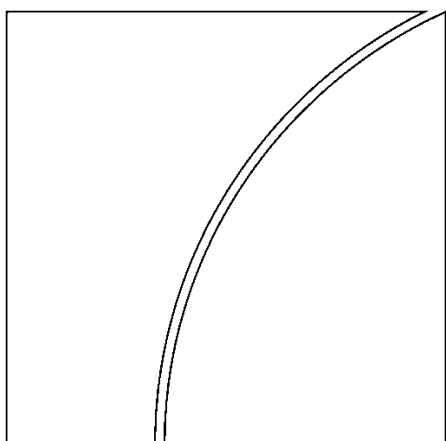


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Recovery and resolution of financial market infrastructures

Consultative report

July 2012



BANK FOR INTERNATIONAL SETTLEMENTS



IOICU-IOSCO

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This report is being issued now for public consultation. Comments should be sent **by 28 September 2012** to both the CPSS secretariat (cpss@bis.org) and the IOSCO secretariat (fmiresolution@iosco.org). The comments will be published on the websites of the BIS and IOSCO unless commentators have requested otherwise.

A cover note, published simultaneously and also available on the BIS and IOSCO websites, provides background information on why the report has been issued and sets out some specific points on which comments are particularly requested.

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1. Introduction

1.1 In November 2011, the G20 endorsed the Financial Stability Board's (FSB's) *Key Attributes of Effective Resolution Regimes for Financial Institutions* (henceforth, the *Key Attributes*).¹ The *Key Attributes* set out the core elements that the FSB considers necessary to establish a regime for resolving financial institutions without severe systemic disruption and without exposing taxpayers to loss. In the case of financial market infrastructures (FMIs), the *Key Attributes* expressly require that resolution regimes be established in a manner appropriate to FMIs and their critical role in financial markets.²

1.2 FMIs play an essential role in the global financial system. The disorderly failure of an FMI can lead to severe systemic disruptions if it causes markets to cease to operate effectively. Ensuring that FMIs can continue to perform critical operations and services as expected in a financial crisis is therefore central to the recovery plans they formulate and the resolution regime that applies to them. Maintaining critical operations should allow FMIs to serve as a source of strength and continuity for the financial markets they serve. This aim is all the more necessary given the commitment made by G20 Leaders in 2009 that all standardised over-the-counter (OTC) derivatives should be cleared through central counterparties.

1.3 To support this G20 commitment, the FSB identified four safeguards to help establish a safe environment for clearing OTC derivatives through a global framework of CCPs. One of these safeguards is to establish effective resolution regimes.³ This report supports that safeguard by providing guidance on the essential features of recovery and resolution regimes necessary to ensure that the core functions of CCPs, and other types of FMI, can be maintained during times of crisis and in a manner that considers the interests of all jurisdictions where the CCP is systemically important.

1.4 The purpose of this report is therefore to outline the features of effective recovery and resolution regimes for FMIs in accordance with the *Key Attributes* and consistent with the principles of supervision and oversight that apply to them. In doing so, the paper should also help develop a common understanding of FMIs' recovery and resolution in all relevant jurisdictions, and a common interpretation of how the *Key Attributes* apply to the recovery and resolution of FMIs. This report does not, however, provide a comprehensive analysis of, or solution to, all the complex and wide-ranging issues that apply to the recovery and resolution of FMIs. Instead it presents a number of questions, and seeks views on the alternative ways in which these issues can be addressed. These questions relate, in particular, to the methods, scope and extent of loss allocation arrangements that are an essential part of recovery and resolution for some types of FMI.

¹ The FSB report *Key Attributes of Effective Resolution Regimes for Financial Institutions* is available at http://www.financialstabilityboard.org/publications/r_111104cc.pdf.

² For the purposes of this report, FMIs are systemically important payment systems, central securities depositories (CSDs), securities settlement systems (SSSs), central counterparties (CCPs) and trade repositories (TRs), as defined by and subject to the CPSS-IOSCO *Principles for Financial Markets Infrastructure*.

³ The four safeguards identified by the FSB in January 2012 are: (i) fair and open access by market participants to CCPs, based on transparent and objective criteria; (ii) cooperative oversight arrangements between all relevant authorities, both domestically and internationally, that result in robust and consistently applied regulation and oversight of global CCPs; (iii) resolution and recovery regimes that ensure the core functions of CCPs are maintained during times of crisis and that consider the interests of all jurisdictions where the CCP is systemically important; and (iv) appropriate liquidity arrangements for CCPs in the currencies in which they clear.

1.5 “FMI” is a term that encompasses a broad range of different providers of infrastructure services to markets and market participants. These services include the recording, clearing and settlement of payments, securities, derivatives and other financial transactions. Different activities can expose FMIs to fundamentally different types and levels of risk, including legal, credit, liquidity, general business, custody, investment and operational risks. In particular, a key distinction exists between FMIs that take on credit risk as principal (such as CCPs) and those that do not (such as TRs). The nature of the FMI and the risks it faces will determine the necessary scope and features of its recovery plans and the appropriate tools to be applied in a resolution.

1.6 In April 2012, CPSS-IOSCO published the *Principles for financial market infrastructures* (henceforth, the *Principles*).⁴ The *Principles* are designed to ensure that FMIs operate safely and efficiently in normal circumstances and in times of market stress. They require robust risk controls and contingency plans appropriate to the critical role played by FMIs in preserving financial stability. FMIs are unlike most other forms of financial institution in that they will typically have rules and procedures which are binding on their participants and which can enable them to establish arrangements to recover from financial shocks. For example, the *Principles* require CCPs to have rules and procedures to allocate uncovered losses. An FMI is therefore less likely to reach the point where it needs to be resolved by the relevant authorities. Nevertheless, the possibility of it reaching such a point cannot be ruled out. Given the critical nature of an FMI’s functions, it remains essential that an effective resolution regime can be applied so that the choice is not simply between taxpayer support and liquidation.

1.7 This report has six sections. Following this introduction (Section 1), the report addresses the relationship and continuity between the *Key Attributes* and the *Principles* (Section 2), recovery and resolution approaches for different types of FMI (Section 3), the interpretation of the *Key Attributes* as they apply to FMIs (Section 4), cooperation and coordination among relevant authorities (Section 5), and CPSS-IOSCO’s key conclusions (Section 6). The report is supplemented by an Annex which provides CPSS-IOSCO’s interpretation of each Key Attribute as it relates to FMIs and is intended to be read in tandem with Sections 3, 4 and 5 of the report.

2. Relationship and continuity between the *Key Attributes* and the *Principles* – main observations

2.1 Consistent with the *Key Attributes* and the *Principles*, there are six important general areas for avoiding and mitigating systemic risk through strong recovery and resolution capabilities.

Preventive measures and recovery planning

2.2 The resilience of FMIs to shocks and their ability to recover from them relies on FMIs (a) maintaining sufficient financial resources in sufficiently liquid form to withstand financial shocks, (b) developing a sound process for replenishment of financial resources that may be called upon in a stress event, and (c) designing effective strategies, rules and procedures to address losses. These preventive and recovery measures include plans for allocating uncovered credit losses and liquidity shortfalls, as well as maintaining viable plans

⁴ Available at www.bis.org/publ/cpss101.htm.

for restoring an FMI's ability to operate as a going concern or to wind down its operations in an orderly manner. Implementation of the *Principles* addresses prevention and recovery.

2.3 The primary responsibility for planning and implementing an FMI's recovery rests with the FMI itself. An FMI needs to develop comprehensive, substantive plans that identify critical operations and services, scenarios that may potentially prevent the FMI from being able to continue as a going concern, and the strategies and measures necessary to ensure continued provision of critical operations and services should those scenarios occur. The relevant authorities should ensure that FMIs have those plans in place.

Oversight and enforcement of preventive measures and recovery plans

2.4 An FMI that observes the *Principles* and their associated preventive measures and has in place well designed recovery plans is more likely to avoid problems and to be able to address those that do occur without public intervention. Accordingly, the *Principles* must be implemented, assessed and enforced in practice. This requires jurisdictions to incorporate the *Principles* into their respective regulatory frameworks and relevant authorities to have the necessary powers to assess observance of the *Principles*. Under the *Principles*, an FMI is required to draw up "recovery plans". An FMI's direct supervisor, regulator or overseer is responsible for ensuring compliance with this requirement and for monitoring and assessing the plans' adequacy. Authorities should continually assess an FMI on the adequacy of these plans (taking into account the risk profiles of both the FMI and its major market participants) and, where deficiencies exist, authorities must have the necessary powers to enforce observance of the *Principles*. Where an FMI is systemically important to multiple jurisdictions or is subject to the authority of multiple supervisors, regulators or overseers, cooperation among the authorities is also needed to carry this out effectively. Implementation of the CPSS-IOSCO responsibilities for authorities (henceforth, the *Responsibilities*) contained within the *Principles* addresses oversight and enforcement of preventive measures and recovery plans.

Activation and enforcement of recovery plans

2.5 If, despite preventive measures, an event occurs or escalates so as to threaten the continuation of an FMI's critical operations and services, the FMI will need to execute its recovery plans designed to address the threat, for example to replenish financial resources, and to maintain observance of the *Principles*.

2.6 Relevant supervisory, regulatory, and oversight authorities should oversee the execution of these plans, coordinating with the authority designated with responsibility for exercising resolution powers (the "resolution authority") as necessary. Coordination and information-sharing among and between all relevant parties are critical to the successful execution of the FMI's plans. It is possible, however, that an FMI's execution of relevant recovery measures may be suboptimal in terms of timeliness, judgment or discretion. In addition, factors such as unanticipated conflicts of interest, uncontrollable external factors and human error could result in poor or inadequate execution. In such cases, the relevant authorities should have the necessary powers to require implementation of recovery measures and drive optimal execution. These powers may include issuing orders, imposing fines or penalties, or even forcing a change of management, as appropriate. These powers are compatible with the *Responsibilities*, especially Responsibility B.

Beyond recovery

2.7 Although the *Principles* attempt to address extreme but plausible financial pressures and stress scenarios, it is possible that an extreme and unforeseen event could create a situation where an FMI's resources, rules and procedures may not be sufficient for it to remain viable as a going concern. Because the traditional bankruptcy process does not have

the preservation of financial stability as an objective and could cause a systemic disruption through delays or cessation of an FMI's critical functions, it is necessary to also have a resolution regime available for use on FMIs. The benefits of such an official regime for FMIs, along with the associated powers and tools, are covered by the *Key Attributes*.

2.8 Accordingly, even if a jurisdiction and its FMIs are in full observance of the *Principles*, a resolution regime covering FMIs should be incorporated in law and appropriately implemented by conferring legal powers on a designated resolution authority to ensure the continuation of an FMI's critical operations and services in circumstances where the preconditions for resolution have been satisfied. This regime should seek to ensure the timely completion of payment, clearing and settlement obligations even on the day that an FMI enters such a regime, pending either (a) the restoration of the FMI's ability to provide those services as a going concern; or (b) the provision of those services by some alternative mechanism by, for example, arranging for the orderly transfer of those functions to another FMI or bridge institution, or by providing participants sufficient time to establish and to move to an alternative arrangement. These actions could entail allocating any shortfall in the FMI's resources required to meet its obligations across participants or other creditors of the FMI. To achieve these outcomes, a statutory resolution regime should provide a resolution authority with a broad set of tools and powers consistent with those in the *Key Attributes*.

Resolution planning

2.9 Primary responsibility for preparing and implementing resolution plans to facilitate the effective use of the resolution authority's powers in accordance with the *Key Attributes* lies principally with the home resolution authority in cooperation with other relevant authorities. These responsibilities are set out in the *Key Attributes* and are compatible with cooperative arrangements established by the *Responsibilities*, particularly Responsibility E. The FMI should be required to provide the authorities with specifically identified data and information needed for the purposes of timely resolution planning. Authorities should review the plans with the FMI to the extent necessary, but they may decide not to disclose them, or parts of them, to the FMI.⁵

Cooperation and coordination with other authorities

2.10 Each of the above elements is enhanced by ex ante and "in the moment" cooperation and coordination between (a) an FMI's regulator, supervisor or overseer, (b) an FMI's resolution authority (if it is different from the FMI's direct supervisor, regulator or overseer) and (c) other relevant authorities, including resolution authorities of the FMI's participants and relevant authorities for the markets that the FMI supports. Such coordination should also take into account the fact that the roles, responsibilities and degree of powers of authorities are distinct in the recovery and resolution phases. Such coordination could promote effective and compatible plans, actions and outcomes in the face of potential combined stresses to FMIs, their participants and the relevant markets. Such cooperation and coordination are envisaged in both the *Key Attributes* and Responsibility E of the *Principles*.⁶

⁵ See Key Attribute 11 and Annex III of the *Key Attributes*.

⁶ See "key consideration 1" in Responsibility E and the reference to resolution authorities in paragraph 4.5.1 of the *Principles*.

3. Recovery and resolution approaches for different types of FMI

3.1 FMIs provide a diverse range of services, each of which can generate substantially different types and levels of risk to the FMI, its participants and to the financial system. The nature, network effects and scale of these services and risks are therefore fundamental to determining the approach that should be taken both to managing that FMI's recovery and – if recovery is not possible – to ensuring its orderly resolution.

3.2 At one end of this spectrum lie FMIs whose principal function involves assuming credit risk. These include CCPs, some SSSs and any deferred net settlement systems that guarantee obligations to their participants. At the other end are FMIs – such as TRs – whose provision of services does not intrinsically expose them to credit risk but which still remain potentially vulnerable to other risks, including legal, general business and operational risks.⁷ In some jurisdictions, payment systems fall into the latter category. Some FMIs may lie between those two ends of the spectrum. It is useful, however, to consider the recovery and resolution approaches that are relevant to FMIs that do not typically assume credit risks, on the one hand, and to identify the additional issues that must be taken into account for those FMIs that do take such risks, on the other.

FMIs that do not take on credit risk

Recovery

3.3 All FMIs, including those that do not ordinarily assume credit risk as a principal in performing their functions, may be vulnerable to financial problems that necessitate recovery or resolution. They are likely to be exposed to general business risks such as revenue shortfalls, or unexpected costs, for example on account of legal claims, operational problems or fraud.

3.4 The *Principles* therefore require all FMIs to have minimum levels of capital resources to address general business risk. In addition, all FMIs need recovery plans to manage circumstances in which these reserves prove inadequate, for example by raising additional resources from participants or shareholders, or ensuring that critical operations and services can continue while the FMI's operations are recovered or wound down in an orderly manner. Where these measures rely upon the obligations of FMI participants, the FMI should seek to ensure that the obligations are clear, understood and legally binding.

Resolution

3.5 Where recovery measures have either failed or are not feasible and the conditions for resolution are satisfied, the resolution authority may decide to use one or more of its resolution powers to ensure continuity of the FMI's critical operations and services.

3.6 Even in the case of FMIs that do not take on credit risk as an integral part of their operations and services, tools appropriate for these tasks will include the use of transfer powers to transfer some or all of the FMI's operations to one or more third parties. Given that there are often few (if any) substitutes for or alternative service providers to a particular FMI, this may limit the number of transfer options available to authorities in resolution and increase their reliance on transfer to a bridge institution pending eventual sale back into private hands. That transfer would need to allow for some actual and contingent liabilities to

⁷ See Section 2 of the *Principles* for an overview of the key risks in FMIs.

be left in the insolvent FMI,⁸ with the insolvent FMI retaining a deferred claim to the proceeds of sale of the transferred operations.

3.7 Alternatively, the resolution authority may determine that its resolution objectives can be met by placing the FMI into some form of public administration such as statutory management, administration or conservatorship, perhaps under the direct or indirect control of the resolution authority. That administration or conservatorship would need to have as its primary objective the continuation of the FMI's critical operations and services at least until they can be transferred or wound down in an orderly manner. The administrator/conservator may need powers similar to those of a standard insolvency practitioner⁹ to suspend or renegotiate contractual arrangements to enable the FMI to recover.

- **In what circumstances and for what types of FMI can a statutory management, administration or conservatorship offer an appropriate process within which to ensure a continuity of critical services?**
- **Are there powers beyond those of a standard insolvency practitioner that a statutory manager, administrator or conservator would require in these circumstances?**

FMI's that take on credit risk

Recovery

3.8 Certain types of FMI take on credit risk as part of their services. CCPs, SSSs that extend credit, and payment or settlement systems that operate on a deferred net settlement basis and in which the system operator provides guarantees to participants due to receive funds or other assets, are typically exposed to credit risk. These FMIs are particularly exposed to risks from default by their participants, and perhaps also to losses on investments that the FMI holds on its own balance sheet as part of providing its services and for the return of which it is liable to participants (for example, investment of cash margin).

3.9 The *Principles* require FMIs to have effective and clearly defined rules and procedures to manage a participant default. A CCP, for example, will typically collect margin, maintain a default fund, and maintain liquid resources to cover its current and potential future exposures and liquidity needs. In the event of a participant default, the CCP can activate its default management process, utilise available resources in order to meet its settlement obligations, and allocate any losses as provided for in its rules and procedures.

3.10 CCPs and other FMIs that take on credit risk have a "waterfall" that determines the order in which different types of resources are drawn upon to absorb losses. One typical, but not universal, waterfall works by drawing first on margin, collateral and default fund contributions belonging to the defaulting participant and subsequently on default fund contributions belonging to non-defaulting participants. Many FMIs also include contributions from the FMI itself (such as a fixed amount or a percentage of share capital or retained earnings) in the default waterfall. Some CCPs and other FMIs that take on credit risk also have certain powers to assess non-defaulting participants for additional contributions if needed. The *Principles* also require a CCP, and any other FMI that faces credit risk, to have

⁸ A transfer of some but not all of the rights and obligations of a counterparty should avoid disrupting a creditor's netting arrangements; see Section 4.15.

⁹ The term "insolvency practitioner" is used to refer to a person or entity which has the authority to administer a bankrupt or insolvent firm in ordinary insolvency proceedings. It includes administrators, debtors in possession, receivers, liquidators, trustees and similar titles.

rules and procedures that address how credit losses in excess of these financial resources would be allocated. That may be through haircuts applied to the margin and collateral owing to surviving participants, and perhaps other participants.

3.11 No matter the precise sequence, participants would be bound by these ex ante rules and the FMI would consequently have contractual arrangements that allowed it to recover from credit losses in many circumstances. This ability to mutualise loss allocation across the FMI's participants via rules and contractual agreements is not generally the case for other financial institutions and offers a valuable protection against failure.

3.12 In the case of a CCP, enabling it to recover from a member default requires not only loss allocation but also re-establishing a matched book. This is critical to ensuring that the CCP can meet its ongoing obligations to surviving participants, and thereby limit the CCP and survivors' exposure to further loss. Re-establishing a matched book is normally achieved by replacing the defaulter's positions, for example selling long positions to (or buying short positions from) surviving participants through an auction process. That auction may involve the CCP paying surviving participants to take on positions that may potentially result in further losses for those acquiring the positions. In a severe stress scenario, however, an auction may not clear at prices consistent with the CCP remaining solvent. In other words, the price demanded by surviving clearing participants to take on the defaulter's positions may exceed the financial resources available to the CCP.

3.13 In principle, if an auction process is not possible, an alternative solution in this scenario would be for the CCP's rules to permit for the termination of any unmatched contracts that could not be sold in auction, with cash settlement of them based on a valuation of the gains/losses (known as "tear-up") to allow for the CCP to remain solvent. For example, the unmatched contracts could be given a final value based on the price at which the most recent variation margin payment obligations from and to participants had been calculated. To the extent that defaulting participants with out-of-the-money positions had been unable to pay variation margin to the CCP, the CCP's obligations and variation margin payments to all in-the-money participants could be haircut pro rata to the size of their variation margin claims.¹⁰ This would have the effect of allocating in full the losses that had been suffered, and limiting exposure to future losses by eliminating unmatched positions or the possibility of further obligations arising on these unmatched positions. All other contracts – probably the vast majority of the contracts cleared – could remain in force. Having this option as a backstop may incentivise active bidding in an auction.

3.14 But applying this selective tear-up option would alter the balance of surviving participants' portfolio positions vis-à-vis the CCP and, consequently, their exposure to the CCP. This selective tear-up may, however, be considered preferable to the alternative of insolvency and tearing up all contracts cleared by the CCP. A complete tear-up would avoid the creation of directional positions vis-à-vis the CCP but would leave participants without the hedges that they had placed through the CCP, and possibly with an unmatched portfolio across the market as a whole. A complete tear-up might also be considered incompatible with the objective of recovery, except, perhaps, to the extent that it enabled the CCP to resume business through accepting new contracts from participants willing to use the CCP once it is no longer encumbered with previous losses.

- **Is tear-up an appropriate loss allocation arrangement prior to resolution of a CCP? If so, in what circumstances?**

¹⁰ This is distinct from "re-bilateralisation", as losses could still be mutualised across all participants owed variation margin.

- **To what extent should the possibility of a tear-up in recovery be articulated in ex ante rules?**
- **Should there be a limit to the number of contracts that are eligible for tear-up?**
- **How should the appropriate haircuts be determined?**

Resolution

3.15 While an FMI's loss allocation rules may act to reduce significantly the risk of resolution becoming necessary, they cannot be guaranteed to be sufficient in all circumstances. Losses may, for example, exceed the contractual limits placed on the mutualisation of losses under the FMI's rules. Or participants may decline to operate via the FMI irrespective of the prospect of recovery.

3.16 If so, and where the triggers for taking the FMI into resolution are satisfied, the resolution authority should have available to it a broad range of resolution tools. Among these, loss allocation supported by statutory powers is likely to be an essential tool if critical services are to be continued. While the FMI's rules would remain the starting point for such loss allocation, loss allocation may need to go further than what is contemplated in these rules.

3.17 This further loss allocation could be implemented through haircutting of margin and by enforcing any outstanding obligations under the FMI's rules to replenish default funds or respond to cash calls. Such methods necessarily involve choices about where losses will fall that have consequences not only for FMI participants but potentially the wider financial system. They also present questions about the degree to which the liability of individual participants should be limited.

3.18 Enforcing contractual obligations to replenish default funds would potentially result in losses being distributed in a different manner to margin-haircutting solutions. Enforcing outstanding cash call obligations might be difficult to implement rapidly with respect to clearing members and more so if extended to indirect participants. Cash calls could also have a destabilising effect, particularly with respect to indirect participants, who often do not have access to credit markets or other sources of liquidity. But any limits in resolution on obligations of direct participants to absorb losses up to the level of their claims would mean that other participants and counterparties, including clients accessing central clearing through a clearing member, and also linked FMIs, may be exposed ultimately to taking a share of losses. While clients may not have a direct contractual relationship with the CCP, their contracts with participants may include provisions for any losses suffered on the participant's contract with the CCP to be passed on to the client. Thus, margin-haircutting solutions are likely to involve losses falling on these clients as well as on the participants.

- **What qualitative or quantitative indicators of non-viability should be used in determining the trigger for resolution for different types of FMI?**
- **What loss allocation methods must be available to a resolution authority, and for which types of FMI? Could or should these resolution powers include tear-up, cash calls or a mandatory replenishment of default fund contributions by an FMI's direct participants? Does it make a difference if the losses are from a defaulting member or are made up of other losses (eg losses in investments made by the FMI)? In what circumstances, and by what methods, should losses be passed on beyond the direct participants – eg to the clients or FMI shareholders – in resolution?**
- **What, if any, special considerations or methods should be applied when allocating losses whose maximum value cannot be capped (eg when allocating potential losses that might arise from open and uncapped positions at a CCP)?**

3.19 Where the FMI has issued debt securities or has significant loans or intragroup balances, loss allocation could potentially also extend to a bail-in of these and other debt claims.¹¹ It may, however, be relatively unusual for FMIs to have such debt instruments, or to have issued them in significant amount.

3.20 Another question for consideration is the point at which equity owners of the FMI should suffer losses. Prior to resolution, the rules of the FMI may have already applied its own waterfall of losses during the attempted recovery by imposing losses on some participants ahead of the equity. Once in resolution, further loss allocation amongst creditors should follow the ranking in insolvency, as the only available alternative course would be liquidation. Equity will therefore typically be written down ahead of debt holders absorbing further losses by creditors. The ranking would reflect the insolvency ranking of the particular FMI ownership and creditor structure (for example, companies limited by shares, or by guarantee). The determination of that creditor structure for the purposes of the ranking may itself be effected by the terms agreed with creditors under the FMI's rules or other contracts, if they are legally effective under the national insolvency law either to subordinate or prefer certain types of creditor in insolvency. By respecting these hierarchies, losses imposed on creditors in resolution should be no worse than they would be in insolvency and are likely to be better than in circumstances where the FMI's operations cease and its assets are liquidated.

3.21 Imposing losses on equity holders may lead to complications for resolution in some circumstances – for example, where the owner of the FMI operates not only the service in which a participant default has occurred and for which resolution is necessary, but also operates other critical FMI services. In these cases, wiping out the FMI's equity might necessitate the resolution of other critical market services that it runs.

- **How should equity in FMIs be treated in resolution scenarios: should it be written down in all circumstances?**
- **Are there circumstances in which loss allocation in resolution should result in a different distribution of losses to losses borne in insolvency? Does it make a difference if the losses stem from a defaulting member or are made up of other losses (eg losses in investments made by the FMI or resulting from operational risks)?**
- **Should an FMI's rules for addressing uncovered losses be taken into account when calculating whether creditors are no worse off in resolution than in liquidation?**

3.22 Loss allocation is not the only important resolution tool. As in the case of non-risk-taking FMIs, the resolution authority may need to use its legal powers to transfer some or all of the FMI's operations or ownership to a third-party purchaser or – if no appropriate purchaser is available – to a publicly owned bridge institution for a temporary period prior to eventual sale or wind-down. The application of these resolution tools to FMIs is set out in more detail in Section 4.

3.23 In the case of any resolution, a stay on early termination rights may be essential to an effective resolution. The exercise of early termination rights by a large number of participants triggered by the commencement of resolution measures could place a huge further strain on the financial and operational resources of the FMI and could prevent it from continuing critical operations and services. In the case of a CCP, there is also an increased risk that if some of the participants exercise early termination rights, the CCP may no longer have a “matched book”. The unmatched book would create further market risk for the CCP

¹¹ See Sections 4.13 and 4.14.

and in turn make it more difficult for the resolution authority to achieve an outcome that preserves financial stability. A power to impose a stay on exercising termination rights can also be an important tool where an FMI is reliant upon services provided by an external third party for continuity of critical services (eg IT services). But, as is described in Section 4, a stay on early *termination* rights should be distinguished from a stay on other contractual obligations.

- **Are there any circumstances in which the ability to exercise termination rights as a result of the use of resolution powers should outweigh the objective of ensuring continuity?**
- **Are there any circumstances in which a temporary stay on exercising termination rights should apply for any event of default and not just where triggered by the resolution measures?**

4. Important interpretations of the *Key Attributes* when applied to FMIs

4.1 This section offers a general summary of some of the core components of the *Key Attributes* for effective resolution and highlights those areas where their application may vary in the context of different kinds of FMI. (However, Key Attributes 7 to 9 are covered in Section 5.)

4.2 The Annex to this report provides a detailed analysis of each Key Attribute and its applicability to FMIs. It demonstrates that, subject to a small number of exceptions, the *Key Attributes* are applicable to all FMIs to a greater or lesser extent. Of these exceptions, some are due to purely technical reasons – for example, there is no need for the provisions of a resolution regime applying to FMIs to have objectives to protect depositors or insurance policyholders. For others, however – such as the power to impose a moratorium on payment obligations – the reasons for the exception are more substantive.

Resolution authority (Key Attribute 2)

4.3 An effective resolution regime requires a designated resolution authority to implement it. Key Attribute 2 identifies seven key areas (Key Attributes 2.1 to 2.7) for the resolution authorities, including clearly designating the administrative authority or authorities responsible for exercising the resolution powers; objectives for resolution authorities; and the ability to enter into agreements with resolution authorities in other jurisdictions. In general, these seven key areas apply to resolution regimes for FMIs. One that does not is the protection of depositors (Key Attribute 2.3 (ii)).

Tools for FMI resolution (Key Attribute 3)

4.4 As mentioned in Section 3, the resolution authority should have available to it a broad range of resolution tools. The resolution powers and tools outlined in Key Attribute 3 are broadly applicable to FMIs much in the way that they are applicable to other financial institutions. However, due to the nature of FMIs, there are a few exceptions that require further guidance, an FMI-specific interpretation, or both.

Entry into resolution (Key Attribute 3.1)

4.5 Resolution should be capable of initiation once an FMI is no longer viable or likely to be no longer viable, and has no reasonable prospect of sustaining or recovering viability. Clear standards or suitable indicators of non-viability are needed to guide decisions on

whether institutions meet the conditions for entry into resolution.¹² The standards and indicators for FMI resolution are likely to be similar to those for other types of financial institution. For an FMI, the possible stages which may precede an FMI's entry into resolution include the following: (a) the FMI's recovery plans have failed or have not otherwise been implemented in a timely manner; or (b) the relevant authority determines that recovery plans will not work, no further remedial action is feasible and the FMI needs to be placed into resolution immediately. For FMIs that assume credit risks, and are responsible for collecting from and making payments to their participants on a daily basis, non-viability may occur suddenly, as the result of an extraordinary default beyond the FMI's resources. Once the conditions to trigger the resolution have been met, the resolution authority must determine whether to use its resolution tools or whether it can meet its statutory objectives by allowing the FMI to be placed into a special insolvency regime or other scheme for orderly wind-down.

Moratorium preventing outgoing payments from an FMI (Key Attribute 3.2 (xi))

4.6 Key Attribute 3.2 (xi) states that resolution authorities should have the power to impose a moratorium with a suspension of payments (except for payments and property transfers to CCPs and those entered into the payment, clearing and settlement systems) and a stay on creditor actions to attach assets or otherwise collect money or property from the entity which is in resolution.

4.7 For an FMI in resolution, the highest financial stability priorities for the authorities will usually be to preserve the continuity of the FMI's critical operations and services and to minimise systemic disruption. For most FMIs, their ability to continue to make payments is a fundamental part of the service they provide, whether this is continuing to settle transactions or, in the case of central counterparties, receiving and returning initial margin and transferring variation margin payments between participants on a regular basis to limit the build-up of large exposures based on market moves. A resolution authority's decision to impose a moratorium to prevent outgoing payments by the FMI even for a short period is therefore likely to carry the risk of continuing or even amplifying systemic disruption. In particular, a moratorium may cause a build-up of exposures between participants in what may be volatile market conditions, place increased liquidity strains on some market participants, and cause generalised illiquidity in certain financial markets.

4.8 Accordingly, a moratorium on payments in a CCP, a payment system or an SSS would mean a full or partial stoppage of the system, probably defeating the objective of continuity of critical operations and services.

- **Are there any circumstances in which a moratorium with a suspension of payments to unsecured creditors may be appropriate when resolving an FMI? Should this be limited to certain types of FMI and/or certain types of payment?**
- **If so, should resolution authorities retain the discretion to apply a moratorium and, if so, what restrictions (if any) on its use would be appropriate (eg scope, duration or purpose)?**

¹² Similarly, an FMI's recovery plans should include appropriate triggers and escalation procedures to be activated before the resolution trigger is met. In particular, if an FMI fails to maintain sufficient net liquid assets funded by equity or other financial resources against its general business risk (per Principle 15), credit risk and liquidity risk (per Principles 4 and 7), or any other prudential requirement under relevant authorities' assessment, the relevant measure under the recovery plan should be implemented (provided the recovery action is likely to succeed in restoring financial viability).

Appointment of a conservator/administrator to restore the FMI to viability or effect an orderly wind-down of the firm (Key Attribute 3.2 (ii) and (xii))

4.9 The resolution authority may determine in the case of some FMIs that the resolution objectives can be achieved by the FMI being placed into statutory management, administration, conservatorship or analogous insolvency process to provide a more stable environment in which the FMI can be restored to viability or else wound down in an orderly manner. That process could be managed by the resolution authority, or a person nominated or appointed by the resolution authority. The primary objective of this statutory manager, administrator or conservator would be to ensure the continuity of critical services until they could be restored to viability, transferred or safely discontinued. The statutory manager, administrator or conservator would expect to have powers equivalent to those available to an insolvency practitioner – for example, to impose a stay on claims and prevent the termination of contracts. Once the primary objective (ie continuity of critical services) is achieved, the FMI could be wound down under normal insolvency proceedings. For the reasons already described, use of such tools is likely to be suitable only for those types of FMI whose critical operations can be continued during a general moratorium on payments to its creditor. It may not therefore offer a credible resolution strategy for FMIs for which making payments is integral to their critical services.

Transfer of critical functions to a solvent third party (Key Attribute 3.3)

4.10 The ability to transfer ownership of a financial institution or some or all of its assets and liabilities to a transferee is one of the core components of a resolution regime for most types of financial institution. For some FMIs, however, there may be few (if any) alternative providers of its critical operations or services in the short run to which the operations can be sold. Even if an alternative provider does exist, there may be a number of practical issues that would prevent participants from being able to immediately transfer their accounts, assets, positions and activities. For example, two competing FMIs may have different participants and participation requirements. As such, if one FMI fails, possible obstacles to its participants gaining access to the competing FMI could include delays created by IT system compatibility (such as differences in message format or other technical differences), differing access criteria (such as the inclusion of buy-side firms) or legal barriers (such as antitrust or competition laws). In some cases, these issues may be overcome if the alternative provider purchases the failing FMI operations in their entirety and runs them separately until they can be migrated onto its platform.

Bridge institution (Key Attribute 3.4)

4.11 As an alternative to transferring an FMI's ownership or critical functions to a private sector purchaser, a resolution authority may choose to use a bridge institution as an interim solution to maintain the operation of an FMI's critical operations and services while a permanent solution is sought. This tool may be a more attractive option when resolving an FMI in that a bridge institution could more readily achieve the broader objectives of maintaining continuity and stability while avoiding (at least temporarily) the legal and operational impediments that may arise with an outright transfer to a solvent third party. Furthermore, authorities can be flexible in the application of this tool so that all or only part of an FMI's assets, rights and liabilities might be taken into a bridge institution or even multiple bridge institutions.

4.12. In some cases, the bridge option could be employed to transfer a failing FMI in its entirety – for example, to allow the resolution authority to take over the operation of a payment system temporarily. But it is also possible that, for example in the case of a CCP, different products may be risk-managed separately, with distinct margin and default fund arrangements. In this case, if the loss arising from default of a participant in one particular product exceeds the financial resources obtained for that product, one option may be to split

off the other products into a bridge company so that clearing may continue, while the clearing of the first product is resolved separately. Alternatively, there may be legal claims or other liabilities attached to an FMI which the authorities do not wish to transfer to a bridge institution, or transfer into a different bridge in order to be managed separately.

Bail-in within resolution (Key Attributes 3.5 and 3.6)

4.13 A separate resolution tool required by the FSB under Key Attribute 3.5 is “bail-in within resolution”. This power enables the resolution authorities to write down and/or convert into equity the unsecured creditor claims of the institution to the extent necessary to absorb losses and in an order that respects the creditor hierarchy in insolvency. The objective of bail-in within resolution is to ensure that the costs of resolving a financial institution fall upon its shareholders and creditors, and in doing so to avoid disruption and loss of value associated with ordinary insolvency proceedings while minimising risk to public funds. By allocating losses in resolution by converting creditor claims into equity to recapitalise the FMI, bail-in avoids some of the legal and practical challenges of having to allocate losses through the process of identifying and transferring operations to a third-party purchaser or a bridge institution and leaving the loss-bearing creditors in insolvency.

4.14 While bail-in should cover a broad range of liabilities, the bail-in tool is most suited to resolving financial institutions with a capital/liability structure that includes a substantial proportion of debt securities and other creditor claims. Unlike banks or investment firms, most FMIs typically do not have such a capital/liability structure. For example, FMIs rarely issue subordinated debt instruments commonly seen in other financial institutions. These differences can also extend to the equity part of a balance sheet, where FMIs may be owned by their participants and operate more as a privately owned utility. Some FMIs, such as CCPs, do, however, hold significant amounts of variation and initial margin as well as default funds. Where one or more of these sources have not yet been exhausted under the FMI's own loss allocation rules but the FMI's losses are still not fully covered, it may be preferable to haircut the creditor's claims to them and give these creditors equity in the FMI through the mechanism of bail-in in resolution rather than resort to liquidation. As with other resolution tools, the haircut would respect the creditor hierarchy and would apply to collateral and margin only where it was held in a way that meant that it would bear losses if the FMI became insolvent. A bail-in of collateral or margin could be applied in resolution together with other statutory powers to replenish default funds and cash calls as described in Section 3.

- **Should the bail-in tool be available to collateral, margin (including initial margin) and other sources of funds if they would bear losses in insolvency?**

Setoff, netting, collateralisation, segregation of client assets (Key Attribute 4)

4.15 The *Key Attributes* require that the legal framework governing setoff rights, contractual netting and collateralisation agreements, and the segregation of client assets should be clear, transparent, understandable and enforceable. This is particularly important both for effective resolution of an FMI and for maintaining market certainty regarding the enforceability of its arrangements and operations. If these protections are not in place and an FMI faces credit and liquidity risk to market participants, then the FMI's financial position might quickly deteriorate before a resolution can be performed. As provided in the *Principles* (Principle 1 on legal basis), an FMI's legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions, which should include these protections.

Stays on early termination rights based upon entry into resolution (Key Attributes 4.3 and 4.4)

4.16 Another power available to resolution authorities is the power to stay temporarily the exercise of early termination rights that may otherwise be triggered upon entry of a firm into resolution or otherwise in connection with the use of resolution powers.¹³ When the entity in resolution is an FMI, the rights being stayed are those of its participants and other counterparties to the FMI. The rationale for this power is to ensure that the commencement of resolution measures cannot be used as an event of default to trigger termination and closeout netting obligations.

4.17 By preventing a termination of obligations due to the commencement of resolution measures through a temporary stay, activated on an automatic or discretionary basis, the resolution authority gains time to assess the situation and determine how best to exercise its resolution powers. If an acquiring entity aims to take over the operations of the FMI subject to resolution action, the stay may assist in facilitating the acquisition if sufficient contingency planning has taken place in the lead-up to the resolution. A stay may also assist an orderly transfer to a bridge institution and may help achieve the objective of ensuring continuity of critical operations and services.

4.18 The *Key Attributes* require, however, that this stay be strictly limited in time (for example, a period not exceeding two business days). To the extent that an FMI's operations are continued through its acquisition by another purchaser or its transfer to a bridge institution, participants are unlikely to have been disadvantaged. The counterparty will lose its right to exercise the termination rights triggered by the resolution action, although it will not prevent the counterparty from triggering it subsequently if future events make this right exercisable. By contrast, if the counterparty is not transferred and there is no continuation of the operations of an FMI in relation to some or all of its participants or users, then they would be precluded from exercising early termination rights to protect their positions only until the short duration of the stay expires. A stay on early termination rights may be particularly important where the FMI being resolved is a CCP. The exercise of early termination rights by participants due to the commencement of resolution measures is likely to hamper the objective of resolution by preventing the CCP from continuing critical operations and services. There is also an increased risk that some of the participants may exercise early termination rights, leading to the CCP no longer having a "matched book" and hence being exposed to market risk. The unmatched book would in turn make it more difficult for the resolution authority to achieve an outcome that preserves financial stability. Equally, a stay can be an important tool where an FMI is reliant upon services provided by an external third party for continuity of critical services.

Safeguards (Key Attribute 5)

4.19 The *Key Attributes* contain a "no creditor worse off than in liquidation" safeguard. Under this safeguard, resolution powers should be exercised in a way that respects the hierarchy of claims while providing flexibility to depart from the general principle of equal (*pari passu*) treatment of creditors of the same class, if necessary, to contain the potential systemic impact of a firm's failure or to maximise the value for the benefit of all creditors as a whole. The reasons for any such departures must be made transparent. As discussed earlier under "*Bail-in within resolution*", when applying this concept to FMIs, it is proposed that the

¹³ Generally, early termination rights relate to the ability of one party to terminate a contract upon the occurrence of specific events which relate to default and creditworthiness. Such provisions usually contemplate a valuation of outstanding claims under the contract and provide for a resulting net compensatory amount to be payable from one party to the other. This netting is a risk mitigation measure.

starting point at which further losses are imposed in resolution should be based on claims as they exist following the FMI's ex ante rules and procedures for addressing uncovered credit and liquidity needs and the replenishment of financial resources.

Funding of FMIs in resolution (Key Attribute 6)

4.20 In carrying out a resolution, authorities may incur costs. These costs will need to be recovered by bailing-in certain debts or obligations, applying the loss allocation rules of an FMI, or other means. The overarching objective of minimising the exposure of taxpayers to the costs of resolution expressed in Key Attribute 6 must be maintained. That does not preclude the provision of temporary funding if necessary in some circumstances (for example, see Key Attributes 6.2 and 6.4).

4.21 If the use of temporary funding is contemplated, it should be subject to strict conditions that restrict moral hazard. The provision of temporary funding should be highly exceptional, and limited to those cases where there is a determination that (a) the provision of temporary funding is both necessary to foster financial stability and will permit implementation of a resolution option that is best able to achieve the objectives of an orderly resolution, and (b) that private sources of funding have been exhausted or cannot achieve those objectives. Where temporary sources of funding to maintain an FMI's critical operations and services are used to accomplish an orderly resolution, the resolution authority or authority extending temporary funding should provide it in a way that ensures the right to recover any of this funding.

4.22 Resolution regimes for financial institutions should include cost recovery frameworks. For banks, these arrangements are based on the understanding that financial intermediation and transactional banking are a network that mutualises exposures between banks. Recognition of this mutualised exposure leads to ex ante mutualised insurance schemes, and/or ex post loss recovery arrangements amongst these institutions. For certain types of FMI, a narrower participant-based arrangement may be more appropriate. Indeed, CCP default arrangements are ex ante loss mutualisation mechanisms. These, and similar participant-based arrangements, may form the basis for resolution cost recovery. Insofar as resolution results in the continuity of critical functions, costs would be distributed more broadly across the financial system in the same way that participants recover costs from clients and other indirect users of FMI arrangements.

- **In what circumstances and for what types of FMI should wider loss recovery arrangements exist beyond the FMI's own rules and the resolution powers of the resolution authority?**

Resolvability assessments (Key Attribute 10)

4.23 Under the *Key Attributes*, resolution authorities are expected to regularly undertake resolvability assessments for global systemically important financial institutions (G-SIFIs), at a minimum. In undertaking these assessments, resolution authorities should coordinate with other relevant authorities in order to facilitate a holistic view of the firm's activities and the nature of its intragroup exposures, among other things. When conducting a resolvability assessment of an FMI, however, the set of questions that would need to be explored will take into account FMIs' specific role in the financial system. An important consideration will be the impact on FMI participants as well as on linked FMIs, including the ability of participants and any linked FMIs to retain continuous access to the FMI's critical operations and services during the resolution process.

4.24 In the case of a CCP, resolvability assessments will need to pay special attention to any interoperability agreements and any cross-margining between CCPs.

4.25 Resolvability assessments are inherently qualitative. The supervisor, regulator or overseer should feed into the formal resolvability assessment required by the *Key Attributes*, since they should have a comprehensive understanding of the FMI including its ownership structure, organisational form, services provided and link arrangements. They are well positioned to contribute on the potential systemic impact of the FMI's failure and resolution on global and national financial systems and the real economy.

4.26 Through ongoing supervision, regulation or oversight, the authority would review the FMI's recovery and orderly wind-down plans, evaluate the feasibility and credibility of the FMI's strategies, and determine whether any changes to the plans or the FMI are necessary to improve resolvability.¹⁴ Any obstacles to resolvability will need to be removed, and the authority has a responsibility for helping to identify such obstacles and, in particular, for ensuring that they are removed. Responsibility E expects the FMI's supervisor, regulator or overseer to cooperate and exchange information with the resolution authorities in this way. Similarly, Key Attributes 7 and 8 require the relevant resolution authorities to cooperate with other relevant resolution authorities and the FMI's regulator, supervisor or overseer when developing their resolvability assessments.

- **In conducting a resolvability assessment of an FMI, what factors should authorities pay particular attention to?**

Recovery and resolution planning (Key Attribute 11)

4.27 Ex ante planning by the firm and relevant authorities will be critical to restoring an FMI's viability or winding it down in an orderly manner. The recovery plans drawn up by FMIs and the resolution plans drawn up by authorities should serve as guidance to FMIs and authorities, although departures from the plans may be necessary and appropriate in certain circumstances. Key Attribute 11 sets forth a jurisdictional requirement for recovery and resolution planning, and describes the roles that the firm, supervisory authority and resolution authority should play in the process.

4.28 Pursuant to Key Attribute 11 and Principle 3, an FMI should develop comprehensive recovery plans that identify scenarios that may threaten its ability to continue as a going concern, include a substantive summary of key recovery strategies, identify critical operations and services, and describe measures needed to implement key strategies. An FMI is also expected to consider recovery, orderly wind-down and resolution issues on an ongoing basis in its governance, risk management and operational arrangements. Where applicable, an FMI should provide relevant authorities with the information, including strategy and scenario analysis, needed for purposes of resolution planning by the authorities. Primary responsibility for the ongoing oversight and assessment of the adequacy and, where appropriate, activation of an FMI's own recovery plans should rest with the FMI's direct authority. The FMI's direct authority should cooperate with relevant resolution authorities when overseeing, assessing and activating those plans, and the relevant resolution authorities should cooperate with the FMI's direct authority when developing resolution plans related to the FMI that may be needed.

¹⁴ Resolvability assessments of an FMI will involve assessing the adequacy of an FMI's own recovery and wind-down plans and the legal basis for such plans as required by the *Principles* and the *Key Attributes*. The *Principles* state that "[a]n FMI should establish rules, procedures, and contracts related to its operations that are enforceable when the FMI is implementing its plans for recovery or orderly wind-down. [...] In the case that an FMI is being wound down or resolved, the legal basis should support decisions or actions concerning termination, close-out netting, the transfer of cash and securities positions of an FMI, or the transfer of all or parts of the rights and obligations provided in a link arrangement to a new entity" (paragraph 3.1.10).

4.29 As for other financial institutions, resolution authorities should develop resolution plans to facilitate the effective resolution of a distressed FMI. (The recovery and resolution plans required by the *Key Attributes* have strong similarities to the recovery and orderly wind-down plans required by the *Principles*.) In developing a resolution plan compliant with the *Key Attributes*, a resolution authority should be informed by the recovery and orderly wind-down plans prepared by the FMI and the resolvability assessments performed by its supervisor, regulator or overseer. Consistent with the *Responsibilities*, in exchanging information and reviews, collaborating on appropriate tools and coordinating activities, relevant resolution and other authorities can effectively and efficiently achieve their shared objective of ensuring the continued provision of the FMI's critical operations and avoiding systemic disruption.

Access to information and information-sharing (Key Attribute 12)

4.30 Jurisdictions should ensure that no legal, regulatory or policy impediments exist that hinder the appropriate exchange of information. This Key Attribute is relevant to FMIs and the broader information-sharing that takes place among relevant authorities in and beyond the resolution context, consistent with the *Responsibilities*.

5. Cooperation and coordination among relevant authorities (Key Attributes 7, 8 and 9)

5.1 FMIs often operate in multiple jurisdictions and, in some cases, across borders as a result of their organisational structure, the services provided or links with other infrastructures. As a result, an FMI may be subject to multiple resolution frameworks, established under different laws. Key Attribute 7 recommends that jurisdictions should provide for transparent and expedited processes to give effect to foreign resolution measures. This should be done either by way of a mutual recognition process or by taking measures under the domestic resolution regime that support and are consistent with the resolution measures taken by the foreign home resolution authority. This Key Attribute is also relevant for FMIs.

5.2 The international nature of many FMIs may also mean that several supervisory, regulatory, oversight and resolution authorities may have responsibilities for an individual FMI. Cooperation and coordination among and between these authorities can help to ensure that their respective responsibilities can be fulfilled efficiently and effectively during normal times and in times of crisis. Central banks, market regulators and overseers have a long history of cooperating and coordinating their efforts related to FMIs, consistent with relevant international standards. In some cases, formal protocols set forth the objectives, roles, functions and logistical aspects of the arrangement in both normal times and crisis situations.

5.3 The *Key Attributes* and the *Responsibilities* both emphasise the importance of cooperation and encourage relevant authorities to achieve solutions that preserve stability and also, among other things, respect the responsibilities of each individual authority, facilitate information-sharing and reduce the burden on the FMI. Responsibility E expects central banks, market regulators and other relevant authorities to cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs. Further, Responsibility E also expects that these authorities will cooperate with relevant resolution authorities, as appropriate, with regard to matters concerning an FMI's recovery and resolution. Similarly, Key Attributes 7, 8 and 9 enjoin that the FMI's resolution authority cooperate with the FMI's supervisors, regulators and overseers. Specifically, Key Attribute 8 requires the establishment of Crisis Management Groups (CMG) for all G-SIFIs, with the objective of enhancing preparedness for, and facilitating the management and resolution of, a cross-border financial crisis affecting a G-SIFI. Key Attribute 9 goes on to set

out requirements for institution-specific agreements that define the objectives, roles, responsibilities, information-sharing procedures, need for consultation and logistics (such as frequency and scope of meetings).

5.4 Whatever the form of the cooperation, the arrangement should be effective in normal circumstances and should be sufficiently flexible to facilitate effective communication, consultation or coordination, including during the potential recovery, wind-down or resolution of a specific FMI. To ensure this, effective cooperation is needed throughout the planning process and in the event of an actual recovery, orderly wind-down or resolution. To ensure effectiveness, crisis communication arrangements should build on normal cooperation and communication protocols to the extent possible but go beyond these where necessary.

5.5 The arrangements contemplated in Key Attributes 8 and 9 are compatible with the range of possible arrangements for FMIs under Responsibility E. By using the cooperative principles of the *Key Attributes* to clarify and enhance the cooperative oversight arrangements formed under Responsibility E, authorities can form effective cooperation arrangements for conducting normal supervision as well as recovery and resolution activities. In both, the scope of authorities to participate, the functions of the groups and the possible structure of the arrangements are similar in form and substance. Leveraging arrangements formed under Responsibility E, and using the *Key Attributes* as needed to ensure cooperation with resolution authorities and finance ministries, should ensure consistency across recovery and resolution plans, facilitate communication especially in a cross-border context, help to facilitate the recognition of resolution actions taken in other jurisdictions, and improve transparency among authorities on how plans are developed, reviewed and executed. Further, using Responsibility E as the basis for cooperative arrangements, and supplementing these arrangements to address requirements in the *Key Attributes*, as necessary, will help to avoid any duplicative and inconsistent arrangements. This will also help to reduce the burden on the FMIs and authorities and lower the potential for substantive gaps between an FMI's recovery and wind-down plans and a resolution authority's resolution plan. Authorities will need to decide how to form CMGs, building as appropriate on cooperative arrangements for oversight.

6 Conclusions

CPSS-IOSCO has concluded the following:

1. It is vital that very robust arrangements exist for the recovery of FMIs and, if that fails, for their resolution.
2. The *Principles* set out a framework for FMIs to have rules and policies for recovery in the event of distress.
3. Regulators will need to ensure that those rules and policies are put in place. The provisions for cooperation and coordination among authorities in Responsibility E of the *Principles* will help that.
4. In the event of recovery failing, the *Key Attributes* provide a framework for resolution of FMIs under a statutory resolution regime. The methodology for assessing compliance with the *Key Attributes*, currently being prepared by the FSB, will need to contain FMI-specific elements.

Annex: Applicability of the Key Attributes to FMIs

FSB Key Attribute	Commentary
2. Resolution authority	
2.1 Each jurisdiction should have a designated administrative authority or authorities responsible for exercising the resolution powers. Where there are multiple resolution authorities, roles and responsibilities should be clearly defined and coordinated.	
2.2 Where different resolution authorities are in charge of resolving entities of the same group within a single jurisdiction, the resolution regime should identify a lead authority that coordinates the resolution of the legal entities.	Resolution regimes need to take links into account, including links between affiliated FMIs. ¹⁵ In many cases, however, affiliated FMIs may be treated as standalone entities.
2.3 Objectives of a resolution authority (i) pursue financial stability and ensure continuity of systemically important financial services; (ii) protect depositors, insurance policy holders and investors; (iii) avoid unnecessary destruction of value and seek to minimise costs of resolution, where that is consistent with the other statutory objectives; (iv) duly consider the potential impact of its resolution actions on financial stability in other jurisdictions.	(i) Continuity of critical operations and services is a key objective of FMI resolution. The resolution authority should seek to achieve that continuity in a manner consistent with the <i>Principles</i> . (ii) Not relevant for FMIs. Instead, the resolution authority should seek to protect direct and, as far as is practical, indirect participants and issuers (in CSDs) and limit contagion to linked FMIs.
2.4 The resolution authority should have the authority to enter into agreements with resolution authorities of other jurisdictions.	
2.5 The resolution authority should have operational independence consistent with its statutory responsibilities, transparent processes, sound governance and adequate resources and be subject to rigorous evaluation and accountability mechanisms to assess the effectiveness of any resolution measures. It should have the expertise, resources and the operational capacity to implement resolution measures with respect to large and complex firms.	The resolution authority should have access to <i>specific</i> expertise on FMIs, and specific expertise and capacity for FMI resolution measures. This may be achieved via cooperation with competent authorities, eg supervisors and overseers of FMIs, where the resolution authority is a separate body.

¹⁵ A link is a set of contractual and operational arrangements between two or more FMIs that connect the FMIs directly or through an intermediary.

FSB Key Attribute	Commentary
2.6 The resolution authority and its staff should be protected against liability for actions taken and omissions made while discharging their duties in the exercise of resolution powers in good faith, including actions in support of foreign resolution proceedings.	
2.7 The resolution authority should have unimpeded access to firms where that is material for the purposes of resolution planning and the preparation and implementation of resolution measures.	In the resolution of a TR, the resolution authority may gain access to substantial amounts of sensitive trade information, and it should make sure that it has appropriate operational separation and safeguards to ensure the protection of those data.
3. Resolution powers	
3.1 Entry into resolution Resolution should be initiated when a firm is no longer viable or likely to be no longer viable, and has no reasonable prospect of becoming so. The resolution regime should provide for timely and early entry into resolution before a firm is balance-sheet insolvent and before all equity has been fully wiped out. There should be clear standards or suitable indicators of non-viability to help guide decisions on whether firms meet the conditions for entry into resolution.	The resolution regime should provide for timely and early entry into resolution, prior to insolvency and as soon as there is clear evidence that the FMI default management or other risk management tools will not allow the FMI to continue to fulfil its obligations and that the FMI has no reasonable prospects in the circumstances of doing so. Clear standards and suitable indicators of non-viability for FMI are likely to be similar to those for other types of SIFIs. These indicators and the factors that authorities are likely to take into account in deciding whether to initiate resolution should be publicly available or at least known to the FMI, the FMI's participants, its shareholders where relevant, and the relevant authorities if they differ from the resolution authority. As the problems in a FMI may arise very suddenly and as operational continuity is critical, satisfaction of this KA requires that the resolution regime be capable of immediate operation once activated.
3.2. General resolution powers Resolution authorities should have at their disposal a broad range of resolution powers, which should include powers to do the following: (i) remove and replace the senior management and directors and recover monies from responsible persons, including claw-back of variable remuneration; (ii) appoint an administrator to take control of and manage the affected firm with the objective of restoring the firm, or parts of its business, to ongoing and sustainable viability; (iii) operate and resolve the firm, including powers to terminate contracts, continue or assign contracts, purchase or sell assets, write down debt and take any other action necessary to	(ii) The administrator's priority in resolution should be to preserve the continuity of the FMI's critical operations and services (consistent with (iv) below), including, where applicable, services to other FMIs, particular exchanges or financial markets.

FSB Key Attribute	Commentary
restructure or wind down the firm's operations; (iv) ensure continuity of essential services and functions by requiring other companies in the same group to continue to provide essential services to the entity in resolution, any successor or an acquiring entity; ensuring that the residual entity in resolution can temporarily provide such services to a successor or an acquiring entity; or procuring necessary services from unaffiliated third parties; (v) override rights of shareholders of the firm in resolution, including requirements for approval by shareholders of particular transactions, in order to permit a merger, acquisition, sale of substantial business operations, recapitalisation or other measures to restructure and dispose of the firm's business or its liabilities and assets; (vi) transfer or sell assets and liabilities, legal rights and obligations, including deposit liabilities and ownership in shares, to a solvent third party, notwithstanding any requirements for consent or novation that would otherwise apply (see Key Attribute 3.3); (vii) establish a temporary bridge institution to take over and continue operating certain critical functions and viable operations of a failed firm (see Key Attribute 3.4); (viii) establish a separate asset management vehicle (for example, as a subsidiary of the distressed firm, an entity with a separate charter, or as a trust or asset management company) and transfer to the vehicle for management and run-down non-performing loans or difficult-to-value assets; (ix) carry out bail-in within resolution as a means to achieve or help achieve continuity of essential functions either (i) by recapitalising the entity hitherto providing these functions that is no longer viable, or, alternatively, (ii) by capitalising a newly established entity or bridge institution to which these functions have been transferred following closure of the non-viable firm (the residual business of which would then be wound up and the firm liquidated) (see Key Attribute 3.5); (x) temporarily stay the exercise of early termination rights that may otherwise be triggered upon entry of a firm into resolution or in connection with the use of resolution powers (see Key Attribute 4.3 and Annex IV [of the FSB Report]); (xi) impose a moratorium with a suspension of payments to unsecured creditors and customers (except for payments and property transfers to	(vi) See KA 3.3. (vii) See KA 3.4. (viii) In the case of FMIs, the application of this KA is likely to be limited to managing claims against defaulting participants and distribution of proceeds. (ix) See KA 3.5. (x) This is particularly important for certain types of FMIs, but wider market implications need to be considered. (xi) See Sections 4.6 to 4.8 of this report. A moratorium is unlikely to meet the objective of continuity in the resolution of FMIs for which

FSB Key Attribute	Commentary
central counterparties (CCPs) and those entered into the payment, clearing and settlements systems) and a stay on creditor actions to attach assets or otherwise collect money or property from the firm, while protecting the enforcement of eligible netting and collateral agreements; and (xii) effect the closure and orderly wind-down (liquidation) of the whole or part of a failing firm with timely payout or transfer of insured deposits and prompt (for example, within seven days) access to transaction accounts and to segregated client funds.	making payments is part of their critical services. It is possible, however, that it may be valuable for the resolution authority to have the discretion to apply a moratorium on creditor claims. (xii) For FMIs, reference to deposits should refer to timely payout or transfer of participant (direct or indirect) positions.
3.3 Transfer of assets and liabilities Resolution authorities should have the power to transfer selected assets and liabilities of the failed firm to a third party institution or to a newly established bridge institution. Any transfer of assets or liabilities should not: (i) require the consent of any interested party or creditor to be valid; and (ii) constitute a default or termination event in relation to any obligation relating to such assets or liabilities or under any contract to which the failed firm is a party (see Key Attribute 4.2).	A resolution regime for FMIs must provide for the effective transfer of legal rights and obligations in order to minimise disruption to the market and the FMIs' operations. Deposit liabilities are less likely to be relevant to FMIs, although FMIs may hold assets on behalf of participants which have some similarities to deposit liabilities. Also, the resolution authority should be entitled to transfer [parts of] the rulebook to the new entity.
3.4 Bridge institution Resolution authorities should have the power to establish one or more bridge institutions to take over and continue operating certain critical functions and viable operations of a failed firm, including: (i) the power to enter into legally enforceable agreements by which the authority transfers, and the bridge institution receives, assets and liabilities of the failed firm as selected by the authority; (ii) the power to establish the terms and conditions under which the bridge institution has the capacity to operate as a going concern, including the manner under which the bridge institution obtains capital or operational financing and other liquidity support; the prudential and other regulatory requirements that apply to the operations of the bridge institution; the selection of management and the manner by which the corporate governance of the bridge institution may be conducted; and the performance by the bridge institution of such other temporary functions as the authority may from time to time prescribe; (iii) the power to reverse, if necessary, asset and liability transfers to a bridge institution subject to appropriate safeguards, such as time restrictions; and	The power to establish a bridge institution will be particularly important where continuity of service is likely to be of systemic importance but where there are no immediately available viable substitutes or alternative providers for the critical operations and services performed by the FMI. In the case of FMIs, there may be few alternative providers of critical operations and services, and there could be practical and operational barriers to immediate transfer of activity to alternative providers. In the case of DVP settlement, to the extent that cash settlement does not take place in CSD cash accounts, a bridge institution can only ensure the continuity of KA 2.3 if it has an arrangement with the institution that operates cash settlement. See paragraph 4.11 in the report. The resolution authority may also need specific powers to expedite approval or to waive or modify provisions which might otherwise prevent the resolution of the FMI, i.e. the ability to expedite licensing / authorisation requirements for a bridge institution / designation for settlement finality purposes, etc. To the degree that links with other FMIs are essential for the smooth continuity of the FMI (eg in the case of links between CSDs), a transfer to a bridge institution can only be performed in a

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(iv) the power to arrange the sale or wind-down of the bridge institution, or the sale of some or all of its assets and liabilities to a purchasing institution, so as best to effect the objectives of the resolution authority.	sound way and only guarantee continuity if the links are also transferred to the bridge institution. For instance, for CSDs, this would necessitate that, in the event of failure of an <i>investor CSD</i>, at the side of the <i>issuer CSD</i>, the link is now opened in the name of the bridge institution, and all securities previously held by the <i>investor CSD</i> are transferred to this new linking bridge institution. Typically, the <i>issuer CSD</i> would be in another jurisdiction than the <i>investor CSD</i>, implying that the resolution authority of the investor CSD might have no legal power over the issuer CSD, and that the issuer CSD may lack the legal framework for enabling such transfer quickly (as well as that the issuer CSD might have a commercial incentive to be not too cooperative, as it might prefer to relocate settlement onto its own books).
3.5 Bail-in within resolution Powers to carry out bail-in within resolution should enable resolution authorities to: (i) write down in a manner that respects the hierarchy of claims in liquidation (see Key Attribute 5.1) equity or other instruments of ownership of the firm, unsecured and uninsured creditor claims to the extent necessary to absorb the losses; and to (ii) convert into equity or other instruments of ownership of the firm under resolution (or any successor in resolution or the parent company within the same jurisdiction), all or parts of unsecured and uninsured creditor claims in a manner that respects the hierarchy of claims in liquidation; (iii) upon entry into resolution, convert or write-down any contingent convertible or contractual bail-in instruments whose terms had not been triggered prior to entry into resolution and treat the resulting instruments in line with (i) or (ii).	Generally, FMIs do not have a capital structure that would lend itself to bail-in of the type envisaged for financial institutions, but other forms of loss allocation will be an important resolution tool. The KA should be interpreted as carrying out bail-in or, in some cases for FMIs' loss allocation, as a means to achieve or help achieve continuity of critical operations and services. See also comments on KA 3.5 below and Sections 4.13 and 4.14 of this report. FMIs typically do not issue debt securities that can be bailed in during a resolution procedure. However, "bail-in" can be applied as part of loss allocation arrangements in resolution, for example by bailing in bank loans or inter-group balances or by giving participants equity in return for haircuts of variation margin.
3.6 The resolution regime should make it possible to apply bail-in within resolution in conjunction with other resolution powers (for example, removal of problem assets, replacement of senior management and adoption of a new business plan) to ensure the viability of the firm or newly established entity following the implementation of bail-in.	
3.7 Resolution of insurers In the case of insurance firms, resolution authorities should also have powers to: (i) undertake a portfolio transfer moving all or part of the insurance business to another insurer without the consent of each and every policyholder; and	Not applicable to FMIs.

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(ii) discontinue the writing of new business by an insurance firm in resolution while continuing to administer existing contractual policy obligations for in-force business (run-off).	
3.8 Exercise of resolution powers Resolution authorities should have the legal and operational capacity to: (i) apply one or a combination of resolution powers, with resolution actions being either combined or applied sequentially; (ii) apply different types of resolution powers to different parts of the firm's business (for example, retail and commercial banking, trading operations, insurance); and (iii) initiate a wind-down for those operations that, in the particular circumstances, are judged by the authorities to be not critical to the financial system or the economy (see Key Attribute 3.2 (xii)).	(ii) This KA should be interpreted as applying different types of resolution powers to different types of services (eg critical vs non-critical) based on clear rules that allow determination of which services are subject to which resolution regime or where the FMI is part of a group. (iii) There may be a number of FMI activities that are not judged to be critical to financial stability (eg some low-volume or ancillary services).
3.9 In applying resolution powers to individual components of a financial group located in its jurisdiction, the resolution authority should take into account the impact on the group as a whole and on financial stability in other affected jurisdictions, and undertake best efforts to avoid taking actions that could reasonably be expected to trigger instability elsewhere in the group or in the financial system.	In addition, the resolution authority should take into account the impact on any linked/interconnected FMIs, regardless of whether they are located in the same jurisdiction or a different jurisdiction. Furthermore, the form and degree of (cross-border) interdependencies in the case of FMIs may require particular attention. See also CPSS-IOSCO Principle 20 on FMI links. In applying resolution, the form and degree of interdependencies should also be considered.
4. Set-off, netting, collateralisation, segregation of client assets	
4.1 The legal framework governing set-off rights, contractual netting and collateralisation agreements and the segregation of client assets should be clear, transparent and enforceable during a crisis or resolution of firms, and should not hamper the effective implementation of resolution measures.	
4.2 Subject to adequate safeguards, entry into resolution and the exercise of any resolution powers should not trigger statutory or contractual set-off rights, or constitute an event that entitles any counterparty of the firm in resolution to exercise contractual acceleration or early termination rights provided the substantive obligations under the contract continue to be performed.	
4.3 Should contractual acceleration or early termination rights nevertheless be exercisable, the resolution authority should have the power to stay temporarily such rights where they arise by	

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reason only of entry into resolution or in connection with the exercise of any resolution powers. The stay should: (i) be strictly limited in time (for example, for a period not exceeding 2 business days); (ii) be subject to adequate safeguards that protect the integrity of financial contracts and provide certainty to counterparties (see Annex IV [of the FSB Report] on “Conditions for a temporary stay”); and (iii) not affect the exercise of early termination rights of a counterparty against the firm being resolved in the case of any event of default not related to entry into resolution or the exercise of the relevant resolution power occurring before, during or after the period of the stay (for example, failure to make a payment, deliver or return collateral on a due date). The stay may be discretionary (imposed by the resolution authority) or automatic in its operation. In either case, jurisdictions should ensure that there is clarity as to the beginning and the end of the stay.	
4.4 Resolution authorities should apply the temporary stay on early termination rights in accordance with the guidance set out in Annex IV [of the FSB Report] to ensure that it does not compromise the safe and orderly operations of regulated exchanges and FMIs.	Actions by relevant authorities may not be necessary where the FMI's rules include stays, but the relevant authorities should consider whether these are legally certain. Stays should consider the safety and orderly operations of any linked FMIs. See also CPSS-IOSCO Principle 20 on FMI links.
5. Safeguards	
5.1 Respect of creditor hierarchy and “no creditors worse off” principle Resolution powers should be exercised in a way that respects the hierarchy of claims while providing flexibility to depart from the general principle of equal (<i>pari passu</i>) treatment of creditors of the same class, with transparency about the reasons for such departures, if necessary to contain the potential systemic impact of a firm's failure or to maximise the value for the benefit of all creditors as a whole. In particular, equity should absorb losses first, and no loss should be imposed on senior debt holders until subordinated debt (including all regulatory capital instruments) has been written-off entirely (whether or not that loss-absorption through write-down is accompanied by conversion to equity).	Many FMIs have ex ante arrangements within their rules to mutualise losses among participants. For loss allocation which is performed at the instigation of the authorities in the course of resolution, the approach should seek to respect this ex ante agreed “mutuality” principle. But where such mutuality of losses is not a feature of the FMI's rules, the principle of respecting the hierarchy of claims while providing flexibility to depart from the principle of equal treatment of creditors of the same class may be appropriate. Also, to meet the objective of ensuring continuity of critical operations and services, it may be necessary to retail some (or inject new) capital, as well as replenish default resources or other financial resources where relevant (see CPSS-IOSCO Principle 4).
5.2 Creditors should have a right to compensation where they do not receive at a minimum what they would have received in a	In determining the baseline for what a creditor would receive in liquidation, the ex ante allocation arrangements to distribute any shortfall should be

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liquidation of the firm under the applicable insolvency regime ("no creditor worse off than in liquidation" safeguard).	taken into account. See the mutuality principle noted in the comment for KA 5.1 above.
5.3 Directors and officers of the firm under resolution should be protected in law (for example, from law suits by shareholders or creditors) for actions taken when complying with decisions of the resolution authority.	
5.4 Legal remedies and judicial action The resolution authority should have the capacity to exercise the resolution powers with the necessary speed and flexibility, subject to constitutionally protected legal remedies and due process. In those jurisdictions where a court order is still required to apply resolution measures, resolution authorities should take this into account in the resolution planning process so as to ensure that the time required for court proceedings will not compromise the effective implementation of resolution measures.	
5.5 The legislation establishing resolution regimes should not provide for judicial actions that could constrain the implementation of, or result in a reversal of, measures taken by resolution authorities acting within their legal powers and in good faith. Instead, it should provide for redress by awarding compensation, if justified.	
5.6 In order to preserve market confidence, jurisdictions should provide for flexibility to allow temporary exemptions from disclosure requirements or a postponement of disclosures required by the firm, for example, under market reporting, takeover provisions and listing rules, where the disclosure by the firm could affect the successful implementation of resolution measures.	Temporary exemptions from disclosure requirements may be applicable to public companies, including, where applicable, to FMIs or their holding companies in their capacity as public companies. However, the Principles generally require transparency to relevant authorities and participants of an FMI's requirements such that participants can assess their risks (eg Principle 23); the resolution authority should assess the appropriateness of any temporary exemption given the general requirements for transparency to the public.
6. Funding of firms in resolution	
6.1 Jurisdictions should have statutory or other policies in place so that authorities are not constrained to rely on public ownership or bail-out funds as a means of resolving firms.	
6.2 Where temporary sources of funding to maintain essential functions are needed to accomplish orderly resolution, the resolution authority or authority extending the temporary funding should make provision to recover any losses incurred (i) from shareholders and unsecured creditors subject to the "no creditor worse off than in liquidation" safeguard (see Key	Application of this key attribute will need to take into consideration where an FMI has mechanisms agreed in its rules to allocate uncovered losses.

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Attribute 5.2); or (ii) if necessary, from the financial system more widely.	
6.3 Jurisdictions should have in place privately-financed deposit insurance or resolution funds, or a funding mechanism for <i>ex post</i> recovery from the industry of the costs of providing temporary financing to facilitate the resolution of the firm.	
6.4 Any provision by the authorities of temporary funding should be subject to strict conditions that minimise the risk of moral hazard, and should include the following: (i) a determination that the provision of temporary funding is necessary to foster financial stability and will permit implementation of a resolution option that is best able to achieve the objectives of an orderly resolution, and that private sources of funding have been exhausted or cannot achieve these objectives; and (ii) the allocation of losses to equity holders and residual costs, as appropriate, to unsecured and uninsured creditors and the industry through <i>ex-post</i> assessments, insurance premium or other mechanisms.	(ii) See comments on loss allocation for KAs 3.2, 3.5, 3.6 and 5.1.
6.5 As a last resort and for the overarching purpose of maintaining financial stability, some countries may decide to have a power to place the firm under temporary public ownership and control in order to continue critical operations, while seeking to arrange a permanent solution such as a sale or merger with a commercial private sector purchaser. Where countries do equip themselves with such powers, they should make provision to recover any losses incurred by the state from unsecured creditors or, if necessary, the financial system more widely.	
7. Legal framework conditions for cross-border cooperation	
7.1 The statutory mandate of a resolution authority should empower and strongly encourage the authority wherever possible to act to achieve a cooperative solution with foreign resolution authorities.	For FMIs, relevant foreign supervisory, regulatory or oversight authorities also need to be included.
7.2 Legislation and regulations in jurisdictions should not contain provisions that trigger automatic action in that jurisdiction as a result of official intervention or the initiation of resolution or insolvency proceedings in another jurisdiction, while reserving the right of discretionary national action if necessary to achieve domestic stability in the absence of effective international cooperation and information sharing. Where a resolution authority takes discretionary national action it should consider the impact on financial stability in other jurisdictions.	
7.3 The resolution authority should have	Processes for notification and consultation

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resolution powers over local branches of foreign firms and the capacity to use its powers either to support a resolution carried out by a foreign home authority (for example, by ordering a transfer of property located in its jurisdiction to a bridge institution established by the foreign home authority) or, in exceptional cases, to take measures on its own initiative where the home jurisdiction is not taking action or acts in a manner that does not take sufficient account of the need to preserve the local jurisdiction's financial stability. Where a resolution authority acting as host authority takes discretionary national action, it should give prior notification and consult the foreign home authority. <i>Footnote: This should not apply where jurisdictions are subject to a binding obligation to respect resolution of financial institutions under the authority of the home jurisdiction (for example, the EU Winding-up and Reorganisation Directives).</i>	between relevant authorities are compatible with the arrangements for cooperation with other authorities as described under CPSS-IOSCO Responsibility E. Also, for FMIs, functional considerations may be more relevant than “home/host” distinctions, and these should be taken into account.
7.4 National laws and regulations should not discriminate against creditors on the basis of their nationality, the location of their claim or the jurisdiction where it is payable. The treatment of creditors and ranking in insolvency should be transparent and properly disclosed to depositors, insurance policy holders and other creditors.	The second sentence of this KA should be interpreted as: “The treatment of creditors and ranking in insolvency should be transparent and properly disclosed to depositors, insurance policy holders and other creditors; and for FMIs, to direct and indirect participants.”
7.5 Jurisdictions should provide for transparent and expedited processes to give effect to foreign resolution measures, either by way of a mutual recognition process or by taking measures under the domestic resolution regime that support and are consistent with the resolution measures taken by the foreign home resolution authority. Such recognition or support measures would enable a foreign home resolution authority to gain rapid control over the firm (branch or shares in a subsidiary) or its assets that are located in the host jurisdiction, as appropriate, in cases where the firm is being resolved under the law of the foreign home jurisdiction. Recognition or support of foreign measures should be provisional on the equitable treatment of creditors in the foreign resolution proceeding.	A functional consideration of the jurisdictions in which an FMI's services are significant may be more relevant in addition to the “home/host” distinctions which are used for other types of financial institution. FMIs are less likely than other financial firms to operate in “branch” alignments, and affiliated FMIs must stand independently.
7.6 The resolution authority should have the capacity in law, subject to adequate confidentiality requirements and protections for sensitive data, to share information, including recovery and resolution plans (RRPs), pertaining to the group as a whole or to individual subsidiaries or branches, with relevant foreign authorities (for example, members of a CMG), where sharing is necessary for recovery and resolution planning or for implementing a coordinated resolution.	This Key Attribute could be met through the arrangements for cooperation with other authorities as described under CPSS-IOSCO Responsibility E.

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7.7 Jurisdictions should provide for confidentiality requirements and statutory safeguards for the protection of information received from foreign authorities.	
8. Crisis Management Groups (CMGs)	
8.1 Home and key host authorities of all G-SIFIs should maintain CMGs with the objective of enhancing preparedness for, and facilitating the management and resolution of, a cross-border financial crisis affecting the firm. CMGs should include the supervisory authorities, central banks, resolution authorities, finance ministries and the public authorities responsible for guarantee schemes of jurisdictions that are home or host to entities of the group that are material to its resolution, and should cooperate closely with authorities in other jurisdictions where firms have a systemic presence.	For FMIs, the functions of CMGs are compatible with the arrangements for cooperation with other authorities as described under CPSS-IOSCO Responsibility E. The resolution authority must cooperate with the FMI's supervisors, regulators and overseers. The relevant authorities will need to decide how to associate resolution authorities with the appropriate cooperative arrangements for oversight (as described under Responsibility E) to avoid duplication of similarly constituted cross-border regulatory groups. As noted in Key Consideration 3 of Responsibility E, "co-operation may take a variety of forms", hence this does not require that authorities that are relevant to resolution planning engage in the non-resolution / regular supervisory activities of such cooperative arrangements. Furthermore, for FMIs, a functional consideration of which jurisdictions an FMI services may be more relevant than "home/host" distinctions.
8.2 CMGs should keep under active review, and report as appropriate to the FSB and the FSB Peer Review Council on: (i) progress in coordination and information sharing within the CMGs and with host authorities that are not represented in the CMGs; (ii) the recovery and resolution planning process for G-SIFIs under institution-specific cooperation agreements; and (iii) the resolvability of G-SIFIs.	The resolution authority must cooperate with the FMI's supervisors, regulators and overseers. The relevant authorities will need to decide how to associate resolution authorities with the appropriate cooperative arrangement for oversight as described under CPSS-IOSCO Responsibility E.
9. Institution-specific cross-border cooperation agreements	
9.1 For all G-SIFIs, at a minimum, institution-specific cooperation agreements, containing the essential elements set out in Annex I [of the FSB Report], should be in place between the home and relevant host authorities that need to be involved in the planning and crisis resolution stages. These agreements should, inter alia: (i) establish the objectives and processes for cooperation through CMGs; (ii) define the roles and responsibilities of the authorities pre-crisis (that is, in the recovery and resolution planning phases) and during a crisis; (iii) set out the process for information sharing before and during a crisis, including sharing with	Where FMIs play a critical cross-border role in markets which they serve and are systemically important, they are generally presumed to require cross-border cooperation as described under CPSS-IOSCO Responsibility E. For CSDs, see KA 3.4.

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any host authorities that are not represented in the CMG, with clear reference to the legal bases for information sharing in the respective national laws and to the arrangements that protect the confidentiality of the shared information; (iv) set out the processes for coordination in the development of the RRP for the firm, including parent or holding company and significant subsidiaries, branches and affiliates that are within the scope of the agreement, and for engagement with the firm as part of this process; (v) set out the processes for coordination among home and host authorities in the conduct of resolvability assessments; (vi) include agreed procedures for the home authority to inform and consult host authorities in a timely manner when there are material adverse developments affecting the firm and before taking any significant action or crisis measures; (vii) include agreed procedures for the host authority to inform and consult the home authority in a timely manner when there are material adverse developments affecting the firm and before taking any discretionary action or crisis measure; (viii) provide an appropriate level of detail with regard to the cross-border implementation of specific resolution measures, including with respect to the use of bridge institution and bail-in powers; (ix) provide for meetings to be held at least annually, involving top officials of the home and relevant host authorities, to review the robustness of the overall resolution strategy for G-SIFIs; and (x) provide for regular (at least annual) reviews by appropriate senior officials of the operational plans implementing the resolution strategies.	(iv) See comments on KA 7.5 regarding the consideration that should also be given to jurisdictions where the FMI's services are significant. (viii) Reference to bail-in should include any other relevant arrangements for uncovered credit losses or uncovered liquidity shortfalls (in place of bail-in).
9.2 The existence of agreements should be made public. The home authorities may publish the broad structure of the agreements, if agreed by the authorities that are party to the agreement.	
10. Resolvability assessments	
10.1 Resolution authorities should regularly undertake, at least for G-SIFIs, resolvability assessments that evaluate the feasibility of resolution strategies and their credibility in light of the likely impact of the firm's failure on the financial system and the overall economy. Those assessments should be conducted in accordance with the guidance set out in Annex II [of the FSB Report].	Where FMIs play a critical role in the markets which they serve and are systemically important, they are generally presumed to require a resolvability assessment.

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10.2 In undertaking resolvability assessments, resolution authorities should in coordination with other relevant authorities assess, in particular: (i) the extent to which critical financial services, and payment, clearing and settlement functions can continue to be performed; (ii) the nature and extent of intra-group exposures and their impact on resolution if they need to be unwound; (iii) the capacity of the firm to deliver sufficiently detailed accurate and timely information to support resolution; and (iv) the robustness of cross-border cooperation and information sharing arrangements.	(i) The extent to which an FMI's participants and other FMIs to which it is linked are able to retain continuous access to the FMI's systemically important functions and services should be taken into account. (ii) Both intra-group exposures and interdependencies among FMIs, whether in a group or through inter-FMI links, would need to be considered in a resolvability assessment.
10.3 Group resolvability assessments should be conducted by the home authority of the G-SIFI and coordinated within the firm's CMG taking into account national assessments by host authorities.	See comments on KA 8.1 and CPSS-IOSCO Responsibility E. For some purely domestic FMIs, this KA may not be applicable. Moreover, the "group" concept should be adapted to the linked FMI concept.
10.4 Host resolution authorities that conduct resolvability assessments of subsidiaries located in their jurisdiction should coordinate as far as possible with the home authority that conducts resolvability assessment for the group as a whole.	See comments on KA 8.1 and CPSS-IOSCO Responsibility E. For some purely domestic FMIs, this KA may not be applicable.
10.5 To improve a firm's resolvability, supervisory authorities or resolution authorities should have powers to require, where necessary, the adoption of appropriate measures, such as changes to a firm's business practices, structure or organisation, to reduce the complexity and costliness of resolution, duly taking into account the effect on the soundness and stability of ongoing business. To enable the continued operations of systemically important functions, authorities should evaluate whether to require that these functions be segregated in legally and operationally independent entities that are shielded from group problems.	
11. Recovery and resolution planning	
11.1 Jurisdictions should put in place an ongoing process for recovery and resolution planning, covering at a minimum domestically incorporated firms that could be systemically significant or critical if they fail.	
11.2 Jurisdictions should require that robust and credible RRP, containing the essential elements	

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of Recovery and Resolution Plans set out in Annex III [of the FSB Report], are in place for all G-SIFIs and for any other firm that its home authority assesses could have an impact on financial stability in the event of its failure.	
11.3 The RRP should be informed by resolvability assessments (see Key Attribute 10) and take account of the specific circumstances of the firm and reflect its nature, complexity, interconnectedness, level of substitutability and size.	
11.4 Jurisdictions should require that the firm's senior management be responsible for providing the necessary input to the resolution authorities for (i) the assessment of the recovery plans; and (ii) the preparation by the resolution authority of resolution plans.	
11.5 Recovery plan Supervisory and resolution authorities should ensure that the firms for which a RRP is required maintain a recovery plan that identifies options to restore financial strength and viability when the firm comes under severe stress. Recovery plans should include: (i) credible options to cope with a range of scenarios including both idiosyncratic and market wide stress; (ii) scenarios that address capital shortfalls and liquidity pressures; and (iii) processes to ensure timely implementation of recovery options in a range of stress situations.	(ii) FMIs are subject to different regulatory capital and liquidity requirements than other financial institutions, therefore the scenarios are likely to be different. (iii) A consequence of the differences highlighted under (ii).
11.6 Resolution plan The resolution plan is intended to facilitate the effective use of resolution powers to protect systemically important functions, with the aim of making the resolution of any firm feasible without severe disruption and without exposing taxpayers to loss. It should include a substantive resolution strategy agreed by top officials and an operational plan for its implementation and identify, in particular: (i) financial and economic functions for which continuity is critical; (ii) suitable resolution options to preserve those functions or wind them down in an orderly manner; (iii) data requirements on the firm's business operations, structures, and systemically important functions; (iv) potential barriers to effective resolution and	(ii) The preservation of functions is particularly important for FMIs where substitutes are not readily available.

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actions to mitigate those barriers; (v) actions to protect insured depositors and insurance policy holders and ensure the rapid return of segregated client assets; and (vi) clear options or principles for the exit from the resolution process.	(v) Elements relating to the protection of insured depositors and insurance policy holders are not relevant to FMIs (see KA 2.3 (ii)).
11.7 Firms should be required to ensure that key Service Level Agreements can be maintained in crisis situations and in resolution, and that the underlying contracts include provisions that prevent termination triggered by recovery or resolution events and facilitate transfer of the contract to a bridge institution or a third party acquirer.	
11.8 At least for G-SIFIs, the home resolution authority should lead the development of the group resolution plan in coordination with all members of the firm's CMG. Host authorities that are involved in the CMG or are the authorities of jurisdictions where the firm has a systemic presence should be given access to RRP and the information and measures that would have an impact on their jurisdiction.	See comments on KA 8.1.
11.9 Host resolution authorities may maintain their own resolution plans for the firm's operations in their jurisdictions cooperating with the home authority to ensure that the plan is as consistent as possible with the group plan.	See comments on KA 8.1 and Sections 4.27 to 4.29 of this report, on essential elements of RRP.
11.10 Regular updates and review Supervisory and resolution authorities should ensure that RRP are updated regularly, at least annually or when there are material changes to a firm's business or structure, and subject to regular reviews within the firm's CMG.	See comments on KA 8.1 and Section 4.27 to 4.29 of this report, on essential elements of RRP.
11.11 The substantive resolution strategy for each G-SIFI should be subject, at least annually, to a review by top officials of home and relevant host authorities and, where appropriate, the review should involve the firm's CEO. The operational plans for implementing each resolution strategy should be, at least annually, reviewed by appropriate senior officials of the home and relevant host authorities.	This Key Attribute could be met through the arrangements for cooperation with other authorities as described under CPSS-IOSCO Responsibility E using the Key Attributes as needed to ensure cooperation with resolution authorities.
11.12 If resolution authorities are not satisfied with a firm's RRP, the authorities should require appropriate measures to address the deficiencies. Relevant home and host authorities should provide for prior consultation on the actions contemplated.	This Key Attribute could be met through the arrangements for cooperation with other authorities as described under CPSS-IOSCO Responsibility E using KA 11 as needed to ensure cooperation with resolution authorities and finance ministries.
12. Access to information and information sharing	
12.1 Jurisdictions should ensure that no legal, regulatory or policy impediments exist that hinder	

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the appropriate exchange of information, including firm-specific information, between supervisory authorities, central banks, resolution authorities, finance ministries and the public authorities responsible for guarantee schemes. In particular: (i) the sharing of all information relevant for recovery and resolution planning and for resolution should be possible in normal times and during a crisis at a domestic and a cross-border level; (ii) the procedures for the sharing of information relating to G-SIFIs should be set out in institution-specific cooperation agreements; and (iii) where appropriate and necessary to respect the sensitive nature of information, information sharing may be restricted, but should be possible among the top officials of the relevant home and host authorities.	See CPSS-IOSCO Responsibility E. (ii) This Key Attribute could be met through the arrangements for cooperation with other authorities as described under CPSS-IOSCO Responsibility E. (iii) FMIs are market neutrals, thus the concept of particularly sensitive trading data does not apply in the same way, although position information specific to individual members should be protected. Adequate safeguards should be provided for other relevant data.
12.2 Jurisdictions should require firms to maintain Management Information Systems (MIS) that are able to produce information on a timely basis, both in normal times for recovery and resolution planning and in resolution. Information should be available at the group level and the legal entity level (taking into account information needs under different resolution scenarios, including the separation of individual entities from the group). Firms should be required, in particular, to: (i) maintain a detailed inventory, including a description and the location of the key MIS used in their material legal entities, mapped to their core services and critical functions; (ii) identify and address exogenous legal constraints on the exchange of management information among the constituent entities of a financial group (for example, as regards the information flow from individual entities of the group to the parent); (iii) demonstrate, as part of the recovery and resolution planning process, that they are able to produce the essential information needed to implement such plans within a short period of time (for example, 24 hours); and (iv) maintain specific information at a legal entity level, including, for example, information on intra-group guarantees and intra-group trades booked on a back-to-back basis.	(iv) Intra-group issues, particularly back-to-back trades, are unlikely to be relevant to FMIs' activities.