

**United Kingdom: Observance by CREST of the CPSS-IOSCO Recommendations for  
Securities Settlement Systems Detailed Assessment of Observance**

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FINANCIAL SECTOR ASSESSMENT PROGRAM UPDATE

# UNITED KINGDOM

OBSERVANCE BY CREST OF THE CPSS-IOSCO  
RECOMMENDATIONS FOR SECURITIES SETTLEMENT  
SYSTEMS

# DETAILED ASSESSMENT OF OBSERVANCE

JULY 2011

INTERNATIONAL MONETARY FUND  
MONETARY AND CAPITAL MARKETS DEPARTMENT

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## GLOSSARY

AIM	Alternative, Junior Equities Market
BCP	Business Continuity and Disaster Recovery Plans
BANK	Bank of England
CASS	Client Assets sourcebook
CDI	Dematerialized depository receipts
CMA	Cash Memorandum Accounts
CREST	Crest Securities Settlement System
CSD	Central Securities Depository
DBV	Delivery by Value
DIs	Depository interests
DTCC	Depository Trust & Clearing Corporation
DvP	Delivery versus Payment
ETT	Electronic Transfer of Title'
EUI	Euroclear U.K. & Ireland Limited
Euroclear	Euroclear SA/NV Group
FSMA	Financial Services Authority
FSA	Financial Services and Markets Act
HMT	Her Majesty's Treasury
ICSD	International Central Securities Depository
MAC	Message Authentication Code
MiFid	Markets in Financial Instruments Directive
MMI	Money market instrument
MSCRA	Master Self-Collateralizing Repurchase Agreement
MTF	Multilateral Trading Facilities
MOU	Memorandum of Understanding
RCH	Recognized Clearing House
RSSS	Recommendations For Securities Settlement Systems
RUR	Register Update Request
RTGS	Real Time Gross Settlement
SFD	Settlement Finality Directive
SFR	Settlement Finality Regulations
SIS	SegaInterSettle
SLO	Stock loan
SSS	Securities settlement system
USRS	Uncertificated Securities Regulations 2001

## I. SUMMARY, KEY FINDINGS, AND RECOMMENDATIONS<sup>1</sup>

1. **The overall assessment is that the CREST system itself is reliable and effective in providing delivery versus payment settlement on a real-time gross basis.** There is, however, a residual interbank credit risk stemming from the U.S. dollar settlement mechanism. CREST's supervision and oversight are risk-based and thus are implemented on a prioritization basis. They have been strengthened since the crisis, at both the Bank of England (BoE) and the Financial Services Authority (FSA). Still at least 15 percent by value of equities and around 1 percent by value of gilts are not dematerialized, which involves operational costs for market participants. Exposures to commercial settlement banks are highly concentrated and growing, increasing credit risk outside the system.

### A. Introduction

2. **This assessment was undertaken in the context of an IMF Financial Sector Assessment Program (FSAP) exercise for the United Kingdom (U.K.) over the period January-July 2011, which included, inter alia, the Recommendations for Securities Settlement Systems (RSSS).**<sup>2</sup> This assessment covers the CREST securities settlement system (CREST) operated by Euroclear U.K. & Ireland Limited (EUI), which is the Central Securities Depository (CSD) of the United Kingdom, Ireland, Jersey, Guernsey, and the Isle of Man.

3. **CREST settles and holds a wide range of securities, including U.K. and Irish equities, gilts, corporate debt, money market instruments, warrants, and English Law depository receipts that represent international securities (equities, Eurobonds, and international warrants).** It acts as the CSD for U.K. securities, the vast majority of which is dematerialized. Since 2001, a transfer of securities in the book-entry system of CREST has constituted the legal transfer of title, with CREST records being the register for dematerialized securities under U.K. law. In addition, EUI runs a fully-owned subsidiary (CREST International Nominee Limited) which acts as depository/custodian for international securities settled in CREST, and issues CREST Depository interests, with exactly the same characteristics as the underlying international securities, but which can be settled in CREST under English law.

**CREST provides a delivery versus payment (DvP) settlement service in three currencies: sterling, euro, and U.S. dollars.** In sterling and euro, interbank cash settlement is on a real-time gross settlement (RTGS) basis in central bank money. The US dollar

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<sup>1</sup> The assessor was Christine Sampic, IMF Financial Sector Expert, in collaboration with Nikil Chande, Principal Researcher in the Department of Financial Stability at Bank of Canada.

<sup>2</sup> Issued in November 2001 by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO).

payment arrangements involve bilateral net interbank cash settlement after the end of the CREST settlement day, at a time and in a manner bilaterally agreed between each settlement bank. CREST also provides other services including collateral facilities, securities borrowing and lending functions, tax assistance and stamp duty, corporate actions facilities (including market claims management, automatic transformations and electronic proxy voting, income and redemptions, issuer and new issues services), and transaction reporting to the U.K. and Irish regulators.

## **B. Information and Methodology Used for Assessment**

4. **The assessors reviewed several previous assessments and held discussions with relevant parties.** During the 2002 FSAP, a detailed assessment was made of CREST against the RSSS. A follow-up of this assessment was undertaken as a selected issue in the context of the 2005 Article IV consultation. The FSA and the BoE conducted a formal assessment of CREST's observance of the RSSS in 2005 and published it in June 2006. In addition, a new assessment was prepared by the FSA with the BoE's input on CREST payment arrangements for Recommendations 7, 8, and 10 in December 2010 for the FSAP mission. The FSA also provided a number of documents **relevant for the assessment. Extensive meetings were held with officials from the FSA and the BoE, supplemented by discussions with officials from EUI as well as with representatives** of four CREST participants and two stock-exchanges.

5. **The assessment methodology for "Recommendations for Securities Settlement Systems" issued by the CPSS/IOSCO in November 2002, was used when assessing CREST.** In accordance with the assessment methodology, the assignment of an assessment category with respect to a Recommendation is based on the current situation existing without regard to any proposed or ongoing actions. Material changes underway are presented in the description and/or comment sections.

6. **Each Recommendation was assessed on a qualitative basis based on a five-fold assessment categorization: observed, broadly observed, partly observed, non-observed, and not applicable.** The categorization follows the guidelines in the assessment methodology. As a general principle, a Recommendation is considered observed whenever all assessment criteria are generally met without any significant deficiencies. A Recommendation is considered broadly observed whenever only minor shortcomings are found, which do not raise major concerns and when corrective actions to achieve full observance with the Recommendation are scheduled and realistically achievable within a prescribed period of time. A Recommendation is considered partly observed whenever the shortcomings are sufficient to raise doubts about the ability to achieve observance within a reasonable time frame. A Recommendation is considered non-observed whenever major shortcomings are found in adhering to the assessment criteria. Whenever a Recommendation is assessed to be broadly, partly or non-observed, suggestions are proposed for achieving full

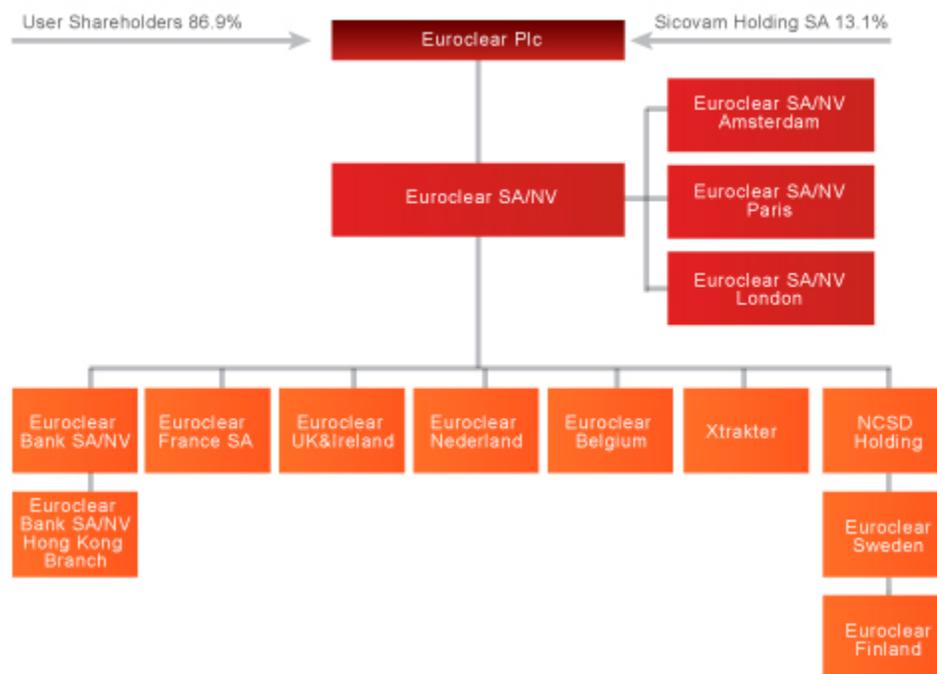
observance. A Recommendation is considered not applicable whenever it does not apply given the structural, legal, and institutional conditions.

7. **No obstacles were faced in the work.** The authorities and others were fully cooperative.

### C. Institutional and Market Structure—Overview

8. **CREST is the only securities settlement system (SSS) registered in the United Kingdom.** It is operated by EUI, which is a wholly owned subsidiary of the Euroclear SA/NV Group (Euroclear) based in Belgium (Figure 1). Euroclear SA/NV provides and supports the technical CREST services for EUI, but EUI is the U.K. regulated body and the Board of Directors of EUI is responsible for providing the CREST service to the U.K. and Irish markets.

**Figure 1. Euroclear Group Structure**



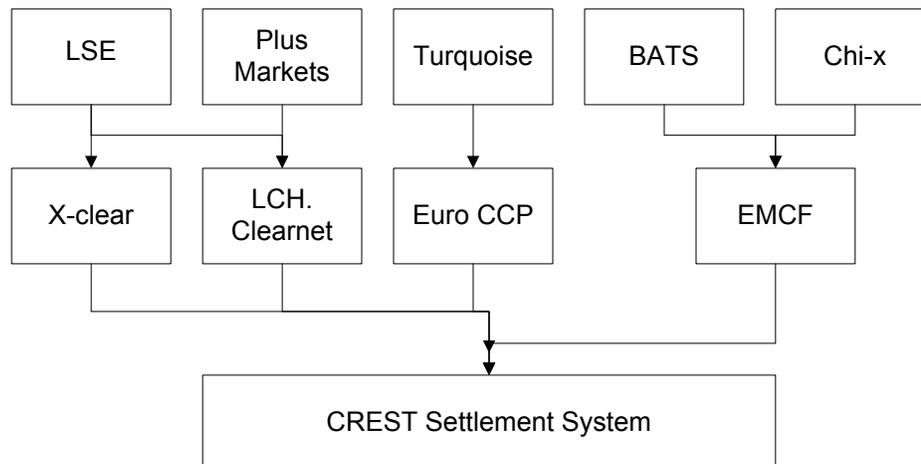
9. **Currently, there are two CCPs based in the United Kingdom, which clear securities: LCH. Clearnet Limited, a wholly owned subsidiary of the United Kingdom/France-based LCH. Clearnet group; and EuroCCP, a wholly owned subsidiary of the U.S.-based DTCC.**<sup>3</sup> In addition, two CCPs that hold a Recognized

<sup>3</sup> Depository Trust & Clearing Corporation.

Overseas Clearing House license clear U.K. securities: EMCF based in the Netherlands and SIX x-clear AG based in Switzerland.

10. **U.K. equities are traded across a number of trading platforms, including exchanges and Multilateral Trading Facilities (MTFs), and cleared via those four CCPs.** In 2010, around 60 percent by value of equities were traded on the LSE and cleared via LCH. Clearnet Limited and SIX x-clear. The remainder of equity trading was undertaken over-the-counter, and through the MTFs, mostly Chi-X, BATS and Turquoise, with Chi-X and BATS cleared by EMCF, and Turquoise cleared by Euro CCP (Figure 2). The PLUS Markets exchange offers trading in the alternative, junior equities market (AIM) and is cleared by LCH. Clearnet Limited. Transactions are settled in CREST; Euroclear Bank SA/NV (Euroclear), the Brussels based International Central Securities Depository (ICSD); and SegalInterSettle (SIS), the Zurich based ICSD.

**Figure 2. Exchanges, MTFs, and CCPs Settling in CREST**



11. **Bond trading is undertaken via MTFs, bilateral trading systems, and voice brokers; part of it is centrally cleared by LCH. Clearnet Limited.** Gilts and U.K. registered corporate debt instruments are settled in CREST.

12. **In 2010, on average the CREST system settled around 240,000 transactions on a daily basis with a value of around £0.6 trillion (1.6 trillion including the self-collateralized repos) with 99.5 percent being settled in sterling, 0.2 percent in U.S. dollars, and 0.1 percent in euro.** The U.K. government bonds (gilts) and money market instruments account for approximately 88 percent of the value of settlement. The value of securities held in CREST amounted to more than £3.3 trillion, of which 60 percent was equities.

#### D. Regulatory Framework—Overview

13. **The current tripartite structure in the United Kingdom was established in 1997.** It brings together those authorities with responsibilities connected to financial stability—HM Treasury (HMT), the FSA, and the BoE. The Memorandum of Understanding (MOU) between HMT, the Bank, and the FSA (2006) sets out the respective roles of each authority.

- HMT is responsible for the overall institutional structure of financial regulation and the legislation which governs it, including the negotiation of European directives; informing, and accounting to Parliament for the management of serious problems in the financial system and any measures used to resolve them; and accounting for financial sector resilience to operational disruption within government.
- The FSA is responsible for, inter alia, the supervision of financial markets, securities listings and of clearing and settlement systems; the conduct of operations in response to problem cases affecting firms, markets, and clearing and settlements systems and regulatory policy in these areas, including that intended to promote the resilience to the operational disruption of authorized firms and Recognized Bodies.
- The BoE contributes to the maintenance of the stability of the financial system as a whole – one of its two core purposes. This includes overseeing financial system infrastructure systemically significant to the United Kingdom, in particular payments systems whether based in the United Kingdom or abroad. The BoE advises the Chancellor, and answers for its advice, on any major problem arising in these systems. The BoE is also closely involved in developing and improving the infrastructure and strengthening the system to help reduce systemic risk.

14. **EUI is authorized as an operator of a relevant system under the Uncertificated Securities Regulations 2001 (USRs) and is regulated in the United Kingdom by the FSA as a Recognized Clearing House (RCH) under the Financial Services and Markets Act 2000 (FSMA).** EUI is also authorized as an operator of systems in Ireland, Jersey and the Isle of Man. CREST is also a designated system in the United Kingdom and Ireland under the Settlement Finality Directive (SFD).

15. **The BoE oversees EUI as an operator of an inter-bank payment system under Part 5 of the Banking Act 2009, which establishes a statutory regulatory regime for interbank payment systems.** Treasury recognized the embedded payment arrangements within CREST as an inter-bank payment system in January 2010. CREST is one of the largest embedded payment systems in the United Kingdom with daily cash movements of £1.6 trillion (including self-collateralized repos). The BoE and the FSA signed an MOU regarding the oversight of payments systems, which covers FSA regulated entities such as EUI that have embedded payment systems.

16. **A joint College of Regulators, with representatives of each member country of the Euroclear Group (United Kingdom/Ireland, France, Belgium, Netherlands, Sweden and Finland), meets quarterly and seeks to ensure a coordinated regulatory approach.** An MOU agrees the extent and methodology of cooperation between the participants.

17. **Treasury's consultation paper of February 2011 indicates that the government intends to transfer regulation and supervision of CCPs to the BoE by end 2012.** Under the proposed framework, the Bank would be directly responsible for supervising the providers of systemically important infrastructure. It would, therefore, remain the regulator of payment systems under Part 5 of the Banking Act 2009 and it would take over the FSA's responsibility for regulating settlement systems under the Uncertificated Securities Regulations 2001. The BoE would also be the regulator of central counterparties under the Financial Services and Markets Act (FSMA). This would bring the regulation of all three types of body together for the first time in the United Kingdom.

## **E. Main Findings**

### ***Legal framework (Rec. 1)***

18. **The settlement activities in the United Kingdom are governed by a consistent set of laws, regulations, and contractual arrangements that form a sound legal foundation for settlement and custody activities.** The legal regulatory framework is clear and transparent. The United Kingdom's implementation of European directives provides a firm statutory foundation for netting, set-off and securities lending, which is consistent with the other member states. Both securities and payment transfers, when finalized, and default arrangements are protected from the ordinary operation of U.K. and Ireland insolvency laws.

### ***Pre-settlement risk (Rec. 2–5)***

19. **Most trades between direct market participants are due to be confirmed the same day and settled on a continuous basis, using a rolling settlement cycle, three days after trade execution for equities, and between zero and three days for debt instruments (depending on the type of instrument and its maturity).** The assessors did not obtain the data to assess the performance of the securities trade confirmation process between direct market participants, and also were unable to assess the performance of trade confirmation at the indirect participant's level.

20. **The U.K. has well-developed securities lending and repo markets that contribute to the settlement process.** They are clearly acknowledged in, and supported by, law, regulation, tax and accounting systems. There is no specific regulatory regime for securities lending and repo markets, which are governed by contractual arrangements and codes of practice.

***Settlement risk (Rec. 6–10)***

21. **Since the 2002 FSAP, money market instruments have been fully dematerialized, which is a significant achievement.** However, in 2010, at least 15 percent by value of equities and around 1 percent by value of gilts were still not dematerialized, which involves operational costs for market participants. Following the 2009 General Election, the U.K. government considered dematerialization carefully, and concluded that it was not a priority, particularly given that there was not an overall consensus amongst interested stakeholders.

22. **DvP is achieved through the simultaneous transfer of funds and securities when settlement is executed in CREST accounts. CREST offers “model 1” DvP for sterling and euro transactions.** For US dollar transactions, CREST offers ‘model 2’ DvP. For U.S. dollar settlement, although cash and securities move in CREST on a transaction by transaction basis throughout the settlement day, the settlement banks bilaterally discharge their net payment obligations with each other arising from CREST settlement after the end of the CREST settlement day. They settle these payment obligations at a time and in a manner bilaterally agreed between themselves. There is an interbank credit risk stemming from this mechanism, which means that principal risk is not fully eliminated: if the paying CREST U.S. dollar settlement bank fails, CREST members are exposed to the risk that having delivered a security, they fail to receive payment for it. However, U.S. dollar transactions are presently small.

23. **There is a potential risk of revocability of the Irish, Jersey, Guernsey, and Isle of Man securities in the two hours following settlement due to the time needed to register them in local registrars.** But the ground upon which a registrar may refuse to register a transfer is very limited and clearly defined in the relevant regulations. In addition, related activity is very small and the risk has never materialized yet.

24. **Where CREST members share the same CREST Settlement Bank, the transactions between them are called ‘on-us transactions.’** The proportion of sterling transactions that are ‘on-us’ has steadily increased from around 15 percent at the start of 2008 to 40 percent in December 2010, illustrating the concentration of the custodian business (though a significant part of the increase is from transactions between CREST Settlement Banks’ own entities). In addition, exposures to commercial settlement banks are highly concentrated since two of them account for around 50 percent of the settlement value in sterling, thus increasing credit risk outside the system. This is a potential source of vulnerability since the unexpected unavailability of a major clearer would likely raise substantial liquidity pressures. Although these banks, which are very large, are well-supervised banks, it is essential that this particular dimension is carefully reflected in the supervisory process.

***Operational risk (Rec. 11)***

25. **The system is reliable and secure, and has adequate, scalable capacity. Contingency plans and back-up facilities are in place to allow for timely recovery of operations and completion of the settlement process.** However, EUI does not organize compulsory contingency testing for its largest participants. CREST does not have a second IT back-up site (three IT sites architecture), which would be welcome for such a core infrastructure.

***Custody risk (Rec. 12)***

26. **The CSD operates a “direct holding” system, where securities are registered in the name of the legal owner.** It offers the possibility to open individual accounts.

27. **The failure of Lehman Brothers International (LBIE) highlighted a number of areas where the protection of customers' securities against the claims of a custodian's creditors needed to be strengthened.** However, it should be noted that no difficulties stemmed from assets registered in EUI.

***Other issues (Rec. 13–19)***

28. **The CSD is owned by users and its Board of directors reflects the interest of shareholders, users, and the public interest.** Rules, procedures, fees and major decisions are all published on its external website.

29. **The CSD access criteria and the procedures for the exit of participants, whether initiated by the participant or by the CSD, are clearly stated in the participant rules and are disclosed on the CSD website.** However, according to the CREST Rules, existing Settlement Banks could potentially veto an applicant settlement bank.

30. **The CSD routinely reviews its pricing levels against its costs of operation. It also carries out user surveys and benchmarks its costs and charges against other systems.** Ad-hoc surveys are also used to assess user satisfaction with the system and the service it provides.

31. **The CSD rules and other contractual arrangements defining the rights and obligations of the participants are publicly available.** The CSD has published its self-assessment against the ESCB/CESR recommendations on its website.

32. **The role and responsibilities of relevant public authorities with respect to securities settlement activities are clearly defined and transparent.** The CSD's supervision and oversight are risk-based and thus are implemented on a prioritization basis. They have been strengthened since the crisis, both at the BoE and the FSA. Hiring and keeping the right expertise is challenging for them.

33. **The CSD has established three links with foreign securities settlement systems. Only one of them settles DvP, while the two others are free-of-payment.** Under the current conditions, the links do not seem to expose the CSD to potential credit risk and financial losses.

**Table 1. United Kingdom: Collation of Assessment Results by Assessment Category**

Assessment category	Recommendations
Observed	1, 3, 5, 6, 7, 8, 11,12, 13, 15, 16, 17, 18, 19
Broadly observed	2, 10, 14
Partly observed	
Non-observed	
Not applicable	4, 9

**Table 2. United Kingdom: Summary Observance**

Responsibility	Grading	Comments
<b>Legal risk</b>		
1. Securities settlement systems should have a well-founded, clear and transparent legal basis in the relevant jurisdiction.	Observed	
<b>Pre-settlement risk</b>		
2. Confirmation of trades between market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.	Broadly observed	This Recommendation is broadly observed since the assessors did not obtain the data to assess the performance of the securities trade confirmation process between direct market participants, and was also were unable to assess the performance of trade confirmation at the indirect participant's level.
3. Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be assessed.	Observed	
4. The benefits and costs of a central counterparty should be assessed. Where such a mechanism is introduced, the central counterparty should rigorously control the risks it assumes.	Non applicable	

5. Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.	Observed	
<b>Settlement risk</b>		
6. Securities should be immobilized or dematerialized and transferred by book entry in CSDs to the greatest extent possible.	Observed	<p>Additional comments: For the sake of efficiency and European harmonization, U.K. authorities could consider a mandatory dematerialization, as was carried out in many other countries (e.g. France and Sweden).</p> <p>There is a potential risk of revocability of the Irish, Jersey, Guernsey, and Isle of Man securities in the two hours following settlement although only in very limited and clearly defined circumstances set out in the relevant regulations. Even though the risks are made clear to members and the transactions are relatively small in volume and value, changes in the relevant legislation would be welcome. Meanwhile, it is important that this risk is not forgotten in the supervisory process.</p>
7. Securities settlement systems should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.	Observed	<p>Additional comment: Even though CREST US dollar volumes and values are currently small, there is an interbank credit risk stemming from the U.S. dollar payment arrangement, which means that principal risk is not fully eliminated (see Recommendation 10). The mission encourages EUI to implement alternative payment arrangements that can reduce this exposure (such as exposure limits, guarantee fund, etc...), in order to be prepared in case of an increase in U.S. dollar settlement activity. In addition, it is important that supervisors are aware of this risk exposure and can discuss it with banks in their risk assessments.</p>
8. Final settlement on a DVP basis should occur no later than the end of the settlement day. Intra-day or real-time finality should be provided where necessary to reduce risks.	Observed	

<p>9. Deferred net settlement systems should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest obligation is unable to settle. In any system in which a CSD extends credit or arranges securities loans to facilitate settlement, best practice is for the resulting credit exposures to be fully collateralized.</p>	<p>Non applicable</p>	
<p>10. Assets used to settle the cash leg of securities transactions between CSD members should carry little or no credit risk. If central bank money is not used, steps must be taken to protect CSD members from potential losses and liquidity pressures arising from the failure of a settlement bank.</p>	<p>Broadly observed</p>	<p>This Recommendation is broadly observed since there is no alternative risk mitigation arrangement in place, such as exposure limits, or guarantee fund, to reduce the credit risk associated with the U.S. dollar settlement in commercial bank money.</p> <p>Additional comment: The high concentration of activities in two settlement banks should be monitored by banking supervisors. Although these banks are very large and well-supervised, it is important that this particular dimension is carefully reflected in the supervisory process.</p>
<p><b>Operational risk</b></p>		
<p>11. Sources of operational risk arising in the clearing and settlement process should be identified and minimized through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and back-up facilities should be established to allow for timely recovery of operations and completion of the settlement process.</p>	<p>Observed</p>	<p>Additional comments: The mission encourages EUI to involve its largest participants in contingency testing on a compulsory basis. A third IT site would be welcome for such a core market infrastructure (a business case for the third IT site is being produced with the aim of implementing it in 2012).</p>
<p><b>Custody risk</b></p>		
<p>12. Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of a custodian's creditors.</p>	<p>Observed</p>	
<p><b>Other issues</b></p>		
<p>13. Governance arrangements for CSDs and central counterparties should be designed to fulfill public interest requirements and to promote the objectives of owners and users.</p>	<p>Observed</p>	

14. CSDs and central counterparties should have objective and publicly disclosed criteria for participation that permit fair and open access.	Broadly observed	This Recommendation is broadly observed because of the uncertainty on the access criteria for Settlement Banks. Indeed, CREST Rules do not exclude the possibility that existing Settlement Banks could veto an applicant settlement bank by defining new requirements at the moment it submits an application. CREST rules do not define the criteria on which the existing Settlement Banks should base their requirements.
15. While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.	Observed	
16. Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-border transactions.	Observed	
17. CSDs and central counterparties should provide market participants with sufficient information for them to accurately identify the risks and costs associated with using the CSD or central counterparty services.	Observed	
18. Securities settlement systems should be subject to regulation and oversight. The responsibilities and objectives of the securities regulator and the central bank with respect to SSSs should be clearly defined, and their roles and major policies should be publicly disclosed. They should have the ability and resources to perform their responsibilities, including assessing and promoting implementation of these recommendations. They should cooperate with each other and with other relevant authorities.	Observed	
19. CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlement.	Observed	

#### F. Recommended Action Plan and Authorities' Response

34. A recommended action plan to improve observance is presented in Table 3 for the RSSS that are not fully observed. Table 4 offers additional actions that go beyond observance.

#### Table 3. United Kingdom: Recommended Action Plan to Improve Observance

Reference Recommendation	Recommended Action
RSSS2	The regulatory authorities should monitor the performance of the trade confirmation process between direct market participants. In addition, the assessors encourage the U.K. authorities to work with market participants to ensure a good confirmation performance at the indirect participant level.
RSSS10	Risk mitigation arrangements, such as exposure limits and a guarantee fund, should be put in place to reduce the credit risk associated with the U.S. dollar settlement in commercial bank money.
RSSS14	All the requirements to be a euro or sterling Settlement Bank should be clearly defined in the CREST Rules. Existing Settlement Banks should not be in a position to veto an applicant euro or sterling Settlement Bank.

**Table 4. United Kingdom: Additional Action Plan**

Reference Recommendation	Recommended Action
RSSS6	For the sake of efficiency and European harmonization, U.K. authorities could consider a mandatory dematerialization, as was carried out in many other countries (e.g. France and Sweden). Changes in the relevant legislation should eliminate the potential risk of revocability of the Irish, Jersey, Guernsey, and the Isle of Man securities in the two hours following settlement. Meanwhile, it is important that this risk is not forgotten in the supervisory process.
RSSS7	EUI should implement alternative payment arrangements that can reduce this exposure (such as exposure limits, guarantee fund, etc...), in order to be prepared in case of an increase in U.S. dollar settlement activity. In addition, it is important that supervisors are aware of this risk exposure and can discuss it with banks in their risk assessments.
RSSS10	The high concentration of activities in two settlement banks should be monitored by banking supervisors. Although these banks are very large and well-supervised, it is important that this particular dimension is carefully reflected in the supervisory process.

Reference Recommendation	Recommended Action
RSSS11	<p>The mission encourages EUI to involve its largest participants in contingency testing on a compulsory basis.</p> <p>A third IT site would be welcome for such a core market infrastructure. A business case for the third IT site is being produced with the aim of implementing it as appropriate in 2012.</p>

### *Authorities' response to the assessment*

35. **The U.K. authorities welcome this assessment of the CREST settlement system against the CPSS IOSCO recommendations for securities settlement systems (RSSS).**

36. **The U.K.'s supervision and oversight of Euroclear U.K. and Ireland, the operator of the CREST system has changed since the financial crisis.** It is therefore reassuring that the IMF notes the strengthened supervision and oversight of Euroclear UK and Ireland.

37. **The assessment identifies recommended actions which would improve observance with the RSSS.** The U.K. authorities will consider and review all of the assessors' recommendations and additional actions, and look to use ongoing supervision and oversight to ensure UK settlement arrangements remain robust and resilient.

38. **Finally, the authorities wish to express their strong support of the Financial Sector Assessment Program initiative and look forward to a continuing dialogue with the IMF and other global counterparts to seek to improve the stability and effective supervision of the global financial system.**

## II. DETAILED ASSESSMENT

39. **The detailed assessment provides a "description" of the system with regard to a particular Principle, a grading or "assessment," and a "comments" section (Table 5).**

- **Description.** This section provides information on the recommendation being assessed, based on the "key questions" included in the *Assessment Methodology*. Responses reflect the actual practices followed by the SSS operator and participants and the competent domestic authorities in their oversight, regulation, or supervision of SSSs or their participants.
- **Assessment.** This section contains only one line, stating whether the recommendation is observed, broadly observed, partly observed, not observed, or not applicable.
- **Comments.** This section explains why the recommendation is not observed. It describes the actions that system operators, participants, or domestic authorities have proposed or that are ongoing in the jurisdiction to improve observance of the

recommendations and the proposed timetable for their completion. Additional comments are proposed to go beyond the strict implementation of the RSSS, based on best practices.

**Table 5. United Kingdom: Detailed Assessment of Observance**

Recommendation 1.	Securities settlement systems should have a well-founded, clear and transparent legal basis in the relevant jurisdiction.
Description	<p><b>KQ1- Are the laws, regulations, rules and procedures, and contractual provisions governing securities settlement arrangements public and readily accessible to system participants?</b></p> <p>The EUI legal framework consists of statutory provisions in the relevant jurisdictions, as well as contractual agreements between EUI and its Participants. The statutory provisions, which are public and readily accessible to system participants, are the following:</p> <ul style="list-style-type: none"> <li>• EUI’s responsibilities as an RCH are set out in FSMA (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations (SI 2001/1060). The FSA’s ‘REC’ sourcebook applies additional guidance on compliance with the Recognition Requirements Regulations. As a recognized body, EUI has to demonstrate its compliance with REC on an ongoing basis.</li> <li>• EUI’s responsibilities as an “Operator of a Relevant System” are set out in the Uncertificated Securities Regulations 2001(USRs). This allows EUI to operate a system for the electronic holding and settlement of U.K. securities. EUI’s approval under the USR can be withdrawn at any time for failure to comply with the USR.</li> <li>• EUI is also an ‘Operator of a Relevant System’ under regulations equivalent to the U.K. USRs made in Ireland (the Irish Companies Act 1990 (Uncertificated Securities) Regulations 1996, Jersey (the companies Law 1991 Companies (Uncertificated Securities) Order 1999, and the Isle of Man (The Isle of Man Companies Act 1992 Uncertificated Securities Regulations 2005). Guernsey is a special case because specific USR legislation does not exist, but Guernsey shares are still eligible for settlement provided the issuing company makes provision for this in its articles of association.</li> <li>• CREST is also a ‘designated system’ under the U.K. Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (SI 2979/1999) (‘SFRs’). The designation under the SFRs provides protections from the insolvency of a participant. CREST is separately designated under Irish regulations equivalent to the SFRs, the European Communities Settlement Finality Regulation 2008.</li> </ul> <p>The rules and procedures which apply specifically to CREST and its participants are set out in the CREST Manual and CREST terms and Conditions, which are exclusively governed by English law and are available on the EUI website.</p> <p>Bilateral and multilateral contractual arrangements between EUI, the Bank, and the CREST Sterling Settlement Banks govern the operation and provision of the DvP payment arrangements in Sterling; they are exclusively governed by English law.</p> <p>Bilateral and multilateral contractual arrangements between EUI, the Central Bank of Ireland (CBI) and CREST Euro settlement banks govern the operation and provision of the DvP arrangements in Euro. These contracts are governed by Irish and English Law.</p> <p>Bilateral and multilateral contractual arrangements between EUI and the CREST US Dollar</p>

Settlement Banks govern the operation and provision of the DvP payment arrangements in US Dollar.

**KQ2 - Does the legal framework demonstrate a high degree of legal assurance for each aspect of the settlement process?**

**(i) Does the legal framework demonstrate a high degree of legal assurance that:**

**(a) transactions are enforceable?**

The legal framework governing the CREST system offers a high degree of legal assurance that transactions are enforceable. The rights and obligations of parties to, and the enforceability of, transactions in the CREST system are subject to a broad and detailed treatment in this legal framework. The statutes, regulations, and agreements are clearly stated, understandable, internally coherent, and unambiguous.

The FSA approves CREST rules that relate to regulatory provisions, in particular for default procedures, among other things, checking whether they comply with the relevant legal framework. For most of the rest, the FSA adopts a non-objection stance.

**(b) Customers' assets are adequately protected (particularly against the insolvency of custodians and intermediaries)?**

EUI as the CSD has no legal title to the securities on its books, and customer assets are legally protected against the insolvency of the CSD and/or a custodian or intermediary.

MiFID (European directive 2004/39/EC) provides for the protection of client's assets. Following the implementation of MiFID in the United Kingdom, the FSA's rules provide for the protection of clients assets in the following ways:

- The FSA's Principles for Business apply to all firms, setting out their fundamental obligations, including Principle 10: "A firm must arrange adequate protection for clients' assets when it is responsible for them."
- The Client Assets sourcebook (CASS) contains the FSA's rules on how authorized firms hold and control client assets. Its objectives is to ensure that the clients' assets cannot be used by a firm for its own account, and that, in insolvency, as far as possible, clients get back their rightful entitlement assets.

The FSA's client asset rules do not apply directly to EUI as it falls outside the scope of the relevant MiFID provisions relating to client asset segregation. However, the rules do impose obligations on investment firms (including brokers and custodians) when they effect transactions, or provide safe custody services, using the CREST system.

EUI offers the possibility to open accounts to individuals but only as "Sponsored Members" which means that they technically access the system through a sponsoring user.

**(ii) Does the legal framework demonstrate a high degree of assurance that there is a clear and effective legal basis for:**

**(a) arrangements for the immobilization or dematerialization of securities and the transfer of securities by book entry?**

The USRs provide the legal basis for the dematerialization of U.K. securities and the transfer of dematerialized securities by way of the CREST system. They provide that the CREST account recording the securities is the legal register of title and gives the account holder legal title to the securities that are recorded in its account. A transfer of securities takes place when the transferor's account is debited and the transferee's account is credited with

securities. This transfer might be without payment or against a payment that occurs in the relevant CREST cash accounts of each party. At the same time transferee's account has been credited, legal title passes and can be said to be final.

**(b) netting arrangements?**

The netting rules are part of the CREST rules and are therefore enforceable against CREST participants. Indeed, netting and set-off are well protected in English law. Contractually agreed netting and set-off rights survive insolvency and English insolvency law also provides for a form of statutory insolvency set-off. The United Kingdom's implementation of the Financial Collateral Directive provides a firm, statutory foundation for netting and set-off.

**(c) securities lending arrangements (particularly the ability to obtain a security interest in assets)?**

EUI provides facilities for bilateral stock lending and repurchase between CREST participants. EUI does not act as an intermediary. Arrangements for stock lending are governed by external agreements such as the Master Gilt Edged Stock Lending Agreement, the Global Master Securities Lending Agreement, and the Bank of England's Securities Lending and Repo Committee Stock Borrowing and Lending Code of Guidance.

These contractual arrangements fall within the definition of a "title transfer financial collateral arrangement" within The Financial Collateral Arrangements (No.2) Regulations 2003 (the U.K. implementation of the Financial Collateral Directive) and as such, are protected against provisions of insolvency law that could otherwise interfere with a party's right to enforce security interests upon insolvency. These Regulations provide a strong legal foundation for title transfer arrangements and "re-characterization risk" is lower in the United Kingdom than in some non-EU jurisdictions. A collateral-taker under a title transfer financial collateral arrangement obtains rights that are quickly and easily enforceable upon default and that are binding on third parties.

**(d) finality of settlement?**

The principal purpose of the Settlement Finality Regulation (and the U.K. and Irish Settlement Finality Regulations), which transposes the European Settlement Directive in the United Kingdom, is to mitigate the systemic risk implications of any failure in the finality of a payment or transfer of title to securities in payment systems and securities settlement systems. The Directive's provisions address three broad issues:

- the enforceability of netting arrangements in the event of the insolvency of a "participant";
- the dis-application of certain provisions of insolvency law which might otherwise interfere with the finality of payment or securities settlement effected through a "designated system" (in particular certain so-called "zero hour" rules); and
- the protection of "transfer orders" (settlement instructions) which have entered a designated system from revocation by the participant who sent the instruction (or by any third party) after a point specified by the rules of the system.

The FSA and the Central Bank of Ireland have both exercised their discretion to extend the definition in the Directive of "participant" (which, broadly speaking, only extends to entities which carry on banking or investment business or the functions of a central counterparty or settlement agent) to include corporate bodies which do not fall within the definition in the Directive and Personal Members also.

The Settlement Finality Regulation states that each system has to:

- (a) specify the point at which a transfer order takes effect as having been entered into the system,
- (b) specify the point after which a transfer order may not be revoked by a participant or any other party, and
- (c) prohibit the revocation by a participant or any other party of a transfer order from the point specified in accordance with paragraph (b).

Due to the finality regulations in the SFR no retroactive action is possible from one of the counterparties on the day a bankruptcy procedure is opened against a participant with respect to the transactions entered by that participant until the system had notice of the insolvency event.

Rule 13 of CREST Rules implements those requirements: the moment a transfer order enters CREST is when the CREST settlement instruction is received by the CREST system. The moment when the transfer order becomes irrevocable is the point at which the CREST transaction is no longer capable of being amended or deleted by a single party to the transaction (in short when the CREST transaction is matched). This does not prevent both parties to amend or delete a transaction by consent (using CREST matched deletion functionality). The circumstances in which a transaction may be amended or deleted are set out in the CREST Manual.

Rule 17 defines the moment when CREST payment is complete. The debit on the cash memorandum account (CREST cash account) constitutes the discharge of the buying member's payment obligation to the selling member. Further, both in the context of central bank money payments and the assured payments mechanism, the debit to the cash memorandum account triggers the creation of an irrevocable and unconditional "settlement bank payment obligation" due from the buyer's settlement bank to the seller's settlement bank. Under the RTGS payments mechanism, the sterling settlement bank payment obligation is immediately discharged by payment in central bank money at the end of the CREST settlement cycle under the "RTGS procedures" and the euro settlement bank payment obligation is discharged at the end of the day (however, for both sterling and euro, the liquidity provided by the settlement bank to settle transactions in CREST has already been irrevocably earmarked on their CREST account at the Bank or the CBI respectively). Under the assured payments mechanism for US dollar arrangements, settlement bank payment obligations are netted at the end of the CREST day and then settled after the end of the CREST day (at a time and in a manner bilaterally agreed between each settlement bank). Hence, in terms of 'legal finality', payments in CREST are considered to be 'final' when the participant's CREST cash account is debited. However, in terms of 'cash finality', the timing of when payee CREST US Dollar Settlement Banks and payee CREST Members actually receive funds is dependent on arrangements external to CREST.

Rule 14 defines the moment of final delivery. In November 2001, 'electronic transfer of title' (ETT) was introduced for all U.K. securities. For all ETT securities the principal risk is eliminated in relation to linking of securities transfer as CREST is the official register for dematerialized instruments: there is no time lag between settlement and registration. However, for non-ETT (i.e. non-U.K. securities including Jersey, Guernsey and Isle of Man) eligible securities it is still necessary to wait for up to 2 hours for the Registrar to respond before legal transfer of title can occur. During that period the purchaser of the securities is protected by the creation of the equitable interest in those securities.

**(e) arrangements for achieving delivery versus payment?**

Bilateral and multilateral contractual arrangements between EUI, the Bank, and the CREST

sterling Settlement Banks govern the operation and provision of the DvP payment arrangements in sterling; they are exclusively governed by English law.

Bilateral and multilateral contractual arrangements between EUI, the CBI and CREST Euro settlement banks governed the operation and provision of the DvP arrangements in euro. These contracts are governed by Irish and English Law.

Bilateral and multilateral contractual arrangements between EUI and the CREST US dollar Settlement Banks govern the operation and provision of the DvP payment arrangements in US dollar.

English law recognizes the effectiveness of the DvP arrangement defined by contract. Once the settlement occurs on a DvP basis, the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 give primacy to system rules, ensuring that settlements are not vulnerable to unwind/clawback by an insolvency office holder (liquidator/administrator).

**(iii) Has a court in the jurisdiction ever failed to uphold the legal basis of these activities/ arrangements? And if so, for what reasons?**

There is no case law in which the rules and regulations of EUI were successfully challenged or overruled. The most important legal arrangements for the operation of a settlement system (settlement finality and financial collateral) are well protected in the United Kingdom. The courts of the jurisdiction function adequately; property and contract rights are well defined and respected; and there are proper procedures for legal redress and dispute resolution. An individual or firm, who believes its basic rights are violated and not respected in a court of law or the judicial treatment of its case was not ruled correctly, may, after exhausting the domestic appellate process and where the case involves questions of Community law, have its case referred to European Courts (ECJ and European Court of Human Rights).

**KQ3 - Are the rules of the system and contracts between system participants enforceable notwithstanding the insolvency of a participant?**

Since CREST is a designated system under the SFRs, both securities and payment transfers and default arrangements are protected from the ordinary operation of United Kingdom and Ireland insolvency laws. The CREST rules include default arrangements that are enforceable by EUI in the event of a participant's insolvency. EUI has to disable a participant upon receiving notice of an insolvency event affecting it. That prevents settlement of any further trades which that participant is a party to. Thus, instructions that have not settled at the time of disablement, even already matched and irrevocable, do not continue to settlement. According to the current Rule 13, EUI will issue a direction to the counterparties to delete these transactions. Trades already settled are not affected. Consequently, the finality of both securities and payment transfers settled before the time of insolvency for sterling and euro is protected from legal challenge in the event a participant becomes insolvent.

The U.S. dollar embedded payment arrangements are currently supported by end-of-day settlement of bilateral net assured obligations between pairs of CREST U.S. dollar settlement banks after the end of the CREST day. EUI and the CREST Settlement Banks have received legal opinions on US entities becoming CREST settlement banks. The legal opinions suggested that it was unlikely that the provisions of US insolvency law might prevent an orderly completion of cash settlement in the US if a US incorporated CREST U.S. dollar settlement bank failed.

**KQ4 - (i) Is there a significant level of cross-border participation in the SSS? If so, please describe and answer Question 4(ii).**

	<p>In January 2011 there were 647 foreign participants, of which 48 corporates.</p> <p>EUI operates 3 international links with CSDs, one from Belgium, one from the US, and one from Switzerland.</p> <p>Foreign securities that are held in CREST are deposited with various overseas CSDs as part of the CREST International Service. A wholly-owned subsidiary of EUI (CREST Depository Limited), through its nominee, holds the underlying international securities in an account in the relevant CSDs (either directly or through a sub-custodian).</p> <p><b>(ii) Are other jurisdictions relevant for determining the adequacy of the legal framework?</b></p> <p><b>How has this been determined? Has the legal framework been evaluated for the other relevant jurisdictions? Are there conflict of laws issues and, if so, have they been addressed?</b></p> <p>Rights and obligations in connection to CREST participation are determined by an English court applying the law governing the system. For non-EEA participants in an English designated system, an English court can initiate English-law-governed insolvency proceedings, or recognize and give effect to other insolvency proceedings, usually governed by the home state law. In either case, the English court is precluded from making orders which would be contrary to the Settlement Finality Directive requirements.</p> <p>Under the Settlement Finality Directive, in any insolvency proceedings in respect of a participant before a court of an EEA state, the court is required to apply the “governing law” of the designated system to determine any question relating to the rights and obligations arising from the participant’s participating in the designated system. So an EEA court would be required to apply English insolvency law (including the U.K. Settlement Finality Regulations) to determine the finality of a transfer order given by a participant of the CREST system. Therefore, if an EEA court initiated the insolvency, the overseas liquidator would have no more power or ability to override settlement finality protections in a U.K. system than a U.K. insolvency-office holder (i.e. the settlements would still be safe).</p> <p>CREST Rules state that participants which are incorporated outside the United Kingdom, if required to do so by EUI, provide a legal opinion from an independent legal adviser acceptable to EUI regarding, inter alia, the user’s or participant’s capacity to execute and be bound by the provisions of the CREST Terms and conditions or equivalent agreements executed by the user or participant. As of January 2011, 763 legal opinions have been provided to EUI.</p> <p>EUI conducts extensive legal due diligence prior to the establishment of a link with an overseas system, including obtaining necessary authorization from local authorities. Establishing when transactions in a CSD are final is a crucial element of the due diligence process, as well as operational and risk management issues. This work is presented in detail in the document ‘International Legal Framework’, which is posted on the EUI website.</p> <p>As part of its admission process for Depository Interests (DIs), which are instruments constituted by a third party depository to facilitate the settlement of foreign securities in CREST, EUI requires a legal opinion from that depository. The legal opinion addresses potential conflict of law.</p>
Assessment	Observed
Comments	
Recommendation 2.	Confirmation of trades between market participants should occur as soon as possible after trade execution, but no later than trade date (T+0). Where confirmation of trades by indirect

	market participants (such as institutional investors) is required, it should occur as soon as possible after trade execution, preferably on T+0, but no later than T+1.
Description	<p><b>KQ1 - What percentage of trades between direct market participants is submitted to a trade confirmation system on the trade date (T+0)? How soon after submission are problems communicated to the appropriate parties?</b></p> <p>EUI does not provide trade confirmation services, other market infrastructures do, in particular exchanges platforms. There are essentially two types of process. Trades conducted on some platforms are novated with the clearing house which then undertakes the confirmation of trades or provision of trade information back to the executing parties (or their clearing members). In other cases the confirmations are sent by the platform itself to the market participant via automated immediate post trade mechanisms and/or other means (e.g. periodic downloading of the order book, telephone confirmations and other bespoke systems). In most cases 100 percent of trades registered through an exchange platform must be confirmed or sent to a CCP on trade date (T+0). However, one platform has a 99 percent same day confirmation.</p> <p>No quantitative data were provided to the mission on the confirmation process for OTC transactions.</p> <p><b>KQ2- Does the CSD require settlement instructions to be matched prior to settlement?</b></p> <p>CREST requires that all bilateral transactions be matched before settlement can take place. Unmatched instructions will remain in the system for a period of 30 business days after the intended settlement date (ISD). After this time they are automatically deleted by the system. In 2009, 90 percent of trades (by volume) were matched by T+0.</p> <p>There is a Settlement Discipline regime that consists of standards relating to matching and settlement, and sanctions for breaches of those standards, which penalizes late equity matching of FTSE 350 stocks as well as Gilts and money market instruments. EUI runs the regime on behalf of the market.</p> <p><b>KQ3- Are there trade confirmation procedures that are capable of comparing trade information between direct and indirect market participants by T+1? Is use of the system mandatory? For what types of indirect market participants? Of those trades involving indirect market participants for which confirmation is required, what percentage is confirmed by T+0, by T+1, by the contractual settlement date?</b></p> <p>In general, market infrastructure providers do not have trade confirmation systems which can identify indirect market participants, given that their contractual obligations are only with direct participants. It is left to the direct market participant to deal with its clients. Indeed, the FSA Conduct of Business Handbook – ICOBS states that firms have to provide their clients with the essential information concerning the execution of their orders (which is different from a trade confirmation) as soon as possible and no later than the first business day following that execution (this does not apply to a firm managing investments).</p> <p>The FSA may review the level of outstanding trading confirmations at an entity specific level. However, there is limited look-through to indirect participants at a global level and no quantitative data were provided to the mission on the confirmation process.</p>
Assessment	Broadly observed
Comments	This Recommendation is broadly observed since the mission did not get the data to assess the performance of the securities trade confirmation process between direct market

	participants, and was not able to assess the performance of trade confirmation at indirect participant's level either.
Recommendation 3.	Rolling settlement should be adopted in all securities markets. Final settlement should occur no later than T+3. The benefits and costs of a settlement cycle shorter than T+3 should be assessed.
Description	<p><b>KQ1- Are trades settled on a rolling basis of T+3 or shorter?</b></p> <p>Although CREST provides T+0 trade settlement facility, the rolling settlement cycle for equities has been T+3 since February 2001. For gilts, which account for approximately 80 percent of the value of settlement in CREST, the cycle is generally T+1 but with a significant T+0 component. For Money Market Instruments the cycle is generally T+O.</p> <p><b>KQ2 - What percentage of trades (by number and value) fails to settle on the contractual date? What is the average duration of fails (by number and value)?</b></p> <p>2010 percentages of failed transactions are 5.75 percent by volume and 1.23 percent by value. The average duration of fails is one day.</p> <p><b>KQ3 - Do market practices, regulations or SSS rules provide incentives for counterparties to settle their obligations on the contractual date? What forms do these incentives take, for example are penalties assessed for failing to settle? What steps, if any, are taken to mitigate the risks of fails? Are fails required to be marked to market? Are open positions required to be closed out at market prices if the duration of the fail exceeds a specified number of business days? What entity or entities establish, monitor and enforce these requirements?</b></p> <p>Market practices are designed to incentivize settlement on contractual date through a settlement discipline regime administered by EUI on behalf of the market. A market committee sets out the standards, and imposes sanctions for breaches of those standards (interest payments and fines). Settlement Discipline standards have been tightened over time.</p> <p>The FSA requires firms to mark settlement fails to market and take a capital charge against the possibility that settlement may never occur.</p> <p><b>KQ4 - If settlement is on an account period basis or on a rolling basis at T+3 or longer, have the benefits and costs of a rolling cycle or a shorter settlement cycle been evaluated? If so, by whom? Has the evaluation been documented? What was the conclusion? Did the conclusion differ depending on the type of security?</b></p> <p>The work done by the European commission on harmonizing and reducing settlement cycles has so far resulted in postponing the endorsement of a T+2 settlement cycle across Europe. However, the European commission public consultation on a CSD piece of legislation, released in January 2011, envisages a general requirement for T+2 settlement cycles across Europe.</p>
Assessment	Observed
Comments	
Recommendation 4.	The benefits and costs of a central counterparty should be assessed. Where such a mechanism is introduced, the central counterparty should rigorously control the risks it assumes.

Description	<p>The following entities provide clearing services for U.K. traded securities: SIX X-clear AG, LCH. Clearnet Limited, Euro CCP, and EMCF.</p> <p>More than 85 percent of the transactions are cleared before being settled in CREST.</p> <p>LCH. Clearnet Limited, which is the largest one, is assessed against the CPSS Recommendations for central counterparties in the context of the FSAP.</p>
Assessment	Not applicable
Comments	
Recommendation 5.	<p>Securities lending and borrowing (or repurchase agreements and other economically equivalent transactions) should be encouraged as a method for expediting the settlement of securities transactions. Barriers that inhibit the practice of lending securities for this purpose should be removed.</p>
Description	<p><b>KQ1 - Are markets or facilities for securities lending (or repurchase agreements and other economically equivalent transactions) clearly supported by legal, regulatory, accounting and tax systems?</b></p> <p>The market for securities lending and repurchase agreements is clearly acknowledged in, and supported by, law, regulation, tax and accounting systems. The Stock Lending and Repo Committee (SLRC) chaired by the Bank is a forum for discussions on structural and legal developments in stock lending markets between market participants and authorities, including the removal of barriers.</p> <p><b>KQ2 - Are there markets or facilities for securities lending (or repurchase agreements and other economically equivalent transactions)? If any, are they used as a method to expedite securities settlement? How wide is the range of securities and participants involved in the markets?</b></p> <p>There are active markets for securities lending, repos, and other collateralized borrowing for U.K. government debt and corporate securities.</p> <p>In addition, EUI currently provides securities lending and collateral transfer functionality through three transaction types:</p> <ul style="list-style-type: none"> <li>• the stock loan;</li> <li>• the delivery by value; and</li> <li>• the repo.</li> </ul> <p>EUI securities lending and collateral transfer functionality allows two parties to transact with each other as principal or agent. EUI itself is not counterparty to the loan or repo transaction.</p> <p>EUI securities lending functionality enables members to borrow and lend securities using the stock loan (SLO) transaction type. The functionality is consistent with the principles of the Global Master Securities Lending Agreement; however, EUI does not monitor or enforce compliance with it. An essential feature of the agreement, and thus the SLO transaction, is that title to all securities and collateral passes from one party to the other outright. The party acquiring title is obliged to redeliver equivalent rather than identical securities. Although the transaction designation SLO suggests that it may only be used for securities loan and borrowing purposes, its use can actually result from lending, repo or sale and buy-back arrangements (though there are transaction types and related functionality specifically available to support settlement under repo agreements). Stock loans require the independent</p>

input of instructions by both the borrower and lender. Upon settlement of the stock loan, the system automatically creates a pre-matched stock loan return instruction. The earliest settlement date of the SLR is one business day after the loan settled, reflecting market preference rather than system limitations.

Delivery by Value (DBVs) transactions enable CREST members to give and receive packages of securities as collateral, usually against the creation of a payment in sterling, euros, U.S. dollars, or free of payment. In addition to specifying a value of securities, members must also agree and specify which category of securities will be delivered. Securities that have been admitted for settlement in CREST are assigned to one of various security categories for the purpose of DBV transactions. With the current overnight DBVs, securities and cash (if applicable) are transferred in a discrete settlement window close to the end of the day and then returned from the start of the next business day. The CREST daily timetable permits DBV settlement for gilts, equities, and money market instruments (MMIs) from 15:00 to 15:40 for euros and U.S. dollars, and from 15:00 to 16:10 for sterling each day. DBV transactions are used in particular as a delivery tool for the Bank's monetary policy operations, with the drawback of having to enter transactions every day for most of them (those which have a longer term than overnight). To reduce operational risk, EUI will introduce a Term DBV service in June 2011. The Term DBV service will be offered in addition to the existing overnight DBV service, making it possible for CREST members to hold DBVs with maturities of up to two years.

CREST repo functionality enables members to give and receive packages of securities as collateral within CREST, usually against the creation of a CREST payment. Repo transactions settle during the normal CREST settlement periods and so cannot settle during DBV processing. The repo functionality permits between one and ten lines of security to be delivered as collateral, either as a term repo (where a return date is specified) or as an open repo (where no return date is specified). The Repo Return Date can be specified up to 520 days in the future. Additionally, it permits interest to be accrued, lines of collateral to be substituted in and out of the repo and the early return or roll-over of a term repo. Repo (RPO) transactions require bilateral input of instructions by the borrower and the lender. These instructions must be matched in the CREST system before they can be processed for settlement. Upon settlement of the RPO transaction, a repo return (RPR) transaction is created for each line of securities within the original RPO transaction.

Finally, to ease the securities settlement in CREST, EUI and the Bank offer a self collateralized repo (SCR) facility whereby for an eligible CREST transaction members can choose to repo SCR eligible securities to their settlement bank who in turn repo those securities onto the Bank in exchange for liquidity in sterling. The securities currently eligible for SCR Transactions consist of sterling U.K. Government Securities, sterling treasury bills and sterling Non-U.K. Government Securities (Bulldogs) issued by EEA governments or international financial institutions. Settlement banks must have signed the RTGS CREST Mandate Agreement and the Master Self-Collateralizing Repurchase Agreement (MSCRA) in order to enter into SCR transactions. CREST Members also need to sign an agreement with their settlement bank to allow their transactions to be used for SCR purposes.

The self-collateralization service is an on-supply model, meaning purchases that are eligible for self-collateralization always generate liquidity in this manner, whether it is needed or not. Consequently the amount of outstanding SCR may be significant (around GBP 100 billion currently). This could cause a residual credit risk to the Bank in the event of a CREST operational failure if CREST cannot recover by the end of the day, as the Bank will have to

	<p>extend credit overnight (which will be collateralized and with margins applied to protect against price volatility). The self-collateralization service will be replaced by a new auto-collateralization service under a EUI project currently scheduled to go-live in February 2012. With this the settlement banks will only repo securities to the Bank on an 'on-demand' basis where they need additional liquidity to settle the underlying transaction. This means that 'on us' transactions (where both members are using the same settlement bank to make and receive payments for their respective accounts) will not initiate an auto-collateralization transaction and generate liquidity for the settlement bank. As with the current self-collateralization service, the new auto-collateralization service will be available for GBP settlement only. The auto-collateralization service should contribute to a significant reduction in the value of outstanding intraday credit value and consequently reduce the credit and liquidity risks resulting from a CREST operational or technical failure. Currently, credits of liquidity received by settlement banks cannot be re-used for settlement during the same settlement cycle. The settlement bank must wait until the next settlement cycle to be able to use the liquidity credits received from the previous settlement cycle. This restriction will be removed to reduce the need to generate auto-collateralization and help maintain settlement efficiency (this is currently intended to be launched Q1 2012).</p> <p>The combination of Term DBV and new auto-collateralization will reduce the existing SCR credit and liquidity risks. Term DBV will reduce the amount of 'SCRs' generated in the afternoon DBV window and at the start of the next day. New auto-collateralization will reduce the amount of 'SCRs' generated as they will only be initiated on an 'on demand basis.' Liquidity re-use during the CREST Settlement cycle should also reduce Settlement Bank's liquidity requirements, therefore reducing their need for SCRs to raise liquidity.</p> <p><b>KQ3 - Do supervisors and overseers review risk management procedures for securities lending? Do they have policies with respect to these activities?</b></p> <p>The International Securities Lending Association (ISLA) assists in the orderly, efficient and competitive development of the international securities lending market. In this, ISLA works closely with regulators and in the United Kingdom has representation on the SLRC, a committee of market practitioners chaired by the Bank. The Association has contributed to a number of major market initiatives, including the development of the U.K. Stock Borrowing and Lending Code of Guidance and the industry standard lending agreements, the Overseas Securities Lending Agreement (OSLA) and the Global Master Securities Lending Agreement (GMSLA).</p> <p>The FSA is currently completing a thematic review on securities lending.</p>
Assessment	Observed
Comments	
Recommendation 6.	Securities should be immobilized or dematerialized and transferred by book entry in CSDs to the greatest extent possible.
Description	<p><b>KQ1 - Are securities issued on a dematerialized basis or as a physical certificate? If the latter, are they immobilized in a CSD to facilitate settlement? What percentage of securities issued domestically is either immobilized or dematerialized, and what is the trend? Is the transfer of securities carried out by book entry or does it require any form of physical delivery?</b></p> <p>Securities held in CREST are all dematerialized, not immobilized; all transfers of securities in CREST are book entry, there are neither vaults nor paper in CREST.</p>

	<p>Customers who wish to hold securities in physical form can withdraw them from or hold them outside CREST. EUI provides services to support the market in the delivery of physical securities to and from the registrar. This is done through the CREST Courier and Sorting Service operated by TNT. In addition EUI allows access to ordinary private individuals to be members of CREST and maintain a direct name on register and relationship with the issuing company.</p> <p>Since the 2002 FSAP, money market instruments have been fully dematerialized and registered, which is a significant achievement. However, in 2010, at least 15 percent by value of equities and around 1 percent value of gilts were still not dematerialized, which involves operational costs for market participants. New issues in paper form are still happening. The U.K. securities market is a registrar governed market: the Company Act states that every issuer needs to register its issues in a registrar, which creates, proofs and prints shares certificates as required. Following the 2009 General Election, the U.K. Government considered dematerialization carefully, and concluded that it was not a priority, particularly given that there was not an overall consensus amongst interested stakeholders. It decided not to take forward the dematerialization of paper share certificates.</p> <p><b>KQ2 - Is there a lag between settlement and registration and what are the implications of the time lag for finality? If the CSD is not the official registrar, does the transfer of securities in the CSD result in the transfer of securities in the official register?</b></p> <p>In November 2001, 'electronic transfer of title' (ETT) was introduced for all U.K. securities. For all ETT securities the principal risk is eliminated in relation to linking of securities transfer as CREST is the official register for dematerialized instruments: there is no time lag between settlement and registration. However, for non-ETT (i.e. non-U.K. securities including Ireland, Jersey, Guernsey and Isle of Man) eligible securities it is still necessary to wait for up to 2 hours for the Registrar to respond before legal transfer of title can occur (registration must occur within two hours of CREST settlement and generally occurs within 30 minutes). The key difference is that, in relation to Guernsey, Irish, Isle of Man and Jersey securities, the CREST records do not constitute the legal register. Instead, the legal register is maintained outside CREST by or on behalf of the relevant participating issuer. The book entry movement within CREST therefore does not constitute a transfer of legal title. Instead the issuer (or its registrar) registers a transfer of legal title on the register in response to an instruction from the CREST system. During that period the purchaser of the securities is protected by the creation of the equitable interest in those securities. If the registrar rejects registration (registration must be refused where a transfer is prohibited by a court order or by or under an enactment; and it may be refused in some circumstances, including where the transferee is not a legal or natural person or is a minor), EUI maintains rules to manage the reversal of settlements (including payments). This has never happened to date, but in any event means that there is an element of revocability for these instruments.</p>
Assessment	Observed
Comments	<p>Additional comments:</p> <p>For the sake of efficiency and European harmonization, U.K. authorities could envisage a mandatory dematerialization, as this was the case in many countries (e.g. France and Sweden).</p> <p>There is a potential risk of revocability of the Irish, Jersey, Guernsey, and Man securities in the two hours following settlement. Even though the risks are made clear to members and the transactions are relatively small in volume and value, changes in the relevant legislations would be welcome. Meanwhile, it is important that this risk is not forgotten in the supervisory</p>

	process.
Recommendation 7.	Securities settlement systems should eliminate principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.
Description	<p><b>KQ1 - Does the technical, legal and contractual framework ensure that delivery of securities takes place if, and only if, payment is received? If so, how?</b></p> <p>In order to settle transactions involving payment, a member must have an arrangement with a settlement bank in order to support the cash settlement of its CREST transactions. The settlement bank provides its client, the CREST member, with an intraday credit facility called a debit cap. EUI records the respective member cash obligations with their settlement banks on Cash Memorandum Accounts (CMAs). The CMA reflects the CREST Member's net credit or debit position against their settlement bank during the day. The CREST Member settles the net obligation on their CMA with their settlement bank on a daily basis, normally at the end of day, outside CREST, and based on the commercial arrangements between them. At any point during the day, a member's available credit, called headroom, is the sum of the CREST Member's unused debit cap and any credit balance on the CMA. A CREST transaction will only settle if the buying and selling CREST Members have sufficient headroom on their CMA.</p> <p>Following a contractual arrangement between two parties (members 1 and 2), each party creates a settlement instruction and sends it over the network to CREST. In the U.K. and Irish markets this is typically done on the trade date. CREST compares both settlement instructions. If the details contained within the instructions correspond, the transaction is matched. On the intended settlement date, CREST checks that the seller has sufficient securities; that the buying and selling member has sufficient headroom; and that the buyer's settlement bank has sufficient liquidity. If all of the above requirements are met, the transaction is settled. Simultaneously, securities are moved from the seller's member account to the buyer's member account; liquidity is moved from the buyer's settlement bank to the seller's settlement bank in CREST; and the members' CMAs are debited/credited to reflect the member/bank obligations. A register update request (RUR) is generated for the issuer's registrar so that the issuer's copy of the CREST record can be updated.</p> <p>The last step of the settlement process is the settling of net obligations between settlement banks. For sterling and euro transactions, each settlement bank maintains sterling and euro liquidity balances with the Bank and the CBI respectively. These balances are specifically earmarked for CREST settlement. Therefore there is no uncertainty as regards final cash net settlement. Therefore, CREST currently offers "model 1" DvP for Sterling and Euro transactions.</p> <p>For US Dollar transactions, CREST currently offers 'model 2' DvP. Indeed, even though cash and securities move in CREST on a transaction by transaction basis throughout the settlement day, the settlement banks then settle cash with each other after the end of the CREST day on a bilateral net basis, at a time and in a manner bilaterally agreed between each settlement bank.</p> <p>The application of the SFD to CREST covers the calculation of the bilateral net assured payment obligations between CREST US Dollar Settlement Banks. The CREST payment becomes 'irrevocable' and 'unconditional' when the CREST Member's cash memorandum account (CMA) is debited. However, and even though U.S. dollar transactions presently are small, there is an interbank credit risk stemming from this mechanism, which means that principal risk is not fully eliminated: if the paying CREST U.S. dollar settlement bank fails,</p>

	<p>CREST members are exposed to the risk that having delivered a security, they fail to receive payment for it (see also Recommendation 10). Indeed, if their settlement banks (the receiving ones) are not paid by the failing settlement bank, it is most likely they may not pay their clients (this will depend on the contractual arrangements between CREST members and their settlement banks).</p> <p><b>KQ2 - What proportion of trades between direct participants of the CSD (by value) is settled on a DVP basis?</b></p> <p>For all transactions, participants may chose DvP payments in sterling, euro, or US dollar; or free of payment transfers. In 2009, over 80 percent by number of transactions involved two different direct participants (the rest of the transactions were between the different accounts of a participant). Of these transactions, 92.8 percent were processed on a DvP basis.</p>
Assessment	Observed
Comments	<p>Additional comment:</p> <p>Even though CREST US dollar volumes and values are currently small, there is an interbank credit risk stemming from the U.S. dollar payment arrangement, which means that principal risk is not fully eliminated (see Recommendation 10). EUI should implement alternative payment arrangements that can reduce this exposure (such as exposure limits, guarantee fund, etc...), in order to be prepared for an increase of the U.S. dollar settlement activity. In addition, it is important that supervisors are aware of this risk exposure and can discuss it with banks in their risk assessments.</p>
Recommendation 8.	Final settlement on a DVP basis should occur no later than the end of the settlement day. Intra-day or real-time finality should be provided where necessary to reduce risks.
Description	<p><b>KQ1 - Does the CSD permit final settlement of securities transfers by the end of the settlement day? Is the timing of settlement finality clearly defined for transactions within the CSD and for transactions over a link to another CSD?</b></p> <p>For CREST, the moment a transfer order enters CREST is when the CREST settlement instruction is received by the CREST system. The moment when the transfer order becomes irrevocable is the point at which the CREST transaction is no longer capable of being amended or deleted by a single party to the transaction (in short when the CREST transaction is 'matched'). In terms of '<i>legal finality</i>' and the SFD, payments in CREST are considered to be 'final' when the Paying CREST Member's CMA is debited. For euro and sterling transactions, this is underpinned by an irrevocable and unconditional undertaking by the CBI and the Bank respectively to debit the paying CREST settlement bank's and credit the Payee CREST settlement bank's RTGS accounts in central bank money. For dollar transactions, the timing of when the payee CREST Dollar Settlement Banks and payee CREST Members actually receive funds is dependent on commercial bank arrangements external to CREST.</p> <p>CREST operates cross-border links with DTCC, and Euroclear (for free of payments transactions) and SIS (for free of payments transactions and "DvP link"). There are no provisional transfers within these links, and consequently all transfers into CREST via these links are final and irrevocable. The same timing of settlement finality as for "pure" CREST transactions applies. Therefore, likewise, the timing of when payee CREST dollar Settlement Banks and payee CREST Members actually receive funds is dependent on commercial bank arrangements external to CREST (for US dollar settlement through SIS "DvP link").</p> <p><b>KQ2 - Does the CSD permit final settlement of DVP transfers on a continuous basis</b></p>

	<p><b>throughout the day or at certain designated times during the day? If the latter, at what times do transfers become final? Is there a need for intraday or real-time finality to reduce risks? Do central banks use the SSS in monetary policy operations or to collateralize intraday credit extensions in a payment system? Do active trading parties or CCPs have a need for intraday or real-time finality to manage their risks effectively? Is there a need for intraday or real-time finality to facilitate settlement through links to other CSDs? Is there a need for intraday finality to facilitate the smooth functioning of some markets (for example, repurchase agreement markets)?</b></p> <p>CREST permits final settlement of DVP transfers on a continuous basis throughout the day. There is no overnight batch processing, so all processing is done during the day in real time.</p> <p>The Bank uses CREST to receive collateral to support its monetary policy operations and to receive collateral to provide intraday liquidity to its RTGS CHAP Sterling Settlement Banks. The Bank also provides intraday liquidity to CREST Sterling Settlement Banks through CREST Self-Collateralizing Repo transactions.</p> <p><b>KQ - . Does the CSD prohibit the unilateral revocation of unsettled transfer instructions late in the settlement day? Does the CSD receive provisional transfers of securities from any other CSDs? If so, does it prohibit retransfer of these securities until they become final? If not, what would be the consequences of an unwind of such provisional transfers for the CSD's participants?</b></p> <p>Once transactions are matched in the CREST system they are irrevocable. They cannot be unilaterally revoked. The system does not allow provisional transfers of securities from other systems.</p>
Assessment	Observed
Comments	
Recommendation 9.	Deferred net settlement systems should institute risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest obligation is unable to settle. In any system in which a CSD extends credit or arranges securities loans to facilitate settlement, best practice is for the resulting credit exposures to be fully collateralized.
Description	<p><b>KQ1 - A CSD that extends intraday credit to participants should, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle. Risk controls should be imposed to control potential losses and liquidity pressures from participants' failures to settle.</b></p> <p>CREST does not extend intraday credit to its participants.</p> <p><b>KQ2 - Overdrafts or debit balances in securities should not be permitted.</b></p> <p>CREST does not allow debit balances in securities.</p> <p><b>KQ3 - . The probability and potential impact of multiple settlement failures should be evaluated relative to the costs to ensure settlement in such an event.</b></p> <p>CREST is not a deferred net settlement system; it settles on a gross basis.</p>
Assessment	Not applicable
Comments	
Recommendation 10.	Assets used to settle the cash leg of securities transactions between CSD members should carry little or no credit risk. If central bank money is not used, steps must be taken to protect

	<p>CSD members from potential losses and liquidity pressures arising from the failure of a settlement bank.</p>																																	
<p>Description</p>	<p><b>KQ1 - Is the settlement agent the central bank that issues the currency? If the central bank is settling in a foreign currency, what steps has it taken as settlement agent to ensure that the settlement assets pose little or no credit or liquidity risk? If the central bank is not used, what steps have been taken to protect CSD members from failure of the cash settlement agent? Is the CSD itself organized as a limited purpose bank? Does it strictly limit any risks associated with non-settlement activities?</b></p> <p>For all currencies, CREST has a tiered settlement system: all members must have a CREST settlement bank.</p> <p>For euro and sterling transactions, CREST has a tiered central bank money settlement system. The Bank is the final Settlement Agent for sterling, settling CREST sterling payment obligations between CREST Sterling Settlement Banks. The CBI is the final Settlement Agent for euro, settling CREST euro obligations between CREST euro Settlement Banks. Bilateral agreements between CREST Settlement Banks and their CREST Members determine the arrangements (e.g. the timing and circumstances) external to CREST, for the CREST Settlement Bank and CREST member settling the latter's position on their CMA in the CREST Settlement Bank's own books which is settled in commercial bank money. Where CREST Members share the same CREST Settlement Bank, their transactions are called 'on-us transactions'. The proportion of sterling transactions that were 'on-us' transactions steadily increased from around 15 percent at the start of 2008 to 26 percent end-2009, to 40 percent in December 2010, illustrating the concentration of the custodian business.</p> <div data-bbox="690 1045 1218 1512"> <table border="1"> <caption>Approximate data from the 'On Us' Settlement chart</caption> <thead> <tr> <th>Time</th> <th>'On Us' Settlement (%)</th> <th>'On Us' as % of Sterling DVP (£bn)</th> </tr> </thead> <tbody> <tr> <td>Dec 2007</td> <td>~15%</td> <td>~80</td> </tr> <tr> <td>Apr 2008</td> <td>~20%</td> <td>~90</td> </tr> <tr> <td>Aug 2008</td> <td>~25%</td> <td>~100</td> </tr> <tr> <td>Dec 2008</td> <td>~30%</td> <td>~110</td> </tr> <tr> <td>Apr 2009</td> <td>~35%</td> <td>~120</td> </tr> <tr> <td>Aug 2009</td> <td>~40%</td> <td>~130</td> </tr> <tr> <td>Dec 2009</td> <td>~45%</td> <td>~140</td> </tr> <tr> <td>Apr 2010</td> <td>~50%</td> <td>~150</td> </tr> <tr> <td>Aug 2010</td> <td>~55%</td> <td>~160</td> </tr> <tr> <td>Dec 2010</td> <td>~60%</td> <td>~170</td> </tr> </tbody> </table> </div> <p>III. CREST data on 'on-us' settlement includes settlement related to the Settlement Bank's own proprietary business between its own entities as well as its clients' activities. Data from a Correspondent Banking Survey in March 2010 suggested that 'on-us' settlement for the two largest CREST Settlement Banks was mainly business between their own entities rather than between their clients. For example, a substantial increase in one of these CREST Settlement Bank's on-us values in 2010 - which significantly contributed to the overall growth in 'on-us' settlement' - was due to it transferring securities between its trading and prudential accounts, to take advantage of an increase in yields for that security.</p> <p>For US dollar transactions, CREST has a tiered commercial bank money settlement system. The CREST US dollar Settlement Banks are the Settlement Agents for US dollar settlement.</p>	Time	'On Us' Settlement (%)	'On Us' as % of Sterling DVP (£bn)	Dec 2007	~15%	~80	Apr 2008	~20%	~90	Aug 2008	~25%	~100	Dec 2008	~30%	~110	Apr 2009	~35%	~120	Aug 2009	~40%	~130	Dec 2009	~45%	~140	Apr 2010	~50%	~150	Aug 2010	~55%	~160	Dec 2010	~60%	~170
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The Settlement Banks bilaterally settle net payment obligations with each other after the end of the CREST settlement day at a time and in a manner bilaterally agreed between each settlement bank, which exposes settlement banks to credit risk. Bilateral agreements between CREST Settlement Banks and their CREST Members determine the arrangements (e.g. the timing and circumstances) external to CREST, for the CREST Settlement Bank and CREST Member settling the latter's position on their CMA in the CREST Settlement Bank's own books. If the paying CREST U.S. dollar settlement bank fails, CREST members are exposed to the risk that having delivered a security, they fail to receive payment for it. Principal risk is therefore not eliminated.

The Bank set up a working group with EUI in 2006 to consider how US Dollar payment risks could be significantly and permanently reduced. The group concluded that the type of risk mitigation measures used in other systems were either disproportionate to the risks involved or would not significantly reduce the largest exposures. Following this, the FSA made sure that CREST US settlement banks and their CREST members understood the risks arising from US dollar settlement and that they had appropriate systems and controls in place to monitor them. US dollar settlement has remained modest relative to those for sterling settlement: between 10/01/2011 and 12/31/2011, the highest average net daily settlement position amounted to U.S. dollar 50 k. The daily average transactions value was U.S. dollar 1.8bn in December 2010 compared to U.S. dollar 10bn in December 2007. EUI and the Bank are monitoring CREST US dollar payment arrangements and may seek to pursue further depending on the future volume and value of US dollar settlement.

**KQ2 - Are settlement banks subject to prudential supervision by government authorities? Who determines which institutions can be used as settlement institutions? What are the criteria? If multiple settlement institutions can be used in principle, how many are used in practice? How concentrated are payment flows? On an average day, what percentage of total payments is credited to accounts at the institution that accounts for the largest share of payment flows? What is the financial condition of that institution (for example, its capital ratios and its credit ratings)? Are the concentration of exposures and the financial condition of the settlement banks monitored and evaluated? If so, by whom?**

EUI, the relevant Central Bank (the Bank for sterling and the CBI for euro), and the existing CREST Settlement Banks determine who can act as a CREST Settlement Bank. A prospective CREST Settlement Bank has to meet EUI's participation criteria, which were discussed by EUI, the CREST Settlement Banks and the Bank. CREST US dollar Settlement Banks themselves impose additional requirements that are outlined in the CREST Rules, including the CREST Settlement Bank and its Correspondent Bank having a sufficient credit rating: long term credit rating of investment grade (BBB-, Baa3 and BBB-) and a short-term rating of F3, P-3 or A-3 or above from two of Fitch Inc., Moody's Investor Services and Standard & Poor's. Settlement Banks are subject to prudential supervision by the FSA.

Payment flows are highly concentrated: in December 2010, the top three settlement banks, including the Bank, accounted for more than 60 percent of the total value of sterling payments credited to accounts (excluding the Bank, the top two commercial settlement banks accounted for around 50 percent of the settlement value in sterling). This is a potential source of vulnerability since the unexpected unavailability of a major clearer would likely raise substantial liquidity pressures. This concentration is related to several factors, among which the concentration of the clearing business. Indeed, the concentration that occurs is in those settlement banks that provide services for third parties. At the same time, the number

	<p>of settlement banks (for own account purposes) is growing (4 banks are in the pipeline to join as settlement banks, for own account only).</p> <p><b>KQ3 - How quickly can recipients use the proceeds of securities settlements? On the same day? Intraday?</b></p> <p>CREST Members can use the proceeds they received at the end of each settlement cycle to settle further CREST transactions in the following settlement cycles. They are around 350 cycles per day (1 to 3 minutes per settlement cycle).</p> <p>The way that CREST Members can use the proceeds they receive in CREST outside CREST depends on the contractual arrangements they have with their CREST settlement bank. In general these proceeds would become available to be used outside CREST at the end of the day rather than intraday.</p> <p><b>KQ4 - Does the payment system used for interbank transfers among settlement banks observe CPSIPS?</b></p> <p>The Bank oversees CREST as an inter-bank payment system under Part 5 of the Banking Act 2009. It assesses CREST annually against the Bank's Principles, which are based on CPSIPS and includes four additional principles. The last assessment was conducted in 2010.</p>
Assessment	Broadly observed.
Comments	<p>This Recommendation is broadly observed since there is no alternative risk mitigation arrangement in place, such as exposure limits, or guarantee fund, to reduce the credit risk associated with the U.S. dollar settlement in commercial bank money.</p> <p>Additional comment:</p> <p>The high concentration of activities in two settlement banks should be monitored by banking supervisors. Although these banks are very large and well-supervised, it is important that this particular dimension is carefully reflected in the supervisory process.</p>
Recommendation 11.	Sources of operational risk arising in the clearing and settlement process should be identified and minimized through the development of appropriate systems, controls and procedures. Systems should be reliable and secure, and have adequate, scalable capacity. Contingency plans and back-up facilities should be established to allow for timely recovery of operations and completion of the settlement process.
Description	<p><b>KQ1 - Does the system operator have a process for identifying and managing its operational risks?</b></p> <p>Yes, Euroclear has established an Enterprise Risk Management (ERM) framework that supports risk management activities in EUI. This framework details how risks are identified, monitored, assessed, and reported. It also describes relevant risk processes, individual roles and information circuit.</p> <p>There is also an Operational Risk Policy, whose objectives are to identify, measure, manage and control operational risk factors; develop operational risk mitigation strategies; reduce the likelihood and impact of loss events; and define the roles and responsibilities. Operational Risk policies and procedures are reviewed and updated annually. The verification of controls defined within the risk policy and support procedures is achieved through formal risk assessment processes.</p> <p><b>KQ2 - Does the system operator have contingency plans and backup facilities for the failure of key systems, and are these tested and reviewed regularly with participants</b></p>

**taking part? Do contingency plans ensure at a minimum that the status of all transactions at the time of the disruption can be identified with certainty in a timely manner? How long does it take to recover operations through backup systems? Do the procedures provide for preservation of all transaction data? How does the system operator ensure the integrity of messages?**

EUI is part of the U.K. Critical National Infrastructure program and is designated as a Economic key point. This leads to a specific focus on effective business continuity arrangements and places EUI under the scrutiny of the security services.

Business Continuity and Disaster Recovery Plans (BCP) are in place; they are maintained by the Business Continuity Manager and updated at least twice annually or after a significant internal or external disaster/event by each Department/business Unit manager. Copies are stored securely both on-site and off-site. The main elements of the BCP are:

- Recovery of computer operations via a dedicated computer back-up centre (with transfers of production between both sites every two months – both sites are located in France and are 20 kms apart one another); EUI is currently considering whether to support the CREST service using the Euroclear Group's third data centre.
- Full, synchronous, data mirroring to ensure that identical data exist at the back-up data centre.
- Recover of business operations. The dual active/active office concept allows for immediate transfer of operations in case one of the offices becomes unavailable, this structure also provides live and back-up arrangements for the local legal securities record (both office sites are located in the Great London, 25 miles apart);
- Stringent testing, and
- Fully documented incident and crisis management procedures.

EUI offers testing services to its participants on a paying basis. However, there are no compulsory tests for participants, even the largest ones. The top 10 participants in terms of volume account for more than 38 percent of the activity and the top 10 participants in terms of value account for around 50 percent of the activity: the operational failure of one or several top10 participants to interact with CREST would be very disruptive for CREST and the market, hence the need to be sure they are operationally reliable and have in place tested contingency arrangements.

The Bank and EUI hold mandatory annual 'top up and draw down tests' with CREST Settlement Banks, which test CREST Settlement Banks manually transferring liquidity between the Bank's RTGS system and CREST when the automated link between the two systems is down.

For IT related incidents service can be recovered within two hours, however in most cases customers are able to access the system within one hour of a decision to swap. For incidents which impact operations centers (offices) recovery is instantaneous through the use of dual office, remote access, and staff located across sites.

The integrity of every member message sent to or from the system is checked by calculating a unique Message Authentication Code (MAC), which is attached to the original message. Each MAC is computed using a cryptographic algorithm and uses a secure key known only to the user with the public key being available to the system.

	<p><b>KQ3 - Are operational reliability issues reviewed regularly by senior management, including review by persons not responsible for the relevant operations? Are periodic external audits of the IT (information technology) system conducted? Is there an independent internal audit function and does it review operational risk controls?</b></p> <p>As well as EUI's Internal Audit Department, independent external auditors (Price Waterhouse Coopers) conduct an annual SAS 70 review of EUI's operations. It covers the internal control policies, procedures and controls, both manual and computer based, and an assessment of the effectiveness of the operations. The latest report, available to all members, was independently reviewed by both internal and external auditors with positive rating.</p> <p><b>KQ4 - How many times during the last year has a key system failed? What is the most common cause of failures? How long did it take to resume processing? How much transaction data, if any, was lost? Does the system operator have capacity plans for key systems and are key systems tested periodically to determine if they can handle stress volume?</b></p> <p>According to EUI, the annual system uptime target of 99.8 percent was achieved in 2009 and 2010: actual result was 99.92 percent in 2009 and 99.93 percent (vs. a wider scope) in 2010. There were 11 failures in 2009, the most common cause being application defects. There was no loss of data and minimal client impact.</p> <p>Systems have been designed to be scalable and applications are subject to volume test before release into production.</p>
Assessment	Observed
Comments	<p>Additional comments:</p> <p>The mission encourages EUI to associate its largest participants in contingency testing on a compulsory basis.</p> <p>A third IT site would be welcome for such a core market infrastructure (a business case for the third IT site is being produced with the aim of implementing as appropriate in 2012).</p>
Recommendation 12.	Entities holding securities in custody should employ accounting practices and safekeeping procedures that fully protect customers' securities. It is essential that customers' securities be protected against the claims of a custodian's creditors.
Description	<p><b>KQ1 - What arrangements are used to protect customers' securities from theft, loss or misuse and to ensure that they will not become subject to claims of the custodian's creditors (for example, are segregation, insurance, or compensation schemes used)? Are those arrangements based upon specific laws and regulations? In the event of the custodian's insolvency, do those arrangements enable a customer's positions to be moved by a receiver to a solvent intermediary?</b></p> <p>EUI does not have a lien on the securities settled in the CREST system other than for international securities. CREST intermediates the ownership of international securities through a wholly owned subsidiary. Such securities are held under an English law trust arrangement for the benefit of the relevant CREST members.</p> <p>The insolvency of a custodian or other intermediary (whether the CREST Depository or otherwise) that holds any securities in CREST on behalf of clients, under a properly constructed English law trust, would not ordinarily pose a threat to the proprietary interest of the client. MiFID (European directive 2004/39/EC) provides for the protection of client's</p>

	<p>assets. Following the implementation of MiFID in the United Kingdom, the FSA's rules provide for the protection of clients assets in the following ways:</p> <ul style="list-style-type: none"> <li>• The FSA's Principles for Business apply to all firms, setting out their fundamental obligations, including Principle 10: "A firm must arrange adequate protection for clients' assets when it is responsible for them."</li> <li>• The Client Assets sourcebook (CASS) contains the FSA's rules on how authorized firms hold and control client assets. Its objectives is to ensure that the clients' assets cannot be used by a firm for its own account, and that, in insolvency, as far as possible, clients get back their rightful entitlement assets.</li> </ul> <p>EUI offers the possibility to open accounts to individuals but only as "Sponsored Members" which means that they technically access the System through a sponsoring direct Member.</p> <p>The failure of Lehman Brothers International (LBIE) highlighted a number of areas where the client assets sourcebook (CASS) should be strengthened. However, it should be noted that no difficulties stemmed from assets registered in EUI. The FSA decided to strengthen the regulation in a number of areas, mainly: increased re-hypothecation disclosure and transparency in the prime brokerage community; enhanced client money and assets protection; and increased CASS operational oversight. The new rules will come into force over the course of 2011.</p> <p><b>KQ2 - How often do the entities holding securities in custody reconcile their records? Are the entities holding securities in custody subject to mandatory internal or external audit, or both, to determine if there are sufficient securities to satisfy customer claims?</b></p> <p>Automatic reconciliations of stock and cash holdings recorded at CSDs/ sub custodians against CREST's own records of these holdings are performed daily on a transaction and balance basis.</p> <p>The Client Assets sourcebook (CASS) defines the reconciliations requirements for custodians, both for internal reconciliation of safe custody assets held for clients and reconciliations with external records. In particular it states that they must conduct on a regular basis, reconciliations between their internal accounts and records and those of any third parties by whom those safe custody assets are held. Custodians' auditors have to confirm in the report submitted to the FSA (Duties of auditors: notification and report on client assets) that their clients have maintained systems adequate to enable them to comply with the custody rules.</p> <p><b>KQ3 - Are the entities holding securities in custody subject to prudential supervision or regulation? Do regulatory reviews examine the procedures and internal controls used in the safekeeping of securities?</b></p> <p>All custodians are supervised by the FSA, including EUI (for its activities as a custodian).</p>
Assessment	Observed
Comments	
Recommendation 13.	Governance arrangements for CSDs and central counterparties should be designed to fulfill public interest requirements and to promote the objectives of owners and users.
Description	<b>KQ1 - What are the governance arrangements of the CSD or CCP? What information is publicly available regarding the system, its ownership and its board and management</b>

**structure, and the process by which major decisions are taken and management made accountable?**

EUI is 100 percent owned by Euroclear SA/NV, a Belgium Societe Anonyme, which is also the parent company of Euroclear France, Euroclear Nederland, Euroclear Belgium, Euroclear Finland, Euroclear Sweden, Euroclear Bank, and Xtrakter (London-based trade matching provider). Euroclear SA/NV is itself owned by Euroclear plc which is a U.K.-registered private company owned by 216 user-shareholders, mainly banks and brokers.

EUI has its own Board of Directors, which is composed of 7 Directors, of whom two are executives of EUI and two are independent from management of EUI or of its parent company and three are nominated by the shareholder, Euroclear SA/NV. The main functions of the Board are to provide direction, full and effective oversight, assist strategy within the group framework, and monitor executive management through review of and discussions about information provided to it by the executive management, as well as reports from internal and external audit. The EUI Board has delegated responsibility for specific functions to standing committees, which operate under specific terms of reference approved by the Board:

- The Audit and Risk Committee, which is responsible for assisting the Board in fulfilling its oversight responsibilities. The Committee reviews the governance, financial reporting process, effectiveness of internal controls, EUI's process for monitoring compliance with laws, regulations, and security arrangements.
- The Executive Committee which is charged with day to day running of the business.

EUI's governance arrangements are clearly specified and information regarding them is publicly available in the Euroclear Group annual report. EUI publishes information about the company, its services and its strategy on its website.

**KQ2 - Are the system's public interest, financial and other objectives clearly articulated and public? What are they? Do the system's objectives reflect the needs of users as well as owners? How is the public interest taken into account? Can the system's participants or the public influence the system's decision-making process? How are major decisions communicated to owners and users?**

Euroclear group has a user-governance approach (the owners are the users). EUI operates a 'cost plus' approach to profit where costs are covered and an additional markup is included for development. Economies of scale are mostly returned to the market via tariff reductions, rebates and further system enhancements.

2010 strategy at the group level is published on the EUI website. The Euroclear group also presents its news and views in a bi-annual review, called "Perspective."

For each domestic market where an entity of the Euroclear group acts as CSD (i.e. United Kingdom, France, The Netherlands, Ireland), the group has established User Committees, known as Market Advisory Committees (MACs). The MACs are a primary source of feedback and interaction between the Euroclear group and the user community on all significant matters affecting their respective domestic markets. The terms of reference of the MACs have been defined by the Board of Euroclear SA/NV and are posted on the Euroclear website.

In addition to that, EUI regularly organizes meetings with its participants and undertakes an

	<p>annual survey to get their feedback on the level of service and the desired changes. The participants we met were globally satisfied by the level of responsiveness of EUI. However, they all mentioned a loss in credibility since the single platform project was stopped in 2009, with regards to the ability of the Euroclear Group to conduct very large projects. They were somewhat satisfied that EUI can now offer more U.K. oriented changes, such as Term DBV (see Recommendation 5).</p> <p><b>KQ3 - What steps are taken to ensure that management has the incentives and skills needed to achieve the system's objectives and is accountable for its performance?</b></p> <p>The personal objectives of senior managers and staff are aligned to the objectives of the company. The remuneration of the executive directors has been set annually by the Board following consultation with the Remuneration Committee established by EUI in 2005. This is supported by the performance objectives set in agreement with the Board and embedded in the balanced scorecard.</p> <p><b>KQ4 - How is the composition of the board determined? What steps are taken to ensure that board members have the necessary skills, and represent or take into account in their deliberations the full range of shareholder and user interests as well as the public interest?</b></p> <p>The key principles that underpin the board selection criteria are drawn largely from the Combined Code on Corporate Governance:</p> <ul style="list-style-type: none"> <li>• the Board should be effective and should lead and control the company;</li> <li>• all directors should be capable of bringing an independent judgment to bear on issues of strategy, performance, resources, including key appointments, and standards of conduct;</li> <li>• the Board should include a balance of executives and non executives directors (including independent directors);</li> <li>• the Board should not be so large as to be unwieldy but be of sufficient size that the balance of skills and experience is appropriate for the requirements of the business and that changes can be managed without undue disruption; and</li> <li>• the non-executive directors should bring appropriate outside experience and independent judgment to bear on major matters requiring decision by the Board.</li> </ul> <p>Additionally, the non-executive directors should be able:</p> <ul style="list-style-type: none"> <li>• to constructively challenge and help develop proposals on strategy;</li> <li>• to scrutinize the performance of management in meeting agreed goals and objectives and reporting of performance; and</li> <li>• to satisfy themselves on the integrity of the financial information and that financial controls and system of risk management are robust and defensible.</li> </ul>
Assessment	Observed
Comments	
Recommendation 14.	CSDs and central counterparties should have objective and publicly disclosed criteria for participation that permit fair and open access.
Description	<p><b>KQ1 - Are access rules/criteria objective and clearly disclosed to all potential applicants?</b></p> <p>EUI offers membership for corporate entities and individuals. Market firms can join as a direct Member or join as a Sponsored Member technically accessing the System through a</p>

sponsoring participant (having a sponsor participation). Individuals can only be sponsored Members. Other categories of membership, with access to a different range of CREST functionalities, include registrars, receiving agents, issuer/paying agents, settlement banks and information providers. There are no indirect participants.

In December 2010, EUI served 35,307 members, of which around 2,800 were corporate. 259 were direct members, with a direct access to the system.

Access criteria are available on the EUI website.

EUI, the relevant Central Bank (the Bank for sterling and the CBI for euro), and the existing CREST Settlement Banks determine who can act as a CREST Settlement Bank. As stated in CREST Rule 16, a prospective CREST Settlement Bank has to meet EUI's participation criteria as well as the requirements set by the existing CREST Settlement Banks. For example, the CREST US Dollar Settlement Banks currently impose additional requirements that are reproduced in the September 2009 CREST Rules, including the CREST Settlement Bank and its Correspondent Bank having a sufficient credit rating: long term credit rating of investment grade (BBB-, Baa3 and BBB-) and a short-term rating of F3, P-3 or A-3 or above from two of Fitch Inc., Moody's Investor Services and Standard & Poor's. According to Rule 16 each of the existing settlement banks can impose requirements from time to time, which does not exclude that it could veto a new settlement bank by defining new requirements at the moment it applies for it. CREST Rules do not even define the criteria on which the existing settlement banks should base their requirements. Therefore, it can be inferred that existing Settlement Banks can change the requirements they impose on candidates whenever they want and without following any predefined criteria.

**KQ2 - Are the same rules applied regardless of the identity, type and location of the applicant? If not, what variations apply and why? Can differential restrictions on access to the system be justified in terms of the need to limit risks to the system operator or to other users?**

There are no differences in the rules applied to participants, and the same set of terms and conditions apply to all members. Registrars and payment banks (and certain other participants) have their own terms and conditions, in line with the CREST functionalities they access (which are broadly similar to the general member terms and conditions)..

**KQ3 - Under what conditions can participants terminate their membership? What arrangements does the system have in place to facilitate the exit of members who no longer meet the participation requirements? Are these arrangements publicly disclosed?**

The termination arrangements are detailed in the CREST Manual and CREST Terms and Conditions, which are available on the EUI website.

Any Participant may resign unilaterally from participation in the System at any time by giving notice to EUI. Resignation does not affect rights or liabilities arising out of events (including any securities loss) occurring, securities delivered, prior to the effectiveness of the resignation.

EUI has certain powers to suspend or terminate members, for example where a member is in breach of any provision of the CREST Terms and Conditions or has not complied with any

	<p>provision of the CREST Reference Manual or Rules or where, in the opinion of EUI, any such breach or non compliance is or appears to be likely to occur. EUI may also restrict or remove access to the system for a member whose participation would threaten the security, integrity, or reputation of the system. It has happened a few times. The FSA is notified before the suspension.</p> <p>A Registrar may also have its participation in CREST terminated, if its performance consistently fails to meet standards.</p>
Assessment	Broadly observed
Comments	This Recommendation is broadly observed because of the uncertainty on the access criteria for Settlement Banks. Indeed, CREST Rules do not exclude that existing Settlement Banks could veto an applicant settlement bank by defining new requirements at the moment it applies for it. CREST rules do not either define the criteria on which the existing Settlement Banks should base their requirements.
Recommendation 15.	While maintaining safe and secure operations, securities settlement systems should be cost-effective in meeting the requirements of users.
Description	<p><b>KQ1 - Does the system operator have in place procedures to control costs (for example, by benchmarking its costs and charges against other systems that provide a similar service and to analyze the reasons for significant differences)? Does the system operator have in place procedures to regularly review its pricing levels against its costs of operation?</b></p> <p>EUI regularly analyzes its financial information and tariffs. CREST tariff is designed to reflect as accurately as possible the costs of delivering each service. External price reviews are conducted on EUI's behalf. In November 2009, EUI launched a new pricing model that provides increased transparency in pricing by itemizing each clearing-related service component (netting, stamp duty assessment and transaction reporting).</p> <p>The price structure is volume based, which may be an issue when the volumes are decreasing, which has been the case since the crisis. Therefore, EUI has announced a global review of the price structure for 2012.</p> <p><b>KQ2 - Does the system operator regularly review its service levels, including by regularly surveying its users? Does the system operator have in place procedures to regularly review operational reliability, including its capacity levels against projected demand?</b></p> <p>An annual survey is undertaken to ensure feedback from EUI users. EUI publishes service level and quality indicators defined for the key services on its website. In addition, performance indicators identify any capacity constraints. An annual market forecast is undertaken to determine capacity demand and twice a year, capacity risk reviews are conducted.</p> <p>Participants are generally satisfied with the operational reliability and efficiency of the system. However, they complained about the failure of the Single Platform project, and the related lost investments.</p>
Assessment	Observed
Comments	
Recommendation 16.	Securities settlement systems should use or accommodate the relevant international communication procedures and standards in order to facilitate efficient settlement of cross-

	border transactions.
Description	<p><b>KQ1 - Does the securities settlement system use international communication procedures or standards or is it able to easily convert domestic procedures and standards into the relevant international communication procedures and standards for cross-border securities transactions?</b></p> <p>ISIN standard is used to identify securities.</p> <p>CREST members can take advantage of a range of options for communicating with the system, among which an ISO 15022 and ISO 20022 standard interface. To communicate with other CSDs and ICSDs, the SWIFT network is used and the messages conform to ISO 15022 and ISO 20022 standards.</p>
Assessment	Observed
Comments	
Recommendation 17.	CSDs and central counterparties should provide market participants with sufficient information for them to accurately identify the risks and costs associated with using the CSD or central counterparty services.
Description	<p><b>KQ1 - Does the CSD or CCP make clear disclosures to market participants about its rules, regulations, relevant laws, governance procedures, risks, steps taken to mitigate risks, the rights and obligations of participants and the cost of participating in the system?</b></p> <p>Rules and procedures are set out in the CREST Manual, CREST Rules, and CREST Terms and Conditions, which are available on the EUI's website, as well as the tariff. Legal agreements between the Bank, EUI, and CREST Settlement Banks are not publicly available.</p> <p><b>KQ2 - Has the system completed and disclosed the questionnaire set out in the CPSS/IOSCO disclosure framework or the answers to the key questions set out in this assessment methodology? Have the authorities responsible for regulation and oversight publicly disclosed their answers to the key questions regarding implementation of the recommendations?</b></p> <p>EUI discloses its self-assessment against the ESCB/CESR recommendations on its website (current version is the December 2009 one).</p> <p><b>KQ3 - How is this information made available? In what language or languages? In what form?</b></p> <p>In English on the EUI's website.</p> <p><b>KQ4 - What steps are taken by the CSD or CCP to ensure that the disclosures are complete and accurate? Are there regular reviews to ensure they remain current?</b></p> <p>Rules, procedures, tariff, CPSS/IOSCO questionnaires are regularly reviewed and updated on the website.</p>
Assessment	Observed
Comments	
Recommendation 18.	Securities settlement systems should be subject to regulation and oversight. The responsibilities and objectives of the securities regulator and the central bank with respect to

	SSSs should be clearly defined, and their roles and major policies should be publicly disclosed. They should have the ability and resources to perform their responsibilities, including assessing and promoting implementation of these recommendations. They should cooperate with each other and with other relevant authorities.
Description	<p><b>KQ1 - How is the system regulated/overseen? Describe the laws that authorize and govern the system's operation, the applicable regulatory bodies and their respective authority concerning the system's operation.</b></p> <p><b>The Financial Services Authority</b> - EUI is regulated by the FSA for two separate roles: 1. as a Recognized Clearing House (RCH) under FSMA; and 2. as an 'Operator of a Relevant System' under the Uncertificated Securities Regulations 2001 (USRs).</p> <p><b>Non U.K. jurisdictions</b> - EUI is also an 'Operator of a Relevant System' under regulations equivalent to the U.K. USRs made in Ireland, Jersey and the Isle of Man.</p> <p><b>The Bank</b> oversees EUI as an operator of an inter-bank payment system under Part 5 of the Banking Act 2009.</p> <p><b>Euroclear college</b> - A joint College of Regulators, with representatives of each member country of the Euroclear Group (United Kingdom/Ireland, France, Belgium, Netherlands, Sweden and Finland), meets quarterly and seeks to ensure a coordinated regulatory approach. A memorandum of understanding agrees the extent and methodology of cooperation between the participants. This college also operates and regularly tests crisis management arrangements that coordinate the activities of the group of regulators in the event of a significant Euroclear Group incident.</p> <p>CREST interbank payment system was recognized by Treasury in January 2010 for oversight by the Bank under Part 5 of the Banking Act 2009, which establishes a statutory regulatory regime for payment systems. This regime, operated by the Bank, replaced the previous non-statutory arrangements. The Act also includes requirements for operators of recognized payment systems to have regard to Principles published by the Bank. The Bank uses the 10 Core Principles for Systemically Important Payment Systems, plus the following four additional principles:</p> <ul style="list-style-type: none"> <li>• Business Risk: The system should manage its business risks so that its users can rely on continuity of its services.</li> <li>• Interdependencies: The system should regularly review the risks it bears from, and poses to, other infrastructures as a result of interdependencies, and should implement controls adequate to manage those risks</li> <li>• Indirect Participants: The system should understand and manage risks that are brought to the system as a result of participants' relationships with indirect participants</li> <li>• Outsourcing: The system should manage its outsourced relationships prudently, ensuring that contractual and risk management arrangements are clear, appropriate and robust.</li> </ul> <p>To help with the practical implementation of these four additional principles, the Bank is drafting guidance that describes the key issues that should be addressed by operators. The Bank makes an assessment of the risks to financial stability posed by a particular system and aims to calibrate the intensity of its oversight accordingly. As a matter of routine, the Bank follows a program of risk reviews for each system, which includes an annual review against the Bank's principles. The outcome of the Bank's risk reviews is formalized in</p>

Expectations Letters to the system operator, which set out the Bank's expectations for issues to be dealt with and actions to be taken by the operator. In each case, it specifies a timescale by which the Bank expects them to be completed. The Bank expects, as a matter of routine, to meet senior representatives of the operators of recognized interbank payment systems at least four times each year to gather information and review progress in mitigating risks, to carry out risk assessments and to communicate its expectations as to improvements.

In terms of the Bank's ability to carry out oversight, it is provided with a series of statutory tools in the Banking Act:

- Under Section 204 the Bank may require the provision of information in relation to its oversight functions.
- Section 190 gives the Bank a power to instruct an operator to take particular actions in respect of the system's rules.
- Section 191 gives the Bank a general power to issue directions to the operators of recognised interbank payment systems.
- Section 193–194 gives the Bank powers to appoint an inspector to enter premises on, or from which, any part of a recognised interbank payment system is operated. This would include the premises of any outsourced technical services providers.
- Section 195 gives the Bank powers to require an operator to commission an independent report from an expert in a particular field.
- In the event of a compliance failure and in certain other circumstances, the Bank may choose to impose one or more of the sanctions set out in Section 197–200. These include publishing details of compliance failure and sanctions (197); imposing a penalty (198); stopping the system from operating (199); and disqualifying management (200).

EUI's supervision and oversight are risk-based and thus are implemented on a prioritization basis. They have been strengthened since the crisis, both at the Bank (to which the 2009 Banking Act granted statutory powers to conduct payment systems oversight) and at the FSA. Indeed, the FSA now places a greater emphasis on the quality of close and continuous supervision and the use of regulatory judgement; the need to anticipate and explore issues in a proactive manner; and on-going supervisory programmes around the key issues.

EUI has been classified as a High Impact Firm by the FSA. Therefore the FSA annually produces an assessment of the current key risks alongside risks anticipated over the next 12 months, and how they will be mitigated in the form of a close and continuous supervisory programme. In addition, thematic or specific "deep-dive" analyses are regularly performed and new services are systematically assessed. Monthly meetings take place at the level of manager / lead associate, and quarterly meetings with the CEO. There are also annual relationship management meetings, close and continuous meeting with the CEO, and biannual meetings with the non-executive directors.

February 2011 Treasury's consultation indicates the Government intends to transfer regulation and supervision of CCPs to the Bank by end 2012. Under the proposed framework, the Bank would be directly responsible for supervising the providers of systemically important infrastructure. It would, therefore, remain the regulator of payment systems under Part 5 of the Banking Act 2009 and it would take over the FSA's responsibility for regulating settlement systems under the Uncertificated Securities Regulations 2001. The Bank would also be the regulator of central counterparties under the FSMA. This would bring the regulation of all three types of body together for the first time.

	<p><b>KQ2 - Are the responsibilities of the securities regulator, central bank and, where relevant, banking supervisor clearly defined with respect to securities settlement systems? Are their roles and major policies disclosed publicly? Are they written in plain language so that they can be fully understood by designers, operators and participants of securities settlement systems, and other relevant parties?</b></p> <p>The rules and guidance governing the regulation of EUI by the FSA are publicly available on the FSA's website and the FSA is required by law to consult on matters of policy which could affect the regulatory framework within which CREST operates.</p> <p>The Bank's approach to statutory oversight is set out in The Bank's oversight of interbank payment systems under the Banking Act 2009, which is available on its website.</p> <p>The Bank and the FSA signed a Memorandum of Understanding regarding the oversight of payments systems, which covers FSA regulated entities such as CREST that have embedded payment systems. It is available on each institution's website (as well as Treasury website).</p> <p><b>KQ3 - What is the regulatory and oversight framework based on? Is it a statute-based approach where specific tasks, responsibilities and powers are assigned to specific public authorities? Or a non-statute-based approach? Do the securities regulator and the central bank have experienced staff, proper resources and funding to carry out regulatory and oversight functions effectively?</b></p> <p>Regulation by the FSA is statute-based, with the FSA's powers derived from the FSMA. Oversight by the Bank is also statute-based, with its statutory powers derived from the Banking Act.</p> <p>Both the FSA and the Bank have put in place dedicated teams to implement the supervision/oversight of market infrastructures and their embedded payment systems, with a mix of a few experienced senior staff and junior for them new comers. Hiring and keeping the right expertise is challenging. In addition, experts' teams are facing other demands, in particular stemming from the EU and international regulatory agenda.</p> <p><b>KQ4 - Is there a framework for cooperation between the securities regulator and the central bank, such as for the exchange of information and views on securities settlement systems? Is there such a framework for cooperation with relevant authorities both within and outside the country?</b></p> <p>The respective roles and responsibilities of the Bank and the FSA are contained in the 2006 revised memorandum of understanding.</p> <p>The Bank, the FSA and the CBI have entered into a Memorandum of Understanding for co-operation on the regulation of the services provided by EUI relating to the settlement of Irish securities, which account for the bulk of the settlement in euro.</p> <p>A memorandum of understanding agrees the extent and methodology of cooperation between securities regulators and central banks of each member country of the Euroclear group (the joint College of Regulators).</p>
Assessment	Observed
Comments	

Recommendation 19.	CSDs that establish links to settle cross-border trades should design and operate such links to reduce effectively the risks associated with cross-border settlement.
Description	<p><b>KQ1 - What kinds of links are in operation (see explanatory note)? Has the CSD done a risk analysis of the design of the link and the financial and operational integrity of the linked CSD?</b></p> <p>CREST operates cross-border links with DTCC, and Euroclear (for free of payments transactions) and SIS (for DvP transfers). The international settlement links to Euroclear and DTCC enable CREST members to hold and settle transactions in international securities but do not enable them to deliver CREST securities to participants in those CSDs or receive CREST securities from them. The international settlement link to SIS enables the settlement between CREST members and SIS participants and participants in CSDs with which SIS has links of Swiss securities, as well as a wide range of international securities and CREST securities.</p> <p>Broadly speaking, the securities eligible for settlement across the links comprise:</p> <p>For the SIS Link:</p> <ul style="list-style-type: none"> <li>• CREST securities;</li> <li>• securities constituted under the laws of Switzerland;</li> <li>• securities which constitute the Eurotop 300; or</li> <li>• other securities eligible for trading on the SWX Europe exchange.</li> </ul> <p>For the DTCC Link:</p> <ul style="list-style-type: none"> <li>• securities included in the Standard &amp; Poors 500;</li> <li>• securities included in the Nasdaq 5000; and</li> <li>• securities issued by issuers incorporated outside the USA and Canada</li> </ul> <p>For the Euroclear Link:</p> <ul style="list-style-type: none"> <li>• securities included in the Eurotop 300; and</li> <li>• securities that CREST members may request to be eligible for the link from time to time including Eurobonds and securities settleable in Clearstream Bank Luxembourg (CBL) through the 'bridge' with Euroclear.</li> </ul> <p>EUI conducts legal due diligence prior to the establishment of a link. Establishing when transactions are final is a crucial element of this process, as well as operational and risk management issues.</p> <p><b>KQ2 - How is DVP achieved? Does the link permit provisional transfers of securities across the link? If so, is the retransfer of these securities prohibited until the first transfer is final?</b></p> <p>Links arrangements are described in the CREST International Manual, which forms a part of the CREST Manual.</p> <p>For jurisdictional reasons, the U.K. Regulations only facilitate the holding and transfer of securities in CREST where those securities are constituted under the laws of England and Wales, Scotland or Northern Ireland. The U.K. Regulations do not make it possible for securities constituted under the laws of other countries to be held or transferred in CREST directly. However, the U.K. Regulations allow securities constituted under English law but</p>

which represent an interest in other securities (which may be securities constituted under the laws of other countries) to be issued into, held and transferred in CREST. This provides a basis under which the CREST Depository, acting as a depository in respect of international securities, may issue dematerialized depository receipts (CDIs) representing international securities, as independent securities. The CREST Depository will therefore issue CDIs to CREST members which will represent an entitlement in relation to the underlying international securities. The CDIs issued by the CREST Depository will be constituted under English law. In consequence the CDIs will be transferable by means of the CREST system to other CREST members in the same way as other participating securities.

The CREST Nominee is a participant in other CSDs and holds rights to securities held within the other CSDs on behalf of the CREST Depository for the account of CREST members.

The settlement of transactions in CREST Securities and Swiss securities against payment in euro, sterling or US dollar ('the DvP link') is described below.

1. Purchase by a CREST member of CREST or Swiss Securities in euro, sterling or US dollar

At the start of business on the settlement date, SIS blocks the securities subject of the transaction in the Seller's account in its own books in order to prevent them from being used in any other transaction. It then sends a message to CREST to confirm that it has done so. Having received the message from SIS, CREST undertakes its normal pre-settlement checks, for example, to ensure that the Buyer has sufficient headroom within his cap and, in the case of a purchase of CREST securities, that SIS has sufficient of the relevant securities standing to the credit of its stock account. On successful completion of these checks, CREST simultaneously:

- debits the Buyer's CMA;
- credits SIS's CMA; and
- either, in the case of CREST securities, debits SIS's stock account and credits the Buyer's stock account with the relevant securities (and generates an RUR); or
- in the case of Swiss securities, issues a CDI to the Buyer.

The debits are not revocable by the Buyer or SIS.

If CREST is able to complete the above steps and, in the case of non-U.K. CREST securities, has received an RUR response from the registrar confirming that the transfer of securities to the Buyer has been registered, CREST informs SIS that settlement is complete and SIS unblocks the securities in the Seller's account (by debiting the account of the Seller and, in the case of Swiss securities, crediting the account of the CREST Nominee in SIS).

2. Sale by a CREST member of CREST or Swiss securities in euro, sterling or US dollar

At the start of business on the intended settlement date, SIS checks the availability of funds from the Buyer and reserves the funds for the transaction. In the case of Swiss securities, it also blocks the securities that are the subject of the transaction in the account of the CREST Nominee in its own books. It then sends a message to CREST to confirm that it has done so. Having received the message from SIS, CREST undertakes its normal pre-settlement

	<p>checks. On successful completion of these checks, CREST simultaneously:</p> <ul style="list-style-type: none"> <li>• debits SIS's CMA;</li> <li>• credits the Seller's CMA; and</li> <li>• either, in the case of CREST securities, debits the Seller's stock account and credits SIS's stock account (available balance) with the relevant securities (and generates an RUR); or</li> <li>• in the case of the Swiss securities, debits the Seller's stock account and credits SIS's available balance with the relevant CDIs. Thereupon, the CDIs are removed from SIS's available balance.</li> </ul> <p>The debits are not revocable by the Seller or SIS.</p> <p>If CREST is able to complete the above steps and, in the case of non-U.K. CREST securities, has received an RUR response from the relevant registrars confirming that the transfer of securities to SIS's available balance has been registered, CREST informs SIS that settlement is complete and SIS unblocks the Swiss securities in the CREST Nominee's account (by debiting the account of the CREST Nominee and crediting the account of the Buyer in SIS) and takes any further steps required to complete payment in its own system.</p> <p>There are no provisional transfers within any of the links, and consequently all transfers into CREST via these links are final and irrevocable. It is however worth noting that, for U.S. dollar settlement in the "DvP Link" with SIS, principal risk is not eliminated. Indeed, as it is the case with "pure" CREST transactions (see Recommendation 10), the settlement banks settle cash with each other at the end of the US settlement day on a bilateral net basis, which exposes settlement banks to credit risk. If the paying CREST U.S. dollar settlement bank fails, CREST members are exposed to the risk that having delivered a security, they fail to receive payment for it.</p> <p><b>KQ3 - If the CSD extends credit to a linked CSD, are credit extensions to the linked CSD fully secured and subject to limits? Are risk controls and liquidity resources adequate to address liquidity risks posed by the link?</b></p> <p>CREST does not extend intraday credit.</p>
Assessment	Observed
Comments	