of the respondents to the CSD questionnaire. This information indicated that 13 CSDs out of the 23 claim not to use manual intervention for the submission and processing of ordinary settlement instructions, hold and release instructions and other instructions related to settlement (some use manual intervention for procedures such as cancellation and others under certain circumstances).

The other 10 CSDs confirmed that they do use manual interventions:

- Three CSDs perform manual interventions exceptionally (for specific cases such as settlement with certain custodians; partial settlement in certain circumstances (e.g. national holidays, local market bank holidays));

- Seven CSDs usually perform manual interventions for all of their settlement processes for some settlement procedures (e.g. cross-border instructions).

NB: in the course of this study, manual intervention was only considered with regard to processing at the CSD, explicitly excluding cases of manual interventions by participants, for instance through the use of a CSD's online tools.

CSD	T2S participation	Frequency	Step: Input	Step: Matching	Step: Settlement
CSD 1		Usual			Cross-Border instructions
CSD 2	X	Usual	Confirmation of settlement instructions by participants		
CSD 3		Usual			Transfers of bonds requiring paper confirmation by investor
CSD 4	X	Usual			Cross-border instructions; Start / End of settlement
CSD 5		Usual			Cross-border partial settlement
CSD 6	X	Usual	Yes - undetailed	Yes - undetailed	Start of settlement
CSD 7		Usual		Unmatched instructions	
CSD 8	X	Exceptional			Cross-border instructions w/ some custodians
CSD 9		Exceptional	Yes - undetailed		
CSD 10	X	Exceptional			Cross-Border instructions

Table prepared by the external consultants showing the extent of manual intervention by specific CSDs based on data collected using the already mentioned techniques.

When do manual interventions commonly occur?

Interventions are required to start the settlement process, and also sometimes to end the process. For two CSDs involved in the survey, manual interventions are required for certain cross-border instructions. For one of them, manual intervention is required to submit cross border settlement orders in the case of one CSD link, and also when there are national holidays or local market bank holidays. For the other CSD, manual intervention is always required for cross border transfers.

CSDs and the implementation of T2S

For a significant number of CSDs, the settlement process is becoming automated through their participation in T2S, which will effectively replace their settlement engines. This will help address most of the existing issues within the settlement process, and reduce the need for manual interventions. Three of the CSDs referred to in the table above will keep their settlement engines.

Conclusion

Having considered the above research and the objectives that are being addressed in relation to automation it is apparent that the market is commonly in agreement with requirements for automation. Some respondents to the CP called for additional automation requirements. There is a need to report manual interventions, and to move toward STP which will require the reporting of transactions on an automated basis. However it is important to recognise the occasions when there will be a need to do things manually, so some flexibility would be necessary in the requirements according to CP respondents.

2.2.1 When should CSDs be allowed to use manual intervention?

Specific Objective	To determine the most appropriate allowances for manual intervention in order to facilitate overall timely settlement and reduce operational risk.
Option 1	CSDs should not offer services which require manual intervention by default.
Option 2	Manual interventions should be allowed in exceptional circumstances that should be clearly specified in the technical standards. Or if they are performed as a specific control to reduce operational risk.
Option 3	CSDs should be allowed to intervene manually in the automated settlement process, however they should report each new type of manual intervention to the competent authority within 30 days of its occurrence. The CSD should not use any type of manual intervention that the competent authority considers inappropriate for the smooth functioning of the securities settlement system.
Preferred option	Option 1 should contribute to an efficient settlement process with less operational risk. Option 2 would do the same, while allowing for more flexibility when full automation may not be appropriate. Option 3 would put non-automated settlement processes under the control of competent authorities and should be consistent with the reported low number of manual processes that will

	<p>remain after the implementation of T2S.</p> <p>Option 3 is preferable as it recognises that there are certain circumstances when manual intervention is useful, for example to avoid errors and reduce operational risks. In this respect the option allows for more flexibility.</p>
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Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>	
	Qualitative description	Quantitative description
<i>Benefits:</i>	This option would allow for a high level of STP within the securities settlement systems of CSDs. Settlement efficiency should increase in non-T2S countries.	There is no quantitative data available that can be used to demonstrate this benefit.
<i>Compliance costs:</i>	<p>3 of the CSDs that responded considered that they would be impacted</p> <ul style="list-style-type: none"> - 1 CSD for cross-border transfers - For the other CSDs: although the management of partial settlement confirmations for cross-border transactions is not automated to date, this CSD does not consider automating this function. Impacts for the third CSD are undetailed and cannot be assessed. 	<p>For one CSD respondent:</p> <ul style="list-style-type: none"> - One-off costs: EUR 100K – 200K - On-going costs : EUR 10K <p>Costs for the other CSDs were not provided, but it is envisaged that they would also be significant.</p>

Option 2	<i>See Option 2 in the “Objective” table above.</i>	
	Description	
<i>Benefits:</i>	<p>This option would push CSDs to implement fully automated settlement processes but allows them to use manual interventions in exceptional and delimited number of procedures.</p> <p>There is no existing data which demonstrates the benefits of this option in a quantitative way.</p>	

<i>Compliance costs:</i>	Compliance costs on processes used in exceptional circumstances (for example the processing of court orders) should be avoided, although other non-exceptional compliance costs should be similar.
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Option 3	See <i>Option 3 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would enable certain CSDs to limit costs related to automation and put the related processes under control by competent authorities. This should limit the use of manual interventions to exceptional circumstances. The report would introduce a consistent method of documenting these interventions, and allow competent authorities to intervene if they consider the use of a type of manual intervention to be inappropriate for the smooth functioning of the securities settlement system.
<i>Costs to regulator:</i>	There will be a cost for the regulator linked to the receipt and analysis of reports related to manual interventions.
<i>Compliance costs:</i>	There will be marginal on-going compliance costs related to the compilation of the report that is submitted every time there is a new type of manual intervention.

2.3 Matching of settlement instructions

COMPULSORY MATCHING

Data collection methodology: publicly available information from CSDs (CPSS-IOSCO disclosure frameworks, CSD rules, customer handbooks, user guides, General Terms and Conditions), public studies/surveys (European Central Securities Depositories Association’s (ECSDA’s) studies on 20 CSDs: Partial Settlement (Dec 2013) and Fails Data (June 2011)), answers to the external consultant’s questionnaire.

Market initiatives to standardise pre-settlement processes

Many initiatives have been used by the industry in order to harmonise and standardise pre-settlement processes throughout Europe. In 2006 The European Securities Forum provided a picture of deficiencies in pre-settlement date matching processes in Europe linked to diversities in matching procedures. Standards rules were then defined in order to reduce the risk of fails, to increase settlement efficiency and reduce settlement cost accordingly.

Below is a reminder of the standards defined by ESSF-ECSDA which were referred to in the ESMA discussion paper:

ESSF-ECSDA standards extract	
Standard 0	Compulsory matching of Free of Payment (FoP) instructions.

Standard 1	Definition of a list of mandatory matching fields.
Standard 3	Matching should occur real-time and continuously throughout each business day from Trade Date up to and including the Intended Settlement Date deadline and possibly beyond.
Standard 4	Matching should take place as early as possible.
Standard 9	All types of transactions should be covered by respective hold / release mechanisms, based on enhanced ISO 15022 SMPG standard formats as outlined in the Concept above.
Standard 17	The tolerance amount for all types of securities and transactions should be consistent across all markets, e.g. EUR 25 or approximate counter value in any other currency, i.e. USD 30, GBP 20, SKR/NKR/DKR 200, CHF 40. CSDs may introduce a second tier for retail markets whereby the above tolerance amount is only applicable for transactions with values exceeding EUR 100 K or counter value in any other currency. For retail transactions with values up to and including EUR 100K or counter value in any other currency, the applicable tolerance amount should be EUR 2 or approximate counter value in other currencies, i.e. USD 2.40, GBP 1.60, SKR/NKR/DKR 16, CHF 3.20.

CSDs' conformance with matching standards proposed by ESSF-ECSDA has improved over the years across Europe. The gaps that remain are usually due to the absence of local market demand, technical limitations or differing priorities.

The implementation of T2S is expected to increase the overall levels of conformance with these standards.

Matching of settlement instructions

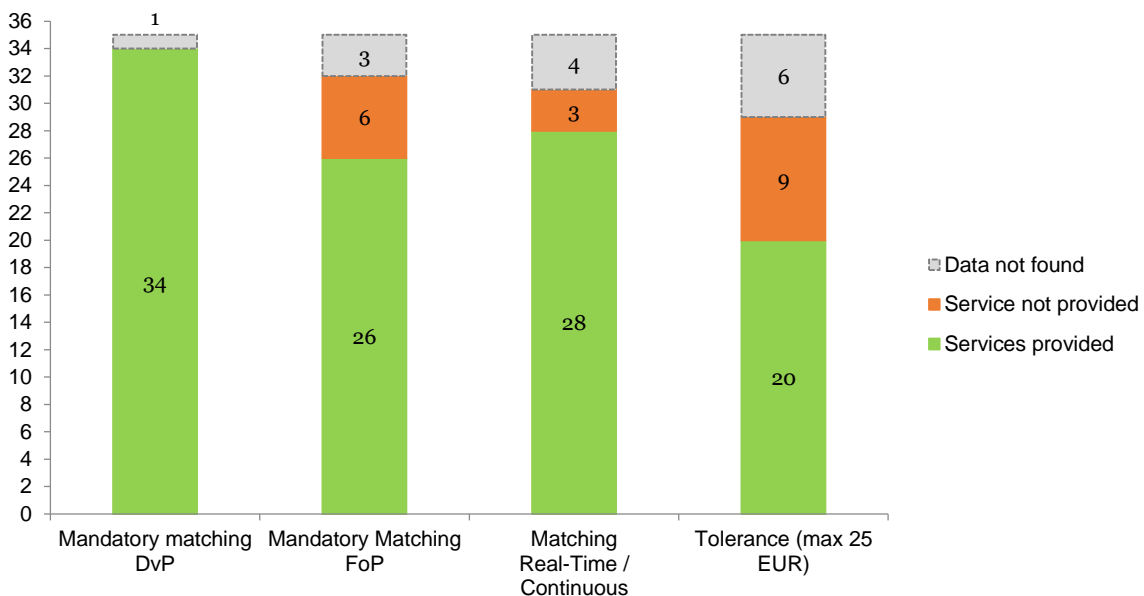


Chart created by the external consultant based upon: individual CSDs' documents, answers to external consultant's questionnaire to CSDs and ICSDs

Incentives for early input of settlement instructions

Matching as early as possible in the settlement process creates the possibility for identifying and correcting inconsistencies in time for the transaction to settle on the ISD. There are some examples where CSDs already apply incentives or disincentives to encourage participants to send settlement instructions early.

Some CSDs propose incentives on early instructions, in the form of functionalities allowing for early entry, such as pre-matching and Hold & Release mechanisms (see CSD Functionalities section of the impact assessment).

Only six CSDs currently apply penalties for late instructions, information on the penalties is available publicly in four cases:

- One CSD charges a late matching fee of EUR 1.13 for an instruction received for matching after 20:00 on ISD-1 and EUR 6.49 for a same-day instruction received after 14:30.
- Another CSD uses the trade date rather than intended settlement date (ISD) to determine whether an instruction is matched late or not. The cut off depends on the market participant type (T+1 or T+2) with a fine of EUR 2,73 per day the instruction was late.
- Another CSD applies a higher fee for submitting instructions on the day where settlement should occur.

The external consultant's discussions with stakeholders indicated that:

- According to CSDs, based on information gathered by ECSDA for March 2012, the impact on the timing of the matching is unclear:
- The input of OTC transactions at one CSD, which has such a functionality, usually occurs early (>70% of bilateral input matched by the end of T);
- The input of OTC transactions at another CSD, which also has such functionality usually happens later (<10% of bilateral input matched by the end of T);
- At a third CSD where no such mechanism is in place, the input of OTC transactions at the CSD occurs earlier than at the second CSD (resp. 57% and 39%).

Moreover, the impact on settlement efficiency cannot easily be determined, as the settlement efficiency at the second CSD is higher than at the first one and comparable to the settlement efficiency at the third CSD. Custodians pointed out that:

- Acting in post-trade processes, they usually receive instructions from their clients later. This explains the difference made by some CSDs in terms of target matching rate between sell-sides and custodians, the latter being less stringent. Some technical options should take such difference into account;

- Large custodians usually obtain a competitive advantage on their competitors by providing their buy-side clients with the flexibility to use market cut-offs extensively in order to optimise their investments, which involves late input and late matching.

2.3.1 Would settlement be facilitated through compulsory matching?

The responses of CSDs that took part in the external consultant’s questionnaire relating to compulsory matching were reviewed along with individual documents available at different CSDs that related to matching settlement instructions.

For every CSD for which information was available, matching is mandatory for the DvP process. 26 CSDs (out of 32 CSDs for which information was available) perform matching on FOP processes as well. At least six CSDs do not perform matching on FOP transactions: as all of these CSDs are future T2S participants, they should align their processes on T2S, where FOP matching will be mandatory.

It should be noted that although cross-border matching on DvP instructions is widespread, cross-border matching on FOP instructions is usually not mandatory, as remote markets do not necessarily require it, especially where those markets will not be part of T2S.

Specific objective	Facilitate settlement by implementing compulsory matching
Option 1	Implement compulsory matching for all settlement instructions without exceptions
Option 2	Implement compulsory matching for all settlement instructions with some exemptions: (a) where the CSD has accepted that the settlement instruction has already been matched by trading venues, CCPs or other entities; (b) where the CSD itself has matched the settlement instruction; (c) in the case of free of payment (FoP) settlement instructions which consist of orders for transfers of financial instruments between different accounts opened in the name of the same participant or managed by the same account operator.
Preferred option	Option 1 may generate unnecessary instructions. Compulsory matching is generally accepted as a necessary step of an efficient settlement process, with CSDs committing over time to implement such measures. Option 2 would allow for a more targeted approach which would focus on instructions which actually require confirmation by both counterparties that they have entered into one specific

	<p>transaction.</p> <p>Option 2 is preferred as it would lower the costs to market participants and not generate unnecessary instructions.</p>
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Impact of the proposed policies

Option 1	See <i>Option 1</i> in the “Objective” table above.
	Description
<i>Benefits:</i>	This option would allow for standardisation across Europe. Some processes would be more secure, such as the processing of cross-border instructions.
<i>Compliance costs:</i>	<p>No CSD that has been included in the cost-benefit analysis would be impacted by the proposal on DvP instructions. Thus the proposed standard is already fulfilled, and does not require a cost-benefit analysis. Yet it appears the standard should exclude some transactions mentioned by CSDs, notably as stated by ECSDA:</p> <p>Instructions input by either a CCP or a trading venue, as they would have to be considered as already matched</p> <p>Instructions resulting from corporate actions processing 6 CSDs included in the sample would be impacted by the proposal on FOP instructions.</p> <p>The following transactions should be excluded: FOP transfers among accounts operated by the same participant (collateral movements, account allocations in direct holding markets), other exceptional transfers related to legal actions (e.g. court orders) and cross-border FOP transactions.</p> <p>Compliance costs would either weigh on T2S or on CSDs if the T2S platform could not evolve in time: the impact for the ECB on T2S, as it would require to allow for systematic matching, for instance on settlement instructions resulting from corporate actions or more generally already matched instructions which is not part of the functionalities of the current T2S platform.</p>
<i>Costs to other stakeholders:</i>	At the participants’ level, processes would have to be modified for some FOP transactions, which may come at a limited cost considering other FOP transactions, are already subject to compulsory matching.
<i>Indirect costs:</i>	<p>This option would generate unnecessary matching such as in the case of already matched instructions by other entities.</p> <p>As regards cross-border FOP transactions with countries outside of the European Union where matching on FOP instructions is not compulsory, such functionality may generate operational difficulties (process differences between the 2 CSDs).</p>

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would allow for standardisation across Europe.
<i>Compliance costs:</i>	There would be no impact on DvP instructions, given that CSDs already use compulsory matching for DvP instructions. There would be no impact for FOP instructions, given the proposed exemption for FOP instructions.

CONTINUOUS MATCHING

With regard to continuous matching, of the 35 respondents considered, information was provided by 32 of the CSDs. 29 CSDs of those 32 performed real-time / continuous matching. At least three CSDs performed matching by batches instead of real-time process. Of these three CSDs, one will participate in T2S and will require access to continuous matching; another is not participating in T2S, and referred to a one-off implementation cost of EUR 25K. Therefore based on this, of the respondents only one CSD would likely be financially impacted by the requirement and so overall industry costs will be low.

2.3.2 Should the CSDR technical standards impose continuous matching?

Specific Objective	Prevent settlement fails
Option 1	Impose continuous matching: CSDs shall provide participants a functionality to support fully-automated, continuous real-time matching of settlement instructions throughout each business day.
Option 2	Do not impose continuous matching
Preferred option	Considering the existing situation, as the cost may not be significant and the impact would be limited to 2 CSDs that responded to the survey, Option 1 (imposing continuous matching) is preferable.

Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>	
	Qualitative description	Quantitative description

<i>Benefits:</i>	<ul style="list-style-type: none"> - Continuous matching would improve the overall settlement efficiency across Europe, and especially in the markets affected. - Local players would have greater visibility on their transactions intra-day and could more easily manage back-to-back transactions. 	There is no quantitative evidence available to demonstrate this benefit.
<i>Compliance costs:</i>	2 CSDs outside of T2S would be impacted as they would need to implement such a facility that allows for continuous matching.	<p>One-off costs: considering one of the 2 CSDs that do not provide continuous matching referred to a potential small EUR 25K one-off cost to implement continuous matching, the overall cost to the industry should be limited.</p> <p>On-going costs should be limited. There is no additional data available to quantify the potential on-going costs.</p>

Option 2	<i>See Option 2 in the “Objective” table above.</i>	
	Description	
<i>Benefits:</i>	This option would spare two CSDs the cost associated with the implementation of continuous matching. However there are no other obvious benefits and it is likely settlement efficiency will be reduced if this option is chosen.	
<i>Indirect costs:</i>	This option would not increase settlement efficiency, matching will be less regular and less harmonised across CSDs. Therefore this option may create an uneven playing field across the services offered by European CSDs.	

STANDARDISED MATCHING FIELDS

This information was compiled based on a detailed analysis of matching criteria applied in each market, in order to compare the current fields in use with ESMA’s proposal.

The analysis is based on information collected for 26 CSDs and SSSs. The below graph shows the numbers of CSDs using each proposed matching field (in orange) and also the number of CSDs using additional matching fields (in blue).

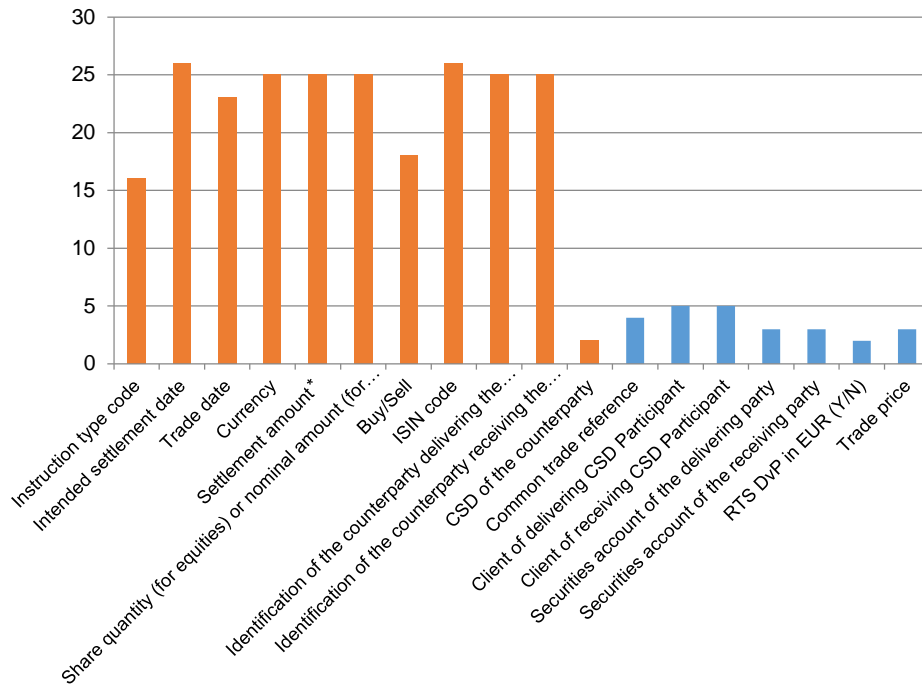


Chart created by external consultant using data found in individual CSDs' documents (customer handbook, disclosure framework, rules)

Only two CSDs currently use “CSD of the counterparty” as a matching field. Based on the graph, it appears that not all CSDs currently have in place the matching fields proposed by ESMA and there are also an additional eight different matching fields used by some of the CSD respondents.

13 CSDs in the sample do not conform to ESMA’s proposed list of matching fields, without considering the field “CSD of the counterparty”. Seven of them are participating in the T2S program which intends to include every matching field listed in ESMA’s proposal.

There is usually a trade-off between the number of matching fields and settlement efficiency on the various markets. The higher the number of matching fields, the higher the probability that settlement will be accurate, but also the higher the probability that matching does not occur on time (at an aggregate level) because of more possibilities for gaps between both instructions.

Adding matching fields to some markets may degrade the settlement efficiency in the short-term, and create significant costs for local market participants without immediate reward. Participants acting on a multi-market basis will be impacted as well, but should gain due to the possibility of overall harmonisation.

However, including fewer matching fields may introduce problems at a later stage related to the lack of matching on a criterion which may be important for the actual settlement of the

transaction. If there was a lack of a match on an important settlement criterion then a match may be cancelled.

Additional remarks - For proposed matching fields:

- The proposed field “CSD of the counterparty” is not generally used by CSDs. This field is not considered to be relevant in a pure domestic context outside of T2S and may therefore not be proposed for CSDs outside of T2S – also considering additional CSDs may be joining T2S and therefore be required to implement such additional matching field.
- The field “Instruction type code” is used by 16 of the CSD respondents and in some cases it includes the side of the instruction (BUY or SELL). Business rules to populate this field are purely internal rules, without harmonisation across locations. The use of this field as mandatory criterion could be possible only if there was an initiative to standardise the business rule over markets. Considering this was not required in T2S, and that a significant portion of European CSDs will soon outsource their settlement facility to T2S, it may have to be coordinated with future waves of T2S.
- Additional matching fields used in practice are mentioned below. Given that only a limited number of CSDs use each of these criteria, it is proposed not to add them to ESMA’s proposals:
 - The use of a mandatory common trade reference by both counterparties
 - The identification of the client of delivering/receiving CSD Participant
 - The securities account of the delivering/receiving party
 - The trade price of the instruction
 - Flag DvP in Euro (which is specific to 2 CSDs)

It remains difficult to estimate or justify the impact of each matching field on the matching rate.

2.3.3 Should matching fields be standardised?

Objective	Prevent settlement fails through the use of standardised matching fields
Option 1	Identify and standardise the relevant matching fields and impose their use.
Option 2	Do not standardise matching fields
Preferred option	<p>Option 1 would essentially allow for harmonisation across Europe around the practice proposed by T2S. It would impose a significant review of the settlement chain locally for CSDs who do not have such matching fields in place today. A potential phase-in could be considered in order to allow for the CSDs not in T2S and CSD participants (especially purely local ones) to adapt their platforms and processes.</p> <p>Option 2 would keep the settlement efficiency as it is today on all markets.</p> <p>Option 1 is the preferred option to ensure that there is a harmonised process for matching settlement instructions.</p>

Impact of the proposed policies

Option 1	<i>See Option 1 in the “objective” table above</i>
	Description
<i>Benefits:</i>	<p>This would allow the standardisation of matching fields across Europe, and facilitate cross-border processes with CSDs not complying with ESMA’s proposals today.</p> <p>Even though this option would have little impact on the settlement efficiency, it should reduce the potential errors arising from gaps in criteria not matched today.</p> <p>This option would impose a common set of expectations for CSDs settling across the Union, making cross border settlement a more harmonized and consistent procedure.</p>
<i>Compliance costs:</i>	<p>Although all proposed matching fields correspond to the target T2S criteria, some CSDs outside of T2S will be impacted by the proposed standards.</p> <p>Instruction type code will impact four CSDs outside of T2S.</p> <p>Buy/sell will impact six CSDs outside of T2S.</p> <p>Trade date will impact two CSDs outside of T2S.</p> <p>In addition, standardizing matching fields for cross-border transactions outside T2S may be costly, and difficult (in relation to CSDs outside of Europe).</p>

	<p>It should be noted that eight CSDs are impacted by two fields (aside from the field CSD of the participant's counterparty).</p> <p>Yet reviewing settlement facilities to integrate new matching fields is usually very costly for a CSD.</p> <p>CSDs outside of T2S missing some criteria to comply with the proposal would be impacted as they would need to implement the new criteria.</p> <p>Apart from costs at the CSD level, this would also have an impact on market players, especially purely local market players whose settlement chain may be dedicated to the local market and be less flexible than that of multi-market players.</p>
<i>Costs to other stakeholders:</i>	<p>Players in the markets where new criteria would be implemented would need to change their settlement instructions and adapt their matching process.</p> <p>This would mainly impact purely local market players not present in other countries where the new criteria are already in place, for which the cost of changing the settlement processes could be significant.</p>

Option 2	<i>See Option 2 in the "objective" table above</i>
	Description
<i>Benefits:</i>	The current processes would remain unchanged.
<i>Compliance costs:</i>	Process would not require alterations; therefore there would be no related compliance costs.
<i>Indirect Costs:</i>	This option would not increase settlement harmonisation in Europe and therefore this option would not streamline or better facilitate the notion of efficient cross-border settlement.

MATCHING TOLERANCE LEVELS

Tolerance level on settlement amount

Out of 35 CSDs and also the SSSs that are managed by central banks, information relating to tolerance levels was available for 27 CSDs (as shown in the graph below).

In order to facilitate the matching process and timely settlement, 19 of these CSDs use a tolerance level for matching settlement amounts (tolerance levels ranging from EUR 2 to 25).

8 CSDs do not use tolerance levels for matching settlement amounts. 5 of the 8 CSDs that do not use tolerance for matching settlement amounts are participating in T2S and will benefit from its functionalities. This will include tolerance levels for settlement amount tolerance at EUR 25.

The analysis of tolerance amounts that tolerance levels are heterogeneous, as presented in the graph below:

Matching tolerance in EUR

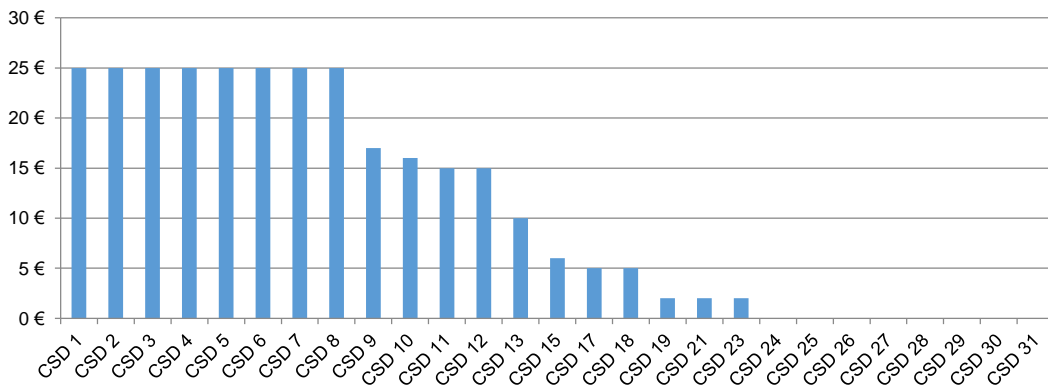


Table created by external consultants showing matching tolerance of CSDs where information was available

2.3.4 How can the CSDR technical standards help prevent settlement fails through requirements for matching tolerance?

Objective	Prevent settlement fails through the use of tolerance levels
Option 1	Implement a consistent matching tolerance of EUR 25.
Option 2	No harmonisation of matching tolerances.
Option 3	<p>For the purpose of matching, a CSD shall set tolerance levels for settlement amounts, representing the maximum difference between the settlement amounts in two corresponding settlement instructions that would still allow matching.</p> <p>For settlement instructions in EUR, the tolerance level per settlement instruction shall be EUR 2 for settlement amounts of up to EUR 100 K, and EUR 25 for settlement amounts of more than EUR 100 K. For settlement instructions in other currencies, the tolerance level per settlement instruction shall be of equivalent amounts based on the official exchange rate of the ECB, where available.</p>
Preferred option	<p>Through Option 1, the impact on the settlement efficiency is expected to be purely positive, as EUR 25 is the maximum tolerance on the European markets of the Union, which are usually lower or equal to 0.</p> <p>Option 2 may significantly impact the settlement efficiency, as it does not allow for differences in limited amounts.</p> <p>Option 3 would ensure tolerance levels are attuned to the size of the settlement amounts and appropriate.</p> <p>Option 3 is preferred. It would ensure CSDs fully consider the reasons for matching issues and provide flexibility around tolerance for larger transactions.</p>

Impact of the proposed policies

Option 1	<i>See Option 1 in the “objective” table above</i>
	Description
<i>Benefits:</i>	The settlement efficiency should marginally improve on all markets that either do not have a matching tolerance, or have a lower one.
<i>Compliance costs:</i>	<p>CSDs that do not have a matching tolerance will have to adjust their systems.</p> <p>A matching tolerance of EUR 25 would impact 7 CSDs outside of T2S, 3 of which do not have such functionality today.</p> <p>One-off and on-going costs should be limited as the modification of this functionality appears not to be significant:</p> <ul style="list-style-type: none"> - If a matching tolerance exists, only the parameter should be changed; - If no matching tolerance exists, this functionality should have a limited cost.

Option 2	<i>See Option 2 in the “objective” table above</i>
	Description
<i>Benefits:</i>	The current processes would remain unchanged.
<i>Indirect Costs:</i>	This option would not increase settlement harmonisation in Europe and therefore this option would not streamline or better facilitate the notion of efficient cross-border settlement.

Option 3	<i>See Option 3 in the “objective” table above</i>
	Description
<i>Benefits:</i>	This option would ensure that tolerance levels are appropriate with regard to the amount that is being settled. It would ensure a smooth settlement process occurs, without disproportionate failures because of slight mismatches for larger settlement amounts.
<i>Compliance costs:</i>	<p>Compliance should consist of the implementation of a matching tolerance where it does not exist, and should consist only of one-off costs.</p> <p>One-off costs should be in between the costs incurred by option 1, and option 2 which corresponds to the existing situation.</p> <p>On-going costs should be very limited.</p>

2.4 CSD functionalities

Data collection methodology: publicly available information from CSDs (CPSS-IOSCO disclosure frameworks, CSD rules, customer handbooks, user guides, General Terms and Conditions), answers to the external consultant's questionnaire.

Settlement options

Continuous and multi-batches settlement

The majority of European CSDs offer delivery versus payment (DVP) settlement as a core standard. This process reduces risk in the market through a simultaneous and irrevocable transfer of securities and cash².

In the ESMA CSDR Discussion Paper it was suggested that CSDs should offer at least 3 batches per day or real-time DVP settlement.

To determine whether or not a CSD has in place procedures similar to ESMA's proposal, the following assumptions were made:

- Three batches at least for both Stock Exchange and OTC trades was considered similar to the ESMA proposal, no matter how long the batches lasted – duration was not always specified by respondents
- Considerations on CSDs using real-time windows ("RTGS windows"):
 - A real-time DVP settlement window of seven hours or more is deemed to be similar to ESMA's proposal;
 - Although the external consultant did not find a mention of the duration of the real-time window or of the batches in the information from survey respondents, one CSD claimed to offer one real-time window and multiple (no precise number available) batches throughout the day;
 - Although the external consultant did not find a mention of duration, one CSD offers continuous settlement during the day with processing cycles that are run every half hour between 9:00 and 18:00. This CSD was considered to have similar procedures in place to ESMA's proposal in the CSDR discussion paper;
 - Although it is not one long real-time settlement window, one CSD offers six real-time settlement windows that are spread between 8:00 am and 2:30 pm and last for 15 minutes to 1 hour and 45 minutes. This CSD is considered to have in place procedures similar to ESMA's proposal.

² ECSDA 2014 Factsheet on CSDs – September 2015 http://ecsd.eu/wp-content/uploads/2014_CSD_Factbook.pdf

Information is available on settlement arrangements for a combination of CSDs and SSSs operated by central banks, in total 34 CSDs and SSSs. 26 of them have already procedures in place similar to ESMA's proposals.

CSD/SSS	Participation in T2S	Real-Time windows	Length in hours (average if relevant)	Batches	Length in minutes (average if relevant)
CSDs/SSSs deemed to be compliant with ESMA's requirements					
1	Yes	1	22h	No	
2	Yes	2	9h 15min	No	
3	Yes	Every half hour between 9h and 18h		No	
4	No	4	8h30	No	
5	No	1	22h	No	
6	No	1	10h 10min	No	
7	No	1	11h	No	
8	Yes	1	11h 30min	2	150
9	Yes	2	11h and 4h 30min	5	18
10	Yes	2	11h and 4h 30min	5	18
11	Yes	2	11h and 4h 30min	5	18
12	Yes	1	9h 15min	2	
13	Yes	7	3h 33min	3	Night: 2h Same-day settlement: 15-30min
14	Yes	1	-	Multiple	150
15	Yes	1 FOP/ 1 DVP	7h 15min	11	10
16	Yes	1 FOP/ 1 DVP	9h 45min	1 DVP	5
17	Yes	1	9h	2	90
18	Yes	1 FOP/ 1 DVP	9h 15min	1	240
19	Yes	Yes	-	11	28
20	Yes	1	10h	1	195
21	Yes	1	13h	>1	15
22	No	1	17h 30min	1	90
23	No	1	10h	4 DVP & FOP/ 1 FOP	-
24	No	1 FOP/ 2 DVP	8h 26min	4	27
25	No	1	7h	6	-
26	No	1	-	10	-
27	Yes	No	No	7	30
28	Yes	No	No	16	10
29	No	No	No	4 DVP / 1 FOP	-

30	No	No	10	25
CSDs deemed not compliant with ESMA's requirements				
31	Yes	No	1	
32	Yes	1 for FOP	9h 40m	12
33	No	No	2	30
34	No	No	2	270

Table prepared by external consultant showing the settlement arrangements for a number of CSDs and SSSs based on data collected using the techniques previously mentioned

Out of the 4 CSDs that do not have in place procedures similar to ESMA's proposals, 3 do not offer a real-time settlement window and offer less than 3 batches per day (see lower part of the table). Among those 3, number 34 in the table has two batches of 270 minutes each which, effectively represents almost the same overall duration of an equivalent real-time settlement window of 9 hours.

Number 32 in the table offers a real-time settlement window for FOP trades (which, based on an ECSDA statistical exercise, is a minor part of the trades settled at the CSD) and only three batches that last 12 minutes on average. At the same time, it should be mentioned that number 32 in the table settles a low number of instructions each day.

Post-T2S, only 2 CSDs listed above will not have in place procedures similar to a proposal to have either real-time settlement or three settlement batches.

- One respondent mentioned a cost of EUR 200K that would be incurred if a third batch was developed;
- It should nonetheless be noted that the settlement efficiency at this CSD appears to be at a good level with the existing set-up. A settlement exercise conducted by ECSDA in March 2012 shows for this CSD a fail rate of approximately 3% on ISD. This CSD operates in a market which is mainly OTC.

Duration of batches

Regarding the duration of batches, information is available for 26 CSDs and SSSs out of 35 CSDs and SSSs in the scope of the cost benefit analysis. 19 of these 26 CSDs and SSSs have batches in place:

- The duration of batches greatly varies from one CSD to another (see chart below), from five minutes to 270 minutes (4h30);
- According to the table presented above, apart from CSDs that will participate in T2S, the short duration of batches mainly concerns CSDs with an existing real-time window of at least seven hours (two CSDs), or CSDs with a significant number of batches and limited volumes (one CSD has 10 batches across the day);
- A difference must be made between the use of those batches:
 - Night time batches usually have a greater length (several hours);
 - Day-time batches, for instance for same-day settlement, are usually much shorter (can be as low as five minutes), but can have a greater length for

bigger CSDs which handle a significant number of OTC transactions - especially same-day transactions.

In addition, the analysis presented below shows that:

- When real-time settlement windows of sufficient lengths are in place, settlement batches, when they exist, are shorter than when real-time settlement windows either do not exist or are of short duration;
- The short length of a batch is usually compensated by high frequency (up to 16 batches);
- In the case of one CSD that is deemed not to have in place procedures similar to ESMA's proposal, it should be noted that volumes on the market are low.

The chart that follows shows the duration of batches (indicating total lengths of batch windows, average length of batches and the lengths of real time settlement windows) at the 26 CSDs involved in this research.

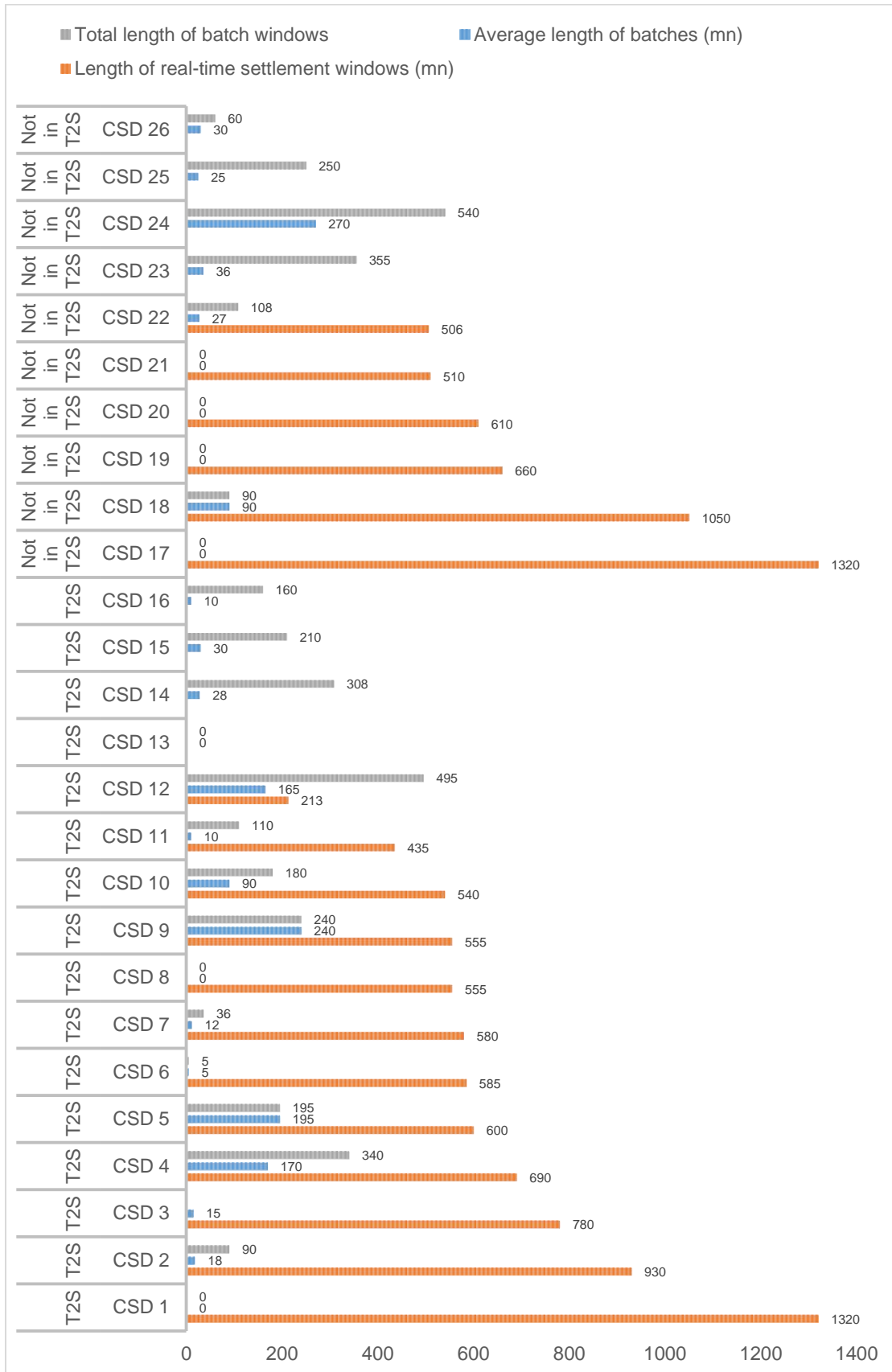


Chart created by the external consultant using individual CSDs' documents (customer handbooks, disclosure framework, CSD rules)

Other system functionalities

Hold/Release mechanism

The majority of CSDs (21 out of 29 CSDs whose data is available on this topic) offer the possibility to use Hold/Release mechanisms. Of the CSDs that do not offer a Hold/Release mechanism, four of those are participating in the T2S program which will include this functionality.

Pre-matching / pre-advice

18 CSDs provide pre-matching / pre-advice services, 10 of these will participate in T2S.

Partial settlement / splitting

At the time, 13 CSDs who responded to the external consultant's questionnaire provide partial settlement service, eight of which also participate in T2S.

Partial settlement has two main consequences:

- It allows for increased settlement efficiency, as it would allow for settlement in cases where a fraction of the required securities or cash is available. This therefore increases the value and volume of settlement instructions;
- Its existence, if mandatory, does not allow for market participants to settle on an all-or-nothing basis. At times this may be required in chains of transactions. It should be noted that the possibility to opt out will be offered in T2S.

Shaping

7 CSDs offer 'shaping' service (this functionality is usually more frequently proposed by CCPs). 5 of these CSDs participate in T2S.

Recycling

20 of the respondent CSDs provide a 'recycling' service. Of these, 13 will participate in T2S.

Beyond ESMA's list of system functionalities, other services are also provided by some CSDs. For the other services (referred to below) the impact on settlement efficiency is more difficult to measure, and may in some cases have a negative effect:

Transactions Linking

This service enables automatic deliveries / receipts on securities depending on the settlement of a prior transaction, which has been linked specifically. The automatic process of delivery / receipt can be set-up as simultaneous (or not) with the settlement of the linked transaction. This functionality, which is useful in chains of transactions or to link multiple single instructions to one related block instruction, could have a negative effect on settlement efficiency, as it multiplies the number of fails.

Prioritisation

Customers can prioritise both deliveries (to control settlement in a specified security code) and receipts (to control the use of funds). The priority code gives one transaction priority over other instructions ready for settlement on the same account and in the same security or currency. It is possible to add priority to pending instructions, but this will depend on the transaction type and on the stage the instruction is at in its life cycle. The impact on settlement efficiency is difficult to measure.

It should be noted that these functionalities are part of the T2S settlement platform, and should be more widely used after migration waves to T2S.

2.4.1 How can CSDs develop functionalities to enhance global settlement efficiency?

Objective	To ensure that CSDs develop functionalities in order to enhance global settlement efficiency.
Option 1	Do not consider these functionalities as mandatory but as good practices to share among CSDs.
Option 2	Require CSDs to provide the following functionalities: <ul style="list-style-type: none"> - Bilateral cancellation facility - Hold and release mechanism - Recycling - Partial settlement - Arrangements that ensure information for participants is available on pending settlement instructions when attempts to match are unsuccessful - Access to real time information on the status of settlement instructions.
Preferred Option	<p>Option 1 will have no impact on the current settlement efficiency, but would limit costs for CSDs as there would be no explicit requirement for these functionalities.</p> <p>Option 2 would allow market players to have more settlement functionalities available to better service participants. This would help improve settlement efficiency on a case by case basis, while eliminating the negative effects of not allowing for settlement on an all-or-nothing basis. The overall impact on settlement efficiency should be positive although the absence of statistics does not allow precise measurement.</p> <p>Option 2 is necessary to achieve the intended objective of the regulation and a set of functionalities provided by CSDs that work to achieve efficient settlement discipline.</p>

Impact of the proposed policies

Option 1	See Option 1 in the “objective” table above
	Description
<i>Benefits:</i>	This option would limit costs for CSDs and market players.
<i>Costs to regulator:</i>	The costs associated with developing a toolkit for CSDs to share good practices among the industry.
<i>Indirect costs:</i>	This approach would not foster a consistent approach across EU CSDs to CSD Functionalities, and may create an uneven playing field with different players hesitant to use certain member states for settlement purposes due to the limitations in the functionalities offered, in comparison to those on offer at a CSD in a different member state.

Option 2	See Option 2 in the “objective” table above	
	Qualitative description	Quantitative description
<i>Benefits:</i>	<p>The development of these kinds of functionalities would enhance the settlement efficiency among CSDs.</p> <ul style="list-style-type: none"> - Partial settlement would allow for a limitation of the value of fails; - Recycling would allow for more possibilities to settle the failed transaction. Although it would not impact the settlement efficiency on the ISD, it should improve settlement efficiency on T+1 and later. 	There is no available quantitative evidence to support the benefits of this option.
<i>Compliance costs:</i>	CSDs that do not propose at least these functionalities would be impacted, that is at least 28 CSDs based on the data collected.	<ul style="list-style-type: none"> - The one-off cost of hold & release for a mid-range CSD is estimated at EUR 160K. - The one-off cost of partial settlement for a mid-range CSD is estimated at EUR 111K. - The one-off cost of partial settlement for a small size

		<p>CSD would range from EUR 50k to 100K.</p> <ul style="list-style-type: none"> - The one-off cost of recycling is not known. <p>Based on these assumptions, the overall minimal impact of such option for small and mid-range CSDs would amount to EUR 1.6m. The cost for bigger CSDs is not known, but should be significantly higher than for smaller CSDs.</p>
<i>Costs to other stakeholders:</i>	Market players would have to adapt their processes to these newly proposed services. Such change would mainly impact purely local players on smaller markets who do not have access to such functionalities in other markets.	There is no quantitative evidence available to demonstrate the costs of this option for stakeholders.

2.4.2 Should certain CSDs be exempted from providing certain functionalities in certain circumstances?

Objective	To ensure that functionalities imposed on CSDs are proportionate to its settlement fails
Option 1	No derogation.
Option 2	<p>Allow for derogation where in the securities settlement system operated by the CSD the following conditions are both met:</p> <ul style="list-style-type: none"> (a) the value of settlement fails does not exceed EUR 2.5 billion per year; and (b) the rate of settlement fails, based either on the number of settlement instructions or on the value of settlement instructions, is lower than 0.5 % per year. <p>The rate of settlement fails based on the number of settlement instructions shall be calculated by dividing the number of settlement fails by the number of settlement instructions entered into the securities settlement system during the relevant period.</p> <p>The rate of settlement fails based on the value of settlement instructions shall be calculated by dividing the value in EUR of settlement fails by the value of settlement instructions entered into the securities settlement system during the relevant period.</p> <p>Before 20 January of each year, the CSD shall assess whether</p>

	the conditions referred to in the first subparagraph have occurred and shall inform the competent authority of the results of that assessment.
Preferred Option	Option 2 allows meeting the desired objective.

Impact of the proposed policies

Option 1	<i>See Option 1 in the “objective” table above</i>
	Description
<i>Benefits:</i>	This option would ensure a level playing field and harmonisation, with all CSDs in the European Union offering the same functionalities to participants.
<i>Costs:</i>	The option could be disproportionate in some scenarios leading to increased compliance costs where CSDs are paying to service functionalities which are actually not in use.

Option 2	<i>See Option 2 in the “objective” table above</i>
	Description
<i>Benefits:</i>	Allowing for these derogations ensures the standards take notice of the proportionality principle and do not install an undue burden upon CSDs.

2.4.3 What settlement options should CSDs offer?

Objective	Decide upon the most appropriate settlement options CSDs must offer
Option 1	CSDs should offer either real-time DVP settlement throughout each business day or three batches per day.
Option 2	A CSD shall offer participants either real-time gross settlement (RTGS) throughout each business day or minimum three settlement batches per business day. The three settlement batches shall be spread across the business day in accordance with market needs evidenced through a request of the user committee of the CSD.
Option 3	CSDs should offer real-time settlement for DvP and FOP.

Preferred Option	<p>Option 1 would ensure high settlement efficiency by improving existing situations in some markets, yet the volumes on these markets may not be sufficient to justify the additional costs.</p> <p>Option 2 appears more adapted to current CSDs' situations given that for CSDs with lower activity, it is less burdensome to have all trades settled with one batch.</p> <p>Option 3 may improve settlement efficiency for CSDs for which cross-border transactions (involving parties in different time zones) is an important part of the activity, as well as on those markets where same-day instructions are important. The impact on settlement efficiency in other cases may be less significant, but compliance may come at a cost, including for market players and some central banks.</p> <p>Option 2 is preferred as the benefits of option 1 may not outweigh the costs of option 1. Option 3 may only be relevant in a limited number of cases (CSDs deeply involved in cross-border transactions, i.e. ICSDs, who already are in such configuration and markets where same-day instructions are important, which is not known).</p>
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Impact of the proposed policies

Option 1	<i>CSDs should offer either real-time DVP settlement throughout each business day or three batches per day.</i>	
	Qualitative description	Quantitative description
<i>Benefits:</i>	This option should improve existing services, for four CSDs, two of which are outside of T2S.	The impact on settlement efficiency should be limited considering the existing settlement efficiency (over 97% on ISD), and the existing combined length of the batches (nine hours).
<i>Compliance costs:</i>	<p>CSDs that do not have in place procedures similar to ESMA's proposal would have to either offer a real-time settlement window or add more batches.</p> <p>Four CSDs that were involved in the research would be impacted, two of which that are not benefiting from processes implemented in T2S.</p> <p>The duration of the batches should be adapted to:</p> <ul style="list-style-type: none"> - the existence of a real- 	<ul style="list-style-type: none"> - One of the two CSDs mentioned a one-off cost of EUR 200 K. - Costs for the other one should be limited. <p>On-going costs should be limited.</p>

	<p>time window, its scope in terms of instructions relatively to the local activity, and length</p> <ul style="list-style-type: none"> - the number of batches already in place - the actual volumes on the market. 	
<i>Costs to other stakeholders:</i>	Market players would have to adapt their settlement processes to the new settlement facilities and schedule.	There is no existing data which demonstrates the costs of this option in a quantitative way.

Option 2	A CSD shall offer participants either real-time gross settlement (RTGS) throughout each business day or minimum three settlement batches per business day. The three settlement batches shall be spread across the business day in accordance with market needs evidenced through a request of the user committee of the CSD.	
	Description	
<i>Benefits:</i>	This option is more adapted to the situation of some CSDs while not threatening settlement efficiency as it would limit the existence of 2 batches (of a minimal duration) only to CSDs with low volumes.	
<i>Compliance costs:</i>	<p>When needed, some CSDs could have to lengthen the duration of their batches, especially for 2 CSDs.</p> <p>The duration of the batches should be adapted to:</p> <ul style="list-style-type: none"> - the existence of a real-time window, its scope in terms of instructions relatively to the local activity, and length; - the number of batches already in place; - the actual volumes on the market. 	
<i>Costs to other stakeholders:</i>	Market players would have to adapt their settlement processes to the new settlement facilities and schedule.	

Option 3	<i>CSDs should only offer real-time settlement for DvP and FOP.</i>	
	Qualitative description	Quantitative description
<i>Benefits:</i>	The benefits of such option appear to be limited and unclear, as mature CSD platforms with high settlement efficiency do not necessarily use real-time only platforms, but rather a mix of real-time and batches.	The settlement efficiency should marginally improve on some markets, as it is usually already high as of today.

<p><i>Compliance costs:</i></p>	<p>This option should significantly impact the market, as 19 CSDs considered on this topic would not conform to the proposed option. Moreover, no such system set-up is considered in T2S, which would involve a requirement for the T2S platform to adapt to ESMA's proposed standards. In terms of cost:</p> <ul style="list-style-type: none"> - 19 CSDs would need to implement pure real-time settlement processes; - 19 CSDs would need to decommission batches, and especially night batches, who are usually inter-related with other processes, which will involve side-costs on other, non-settlement processes. - Other than for ICSDs which have links with other market open during night time in Europe (ex: Asia), the interest of having RT window at night appears to be limited. 	<p>Based on information provided by CSDs, the cost for a CSD may be varying: from non-significant amounts, up to EUR 100K. No figure was made available for bigger CSDs. Overall, this option would be the most expensive. There is no existing data which demonstrates the costs of this option in a quantitative way.</p>
<p><i>Costs to other stakeholders:</i></p>	<p>All market players for the 19 CSDs would need to adapt their processes to this new functionality. Central banks would be impacted as they would need to implement real-time processes with the local CSDs.</p>	<p>There is no existing data which demonstrates the costs of this option in a quantitative way.</p>

3. MONITORING SETTLEMENT FAILS (ARTICLE 7 (15)(a) of CSDR)

Existing situation

The monitoring and reporting of fails differs across settlement systems in the EU. This is with regard to frequency and each jurisdiction's disclosure policy. There are generally automatic monitoring and reporting procedures in place, especially in jurisdictions which experience large business volumes that justify such monitoring arrangements. However more recently established systems are also often reliant upon automated controls despite more limited business activity.

Existing methods vary in relation to how reporting of fails occurs and how the information is shared. In some jurisdictions reporting is discussed at regular meetings with market participants. Additionally, ad hoc studies are sometimes conducted and then subsequently discussed with the market to consider potential modifications to the rules and procedures of the involved parties (e.g. SSSs, clearing members acting as custodian banks, national banking associations, national central banks etc.). At the moment there are also variations in which authority receives reports and on what frequency. Recipients of settlement fails reports include national central banks, securities regulators and/or boards of SSSs. However in other scenarios the recipients may be limited to individual participants concerned. The general public could also be informed through the publication of fails statistics, the disclosure frequency varies, per settlement cycle, periodically or on an ad hoc basis.

To collect the data required to make an assessment of the costs and benefits of the options related to monitoring settlement fails ESMA relied upon the questionnaire conducted by the external consultant. When the research was conducted, most CSDs who responded confirmed that they monitor settlement fails. Only 2 CSDs mentioned they did not report to competent authorities.

Cost of implementing the required report to competent authorities

The most appropriate method for competent authorities to collect information on settlement fails was considered with reference to two potential options. As discussed in the above tables these were:

- A report based on the existing mechanisms, as referred to in paragraph 41 of the ESMA CSDR discussion paper;
- An enhanced report as referred to in paragraph 42 of the ESMA CSDR discussion paper.

One-off costs:

Participants who did provide information on the costs of this monitoring process either mentioned that the cost estimation covers both options, or that the additional cost of the

proposal of paragraph 42 would amount to a EUR 5K additional one-off cost, representing a maximum 3.3% additional cost in addition to the existing monitoring costs.

On-going costs:

Almost no participant in the questionnaire indicated that there would be an on-going IT cost, which was therefore not estimated.

An additional cost must nonetheless be considered for controlling the content of the report before disclosure to the competent authorities. Although this cost is difficult to estimate, the overall cost should grow as the frequency and the granularity of the report increase. Therefore, in terms of pre-disclosure controls:

- A monthly undetailed report will be less costly;
- A monthly detailed report will be more costly than the previous;
- A daily undetailed report, or a monthly report of undetailed daily data, will be more costly than the previous;
- A daily detailed report, or a monthly report of detailed daily data, will be more costly than the previous.

CSD	One-off cost of reporting of settlement fails to CA (in EUR)	
	Min	Max
CSD 1	50 000	50 000
CSD 2	200 000	200 000
CSD 3	100 000	100 000
CSD 4	200 000	200 000
CSD 5	150 000	150 000
CSD 6	20 000	100 000
CSD 7	50 000	100 000
CSD 8	50 000	75 000
CSD 9	50 000	200 000
CSD 10	50 000	50 000

Table prepared by the external consultant based on information gathered using the already mentioned techniques

Ten CSDs provided their estimation of one-off costs, based on ESMA’s proposal. Based on these figures, transposition costs to CSDs of similar sizes who did not provide an answer, the overall cost of this report for the industry (considering 32 CSDs) would amount to:

- For an undetailed report as outlined in paragraph 41 of the Discussion Paper, EUR 2.7 m to EUR 3.8 m;
- For a detailed report as outlined in paragraph 42 of the Discussion Paper, EUR 2.9 m to EUR 4.0 m.

The cost of controlling the report must also be added on to the above costs.

It is necessary to determine the format of settlement reports, and what information is most useful for those monitoring settlement fails. Part of this relates to the categorisation of settlement instructions that failed to settle.

3.1 What categories of financial instruments should be used to categorise settlement fails as part of the monitoring process?

Objective	Ensure CSDs correctly categorise settlement fails as part of the monitoring process to improve settlement efficiency
Option 1	Monitor settlement fails using at least the following asset classes: <ul style="list-style-type: none"> (i) transferable securities referred to in point (a) of Article 4(1)(44) of Directive 2014/65/EU; (ii) transferable securities referred to in point (b) of Article 4(1)(44) of Directive 2014/65/EU; (iii) exchange-traded funds (ETFs); (iv) units in collective investment undertakings, other than ETFs; (v) money-market instruments; (vi) emission allowances.
Option 2	Categorise settlement fails using the following classes, in line with the buy-in requirements and those for cash penalties: <ul style="list-style-type: none"> (i) transferable securities referred to in point (a) of Article 4(1)(44) of Directive 2014/65/EU; (ii) sovereign debt referred to in Article 4(1)(61) of Directive 2014/65/EU; (iii) transferable securities referred to in point (b) of Article 4(1)(44) of Directive 2014/65/EU, other than those mentioned under point ii); (iv) transferable securities referred to in point (c) of Article 4(1)(44) of Directive 2014/65/EU ; (v) exchange-traded funds (ETFs); (vi) units in collective investment undertakings, other than ETFs; (vii) money-market instruments, other than those mentioned under point ii); (viii) emission allowances; (ix) other financial instruments.
Preferred Option	Option 2 - it ensures fails reporting reflects the categories of financial instruments subject to different penalty rates and subject to different buy-in rules. It also maintains a consistent approach to categorising the various asset types (in line with

	buy-in requirements and those for cash penalties).
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Impact of the proposed policies

Option 1	See Option 1 in “Objective” table above
	Description
<i>Benefits:</i>	This option would imply a lower regulatory burden for CSDs as there would be no requirement to confirm exactly what kind of financial instrument failed.
<i>Costs to the regulator:</i>	This option would not be useful when considering settlement penalties or buy-in rules. However, without detail of the exact type of financial instrument concerned by the fail, the regulator would be required to request further information from the CSD to ensure that the appropriate measures were being taken to remedy the settlement fail.

Option 2	See Option 2 in “Objective” table above
	Description
<i>Benefits:</i>	This option would ensure that regulators have the appropriate information to determine the applicable penalty rate in the event of a settlement fail. In addition it would ensure that regulators have the necessary information to correctly oversee the participant’s compliance with the buy-in rules in the event that a buy-in was to take place. It is a more granular classification method which will ensure better monitoring and maintain consistency in the overall requirements to improve settlement efficiency.
<i>Compliance costs:</i>	This option may be more costly for compliance functions at CSDs as there will be a need for more granular reporting, which will require additional IT systems resource to ensure failed transactions are properly categorised.

WORKING ARRANGEMENTS WITH PARTICIPANTS

3.2 What arrangements between CSDs and CSD participants are most appropriate to ensure CSDs are able to analyse the main reasons for settlement fails?

Objective	Create a functional working flow between CSDs and participants to ensure settlement fails are analysed with an objective of a reduction in their frequency
Option 1	A CSD shall set up working arrangements with the most relevant participants with the highest rates of settlement fails, as well as, if applicable, with relevant CCPs and trading venues, to analyse

	the main reasons for the settlement fails.
Option 2	A CSD shall set up working arrangements with the top ten participants with the highest rates of settlement fails to analyse the main reasons for the settlement fails.
Preferred Option	Option 1 – this option will ensure that the appropriate participants are involved in working relationships with CSDs to try and improve rates of settlement efficiency.

Impact of the proposed policies

Option 1	<i>A CSD shall set up working arrangements with the most relevant participants with the highest rates of settlement fails, as well as, if applicable, with relevant CCPs and trading venues, to analyse the main reasons for the settlement fails.</i>
	Description
<i>Benefits:</i>	This approach will ensure the appropriate participants are selected to partake in the working arrangements to discuss the reasons for settlement fails, by focusing the decision on which participant is relevant on those deemed to consistently fail according to the ESMA criteria for this. This approach will better take into account other external factors, such as timing which may be contributing to the number/percentage of fails a participant is experiencing, which may be out of its control, and not a sign of a participant with a consistent problem with achieving settlement.
<i>Compliance costs:</i>	There will be associated compliance costs for CSDs (with both options) and for participants, who need to contribute to discussions.
<i>Costs to the regulator:</i>	This option will reduce costs for regulators in the longer term, as it is the most appropriate method to address the CSDs that systematically experience low rates of settlement efficiency, and so should eventually lead to better overall settlement efficiency in the marketplace.

Option 2	<i>A CSD shall set up working arrangements with the most relevant participants with the top ten participants with the highest rates of settlement fails to analyse the main reasons for the settlement fails.</i>
	Description
<i>Benefits:</i>	It is simple and straightforward for CSDs to determine which participants would need to be involved in the work streams.
<i>Compliance costs:</i>	There will be associated compliance costs for CSDs (with both options) and for participants, who need to contribute to discussions.
<i>Costs to the regulator:</i>	An absolute number such as this would be arbitrary and may not take into account other factors that could be important to determine participants which should be involved in the working relationships.

REPORTS TO COMPETENT AUTHORITIES

3.3 At what frequency should the reporting of settlement fails be made to public authorities to allow for a monitoring of settlement fails?

Objective	Allow for a monitoring of settlement fails by public authorities on a timely basis.
Option 1	Before the end of the fifth business day of the following calendar month, a CSD shall report to the competent authority and the relevant authorities the required information relating to settlement fails. A CSD shall report more frequently and provide additional information on settlement fails if so requested by the competent authority.
Option 2	Same reporting as referred to in Option 1, however on a higher frequency.
Preferred Option	<ul style="list-style-type: none"> - Option 1 would allow for a suitable level of reporting to public authorities, in line with reasonable and proportionate timeframes that will allow for a detailed sight of the settlement efficiency of the CSD; - Option 2 would only be relevant if competent authorities were to be involved in the regular management of settlement fails. This is unlikely to be the case in most scenarios and therefore this option would be disproportionate. <p>Option 1 is preferable; it would provide NCAs with useful information on a proportionate and regular basis which can therefore be used efficiently to monitor settlement fails.</p>

Impact of the proposed policies

Option 1	<i>See Option 1 in the "Objective" table above.</i>	
	Qualitative description	Quantitative description
<i>Benefits:</i>	This option would give detailed visibility on the settlement efficiency of the CSD on a regular basis. It is proportionate, and will be useful for NCAs looking to monitor the activities of a CSD on a monthly basis, without being over burdening on a CSD's compliance function.	No quantitative information is available to demonstrate the benefits of this option.
<i>Compliance costs:</i>	Considering this report as a	- One-off costs (indicated by one

	<p>detailed one, compliance costs would be significant (according to one CSD):</p> <ul style="list-style-type: none"> - In terms of one-off costs; - On-going costs would imply controlling the reporting before disclosure to competent authorities. 	<p>CSD): EUR 2.8 to 4.0 m to implement the monitoring system</p> <ul style="list-style-type: none"> - Ongoing costs: High, considering this is a detailed report of daily data.
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Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would allow competent authorities to intervene in the daily monitoring of settlement fails and possibly ask the CSD for some adjustments or investigations.
<i>Compliance costs:</i>	Compliance costs would be identical to option 1 in the immediate term, in terms of implementation costs, but with controls made on a daily basis, therefore on an on-going basis this would be a much more costly approach, which would be less proportionate, and would not necessarily significantly contribute to the goal of successfully monitoring settlement fails to a greater extent than the first option.

4. MEASURES TO ADDRESS SETTLEMENT FAILS (ARTICLE 7 CSDR)

Various measures to address settlement fails are set out in CSDR: cash penalties (4.1), buy-in (4.2) and suspension upon systematic failure (4.3).

4.1 Cash penalties

Under the Article 7(15) (b) CSDR, ESMA is required to specify the process for the collection and redistribution of cash penalties that will support the enhancement of settlement efficiency. The draft RTS refers to the collection of the cash penalty, its redistribution, CSDs that use common settlement infrastructure, costs of the penalty mechanism and the situation where a CCP is involved. The CSDR Technical Advice relates to the actual penalty levels and how these are calculated. The penalty should act as a sufficient deterrent for participants causing settlement fails, and act to ensure there is a harmonised approach to settlement failure penalties which does not create market distortions.

Existing situation

Data collection methodology: publicly available information from CSDs (CPSS-IOSCO disclosure frameworks, General Terms and Conditions, CSD rules, fee schedules), answers to the external consultant's questionnaire.

Existence of a settlement fail penalty scheme

Not all CSDs currently have a penalty regime in place in Europe, and those that do adopt very different models. In addition there is no meaningful correlation between settlement fail statistics and the models used. Out of 34 CSDs and SSSs that were analysed in the work of the external consultant, 21 CSDs currently have in place a settlement penalty scheme, while 13 have no settlement penalty scheme in place.

To draft the Technical Standards, ESMA alongside the CSDR task force analysed the mandate for cash penalties and compared this to existing models to try and understand the admissible (versus inadmissible) existing practices. Then, when considering the admissible practices it was necessary to consider whether there were identifiable preferable practices that should be mandated or practices that should be discouraged.

This work led ESMA and the task force to conclude that there is little evidence in the CSDR or in the statistics of failed trades to support the preference of one existing admissible model over another. However the model that is chosen will have material and measurable consequences in terms of costs and competitive disadvantage for the CSDs whose current models are ruled as inadmissible accordingly.

Types of settlement fail penalty scheme

The task force's work indicated that current penalty regimes vary in Europe. The following types of penalty models exist or coexist in some form or combination:

- No penalties;
- Penalties for recycling of settlement instructions;
- Penalties for late settlement;
- Flat rate penalties per failed instruction;
- One-off ad valorem penalties on consideration;
- Constant per day ad valorem;
- Variable per day ad valorem penalties;
- Indexed penalties (based on overall settlement statistics);
- Penalties on dividend payments (over dividend period);
- Exemptions for small trades;
- Special treatment for market makers.

The table below prepared by the external consultant shows that the regimes in place appear to use a variety of methods to calculate cash penalties:

Nature	Per instruction per day	Per ISIN per day	Compared to a settlement benchmark	Mixed
Ad valorem	3	0	0	1
Fixed	8	1	1	0
Mixed	6	0	0	1
Total	17	1	1	2
Grand Total	21			

Most of the procedures place fines on the failing instruction (17 out of 21). Four regimes are more specific:

- One CSD charges an uncovered position in a specific ISIN;
- Another charges a fee only against a settlement rate benchmark;
- A third CSD charges differently depending on whether the fail is due to a lack of securities or cash:
 - Fails in cash are charged a mix of flat fee and ad valorem fee depending on the number of times during the year where a participant appeared to be short in cash and the delay in minutes (participants on the market are asked to replenish their cash accounts within a one hour deadline);
 - Fails in securities are based on a position by ISIN at the end of the day.
- A fourth CSD also charges differently depending on whether the fail is due to a lack of securities or cash:
 - Fails in cash are charged an ad valorem fee after 10 days of non-delivery;
 - Fails in securities are charged an ad valorem fee if a target settlement rate is not achieved.

Additionally, 6 CSDs (in addition to the third CSD mentioned above) charge a penalty per instruction and per day using a mixture of flat fee and ad valorem fee. These mixes can be either:

- In the form of a flat fee in addition to an ad valorem fee (2 CSDs);
- In the form of an ad valorem fee with a minimum or a maximum (3 CSDs);
- Either a flat fee or an ad valorem fee depending on whether this is a fail in cash or a fail in securities (1 CSD).

Finally, it should be noted that:

- The majority of CSDs (15) with a settlement penalty scheme in place charge identically for all instructions (ex: OTC vs on-exchange);
- Four of them only charge specific instructions:
- One CSD only charges penalties for equity trades when there is a lack of cash;
- Another CSD only charges penalties on OTC transactions;
- Two CSDs only charge penalties for instructions resulting from stock exchange transactions. In one case, these instructions represent an overwhelming majority of the activity (96.5% of the instructions as measured in March of 2012).

DISTRIBUTION OF CASH PENALTIES

Based on the analysis conducted by ESMA and the CSDR task force, in terms of redistribution mechanisms the following currently exist at European CSDs:

- No redistribution (CSD retains penalties);
- Redistribution to creditors (failed party);
- Redistribution to members (based on parameters not related to fails, like overall fees paid).

The below refers to the analysis conducted by the external consultant:

Data was available for only 15 CSDs. The below table prepared by the external consultant shows where the settlement fail penalties are distributed to:

Distribution of the penalties	Number of CSDs
To the damaged party	1
Kept by the CSD	12
Mixed Counterparty/CSD	2
No comment	6
Total	21

Among the 15 CSDs who provided the information (6 CSDs made no comment):

- Overwhelmingly the penalties represent a revenue for the CSD;
- One CSD directly credits the counterparty;
- Two CSDs have a mixed distribution between the counterparty and the CSD.

It is important to note that according to the CSDR, cash penalties should not be configured as a revenue source for a CSD, and therefore cash penalties for settlement fails should not be kept by the CSD.

4.1.1 Which entity should receive the cash penalty which is paid by the failing trading participant?

Objective	Ensure that the cash penalty is redistributed to the most appropriate entity to enhance settlement efficiency in the long term.
Option 1	Redistribute penalties to the receiving participants that suffered from the settlement fail.
Option 2	Redistribute penalties to the all the CSDs participants.
Option 3	Redistribute penalties to all the non-failing participants.
Preferred Option	Option 1 appears preferable, as this refined approach would have a deterrent effect and be proportionate.

Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above</i>
	Description
<i>Benefits:</i>	This refined approach would have a deterrent effect and be proportionate.
<i>Compliance costs:</i>	This option would create some costs for CSDs. The cost should not be significant as it would be that which is related to the crediting of the penalties to the participant that suffered from the fail, without any deductions to account for costs taken on by the CSD.

Option 2	<i>See Option 2 in the “Objective” table above</i>
	Description
<i>Benefits:</i>	This option would not incentivise participants, but would be a kind of dividend for market participants.
<i>Compliance costs:</i>	This option would have a significant one-off cost to CSDs, as it would also require a dedicated module.

Option 3	<i>See Option 3 in the “Objective” table above</i>
	Description
<i>Benefits:</i>	This option would reward non-failing participants as a whole.

<i>Compliance Costs:</i>	CSDs would have to identify non-failing counterparties as well as failing counterparties.
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PENALTY MECHANISM FOR A PARTICIPANT THAT IS A CCP

Following feedback from the initial ESMA CSDR CP, ESMA was able to create a mechanism for instances where CCPs are involved in the penalty situation as failing participants.

4.1.2 How should ESMA ensure no undue risk is placed on a CCP as a result of the cash penalty being charged?

Objective	To maintain the appropriate outcome for the penalty mechanism ensuring that no undue risk is placed on the CCP
Option 1	The CCP shall collect from and distribute to clearing members penalties calculated by the CSD.
Option 2	The CCP should not be involved in the penalty mechanism.
Preferred Option	Option 1 – this option allows for reaching the appropriate outcome for the penalty mechanism, incentivising timely settlement of the instruction without changing the risk profile of the CCP.

Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option will incentivise timely settlement of the instruction without interfering with the CCP risk profile.
<i>Compliance costs:</i>	These would be limited for the CCP that would rely upon the calculation performed by the CSD.

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would completely remove any obligations from the CCP in the event of a cash penalty being required. There would be no risk of the CCP not fulfilling its obligations, as its obligations would no longer exist.
<i>Compliance costs:</i>	The compliance costs would fall upon CSDs, who would be required to conduct the necessary research into not only what the level of the penalty should be but also which clearing member is liable and which

	clearing member should receive the distribution. This would be a difficult measure to conduct and would be both time consuming and costly for CSDs who will not always have a view of the relevant clearing members that were involved in the failed settlement.
<i>Indirect costs:</i>	This option would not enhance overall settlement efficiency levels. Instead it would make the penalty mechanism extremely difficult to apply for transactions that are cleared by CCPs that do not settle.

4.1.3 Which participant should cover the costs of the penalty mechanism?

Objective	To ensure that costs associated with the penalty mechanism are fairly covered in a clear and transparent manner.
Option 1	A CSD shall charge the costs of the penalty mechanism to all of its participants.
Option 2	A CSD should charge the costs related to the penalty mechanism to the failing participants according to the penalties they have been required to pay.
Preferred Option	Option 1 – this option ensures the costs of the penalty system shall be borne by all participants, in a proportionate manner.

Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option offers transparency to participants on how the penalty system is funded and the related costs to participants.
<i>Compliance costs:</i>	The compliance costs will be spread across all CSD participants.

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	Those participants whose trades never result in failed settlement facing no costs in relation to the costs of the penalty system.
<i>Compliance costs:</i>	The compliance costs will vary across participants, depending upon the number of settlement fails they are the cause of.
<i>Indirect Costs:</i>	There will be less transparency around which parties are paying for the penalty system and this option could result in a concentration of the cost allocation to a limited number of participants, which may be deemed to be similar to a shadow penalty.

4.2 Buy-in

Considerations related to addressing settlement fails through the buy-in

ESMA publishes periodic reports on '*Trends, Risks and Vulnerabilities*', including data on settlement fails. These publications provide an indication of recent trends associated with settlement fails in European markets. They provide further context in relation to the settlement discipline aspects of CSDR. In 2013 the value of settlement instructions processed by CSDs in the EU rose by around EUR 200 tr. and exceeded EUR 1,000 tr. Both the September 2014 report and the March 2015 report provide a useful insight into recent trends relating to settlement fails at CSDs.

The two largest CSDs are together responsible for the settlement instructions of around 75% of the above mentioned transactions, measured by value. Similar to value, the quantity of annual transactions settled by EU CSDs increased in 2013, a rise of over 20m transactions was recorded that year, with over 350m transactions settled in the EU.

This insight into recent volumes relating to settlement at CSDs is useful for quantifying the size of the market which will be within the scope of the CSDR technical standards. Settlement failure affects a range of financial instruments, however it is also necessary to note that currently there is a limited settlement fail rate in European markets.

An ECSDA paper³ that was published in September 2012 provided an indication of the percentage of transaction orders that fail to settle in Europe, both by value and by volume. According to the figures, 1.1% of all trades by value (2.6% by volume) have failed to settle on ISD. With regard to the settlement efficiency rates on ISD + 1, 99.5% have settled in value terms, whilst 98.8% in volume terms have settled on the next day according to the ECSDA report.

The ECSDA data was based on 2012 activity across 20 Securities Settlement Systems in 19 different European markets.

It is also necessary to consider that the MIFID II and MIFIR requirements will influence OTC trading, with a certain volume of securities qualifying as sufficiently liquid and currently traded OTC moving to OTF, MTF or regulated markets. This will lead to these trades being captured by the buy-in requirements and hence the impacts of these provisions are increasingly important.

³ ECSDA 2012 Statistical Exercise on Matching and Settlement Efficiency, 18 September 2012

The following evidence demonstrates the arrangements of the existing buy-in regimes that are functioning in the European Union and the resultant cost-benefit analysis with regard to the proposed ESMA Level 2 requirements for the buy-in.

As part of the initial CP for the CSDR Technical Standards a considerable number of responses were received from different stakeholders in relation to the proposed requirements of the CSDR Technical Standards on buy-in. A separate consultation paper was published by ESMA in June 2015 in order to receive additional information on the different options which ESMA was considering with regard to the entities responsible for the execution of the buy-in process in the case of transactions not cleared by a CCP.

Data was collected to establish the current market practices for buy-in when settlement fails occur. The initial methodology included taking information from CCP rulebooks and instructions, private reports to ESMA from the industry (referenced below), public studies which are referenced in this section of the impact assessment and answers to an external consultant's questionnaire. In addition, responses to the two CSDR consultation papers were also analysed and used as a basis for understanding the costs and benefits of different options.

In Europe, buy-in procedures currently exist in several markets. For example they exist in stock exchange transactions carried out by CCPs or by the trading venue involved, some OTC transactions on bonds and some repurchase agreements or securities lending transactions. In the cases where buy-in already exists the process is generally carried out by either the relevant trading venue or the CCP. It is also an existing requirement in the Short Selling Regulation.

Existing buy-in procedures by CCPs on stock exchange transactions

As noted in ESMA's initial consultation paper on the CSDR Technical Standards, it is necessary to reiterate that there are currently no uniform approaches to buy-in by CSDs, CCPs or trading venues.

With regard to the timing of a buy-in, according to the CSDR, the process involves several periods which need to be understood:

- A first period of time between the settlement fail and the triggering of the buy-in process itself, standing as a sort of grace period for the delivery of the missing financial instruments – the so-called “extension period”;
- The period extending from the initiation of the buy-in and the actual delivery of the bought-in securities or payment of the cash compensation – the so-called “buy-in process”. The buy-in process may be itself composed of two periods: a first period of buy-in, and in case it is not successful (i.e. if it does not allow for the delivery of all missing financial instruments, the buy-in can be deferred for an additional period (the so-called “deferral period”).

The evidence below shows the information gathered by the external consultant that comes from 11 CCPs. The selection of CCPs included the largest CCPs in Europe and also some smaller CCPs.

The table below demonstrates the length of some different buy-in periods that are currently offered for different financial instruments. The information relates to existing buy-in procedures on transactions executed on trading venues covering equities, fixed income financial instruments (secondary market transactions) and ETFs, depending upon which market is being considered.

The evidence shows that the extension periods are usually short, ranging from ISD+0 to ISD+5. CCP 11 for equity markets with a market maker scheme is an exception (see below table), with an extension period of 11 days.

Entity	Scope of instruments & geographies	Extension period (ISD +X) (days)	Buy-in period (days)
CCP 1	Equities	0	1
CCP 2	Equities	1	3
CCP 3	Equities	3	2
CCP 4	Equities	3	
CCP 5	Equities	3	1
CCP 6	Equities under SSR ⁴	4	4
CCP 7	Equities under SSR	4	4
CCP 8	Equities / Trading venues without market maker schemes	5	15
CCP 9	Equities	5	1
CCP 10	Equities not under SSR & other	5	25
CCP 11	Equities / Trading venues with market maker schemes	11	9

Table created by external consultant using information gathered using the techniques referred to previously

Existing buy-in procedures on transactions executed on trading venues cover equities, fixed income financial instruments (secondary market transactions) and ETFs. Buy-in periods for on-exchange transactions usually range from one to four days. The sample above showed the following exceptions:

- CCP 8 or CCP 11 with buy-in periods ranging from nine to 15 days. When such a scheme is in place, the timeframe to deliver securities can be shorter as the market-maker would provide for liquidity on the securities;
- CCP 10 with a buy-in period of up to 25 days.

⁴ SSR – Regulation (EU) No 236/2012 of the European Parliament and of the Council (the “Short Selling Regulation”)

Expected impacts of enforcing buy-in related requirements

Some equity markets are already compliant with the proposed CSDR requirements and would not be impacted by the proposals on extension periods. Timeframes for delivering the securities may go up to 4 days considering these markets appear to be liquid already.

Equity markets without a market maker scheme and not dealing with ETFs are not currently compliant with the new requirements. Such markets usually show significant liquidity for the instruments listed, the existing buy-in periods only differing by one day from the proposed requirements. These equity markets would be marginally impacted by ESMA's proposals in the following ways:

- The timeframe for delivering securities may increase to four days as these markets appear to be currently liquid already;
- Equity markets with a market-maker scheme have longer extension periods (11 days). An extension period of four days would have more impacts and may impact upon the liquidity of the market;
- Based on the existing situation, the timeframe for delivering securities may increase to nine days.

In the case of ETFs, it should be noted that one CCP handles ETFs differently with an extension period of five days, and a buy-in period of 25 days. The volumes in this market are lower.

ETFs are considered to be less liquid. Although many factors must be considered (among others: the liquidity of the underlying basket, trading volumes, ETF providers), various studies show that no general rule can be applied to ETFs, which would account for a general consideration that ETFs cannot be considered as liquid per se⁵.

To add further detail to the overall impacts the provisions would have on the markets concerned, ECSDA conducted a survey of their members to gauge the impact of the potential mandatory buy-in proposals on current failing trades in an attempt to estimate the overall impact of buy-in upon the markets. Based on data for November 2014 for 11 CSDs, ECSDA made the following findings (noting the limitations of the analysis):

- Figures based on data from 11 CSDs for November 2014 (not possible to take into account exemptions or differences in the extension period as proposed by ESMA);
- Based on the default buy-in process indicated in the CSDR (buy-in initiated after ISD+4);

⁵ Liquidity in European Equity ETFs: what really matters? – Anna Calamia, Laurent Deville, Fabrice Riva – GREDEG CNRS-University of Nice-Sophia Antipolis
Measuring the Liquidity of ETFs: An Application to the European Market – Thierry Roncalli, Ban Zheng – Lyxor Asset Management

- 151,443 buy-ins would have been for a total value of c. EUR 214 bn.;
- Equates to 7,572 buy-ins per day vs. EUR 10.7 bn.;
- Assuming November 2014 is broadly representative, the total number of buy-ins per year would equate to 1.8 m, with a total value of more than EUR 2.5 tr.;
- As anticipated, the two ICSDs accounted for approximately 85% of the fails still pending on ISD+4;
- The remaining 9 CSDs equated to 20,000 buy-ins, with four markets conducting more than 1,000 buy-ins (highest 7,500).

Based on the individual cost estimates collected from 19 CSDs, ECSDA also tried to quantify the expected implementation costs in relation to the buy-in proposals. Their analysis showed that the costs would be very significant and could ultimately increase settlement costs for market participants, affecting the competitiveness of European financial markets. In particular:

- The proposed buy-in rules are likely to be the most significant cost factor compared to penalties for late settlement and measures to prevent settlement fails, with total implementation costs of around EUR 24.5 m, or on average close to EUR 1.3 m per CSD;
- In addition, yearly running costs for CSDs to fulfil their responsibilities under the buy-in proposals are expected to add up to nearly EUR 5 m per year, or on average more than EUR 250,000 per CSD.

Buy-in volumes on trading venues

Existing buy-in volumes appear to be low on CCP-cleared markets across Europe. Based on data available at several CCPs for markets across Europe, the following buy-in procedures were triggered over a sample period of 9 days:

	Trading Venue 1		Trading Venue 2		Trading Venue 3		Trading Venue 4	
	Buy-ins (net value in m EUR)	Total trading volumes on the market (gross amounts in m EUR)	Buy-ins (net value in m EUR)	Total trading volumes on the market (gross amounts in m EUR)	Buy-ins (net value in m EUR)	Total trading volumes on the market (gross amounts in m EUR)	Buy-ins (net values in m EUR)	Total trading volumes on the market (gross amounts in m EUR)
02/01/2015	1435	2569	-	229	1288	1235	-	65
05/01/2015	645	5125	-	424	26	2100	1	120
06/01/2015	6	4839	-	446	-	2092	-	117
07/01/2015	700	4643	-	530	17	2056	3	112
08/01/2015	272	5485	-	537	874	2305	-	101
09/01/2015	-	4886	-	483	-	2037	-	83
12/01/2015	5	4621	-	418	13	1860	-	78

13/01/2015	51	4943	-	485	103	2063	5	114
14/01/2015	35	5406	-	434	177	2396	-	176
Total	3147	42516159	-	4005667	2497	18143671	8	966124

Table provided by external consultant using information gathered using the techniques referred to previously

The overall buy-ins generated from January 2nd to January 14th (9 business days) amounted to a total of EUR 5.65 m over nine days, for a total of 55 buy-in procedures.

On a similar period in September 2014, from September 11 to September 24 (10 business days), 37 buy-in procedures were triggered, for a total value of over EUR 9 m.

NB: although buy-in volumes appear to be low, no accurate comparison can be made with total trading volumes, considering buy-ins initiated by CCPs are netted amounts, whereas total trading volumes are gross amounts.

Buy-in procedures by CCPs on OTC transactions

Entity	Scope of instruments & geographies	Extension period (ISD + X) (no. days)	Buy-in period (no. days)
CCP 1	Bonds / Securities lending fixed term	2	0
CCP 2	Bonds / Securities lending open term	2	0
CCP 3	Bonds / Securities lending fixed term	3	0
CCP 4	Bonds / Securities lending open term	3	0
CCP 5	Convertible bonds, warrants, units of funds & other	4	3
CCP 6	Bonds	5	25
CCP 7	Repos	5	25
CCP 8	Bonds	7	3
CCP 9	Bonds and Repos	10	3
CCP 10	Bonds and Repos	30	3

Table created by the external consultant using information gathered using the techniques referred to previously

The table above shows that based on the external consultant's sample, at the moment bond markets as well as some repos and other securities lending transactions are already subject to buy-in procedures:

Bonds

CCPs who currently offer clearing services apply longer extension periods:

- Within the possible extended timeframe proposed by CSDR of seven days for CCPs 1 to 8 in the table above;
- Significantly outside of this proposed extension period for CCP 9 and 10 in the table above (extension periods of 10 to 30 days).

Repos

The analysis for CCPs clearing bonds is also valid for repos, with the following distinction:

- One significant European CCP for repurchase agreements currently applies no buy-in procedure. It serves several European government repo and cash bond markets;
- Most of the repo market is not cleared and thus not currently subject to mandatory buy-ins. According to a report by ICMA⁶, 75% of the repo business is not cleared, and 29% according to a report by the ECB⁷ which is on a smaller sample (Euro money markets only).

At the moment with regard to the timeframe to deliver the securities, it appears that the longer the extension period, the shorter the buy-in period (timeframe to deliver securities), for a total of 10 to 33 days (extension period + buy-in period). No consistent rule appears to exist based on analysis of the data. In such circumstances, some extension periods will be significantly reduced by the proposed requirements.

Securities lending

One CCP currently proposes a clearing service on securities lending, where buy-in procedures apply, in a timeframe that already meets the expectations of the CSDR Level One text. Yet, the clearing of securities lending is reportedly limited today. It should be noted that in this particular case, the near-leg is excluded from the buy-in.

Equities vs Bonds

When considering the difference between asset classes on all CCP-cleared transactions (both on-exchange and OTC), it appears that, as shown in the chart below:

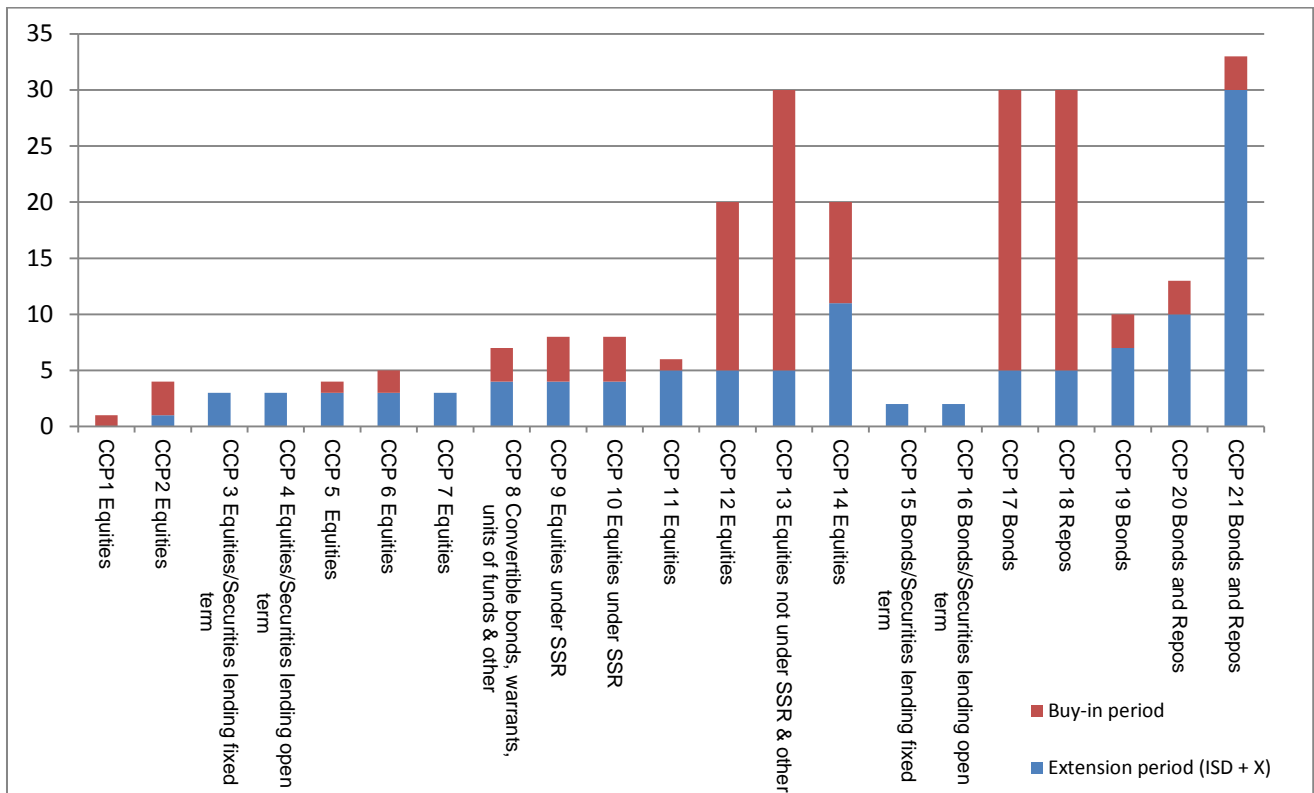
- Extension periods vary according to the asset class: extension periods for equities (or equity like instruments such as convertible bonds or warrants) are shorter than extension periods for bonds;
- Timeframes to deliver securities do not depend on the asset class - short and long timeframes apply to both equities and bonds.

Such differences could be caused by the asset class, but also by the trading process, considering that CCP-cleared equities usually correspond to on-exchange transactions, whereas the large majority of bonds still trade OTC.

Bar chart showing the timeframes (in days) for buy-in process periods and extension periods at CCPs that clear different types of financial instruments.

⁶ European repo market survey - Number 26 - conducted December 2013 - published January 2014

⁷ Euro Money Market Survey - November 2013



The chart above demonstrating buy-in procedures and timelines according to instruments cleared on different CCPs was created using information provided by the external consultant.

NON-CCP CLEARED TRANSACTIONS: PARTY EXECUTING THE BUY-IN PROCESS

The CSDR provides that for CCP-cleared transactions, the CCP itself shall be in charge of the buy-in; however, nothing is specified in respect of OTC or on-exchange transactions that are not cleared by a CCP. To ensure that ESMA's proposal relating to the entity responsible for execution of the buy-in process in such cases took into account all possibilities and stakeholder views, whilst working towards a legally feasible solution, ESMA conducted a further industry consultation to gather additional information on buy-in.

No involvement of CSDs

From the responses to the initial CP that referred to the party responsible for the execution of the buy-in, it was clear that there was no stakeholder appetite for CSDs themselves managing the buy-in process. CSDs were deemed by respondents to not have the means or expertise to manage the process. Rather it was indicated that CSDs should have a passive role, monitoring and receiving information and reporting to participants. ESMA agreed with this statement.

Execution by participants or by trading parties?

The second ESMA CP focused on the specific requirements which relate to the entity responsible for the operation of the buy-in. Three options were proposed to the market and ESMA specifically called for quantitative evidence to demonstrate the costs of the different options.

The first option proposed in the CP suggested the failing trading party or trading venue member should be responsible for the execution and costs of the buy-in (including the cash compensation).

The second option proposed the failing trading party or trading venue member should be responsible but with the CSD participant acting as a fall back in terms of covering all the potential costs of the buy-in (including the cash compensation) except where the trading party or venue member would be insolvent.

The third option was for the CSD participant to be fully responsible for the execution and costs of the buy-in.

The respondents to the second CP were almost entirely in favour of the first option, with no support for the second option and very limited support for the third option. Stakeholders responded by suggesting that the costs of both second and third options were largely similar given that the risk ultimately fell upon participants and would trigger similar calls for collateral. This cost would thus ultimately fall upon investors and lead to a negative impact upon liquidity in the market. In addition, respondents indicated that this option would add unnecessary complexity to the buy-in process with different entities having certain responsibilities related to the buy-in process.

Respondents to the second CP provided some quantitative data to demonstrate the different collateral costs for option 2 and option 3 (see below). ICMA indicated in their response to the consultation that collateralisation figures for option 2 are substantially less than those for option 3. However there was no indication from respondents that suggested such costs in relation to the first option, nor did they provide any indication relating to the overall quantitative costs of that option.

In addition to the other concerns expressed in relation to the third option, some respondents stressed that a CSD can be a participant in other CSDs when they establish links. This would mean a CSD would potentially become liable for the execution of the buy-in and the payment of the cash compensation. This would be an issue given that the purpose of the CSDR is to have a safe settlement market. There are numerous indirect risks associated with this option. One way to address this scenario would be to allow a CSD that is a participant to pass on the liability for the execution of the buy-in and the payment of the cash compensation. This would preserve the risk profile of the CSD and still ensure clear responsibility for the execution of the buy-in process in line with CSDR.

Following a legal analysis conducted by ESMA together with the EC, ESMA reconsidered the drafting of the first option, focusing on the limitation of the Level 1 mandate and its references to responsibilities of participants and elaborating a Level 2 proposal that could limit the impacts on the participants while ensuring legal enforceability. The outcome of this work is presented in the tables below under Option 1.

In addition to the responses that related to the execution of the buy-in process, other CP respondents referred to other parts of the buy-in technical standards, e.g. trading venue responsibilities and the reporting requirements for CSDs related to buy-in. These areas are also addressed below.

4.2.1 Which entity should be responsible for the execution of the buy-in for transactions not cleared by a CCP?

Objective	To ensure that the most appropriate entity is responsible for the execution of the buy-in process
Option 1	<ul style="list-style-type: none"> - The failing trading party or trading venue member (hereinafter referred to as the “failing party”) should be responsible for the execution of the buy-in and payment of the costs of the buy-in, as well as for the cash compensation, as applicable. - Buy-in is deemed impossible when the failing party is subject to an insolvency proceeding on the last day of the extension period (thus no buy-in is launched and cash compensation shall be paid by failing party). - No fallback on the failing participant for the payment of the cash compensation. - Failing participant can be called for the payment of the buy-in costs including the buy-in fees and the price difference, but only as fallback for the failing party’s default. - All parties in the settlement chain should be bound by appropriate contractual arrangements with their relevant counterparties incorporating the buy-in process obligations and should set up the appropriate procedures in order to ensure they can implement the buy-in process without delay.
Option 2	<ul style="list-style-type: none"> - The failing party should be responsible for the execution of the buy-in and payment of the costs of the buy-in, including cash compensation. - Fallback on the failing participant in case of default of the failing party.

	<ul style="list-style-type: none"> - Failing participant would not be liable for the payment of cash compensation if failing party is subject to an insolvency proceeding.
Option 3	The failing participant should be responsible for the execution of the buy-in and payment of the cash compensation.
Preferred Option	<p>Option 1 - Stakeholders who responded to the ESMA CP favoured the option according to which the failing party should be responsible for the execution of the buy-in and that the participant should not be liable for the payment of the costs of the buy-in and of the cash compensation. Taking the liability of the payment of the cash compensation from the participant, the Option 1 that is presented here and included in the draft RTS is the one that seems to achieve these objectives the best, having regard to the Level 1 text.</p> <p>Option 2 received no support and Option 3 received very little support at the consultation; however the compliance costs were estimated to be significantly lower than those costs related to Option 3.</p>

Impacts of the proposed policies

Option 1	<i>See Option 1 in the "Objective" table above.</i>
	Description
<i>Benefits:</i>	<ul style="list-style-type: none"> - The entity responsible for the costs of a buy-in will be the failing party, which is in accordance with the majority of the feedback received from stakeholders. - Buy-in is executed by the trading-level parties that have the best access to information about the transaction. - Trading-level parties have a good incentive to execute the buy-in and there is no increase of risk for the participants: the failing participant will never have to pay the cash compensation. The cases in which the participant would have to pay a buy-in cost would be limited to a default of payment by the failing party occurring after the extension period. This option would therefore reduce considerably the need for participants to request collateral from trading-level parties. - This option would incentivise all parties in the settlement chain to enter into strong contractual arrangements with their respective counterparties that would appropriately reflect the buy-in rules and responsibilities.
<i>Compliance costs:</i>	<ul style="list-style-type: none"> - Failing parties will have to reimburse to receiving parties the costs borne in relation to the verification of the insolvency status of their trading counterparty, the appointment of buy-in agents,

	<p>and the potential price difference between the price of the bought-in securities and the price agreed at the initial trade.</p> <ul style="list-style-type: none"> - All parties in the settlement chain, from the CSD to each trading-level party, will have to set up robust contractual arrangements with their relevant counterparties, as well as enhanced information flows in order to have enforceable buy-in procedures throughout the chain (presumably all existing contractual arrangements will have to be renegotiated). - The failing participants will still face the costs of the buy-in including the buy-in fees and the price difference, but only as fallback for the failing party's default, as this is mentioned in the CSDR.
<i>Costs regulators:</i>	<i>to</i> The supervision of the trading-level parties will be challenging as these will not always be regulated entities or may be third country entities (however this cost is the same in Option 2).

Option 2	<i>See Option 2 in the "Objective" table above.</i>	
	Qualitative Description	Quantitative Description
<i>Benefits:</i>	<ul style="list-style-type: none"> - The entity responsible for the costs of a buy-in will be the failing party, which is in accordance with the majority of the feedback received from stakeholders (as for Option 1). - The fallback on the participant for the payment of the cash compensation is limited to cases where the failing party is not insolvent. Therefore the participant would not need to cover for the risk of insolvency of the failing party and therefore would not need to request collateral for this. - This option would incentivise participants to enter into strong contractual arrangements with a client that would 	There is no quantitative data available to demonstrate this benefit.

	<p>appropriately reflect the buy-in rules and responsibilities of the trading party as the participant would have a personal interest to protect itself.</p> <p>In addition the enforcement of the payment for cash compensation against the participant of the CSD should be easier than against a trading party as it would likely be a supervised entity.</p> <p>All parties within the chain are potentially subject to be asked to pay the cash compensation if the buy-in is not executed (asked by the CSD participant) and so all parties will have an interest in ensuring the buy-in is executed or the instruction is cancelled.</p>	
<i>Costs to Regulators:</i>	<p>Same as in Option 1.</p> <p>In addition, this option could lead to additional risks for stakeholders involved in the buy-in process and ultimately the investors.</p>	<p>There is no quantitative data available to demonstrate this cost.</p>
<i>Compliance costs:</i>	<p>Same as for Option 1.</p> <p><u>For participants:</u></p> <ul style="list-style-type: none"> - uncertainties and need to request collateral from their clients to cover the risks associated with occasions where cash compensation must be paid; - Potential additional regulatory and prudential costs; 	<p>ICMA indicated that the cost of this option in terms of the increased collateral costs that will be requested by CSD participants across Europe would be close to EUR 90.67 bn (based on 2014 data), which is lower than its estimate for Option 3.</p> <p>Other respondents did not distinguish between Options 2 and 3 in terms of collateral costs and</p>

	<ul style="list-style-type: none"> - Additional costs relating to the settlement fail analysis (needed to get the necessary information to execute the buy-in in case of default of the failing parties, including legal fees to establish responsibility in different buy-in events) <p><u>For the market:</u> respondents feared adverse effect on market efficiency and liquidity. This option could create risks of market makers not operating due to buy-in requirements (thus reducing overall market liquidity). In addition the collateralisation required would be difficult to organise and would also drawing collateral away from the system, also at a high cost for the economy. This would lead to increased collateral costs in the Union, which would erode its attractiveness for both investors and issuers.</p> <p><u>For EU CSDs:</u></p> <ul style="list-style-type: none"> - Un-level playing field: these additional costs could un-level playing field with third-country CSDs, leading to liquidity migrating to non-EU CSDs; - Disincentive for links: CSD participants in other CSDs through the establishment of links might be subject to the whole set of settlement discipline requirements and therefore to margin calls and payment of cash compensation. 	<p>provided the following estimates:</p> <ul style="list-style-type: none"> - Die Deutsche Kreditwirtschaft (the German Banking Association) indicated that, based on 2014 figures, EUR 140 bn. of collateral would be required on the German market by CCPs on the basis of failed trades (EUR 2.94 tr. of collateral for all instructions). - AFME (Association for Financial Markets in Europe) referred to a cost of EUR 90.67 bn. in additional collateral being required by CSDs. - Euroclear Bank indicated, by reference to its own cross-border business that it could require between 2.5 bn. (to cover only the value of cross-border fails) and 14 bn. (to cover 20% of the total value of its cross-border business) additional collateral per day.
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This will not be as great a cost as in Option 3, where collateralisation costs will also need to include collateral to cover the risks associated with a settlement fail more generally, as the participant in Option 3 would be fully responsible for the execution of the buy-in process. However collateralisation will be significant and complex, with considerations of the likelihoods of different counterparties' not delivering and a buy-in or a cash compensation being required. In addition consideration will need to be made relating to instances when trading parties will become insolvent, which will add to the complexity and hence the costs.

When considering the compliance cost of this option in terms of the collateral costs it is important to consider that in terms of the number and value of the buy-in at risk of reaching the point of payment of the cash compensation, the impacts of MiFID and MiFIR will bring a significant portion of securities traded OTC to OTF. Only a portion of failed instructions will not settle by the end of the extension period and only a part of this portion would be subject to the buy-in, and again only a part would not be bought in following two days after the end of the buy-in.

Therefore it is unlikely that participants would collateralise 100% of transactions for a very limited number of transactions that

	<p>would be bought-in under this option.</p> <p>It is more likely that collateralisation would only apply to clients which the CSD participants consider risky counterparties that would not fulfil their obligations. This will represent a minority of the CSD participants' clients, thus making the cost element for participants attached to this option negligible.</p>	
<i>Indirect Costs:</i>	<p>Same as Option 1.</p> <p>Impact on investors to the market and overall liquidity: although not as great as for Option 3, ultimately collateral requirements will be indirectly met by the investors, which may make settlement in EU CSDs less attractive.</p>	There is no quantitative data available to demonstrate this cost.

Option 3	<i>See Option 3 in the "Objective" table above.</i>	
	Qualitative Description	Quantitative description
<i>Benefits:</i>	<ul style="list-style-type: none"> - In terms of supervision: participants normally are supervised entities and therefore the ability to get information and supervise the application of the buy-in rules would be more straightforward than for Options 1 and 2. - In terms of contractual arrangements and flows of information: as the participant and the CSD have a direct relationship, the flow of information 	There is no quantitative data available to demonstrate this benefit.

	<p>already exists and is more efficient (less time would be required than in options where there is a chain of intermediaries).</p> <p>This option would incentivise the participant to establish a prudent relationship with its clients and take responsibility for 'their' trading parties. In addition, although the participant is responsible for the buy-in process, it can contractually require reimbursement or support from its clients.</p>	
<i>Costs to Regulators:</i>	Less costs than for the other options, as supervision of the process will be made more straightforward due to the existing relationships normally in place between regulators and CSD participants.	There is no quantitative data available to demonstrate this cost.
<i>Compliance costs:</i>	Higher than Option 2, see explanations under Option 2.	<p>One respondent (ICMA) suggested that the cost of this option would be EUR 543.997 bn (based on 2014 data), in terms of the cost of collateralising the transactions that would be required in accordance with the drafting of this option (as a reminder, the same respondent indicated that the potential compliance costs of option 2 would be of EUR 90.67 bn).</p> <p>Various other CP respondents referred to similar collateral costs to those that would be created by Option 2 (see Option 2 table above).</p>
<i>Indirect Costs:</i>	Higher than Option 2, see explanations under Option 2.	There is no quantitative data available that can be used to

	demonstrate this cost.
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INVOLVEMENT OF THE TRADING VENUE IN THE BUY-IN PROCESS

ESMA considered the potential options for ensuring an agent was appointed when required and the procedure took place as required in the event that a trading venue member does not execute the appointment of a buy-in agent. Various responses were received to the second ESMA CP on the CSDR Technical standards for buy-in which referred to this obligation. References were made to the risks of adding to the risk profile of the trading venue through such a requirement by respondents.

4.2.2 Should the trading venue be required to appoint a buy-in agent in the event that a member does not execute the appointment of the buy-in agent?

Objective	Ensure that a buy-in agent is appointed in all scenarios where they are required to ensure the execution of the buy-in process and efficient settlement discipline.
Option 1	The trading venue should require that its members appoint a buy-in agent in case of fails and if not, the trading venue should directly appoint it.
Option 2	Do not include an additional requirement for trading venues to appoint a buy-in agent in the event that a trading venue member fails to do so in the event that it is required to.
Preferred Option	Option 2 – this option will ensure that no additional risk is placed on the trading venue as Option 1 would alter a trading venue’s risk profile by placing this additional liability upon it.

Impact of the proposed policies

Option 1	See <i>Option 1</i> in the “Objective” table above.
	Description
<i>Benefits:</i>	This option would add additional certainty that a buy-in agent will be appointed.
<i>Compliance costs:</i>	This option will impose considerable compliance costs upon the trading venues. They will be required to go into the market and arrange the appointment of a buy-in agent in the event that the trading venue member fails to do so when required. This option is likely to change the risk profile of the trading venue. It would potentially become liable vis-à-vis the buy-in agent. There should be no impact on the risk profile of the trading venue; this option would impose considerable costs.
<i>Indirect costs:</i>	This option will place additional liability upon the trading venue.

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option reduces the risk that would otherwise be placed upon the trading venue; this requirement should not impact the risk profile of the trading venue. It is a more proportionate approach, placing the obligation on the responsible entity.
<i>Costs to Regulators:</i>	This increases slightly the risk that a buy-in agent is not appointed as the ‘fallback’ option of the trading venue finding a buy-in agent will no longer exist. Therefore this option may increase the costs for regulators related to the monitoring of a process that is less strictly imposed upon the relevant entities that are involved in the trade.
<i>Compliance costs:</i>	This option will reduce compliance costs for trading venues; however compliance costs for trading venue members are likely to increase as there will be an increased expectation on them to find buy-in agents due to the non-existence of a fallback, in the form of the trading venue’s requirement. In addition the trading venue would not be integrated into the clearing workflow for certain bilateral trades. This would mean that it would not dispose of information about the fact, if a trade has failed and if the trading member has appointed a buy-in agent in the required time frame or at all. Therefore gaining the required information on the status of the trade would be complex and costly.

INFORMATION TO CSDs

Upon reviewing the responses to ESMA’s second CP which related exclusively to the buy-in process there were some responses which referred to the number of reporting obligations to the CSD required through the settlement chain and arguments that implied that all are not necessary for the performance of the buy-in or the appropriate supervision of the process. The costs and benefits of different options for reporting are referred to in the below tables.

4.2.3 How to ensure CCPs, trading venues, trading venue members and trading parties report the appropriate information related on the execution of a buy-in to the CSD?

Objective	To ensure appropriate reporting of buy-ins is conducted that provides CSDs with the necessary information to allow NCAs to effectively supervise the operation.
Option 1	Limit reporting requirements from the CCP, trading parties, trading venue members and trading venues to the CSD to: <ul style="list-style-type: none"> a) The results of the buy-in (including the number and value of the bought-in securities); and b) The payment of the cash compensation (including the amount of the cash compensation).

Option 2	Request that CCPs, trading venues, trading parties and trading venue members report all information that they record as part of the buy-in to the CSD.
Preferred Option	Option 1 – this option is most appropriate as it will provide CSDs with the appropriate information to allow the buy-in to take place. In addition NCAs will also be able to access the appropriate information relating to the buy-in process.

Impact of the proposed policies

Option 1	See Option 1 in the “Objective” table above.
	Description
<i>Benefits:</i>	This drafting will ensure the key information related to the buy-in process is provided to CSDs, which can then be used effectively by CSDs and NCAs. It will also ensure there is no information reported to CSDs which the CSD already has/does not need to carry out effective supervision of the CSD.
<i>Compliance costs:</i>	The compliance costs of this option will be smaller than for option two, because there are fewer pieces of information required to meet the requirements on reporting to CSDs.

Option 2	See Option 2 in the “Objective” table above.
	Description
<i>Benefits:</i>	This option will ensure that CSDs receive a complete picture of the different stages of the buy-in process which will be useful for NCA’s looking to regulate the process.
<i>Costs to Regulators:</i>	This option will result in increased reporting to CSDs which will then require increased reviewing time by NCAs to ensure effective monitoring of the buy-in process. This will increase costs for NCAs and it may also detract attention away from the key pieces of information necessary for the effective supervision of a CSD (those pieces of information referred to in option one).
<i>Compliance costs:</i>	This option will be burdensome to end investors, intermediaries and to CSDs, increasing compliance costs for the mentioned entities who need to submit a considerable amount of information to the CSD. Investors and intermediaries would need to develop appropriate reporting capabilities to allow for the considerable information to be sent in an automated way. CCPs manage the buy-in process and the CSD will already see settlement instructions resulting from the buy-in process through instructions, the reporting requirements of this option may be duplicative, it may not be used by CSDs and would be very complex.

BUY-IN TIMEFRAMES

Extension period timeframes

Following the initial CSDR CP some stakeholders indicated that an extension period of 7 days for all fixed income securities would help minimise the impact of the buy-in. Other respondents chose to focus upon ESMA's suggestion that using the definition of liquidity proposed for bonds in the scope of MiFID/MiFIR may not be consistent with the purpose of the provision relating to extension periods (the MiFID/MiFIR definition is related to a financial instrument's transparency). Generally respondents' referred to the need for having lengthy extension periods for those less liquid financial instruments. In the technical standards ESMA was required to define which financial instruments would be granted a longer extension period (up to a maximum of 7 days) before the buy-in process began.

It should be noted that the CSDR already grants a 15 day extension period when transactions relate to financial instruments traded on SME growth markets.

4.2.4 How long should an efficient extension period last?

Objective	To ensure that the implementation of an appropriate buy-in mechanism that will enhance global settlement efficiency and ensure efficiency of the mechanism for the market, more specifically giving sufficient time for settlement without creating unreasonable risks and uncertainty.
Option 1	Extension periods for all asset classes of 4 business days. No prolongation.
Option 2	Extension periods of 7 business days for all asset classes. Prolongation for all.
Option 3	The extension period should be increased from 4 to 7 business days for all financial instruments other than shares, unless the shares have a liquid market.
Preferred Option	<ul style="list-style-type: none"> • Option 3 is preferred. It allows a more granular approach considering the time required in order to cure a fail depending on the liquidity or characteristics of the instruments. • Option 1 would impact the behaviour of market players and their will to engage in some transactions, thus potentially impacting the liquidity of some market segments and may generate a significant number of buy-ins to be handled, particularly for less liquid instruments. • Option 2 would limit the impact on the market but may be less efficient as a fail on liquid instruments may be cured in a shorter period of time, and so such a long extension period may lead to instances of market turbulence and price

	changes.
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Impact of the proposed policies

Option 1	See Option 1 in the “Objective” table above.
	Description
<i>Benefits:</i>	This option is generally consistent with existing market practices on transactions cleared on most CCPs across Europe for on-exchange transactions, and should improve settlement efficiency on pure OTC markets. Ensures an integrated market for securities settlement, with common and consistent requirements for all securities settlement.
<i>Compliance costs:</i>	<p>Compliance costs would consist of:</p> <ul style="list-style-type: none"> • Investments to automatise the management of buy-ins, especially for OTC markets; • On-going costs for managing an increased number of buy-ins, which could also be passed on to other market players in a chain of transactions. <p>Compliance costs should be significant.</p> <ul style="list-style-type: none"> • They should be non-existent on on-exchange or CCP-cleared markets already compliant; • They should be limited, on some other on-exchange markets, when there is no market maker scheme, and some CCP-cleared OTC markets where there is only a gap of one day. • The impact should be significant on on-exchange markets where there is a market maker scheme, as the extension period would be reduced by seven days, which may refrain some sell-sides from offering liquidity on securities considered less liquid. • The impact should be significant on some CCP-cleared markets, where the current extension period would be reduced by three to 26 days, thus rendering more transactions eligible to buy-ins. • The impact should be much higher for pure OTC markets, cleared bond markets and for exchange-traded funds, where buy-in procedures are initiated on a voluntary basis by the suffering party, and may generate a significant number of additional buy-ins compared to today.
<i>Indirect costs:</i>	<p>This option may impact:</p> <ul style="list-style-type: none"> • Markets with market-maker schemes where such option may lower the liquidity of some instruments for fear of buy-ins. But the direct impact of the draft RTS on CSDR may yet not be the major issue here, as some market players are already considering such decisions due to higher capital charges on these activities;

	<ul style="list-style-type: none"> • Some lenders, who may refrain from engaging in SFTs. The impact may be limited if the near-leg of these transactions were excluded as lenders may be less exposed, but could be significant otherwise; • Potentially, this practice could induce market players to look for alternatives to trading where those requirements do not apply (ex: non-EU markets). • There is a risk that the short timeframe will be too short for illiquid instruments, and those such as sovereign bonds which often trade in high volumes with a different settlement pattern to instruments such as shares. The option of four day extension period for all may lead to more trades that fail to settle and this is a cost which needs to be considered when considering the first option.
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Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	<p>This option may improve settlement efficiency, but to a lesser extent than Option 1 as it is less stringent and reduce the number of buy-ins that occur. The longer timeframe to deliver is appropriate when considering the liquidity of instruments such as bonds settled in currencies other than those of EU member states, and also sovereign bonds more widely which have different settlement patterns and often are traded in large volumes.</p> <p>This option would be less consistent with existing market practices on transactions cleared on most CCPs across Europe for on-exchange transaction.</p>
<i>Compliance costs:</i>	Compliance costs will be similar to Option 1, however it is likely there will be less buy-in episodes and so the buy-in costs will be reduced.
<i>Indirect costs:</i>	The indirect cost of having a seven day extension period relates to liquid instruments, whose price may move considerably during the timeframe, particularly if trades are not settling. This could be of a significant detriment to someone trading liquid instruments, in the seven day extension period they may be forced to enter a transaction that does not offer them similar value to that which they had intended to partake in.

Option 3	<i>See Option 3 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option creates an appropriate extension period for liquid shares and also an appropriate extension period for other instruments which for

	various reasons require a longer extension period. There should be minimal market disruption, in the form of the effects of price movement for liquid instruments, and there should be adequate time for other instruments to achieve settlement. The approach takes into account specific structural issues related to the non-share asset classes.
<i>Compliance costs:</i>	Compliance costs would be of a similar nature compared to Option 1. The cost of the buy-in procedure will be managed by ensuring extension periods are appropriate for the instruments that are being traded.
<i>Indirect costs:</i>	The indirect costs referred to in Options 1 and 2 should be mitigated through this option with a more granular approach.

Buy-in process timeframes

The purpose of the articles relating to the timeframe to deliver the securities is to ensure requirements are in place for the timely delivery of financial instruments following a buy-in process, including after a deferral period if applicable.

4.2.5 What are the appropriate timeframes for the delivery of the financial instruments following a buy-in process?

Objective	To ensure the implementation of an appropriate buy-in mechanism to enhance global settlement efficiency and to allow for sufficient time for the provision of the financial instruments, reducing potential periods of uncertainty that relate to the receipt of financial instruments following a buy-in process.
Option 1	Delivery period of 4 business days for all financial instruments. . Where it has been chosen to defer the execution of the buy-in, the timeframe for delivery of the financial instruments should also take into account the deferral period and hence be 4 business days longer.
Option 2	Delivery period of 7 business days for all financial instruments. Where it has been chosen to defer the execution of the buy-in, the timeframe for delivery of the financial instruments should also take into account the deferral period, and hence be 7 business days longer.
Option 3	Delivery period of 4 business days for shares with a liquid market, and 7 business days for all other financial instruments (including those traded on SME growth markets). Where it has been chosen to defer the execution of the buy-in, the timeframe for delivery of the financial instruments should also take into account the deferral period and hence be 4 business days longer for shares with a liquid market, and 7 business days longer for all other financial instruments.

Preferred Option	Option 3 is the preferred choice as it takes into account the asset type and liquidity of the financial instruments.
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Impact of the proposed policies

Option 1	See <i>Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	Ensures instruments are traded promptly and the market is effective. Participants will be able to make decisions on future transactions, comfortable that they will receive their instruments quickly.
<i>Costs to other stakeholders:</i>	There is a risk of failure and other stakeholders will be affected if an instrument is not received in good time and then it needs to be delivered within four days. Some instruments will take longer to settle than others and this will have a knock on effect.

Option 2	See <i>Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	Brings consistency to delivery times and allows for less liquid shares, those with longer settlement patterns and orders with larger ticket sizes to be executed fully before they need to be delivered.
<i>Compliance costs:</i>	There will be a compliance cost here, but it will not be as expensive as that which would be involved in Option 1.
<i>Indirect costs:</i>	There is no specific different cost associated with a seven period is not aligned with the extension period timeframe. In addition this approach does not consider the liquidity of different types of financial instruments and this could reduce the effectiveness of this option.

Option 3	See <i>Option 3 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	<p>This option ensures a streamlined and efficient implementation of the requirements. This is in line with the proposed extension period in the draft RTS and takes into account the asset type and liquidity of the financial instruments.</p> <p>Where shares have a sufficiently liquid market to be easily sourced, the period for delivery of the financial instruments should be shorter (4 days + another 4 business days in case the execution of the buy-in is deferred), in order to provide an incentive to the relevant parties to settle failed transactions in a timely manner. To the contrary, shares that do not have a liquid market should benefit from a longer period of 7 business days + another 7 business days in case the execution of the</p>

	<p>buy-in is deferred. Debt instruments should also benefit from a longer delivery period given their greater cross-border dimension or importance for the smooth and orderly functioning of the financial markets, allowing more time to the relevant parties to obtain the assets that failed to be settled.</p> <p>SME growth market instruments represent a specific category of financial instruments as considered in the CSDR. They should therefore also benefit from a longer delivery period of 7 business days + another 7 business days in case the execution of the buy-in is deferred.</p>
<i>Compliance costs:</i>	There would potentially be smaller compliance costs than for the other two options because there should be fewer instances of trades that cannot be delivered and so on an on-going basis there would be savings in compliance.

CALCULATION OF THE CASH COMPENSATION

The following information gives an indication of the existing market practices where cash compensation is provided in the event of a settlement fail.

For transactions executed on a trading venue, the following mechanisms apply to calculate cash compensation at the 11 CCPs which were sampled by the external consultant:

Entity	Scope of instruments & geographies	Type of transaction	Cash compensation % counter value of securities (when relevant)	Cash compensation: Base price / Formulae
CCP 1	Stock exchange transactions	On-exchange	N/C	N/C
CCP 2	Equities	On-exchange	NONE	Bonus = the highest of: a) No. of securities*Reference price of the day preceding the buy in * 2 times the margin interval applying to equities with a minimum of 10%. B) (No. of securities * Reference price of the last day of the buy-in period) - original counter value of the position
CCP 3	Stock exchange transactions	On-exchange	120%	N/C
CCP 4	Stock exchange transactions	On-exchange	N/C	N/C
CCP 5	Stock exchange transactions	On-exchange	N/C	N/C

CCP 6	Equities under SSR	On-exchange	200%	Two times the highest of - settlement price, highest selling price, highest purchase price
CCP 7	Equities under SSR	On-exchange	200%	Two times the highest of - settlement price, highest selling price, highest purchase price
CCP 8	Trading venues without market maker schemes	On-exchange	120%	Last available closing price
CCP 9	Trading venues with market maker schemes	On-exchange	120%	Last adjusted traded price of the ISD+4 of the security in question, trading priced received from the data provider
CCP 10	Equities not under SSR, Fixed income and ETF	On-exchange	NONE	EQUITIES: the highest of, a) the settlement price of the respective class of securities as determined by Eurex Clearing A G plus a premium of 100%, b) the selling price on FWB, c) the purchase price on FWB. FIXED INCOME: same + 300 basis points.
CCP 11	Trading venues with market maker schemes	On-exchange	120%	Last available closing price

Table created by the external consultant using information gathered using previously mentioned techniques

Different reference prices are used by different CCPs, for example:

- Settlement price of the transaction;
- Settlement prices available at the CSD for the asset class;
- Last available market price;
- Market price either of the day preceding the buy-in, or of the last day of the extension period;
- Bid & Ask prices.

In addition, existing mechanisms to calculate cash compensation involve:

- Either a factor applied to the base price (120 to 200%);
- Or the calculation of a bonus on top.

Most CCPs charge buy-in fees on top.

For OTC transactions, the following mechanisms for calculating cash compensation apply at the CCPs included in the external consultant's sample:

Entity	Scope of instruments & geographies	Type of transaction	Cash compensation: % counter value of securities (when relevant)	Cash compensation: Base price / Formulas
CCP 12	Securities lending fixed term Bonds (optional, excluding front legs)	OTC		The settlement price of the underlying securities as determined by the CCP, plus 300 bp.
CCP 13	Securities lending fixed term Bonds (optional, excluding front legs)	OTC		The settlement price of the underlying securities as determined by the CCP, plus 300 bp.
CCP 14	Securities lending fixed term Equities (optional, excluding front legs)	OTC	200%	2 times the Settlement Price of the Underlying Securities determined by the CCP.
CCP 15	Securities lending fixed term Equities (optional, excluding front legs)	OTC	200%	2 times the Settlement Price of the Underlying Securities determined by the CCP.
CCP 16	Convertible bonds, warrants, units of close-end funds, units of open-end funds, securitized derivatives financial instruments	OTC	N/A	Bonus = the highest of: A) (Nominal value*Reference price of the day preceding the buy-in + accrued coupon of the day preceding the buy-in)*2 times the margin interval with a minimum of 10%. B) (Nominal value*Reference price of the last day of the buy-in period + accrued coupon of the last day of the buy-in period) - original counter value of the position.
CCP 17	Bonds	OTC	N/A	The highest of: - the settlement price determined by the CCP for the corresponding security class - the selling price - the purchase price of the respective transaction + 300bps + accrued interest.
CCP 18	Repos	OTC	N/A	The highest of: - the settlement price determined by the CCP for the corresponding security class - the selling price - the purchase price of the respective transaction +300 bps + accrued interest + the applicable repo rate.
CCP 19	Bonds	OTC	N/A	Bonus = 10% of the original counter value of the position valued on the basis of the market price on day S +13.
CCP 20	Bonds and Repos	OTC	110%	Last Settlement Price available at the evening of D + 13 Clearing Day.

Table prepared by the external consultant based on the information collected using the previously referred to techniques

Reference prices used differ and are equivalent to those used for stock exchange transactions.

In addition, some existing mechanisms exist for cash compensation calculation including:

- Either a factor applied to the base price (110% to 200%);
- Or the calculation of a bonus on top.

There are a number of factors which can be considered in the calculation of the cash compensation. To some extent these are objective factors such as corporate entitlement and accrued interest which may not already be factored into market prices of financial instruments.

With regards to these factors it is necessary to consider whether the difference between the initial price of the trade and the current price ensures that the provision does not allow for the failing participant to benefit from the settlement fail.

Other potential factors which may deserve consideration in the calculation of the cash compensation include funding and other operational costs, foreign exchange exposure and liquidity risk of the CCPs. This applies to most cases of trades where cash compensation must be performed for securities with low liquidity. This would reflect the risk of receiving parties not being able to execute replacement purchases (assuming there is still a commercial reason to buy the concerned financial instrument) without any loss by using the received cash compensation.

There are also indications that without the use of a risk-based component for the cash compensation, risk will be increased for CCPs who will therefore change their risk profiles accordingly.

In some markets, e.g. the Italian bond market, the market price does not include accrued interest or corporate entitlements. It is therefore necessary to consider whether the cash compensation should include a mark up to cover exchange rates variation, accrued interest or corporate entitlements that would not be reflected in the market price.

It is also important to ensure that a simple reference to risk based cash compensation does not introduce too much flexibility on the price to be used, which may be difficult to address through supervisory convergence tools. Based on this the following cost-benefit analysis was conducted.

4.2.6 How should the amount of the cash compensation be calculated?

Objective	To ensure that adequate cash compensation is calculated.
Option 1	Always request a third party to provide a specific calculation formula and reference price to be used in all scenarios.
Option 2	Use a straightforward formula for calculating cash compensation, 120% of the base price of the non-delivered financial

	instruments.
Option 3	The cash compensation shall be based by taking into account the market value of the relevant financial instruments , including a component reflecting exchange rates variation as well as corporate entitlements or accrued interest, where not already included in the market value of the financial instrument.
Preferred option	<ul style="list-style-type: none"> • Option 1 would place the liability for the calculation of the cash compensation on third parties. • Option 2 would provide for a straightforward formula to be used in all cases. • Option 3 ensures a consistent and more tailored method for calculating the cash compensation. The inclusion of a mark-up will cover objective factors i.e. exchange rates variations, corporate entitlement and accrued interest if not already accounted for in the market price. <p>Option 3 is the preferred option, as it ensures a consistent and more tailored calculation of cash compensation, that takes into account other components that may influence the market value, for example potential corporate entitlements and accrued interest when carrying out the calculation.</p>

Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would rely on the use of third parties.
<i>Compliance costs:</i>	On an on-going basis this approach should not be costly to use.
<i>Indirect costs:</i>	In unique circumstances the costs/reference prices may be skewed by unusual market circumstances and this could be detrimental to receiving parties.

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This approach will ensure that a consistent and simple method is used to calculate cash compensation.

<i>Compliance costs:</i>	This option will have limited compliance costs as it will generally involve a straightforward process that follows a simple formula for calculation of cash compensation.
<i>Indirect costs:</i>	In unique circumstances the costs/reference prices may be skewed by unusual market circumstances and this could be detrimental to receiving parties.

Option 3	<i>See Option 3 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option ensures a consistent and tailored method for calculating the cash compensation. The inclusion of a mark-up will cover objective factors <i>i.e.</i> exchange rates variations, corporate entitlement and accrued interest if not already accounted for in the market price.
<i>Compliance cost:</i>	Compliance costs may be higher than for the other two options. This option would involve identifying the market prices of the relevant financial instruments to determine the appropriate level of cash compensation. Markets would need to be checked to determine which market was most liquid for the relevant securities.

4.2.7 Which market should be used to determine the prices used in the calculation of cash compensation?

The market used as a reference for pricing the cash compensation must be appropriate. Consideration may be made to available stakeholders having access to the reference market used, and also the need for a pricing mechanism that ensures all transactions in the European Union are subject to a consistent mechanism for the calculation of the cash compensation.

Objective	To ensure that the calculation of the cash compensation provides a figure that accurately reflects the value of the financial instruments in question.
Option 1	Determine the price of the financial instruments by considering the closing price of the most relevant market in terms of liquidity as per Regulation (EU) No 600/2014 or, if not available, a price calculated using a pre-determined methodology approved by the competent authority of the CSD that refers to criteria related to market data including market prices available across trading venues or investment firms.
Option 2	Determine the price of the financial instruments by considering the market/markets to which the buy-in agent or the CCP has access to.
Preferred option	Option 1 – This option ensures the most accurate and up to date

	market value is being used for the calculation of cash compensation.
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Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	This option would take into account all relevant trading venues and market prices to achieve an up-to-date indication of the market value of financial instruments for which cash compensation is being provided. This approach ensures a common approach that is the same for similar financial instruments in all CSDs. It is important as it helps create a single post-trade market, wherever the CSD is located in the Union, the same price should be used to determine cash compensation. A similar approach was proposed in ESMA’s CSDR Technical Advice (TA) on the level of cash penalties for settlement fails, according to which CSDs should use a common approach that ensures the relevant price would be the same for similar financial instruments in all CSDs.
<i>Compliance costs:</i>	The parties responsible for sourcing the market price would need to conduct appropriate research across a wider range of sources to find the most liquid relevant market and the price to use. This will be more costly than only reviewing the market prices of the financial instruments for trading venues and brokers that the buy-in agent/CCP has direct access to.
<i>Indirect costs:</i>	The requirement to review prices from a wider range of sources may slightly delay the time taken to calculate a market value.

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	Ensures that only the prices from trading venues to which CCPs or buy-in agents have access are considered when calculating the cash compensation, which would be less burdensome and costly..
<i>Compliance costs:</i>	The costs of meeting the requirements may be smaller than for option one.
<i>Indirect costs:</i>	This option may lead to different levels of cash compensation for the same financial instruments when trades fail which are for similar volumes/at similar times. This goes against the principle of fostering a single post-trade market in the Union.

CHAIN OF TRANSACTIONS – INEFFECTIVE BUY-IN PROCESS

As part of the cost-benefit analysis for the CSDR Technical Standards, information was received from market participants and trade bodies in relation to the proposed requirements of the CSDR. With respect to those operations and timeframes which may render a buy-in ineffective there were a number of points raised which were particularly relevant. It is important to recognise the difficulties that such requirements would impose upon transactions such as those for securities financing. Some respondents to the consultation felt that the first leg of all securities financing transactions (SFTs) should be exempt from mandatory buy-in requirements on the grounds that it would affect the smooth and orderly functioning of the repo market. ESMA also considered studies conducted by industry trade bodies which evaluated the impacts of the buy-in process.

With this in mind the following options were considered by ESMA to address the issue and to ensure that the buy-in requirements only applied to those transactions where they would add value to the existing situation across the European markets involved.

Repo and securities markets play a key role in supporting both market liquidity and settlement efficiency, allowing market makers to make offers to investors in securities that they may not necessarily be holding on their books. They allow for the hedging of settlement risk and ensuring the settlement of trades in the event of a fail. If SFT markets are impaired there is a risk that there would be considerable negative consequences both for secondary market liquidity and settlement efficiency.

SFTs are high in volume, involving low margins and low risks. Therefore lenders and intermediaries are extremely sensitive to increases in their costs. Buy-ins can result in significant costs to counterparties being bought in. From the perspective of a lender or an SFT intermediary the cost of a buy in, even if afforded very low probability, would likely outweigh the potential income from engaging in SFT activity, and so ESMA has a responsibility to ensure the CSDR manages this sensitivity with a proportionate scope for the buy-in transactions.

4.2.8 When can the buy-in process be deemed ineffective?

Objective	To ensure that the buy-in process is only used in situations where it will enhance settlement efficiency.
Option 1	Consider that buy-ins will be ineffective in a chain of complex transactions (repos, securities lending), where the second settlement instruction settles within 30 business days from the first transaction.
Option 2	Consider that buy-ins will be ineffective in a chain of complex transactions (repo, securities lending), where the second settlement transaction settles within 7 business days from the first transaction.
Preferred Option	- Option 1 would be effective, and would allow for higher

	<p>settlement efficiency as it would reduce unnecessary buy-ins.</p> <ul style="list-style-type: none"> - Option 2 would reduce unnecessary buy-ins however a one-week timeframe is not long enough to avoid complications with some transactions which are not expected to settle. <p>Option 1 is preferred as it would better answer the need to limit ineffective buy-in procedures.</p>
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Impact of the proposed policies

Option 1	<i>See Option 1 in the “Objective” table above.</i>	
	Qualitative description	Quantitative description
<i>Benefits:</i>	<p>There are circumstances where buy-ins are ineffective. Although it would be possible to execute a buy-in, it would serve no purpose. A thirty day period will be long enough to cover the time taken for the majority of securities lending including repo transactions which should not be included in the buy-in process as it would be ineffective. Therefore a thirty day timeframe will ensure that only the relevant transactions are required to undergo buy-ins in the extension periods are exceeded.</p>	<p>In comparison to option 2, it is estimated that extending the cut-off threshold for SFT exemption to 30 calendar days) would bring another 25% of the repo market out of scope, reducing the overall cost to market users by around EUR 2 bn. Only 20% of the EUR 5.8 tr. European repo market will fall within this 30 day proposal. Based on data provided by trade bodies this would reduce the cost of the regulation to repo market users by at least EUR 2 bn. per year (based on current market size and structure).</p>
<i>Indirect costs:</i>	<p>Mandatory buy-ins will substantially increase costs of market makers and investors active in institutional lending and repo markets. It may reduce market liquidity and supply of inventory for lending (which may impact the ability to cure fails). Those participants that are active in this market will be driven toward shorter dated and open SFTs, liquidity will reduce in the market – but not to the extent envisaged in Option 2.</p>	<p>There is no quantitative data available to evidence the indirect costs of this option.</p>

Option 2	<i>See Option 2 in the “Objective” table above.</i>
	Description
<i>Benefits:</i>	A seven business day timeframe between the first settlement in a chain and the second settlement in a chain will remove a small percentage of SFTs from the requirement to meet the buy-in obligations.
<i>Indirect costs:</i>	Effectively the same indirect costs will exist as for option one, however they will be more prominent for option two because of the larger scope of the transactions caught by the buy-in requirement. This would increase bond market offer prices significantly across all fixed income asset classes, including those considered most liquid. Market makers will retrench from providing offer-side liquidity altogether for less liquid bonds. This will lead to an annual cost to investors and other markets users. There will be a widening of the bid-offer spread for around 45% of the European repo market for the most liquid securities.

4.3 Suspension upon systematic delivery failure

Cases observed by CSDs

Data collection methodology: answers to Equinox-Cognizant’s questionnaire by CSDs and CCPs.

Participants mentioned the occurrence of such cases over the last 5 years as rare or inexistent, nor did provide figures as systems usually do not track and store information on such cases. Actual occurrences were mentioned by 2 CSDs.

No specific failures were reported in stressful periods experienced over the last years, such as the failure of Lehman.

The following reasons were mentioned by CSDs as explanations for such cases:

- Temporary issue because of system failures after upgrade;
- Temporary communication problems experienced between front-offices, back-offices and counterparts;
- Technical important failure rates due to remote participants with very low number of fails experiencing difficulties (ex: technical difficulties) thus exceeding fail rates threshold.

Cases observed by CCPs

Participants did not experience such cases over the last 5 years.

The following reasons were mentioned by CCPs as explanations for such cases:

- Delay in receiving the confirmations from clients/custodians, specifically from non-residents

- Delay in receiving the securities in a cross border context (due to different timings for settlement cycles processing),
- More segregated account structure at CCP level resulting in increasing number of settlement instructions and decrease on the efficiency level.
- Periods of market volatility
- Corporate actions processing
- IT systems disruption

4.3.1 Which conditions should be considered for the suspension of a failing participant?

Objective	Determine adequate criteria which could trigger the right for a CSD, CCP or trading venue to suspend, in consultation with their competent authorities, a systematically failing participant.
Option 1	Impose a certain threshold combining volume and value of settlement fails above which a participant would be considered as systematically failing: <ul style="list-style-type: none"> - A rate of settlement efficiency that is at least 15% lower than the rate of settlement efficiency of the securities settlement system over the last 12 months during at least a relevant number of days, - The “relevant number of days” being determined for each participant as 10% of the number of days of activity of that participant in the SSS over the last 12 months.
Option 2	Same as Option 2 but with a threshold set at 25% lower than the rate of settlement efficiency of the securities settlement system. This threshold could be progressively reduced.
Preferred Option	Option 1 appears preferable to ensure an appropriate and consistent method to identify systematically failing participants, while imposing a more stringent discipline on market participants.

Option 1	<i>See Option 1 in the “Objective” table above.</i>
<i>Benefits</i>	This option would ensure that the activity of participants is monitored in a consistent way across the European Union. In the definition of the rate of settlement efficiency, combining both the volume and the value of the settlement fails should allow avoiding that a few large settlement fails cause the threshold to be breached.
<i>Costs to regulator</i>	This Option may have slightly lower costs than Option 2 for the regulators, as they would not need to monitor and adjust the threshold.

<i>Compliance costs</i>	This option would require adjustment in the monitoring tools of the CSD and a dedicated team to monitor participants especially for those who have a high number of participants.
Option 2	<i>See Option 2 in the “Objective” table above.</i>
<i>Benefits</i>	None in terms of market efficiency. This progressive approach would allow market participants to have sufficient time to undertake the system, organizational and processing changes internally.
<i>Costs to regulator</i>	Same as Option 1, but this option would not allow covering as many fails as Option 1, eventually leaving more disciplinary work for the regulator.
<i>Compliance costs</i>	Lower than Option 1 at the beginning, given that the threshold will be set at a level with no material impact.