

**United Kingdom: Observance by CHAPS of CPSS Core Principles for Systemically
Important Payment Systems Detailed Assessment of Observance**

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FINANCIAL SECTOR ASSESSMENT PROGRAM UPDATE

UNITED KINGDOM

OBSERVANCE BY CHAPS OF CPSS CORE PRINCIPLES FOR
SYSTEMICALLY IMPORTANT PAYMENT SYSTEMS

DETAILED ASSESSMENT OF OBSERVANCE

JULY 2011

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GLOSSARY

APACS	The Association for Payment Clearing Services
BoE	Bank of England
CHAPS	Large value payment system
CHAPSCo	Clearing Company Limited
CP	Core Principle
CPSS	Core Principles for Systemically Important Systems
FMIR	Financial Markets and Insolvency Regulations
FPS	Faster Payment Service
FSAP	Financial Sector Assessment Program
HMT	Her Majesty's Treasury
MOU	Memorandum of Understanding
RTGS	Real-Time Gross Settlement

I. SUMMARY, KEY FINDINGS, AND RECOMMENDATIONS

1. **The Clearing House Automated Payment System (CHAPS) is a safe, reliable, and efficient system for transferring large-value, time-sensitive payments.** CHAPS payments benefit from a robust legal environment that ensures settlement finality can occur in real time. The system has comprehensive features that allow its members to properly manage their liquidity and operational risks. In normal operation, payments do not expose members to credit risk; however, if the system's Bypass mode is needed as a contingency, members can be exposed to credit risk. In the unlikely event that a member in a net debit position were to default while in Bypass mode, there are no clear procedures to set forth how the losses would be allocated. Exposures to commercial settlement banks are concentrated, moving the management of credit risk outside the system (between CHAPS members and their bank clients). Membership in CHAPS is fair and open. Governance arrangements could be improved to reflect the fact that the operator of CHAPS is also the operator of the Faster Payment Service (FPS), which is at a much earlier stage of development. CHAPS Clearing Company Limited (CHAPSCo) needs to demonstrate that it has the resources and capacity to satisfy the needs of both schemes. It also needs to show improvements to succession planning following the retirement of the company manager. CHAPS is competently overseen by the Bank of England (BoE), which has a well-defined oversight role based in statute, as well as an operational role as operator of the underlying Real-Time Gross Settlement (RTGS) infrastructure. However, the BoE does not undertake a direct and unified assessment of the RTGS infrastructure against these Core Principles.

A. Introduction

2. **This assessment was undertaken in the context of an IMF Financial Sector Assessment Program (FSAP) exercise for the United Kingdom over the period January-July 2011, which included, inter alia, the Core Principles for Systemically Important Payment Systems (Core Principles).** The assessment covers the CHAPS system and the relevant operational services provided by the BoE in support of CHAPS.¹

3. **CHAPS is the United Kingdom's large-value payment system, providing its members with real-time gross settlement for transfers denominated in pounds sterling.** It is useful at this point to draw attention to the distinction made in the United Kingdom between a payment scheme and the operational infrastructure. The scheme comprises the arrangements to facilitate the transfer of money between institutions (e.g., scheme rules), while the operational infrastructure is the underlying technology that supports those arrangements. For the purposes of this assessment, we shall refer to the CHAPS payment system as the scheme and its underlying infrastructure. The CHAPS scheme is managed by CHAPSCo, while payments are processed by the RTGS infrastructure owned and operated

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

by the BoE. The BoE (i) settles CHAPS payments through debits and credits to members' settlement accounts held on its books; (ii) operates the Enquiry Link, which allows members to interact with the RTGS infrastructure, so they can monitor payments progress, manage payments in the centralized queue, and make certain funds transfers; and (iii) provides CHAPS members with collateralized intra-day liquidity to support CHAPS payments.²

B. Information and Methodology Used for Assessment

4. **During the 2002 FSAP, a detailed assessment was made of CHAPS against the Core Principles.** More recently, the BoE published an assessment of CHAPS against the Core Principles as an Annex to its 2008 Payments System Oversight Report. A new assessment was prepared by the BoE in 2010, which was not published, and this was updated for the FSAP mission. The BoE also provided a number of documents relevant for the assessment. Extensive meetings were held with the BoE and CHAPSCo, supplemented by discussions with several members and a bank that accesses the system indirectly through a CHAPS member.

5. **The methodology for the assessments was derived from the Core Principles as well as from the IMF and World Bank's Guidance Note for Assessing Observance of Core Principles for Systemically Important Payment Systems.** The assignment of an assessment category is based on the current situation existing without regard to any proposed or ongoing actions.

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

C. Institutional and Market Structure

7. **The CHAPS system typically processes large-value payments, but there are no restrictions on the type or value of transactions.** In 2009, the average size of payment transferred by the system was £1.76 million although the average is skewed by a small number of very large payments (approximately 94 percent of payment value is attributable to 5 percent of payment volume). Typical payments are large financial transactions, either between banks or between banks and corporations. Some retail transactions such as housing market purchases also go through CHAPS. CHAPS is also used for sterling pay-ins and pay-outs related to CLS transactions and for transfers to and from the concentration bank in relation to LCH margin payments.

² See detailed assessment of CP I for the description of the respective responsibilities of CHAPSCo and the BoE in relation to CHAPS.

Statistical information regarding CHAPS

Daily Average Volumes (thousands) and Values of Transactions (£ billions), 2007–2010

2007		2008		2009		2010	
Volume	Value	Volume	Value	Volume	Value	Volume	Value
141	268	136	284	126	235	127	224

8. **CHAPS is a highly-tiered payment system.** There are 16 direct members of CHAPS as well as the BoE and CLS Bank. In turn, the members act as correspondent banks for other banks, processing payments on their behalf. Payment flows are highly concentrated, with the five most active members accounting for approximately 80 percent of payment value, and the two most active accounting for half of the total value.

9. **Prior to 2008, CHAPSCo operated a separate scheme for processing euro payments, called CHAPS Euro.** CHAPS Euro was decommissioned in 2008 following the launch of TARGET2. Previous CHAPS Euro members and their customers now effect their TARGET payments in euro via another country’s system, and the BoE makes and receives its euro payments through access to TARGET2 via De Nederlandsche Bank. A liquidity bridge remains between the RTGS infrastructure and TARGET2, which allows CHAPS members to transfer euro payments between their TARGET2 accounts and their CHAPS accounts. This enables euro funds to act as collateral for the provision of intra-day liquidity in sterling.

10. **In addition to CHAPS, CHAPSCo manages the Faster Payment Service (FPS), which was launched in May 2008.** FPS is a deferred multilateral net settlement system for retail electronic payments in the United Kingdom, which uses the RTGS infrastructure for final settlement during the day. The FPS service accommodates telephone and internet payments of three main types: single immediate, forward-dated, and standing order payments. From January-September 2010, the FPS settled a daily average value of £643 million and daily average volume of 1.7 million payments.

11. **The CHAPSCo Board usually meets on a quarterly basis, and although the Board covers both CHAPS and FPS, system specific issues are voted on separately.** Each member is entitled to appoint one Director regardless of whether they are active in either one or both of CHAPS and FPS. The BoE attends CHAPSCo Board meetings with “observer status.”

12. **CHAPSCo has a contractual relationship with the U.K. Payments Council, which is the strategic governance body for the U.K. payments industry.** Under the terms of the contract, CHAPSCo has agreed to comply with directions given by the Board of the Payments Council in pursuit of the Council’s objectives. These objectives are to deliver innovation; ensure that payment systems are open and accountable; and maintain the integrity

of the payment systems. Nonetheless, CHAPSCo remains responsible for the day-to-day management of the CHAPS systems, including risk management. Additionally, the U.K. Payments Administration provides staff and other services to U.K. payment systems. In March 2007, the Payments Council and Payments Administration replaced The Association for Payment Clearing Services (APACS).

13. **In 2000, CHAPS was designated under the Financial Markets and Insolvency Regulations 1999, which implements the EU Settlement Finality Directive in the United Kingdom.** This designation provides CHAPS with protection against the normal operation of insolvency law, ensuring finality and irrevocability of payments and enforceability of collateral security. On January 5, 2010, HM Treasury (HMT) recognized CHAPS as an interbank payment system under Part 5 of the Banking Act 2009, giving the BoE statutory responsibility for overseeing it.

D. Main Findings

14. **Legal framework (CP I): CHAPS operates under a well-founded legal basis that is reinforced by its designation under the Financial Markets and Insolvency Regulations (FMIR 1999), which implements the EU Settlement Finality Directive in the United Kingdom.** The legal basis for the BoE's oversight of CHAPS is established in statute under Part 5 of the Banking Act 2009, which also provides the BoE with statutory tools to assist its oversight function. All CHAPS members agree to the CHAPS Rules, which incorporate by reference other relevant documents. There is a clear contractual relationship between CHAPS members and the BoE as provider of the underlying RTGS infrastructure for CHAPS and intra-day credit within the system. There is a Memorandum of Understanding (MoU) between CHAPSCo and the BoE setting forth detailed service level expectations in key areas. While the MoU is not a binding legal contract, incentives are well-aligned between the BoE and CHAPSCo, and thus the potential for misunderstanding or an irresolvable dispute between the two parties, requiring resort to legal action, remains small. However, the BoE should undertake a legal review of the consequences of the nonbinding nature of the MOU, either internally via the BoE's Legal Department, or externally.

15. **Understanding and Management of Risks (CP II–III): The CHAPS rules enable the members to have a clear understanding of the risks they face through participation in the system.** In normal and contingency operations, the points of irrevocability and finality are clearly defined. Members are aware of the controls in place to help them manage liquidity risk, such as throughput guidelines, offsetting algorithms for queued payments, and the Sterling Bank Liquidity Scheme, which can help with the recycling of trapped liquidity. Members are also aware of and regularly test the measures designed to help them manage operational risk, such as the ability to make payments via the Enquiry Link or authorized fax, or the RTGS Bypass mode, which can be invoked if the BoE's primary and standby systems are unavailable to process settlement requests for an extended period of time. In normal operations, members do not face credit risk since payments are settled on a real-time gross

basis. However, in Bypass mode, payments would settle on a multilateral net basis at the end of each settlement cycle, which could expose members to credit risk. To help members understand and manage the risks they face in Bypass mode, CHAPSCo should develop procedures to set forth how losses would be allocated in the extremely unlikely event that a participant in a net debit position were to default while in Bypass mode.

16. Settlement (CP IV–VI): Settlement finality occurs in real time on a gross basis and in central bank money, upon the debiting and simultaneous crediting of the relevant members’ settlement accounts at the BoE. In Bypass mode, settlement would occur on a multilateral net basis at the end of each settlement cycle. It is expected that two settlement cycles would be run in order to prevent the build-up of net debit positions (one in the middle of the afternoon and one at the end of the day), but more frequent settlement cycles could be run if it were thought necessary. As previously discussed, CHAPSCo should develop processes and procedures to ensure that final settlement can take place in Bypass mode, if there were a default of a participant in a net debit position. While CHAPS settles in central bank money, a significant amount of large-value payment activity in the United Kingdom settles in commercial bank money on the books of the most active CHAPS members. This is a potential source of vulnerability since, if a major clearer were to become unavailable, this would likely impose significant liquidity pressures. The BoE is well aware of the risks associated with tiering and has spent considerable effort raising the awareness of such risks and encouraging banks with significant activity in the second tier to become direct members. Direct participation in CHAPS has recently increased with J.P. Morgan and Bank of America both becoming CHAPS members in the second half of 2010, but settlement remains highly concentrated.

17. Operational Reliability and Efficiency (CP VII–VIII): CHAPS offers a high degree of security and operational reliability. CHAPS members and suppliers must comply with the CHAPS Security Policy and Security Code of Conduct, and there is a comprehensive process for confirming members’ compliance. As operation of the core operational infrastructure is outsourced to the BoE, the MOU between CHAPS and the BoE specifies important operational performance and reliability targets that the BoE has historically met. The BoE operates a hot back-up site, providing resilience to operational shocks. However, the two processing sites are only about 12 miles apart as the crow flies and therefore still exposed to the risk of a wide-area event. To buttress resilience further, CHAPSCo and the BoE are considering whether to subscribe to the SWIFT Market Infrastructure Resilience Service, which is a generic RTGS system. This service would replace the Bypass mode in the event both of the BoE’s operational sites were down. Contingency options are regularly tested, including with members. Discussions with members suggest that CHAPS provides an efficient solution for making large-value payments in a reliable and safe manner.

18. Access and Governance (CP IX–X): Membership in CHAPS is fair and open, with membership criteria publicly disclosed on the CHAPSCo website. Discussions with

market participants suggest the main barrier to entry may be a lack of a business case. The CHAPSCo Board, which is comprised only of CHAPS and FPS members, has responsibility for managing the system, and Board decisions are made on a consensus basis. Member engagement also takes place through the member-led committees. The governance structure and fees could be made more transparent, which could help a prospective member develop a complete business case. CHAPSCo is also the operator of FPS, and this raises challenges with respect to governance and management, particularly given that the CHAPS and FPS are at entirely different stages of development. Therefore, CHAPSCo needs to demonstrate that it has the resources and capacity to satisfy the needs of both schemes. The BoE has already identified this as an issue, and the CHAPSCo governance structure is being revised.

19. **Central Bank Responsibilities (A–D): The BoE has clearly defined objectives with regard to payment system oversight.** Under Part 5 of the Banking Act 2009, interbank payment systems can be recognized by the Treasury and brought under the BoE’s oversight regime. The recognized systems are: CHAPS; CLS; Bacs; FPS; and the inter-bank payment systems operated as part of CREST, LCH, and ICE. Operators of recognized payment systems must have regard for principles set forth by the BoE, and the BoE uses the 10 CPs plus four additional principles covering business risk, interdependencies, indirect participants, and outsourcing. The BoE follows a program of risk reviews for each of the recognized systems, the outcome of which is used to set the BoE’s expectations for actions to be taken by the operator. In discharging its oversight obligations, the BoE effectively cooperates with domestic authorities, such as the Financial Services Authority (FSA) and foreign authorities, such as other central banks. In addition to its oversight role, the BoE operates the RTGS infrastructure, which provides real-time gross settlement for CHAPS and CREST, as well as settlement of other payment schemes (FPS, Bacs, Cheque and Credit Clearing, LINK). The RTGS also facilitates intra-day liquidity transfers, reserve account transfers, transfers in respect of the note circulation system, and transfers that can occur outside of CHAPS operating hours. The BoE assesses the RTGS infrastructure against the Core Principles in an indirect and fragmented manner through its oversight of recognized systems that rely on the RTGS for settlement. Given that not all RTGS activity relates to these overseen schemes, and the importance of the RTGS to the U.K. financial system, the BoE should undertake a direct, unified assessment of the RTGS, systemically evaluating it against the core principles. This should include an assessment of the finality of RTGS movements made outside the context of schemes designated under the Settlement Finality Regulations.

20. **Table 1 offers a principle-by-principle a summary of assessment results.**

Table 1. United Kingdom: Summary Observance of the CPSIPS and Central Bank Responsibilities in Applying the CPs

Core Principle/Responsibility	Grading	Comments
Legal foundation		
CP I – The system should have a well-founded legal basis under all relevant jurisdictions	Observed	While the incentives between the BoE and ChapsCo appear to be well aligned, the analysis undertaken by the BoE's Oversight area on the lack of a binding contract between the two parties was not supplemented by a legal review of the consequences of the nonbinding nature of the MOU, either internally via the BoE's Legal Department, or externally. The BoE indicated that its legal department is undertaking this supplementary legal review.
Understand and management of risks		
CP II – The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.	Observed	
CP III – The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.	Broadly observed	In the unlikely scenario that RTGS were to become inoperable at both primary and secondary sites for a substantive period of time, Bypass mode offers the main contingency option and, in this case, there is some credit risk between members. In the event that a member in a net debit position were to default while in Bypass mode, there are no clear procedures to set forth how the losses would be allocated. At the time of assessment CHAPSCo was considering how to ensure settlement could complete in the event of a member default while in Bypass mode, making clear where losses would fall. It is expected that this work will be completed in 2011.
Settlement		
CP IV – The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.	Observed	

CP V – A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation	Non Applicable	
CP VI – Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.	Observed	There is significant exposure to commercial settlement banks in general and to two institutions in particular, which implies credit risk needs to be managed outside of the system.
Operational reliability and efficiency		
CP VII – The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing	Observed	The two processing sites are only about 12 miles apart as the crow flies and therefore still exposed to the risk of a wide-area event. CHAPSCo and the BoE are considering whether to proceed with the Market Infrastructure Resilience Service, which is a generic RTGS system that would be offered by SWIFT but operated by the BoE. This would replace the Bypass mode in the event both of the BoE's RTGS sites being down.
CP VIII – The system should provide a means of making payments, which is practical for its users and efficient for the economy.	Observed	
Access and governance		
CP IX – The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.	Observed	CHAPS Rules and fees are not published but have to be requested from CHAPSCo. This may make it more difficult for a prospective member to develop a complete business case.

<p>CP X – The system’s governance arrangements should be effective, accountable and transparent.</p>	<p>Broadly Observed</p>	<p>CHAPSCo is the operator of both FPS and CHAPS, which raises concerns with regard to governance, particularly given that the two schemes are at different stages of development requiring resources and capacity to satisfy the needs of both schemes. In addition, the governance concerns extend to succession planning following the retirement of the Company Manager. An external review of governance, currently underway, aims to address these issues. A report has been completed and the plans for implementation are currently being developed. The BoE will be monitoring progress.</p>
		<p>Company documentation is available to members via a secure access website, but no information is published on the CHAPS governance structure on the public access website.</p>
<p>Central bank responsibilities</p>		
<p>Responsibility A – The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.</p>	<p>Observed</p>	
<p>Responsibility B – The central bank should ensure that the systems it operates comply with the core principles.</p>	<p>Broadly observed</p>	<p>The BoE assesses the RTGS infrastructure against the core principles in an indirect and fragmented manner through its oversight of CHAPS (and other recognized systems that use it, such as CREST, FPS, and Bacs). However, not all activity in the RTGS is undertaken in regard to these recognized systems, and, given the importance of the RTGS infrastructure to the U.K. financial system, a direct and unified assessment would be beneficial.</p>
<p>Responsibility C – The central bank should oversee observance with the core principles by systems it does not operate and it should have the ability to carry out this oversight.</p>	<p>Observed</p>	

Responsibility D – The central bank, in promoting payment system safety and efficiency through the core principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.	Observed	
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Recommended actions and authorities' response

Recommended action plan

21. Table 2 offers suggested steps for achieving observance.

Table 2. United Kingdom: Recommended Action Plan to Improve Observance of the CPSIPS and Central Bank Responsibilities in Applying the CPs

Reference Principle/Responsibility	Recommended Action
Core Principle III	CHAPSCo should develop procedures to make clear where losses would fall if a member in a net debit position were to default while in Bypass mode. The BoE has formally identified and communicated this requirement to CHAPSCo, and CHAPSCo is in the process of developing these procedures. It is expected that this work will be completed in 2011. In the medium term, CHAPSCo and the BoE are considering a back-up RTGS system that would replace the Bypass mode in the event that both of the BoE's operational sites are down.
Core Principle X	CHAPSCo should demonstrate that it can simultaneously manage both the CHAPS and FPS schemes, which is complicated by the fact they are at entirely different stages of development. CHAPSCo should also demonstrate improvements to its succession planning. It is expected that improvements to governance are forthcoming following an external review of these arrangements. The BoE has provided important input to this governance review on matters such as Board composition, senior manager appointments, and the operation of multiple schemes. A report has been completed and planning for implementation is underway.

Reference Principle/Responsibility	Recommended Action
Central Bank Responsibility B	The BoE should formally assess the RTGS infrastructure's compliance with the Core Principles in a unified manner, given that not all activity in the RTGS infrastructure relates to systems that the BoE oversees, and given the importance of the RTGS infrastructure to the U.K. financial system.

22. **Table 3 offers additional recommendations.**

Table 3. United Kingdom: Additional Recommendations

Reference Principle/Responsibility	Recommended Action
Core Principle I	While the incentives between the BoE and CHAPSCo appear to be well aligned, the analysis undertaken by the BoE's Oversight area on the lack of a binding contract between the two parties should be supplemented by a legal review of the consequences of the nonbinding nature of the MOU, either internally via the BoE's Legal Department, or externally. The BoE indicated that its legal department is undertaking this supplementary legal review.
Core Principle VI	The BoE should continue its efforts to raise awareness of the risks of tiering, and, where practical, continue to encourage direct participation in the system. The high concentration of payments in two settlement banks should be monitored by banking supervisors. Although these banks are very large and well supervised, it is important that the relevant banking supervisors account for the systemically important payments and concentrations of payments for these two banks.
Core Principle VII	CHAPSCo and the BoE are encouraged to proceed with the objective of implementing an RTGS back-up solution to replace the Bypass mode. This solution is still in the planning phase and is subject to project approval. If approved, preliminary timelines estimate a delivery date of 2013/2014.
Core Principle IX	CHAPSCo is encouraged to make the CHAPS rules and fees public.

Reference Principle/Responsibility	Recommended Action
Core Principle X	The CHAPS governance structure could be made more transparent; for example, the governance arrangements could be published on the CHAPS website, which is accessible to the public.

Authorities' response to the assessment

23. **The U.K. authorities welcome this assessment of the CHAPS payment system against the CPSS Core Principles for Systemically Important Payment Systems and of the Bank of England (the Bank) against the Central Bank Responsibilities in Applying the Core Principles.**

24. **The assessment identifies actions which would improve observance and also makes additional recommendations.** The U.K. authorities will consider and review the assessors' recommendations and additional actions. As noted in the assessment, work on many is already in train.

25. **The IMF recommends that the Bank should “formally assess the RTGS infrastructure’s compliance with the Core Principles in a unified manner, given that not all activity in the RTGS infrastructure relates to systems that the Bank oversees, and given the importance of the RTGS infrastructure to the U.K. financial system.”** As noted in the report, RTGS is not an interbank payment system but an accounting infrastructure that supports some payment systems. It would therefore not be appropriate to assess RTGS against the CPSS Core Principles as they apply to Payment Systems. The Bank will, however, this year conduct a unified assessment of RTGS based on its existing internal risk assessment, monitoring and management framework. That will be done at arms length as well as by line management.

II. DETAILED ASSESSMENT

26. **The assessment of CHAPS against each core principle (CP) was made on a qualitative basis using the following five categories: observed, broadly observed, partly observed, non-observed, and not applicable.**

- A CP will be considered **observed** whenever all assessment criteria are generally met without any significant deficiencies.
- A CP will be considered **broadly observed** whenever only minor shortcomings are observed, which do not raise major concerns and when corrective actions to achieve full observance with the CP are scheduled and realistically achievable within a prescribed period of time.

- A CP will be considered **partly observed** whenever the shortcomings are sufficient to raise doubts about the system’s ability to achieve observance within a reasonable time frame.
- A CP will be considered **non-observed** whenever major shortcomings are found in observing the assessment criteria.
- A CP will be considered **not applicable** whenever it does not apply given the structural, legal and institutional conditions.

27. **In addition to assessing the observance of CHAPS, an assessment was made of the four Central Bank Responsibilities.** For each Responsibility, the assessor undertook a qualitative assessment of the degree of observance using the same general framework as for the assessment of the CPs.

Table 4. United Kingdom: Detailed Assessment of Observance of the CPSIPSS and Central Bank Responsibilities in Applying the CPs

CP I	The system should have a well-founded legal basis under all relevant jurisdictions.
Description	<p>The regulatory framework relating to large value payments systems in the United Kingdom is governed by the Banking Act 2009. Part 5 of the Banking Act establishes a statutory regulatory framework for the oversight of recognized interbank payment systems. The Act confers powers on the Treasury to designate, by order, a system as a “recognized system,” in the event the Treasury is satisfied that “any deficiencies in the design of the system or disruption of its operation, would be likely:</p> <ul style="list-style-type: none"> • to threaten the stability of, or confidence in, the U.K. financial system, or • to have serious consequences for business or other interests throughout the United Kingdom. (s185(1)). <p>The treasury has published a guidance note on the process for recognizing interbank payment systems. CHAPS was formally recognized by the treasury under the Banking Act on January 5, 2010, giving the BoE responsibility for oversight.</p> <p>The legal environment in which CHAPS operates is reinforced by the designation of CHAPS under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999, which implements the EU Settlement Finality Directive in the United Kingdom. Designation gives protection against the normal operation of insolvency law, ensuring that there is irrevocability of payments orders and enforceability of collateral security, and that payments, which are irrevocable under the rules of the system cannot be unwound by virtue of insolvency law. The netting arrangements associated with the CHAPS Bypass mode are also protected by the designation of CHAPS under the Settlement Finality Regulations, since payments in Bypass modes are considered payments under the CHAPS scheme. It is also well established in English law that contractually agreed netting will generally survive insolvency, giving further protections to the netting arrangements associated with payments in Bypass mode.</p>

	<p>A general principle of English law is that parties have the freedom to contract. Thus, terms and conditions that parties freely agree to will be upheld, unless there are specific areas where this right is trumped. Consequently, the terms and conditions that parties agree to when they become members of CHAPS are generally enforceable.</p> <p>There has not historically been a formal membership agreement between CHAPSCo and its members. Consequently, a confirmation of membership agreement was developed to put in place a clear written record of the contractual arrangements that govern the legal relationship between CHAPSCo and CHAPS members, as well as the relationship between CHAPS members arising from their mutual participation in the system. All existing members have signed the confirmation of membership agreement.</p> <p>The majority of members are incorporated in the United Kingdom, as is the infrastructure and settlement service provider (the BoE). The fact that some members are incorporated in foreign jurisdictions is a source of some residual risk, although when a new member joins CHAPS, both the BoE and CHAPSCo ask it to obtain a legal opinion confirming the enforceability of the CHAPS rules and RTGS terms and conditions. In future, all legal opinions held by CHAPSCo will be refreshed every three years on a rolling basis. Any specific issues identified via a country-based legal opinion will be added to the company risk register.</p> <p>All members of CHAPS agree to the CHAPS rules, which incorporate by reference other documents, including the RTGS Reference Manual and CHAPS Procedural Documentation. From Rules, the referenced documents are:</p> <ul style="list-style-type: none"> • The FIN Copy Service Description (SWIFT) • The CHAPS Functional Specification • The CHAPS Procedural Documentation • The CHAPS Security Code of Conduct • The RTGS Reference Manual • The SWIFT User Handbook • The CHAPS Glossary • The BACS Industry Sorting Code Directory (ISCD) Member Procedures <p>The CHAPS rules and the associated rights and obligations are governed by the laws of England and Wales. Members agree that the courts of England and Wales have exclusive jurisdiction to settle any disputes not resolved by the appeal process. (See CHAPS Rules, Section 10.2).</p> <p>From a scheme perspective, the CHAPSCo Board has delegated responsibility to the CHAPS Legal Committee (LegCo) for ensuring that the rules remain robust and up-to-date, and for considering proposed changes. LegCo provides a forum for members' legal experts to: consider any proposals made by CHAPSCo and/or other advisors for changes to the rules, to review other constitutional documents as required, and to discuss legal issues relevant to the company. LegCo's terms of reference dictate that it meets at least once a year and on an ad hoc basis as required.</p> <p>CHAPS members' relationships with the BoE, as provider of the settlement accounts, are governed by contracts (the RTGS Terms and Conditions and the Master Repurchase Agreement).</p>
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	<p>CHAPSCo, member banks and the BoE (as operator of RTGS) all have contracts with SWIFT governing its provision of messaging services. These contracts also include service level agreements.</p> <p>There is an MOU between the BoE, as operator of the RTGS and thus the infrastructure provider for the CHAPS scheme, and CHAPSCo, which sets out the expectations and responsibilities of the parties. The MoU defines CHAPS as the payment messaging network for the making of sterling-denominated payments, comprising the SWIFT network and FIN copy service, members' payment processes and interfaces to the SWIFT network, the RTGS central system and members' enquiry Link terminals. The RTGS central system consists of the RTGS processor (including the central scheduler functionality), SWIFT CBTs, and the enquiry Link. The BoE is responsible for the provision and maintenance of the settlement accounting environment for the real time gross settlement of CHAPS payments and other transactions, as well as the intra-day payment flow monitoring activities; it is also responsible for the provision and maintenance of the Enquiry Link network. CHAPSCo is responsible for the provision and maintenance of the messaging network conveying CHAPS payment information between CHAPS members and to and from the BoE.</p> <p>Although the MOU does not create legally binding rights and obligations, the Annex to the MOU sets out in detail expected service levels in key areas. The BoE's Oversight area has considered whether a binding contract should replace the MOU and has concluded that the costs of doing so would outweigh the benefits. It argued that the incentives are already well aligned between the BoE and CHAPSCo, and thus the probability of an irresolvable dispute between the BoE and CHAPSCo, requiring resort to legal action, remains small. Furthermore, it explained that the re-characterisation of the MOU (in particular the "service level" terms of its Annex) as a binding contract could be a complex and relatively costly exercise.</p>
Assessment	Observed
Comments	<p>Additional Comment: While the incentives between the BoE and CHAPSCo appear to be well aligned, the analysis undertaken by the BoE's Oversight area on the lack of a binding contract between the two parties should be supplemented by a legal review of the nonbinding nature of the MOU, either internally via the BoE's Legal Department, or externally. The BoE indicated it would undertake this supplementary legal review in H1 of 2011.</p>
CP II	The system's rules and procedures should enable participants to have a clear understanding of the system's impact on each of the financial risks they incur through participation in it.
Description	<p>The CHAPS Rules set out high-level duties of members, whereas more detailed requirements are set forth in the documentation referenced by the rules. These documents allow the members to understand the risks they incur from participating in CHAPS.</p> <p>All of the scheme documentation is made readily available to members through "Livelihood," a secure information-sharing system.</p> <p>The rules relating to the irrevocability and finality of payments are clear. A payment message is considered to have been entered into the CHAPS system from the point at which the relevant member's settlement account at the BoE is debited. At this point, the message is not capable of being revoked by the sending member or any other party. Members have added security in this regard as a result of CHAPS being designated under the Settlement Finality Regulations.</p>

	<p>The settlement process via RTGS does not give rise to credit risk between members other than in Bypass mode (which is the process that may be used if the BoE's primary and standby systems are unavailable to process settlement requests). The rules and procedures for Bypass mode are described in the CHAPS Rules, CHAPS Procedural Documentation, and the RTGS Reference Manual. Although the Bypass mode has never been used, regular tests also help ensure that members are familiar with the arrangements.</p> <p>The CHAPS Procedural Documentation and the RTGS Reference Manual also explain controls and measures designed to minimize liquidity risk. As described under Principle III, these include throughput guidelines, operation of "circles" processing to minimize the risk of gridlock, and the transfer of sterling liquidity in contingency situations. The above documentation also explain where there is discretion and how it is exercised, e.g., with relation to CHAPS extensions (delaying closure beyond 16:00) or use of the Sterling Bank Liquidity Scheme, which can be used to help an operationally stricken member recycle liquidity that it may have trapped. However, as described under Principle III, the Sterling Bank Liquidity Scheme does not fully mitigate the risk that a member could become a liquidity trap in the event of an operational outage. Members are aware of this risk.</p> <p>The FSA is in the process of developing new liquidity regulations that may require banks to hold a dedicated intra-day liquidity buffer. While they have not yet been finalized, the new regulations may impact liquidity risk management in CHAPS if members manage intra-day liquidity more tightly. Consequently, the BoE is working with other members to investigate possible liquidity savings measures that could be implemented, such as offsetting algorithms associated with queued payments.</p>
Assessment	Observed
Comments	

CP III	<p>The system should have clearly defined procedures for the management of credit risks and liquidity risks, which specify the respective responsibilities of the system operator and the participants and which provide appropriate incentives to manage and contain those risks.</p>
Description	<p>The design of CHAPS means that credit risks do not arise during normal operations. In normal operations, payments are made in real time. A member cannot make a CHAPS payment unless it has sufficient funds available on its RTGS settlement account with the BoE. CHAPS payments are both irrevocable and final at the point at which the sending member's settlement account is debited.</p> <p>In the unlikely scenario that RTGS were to become inoperable at both primary and secondary sites for a substantive period of time, Bypass mode offers the main contingency option, and, in this case, some credit risk is introduced. In Bypass mode, settlement of payment messages would not take place in real time. Messages would be delivered directly between sending and receiving members without copying any details to the RTGS system. Members would provide CHAPS with agreed bilateral positions and CHAPSCo would then calculate the multilateral net settlement positions. These positions would then be forwarded to the BoE for settlement directly across the banks' accounts.</p> <p>In Bypass mode, members are required to operate using Net Sender Caps as defined in the CHAPS Functional Specification. These are calculated and applied by the members themselves. These Net Sender Caps are collateralized and</p>

based on each member's Group Balance at the time of the RTGS system failure. As a result, if a member defaults with a net debit position, it should have sufficient central bank funds to cover the debit position. Additionally, there is provision for multiple settlement cycles during the day, which would help to prevent large net exposures building up intra-day. However, at present, the rules of the system do not address the consequences of a participant's default in Bypass mode. This issue has been formally identified by the BoE, and CHAPSCo is in the process of developing documentation to make clear where losses would fall in the event that a member in a net debit position were to default while in Bypass mode.

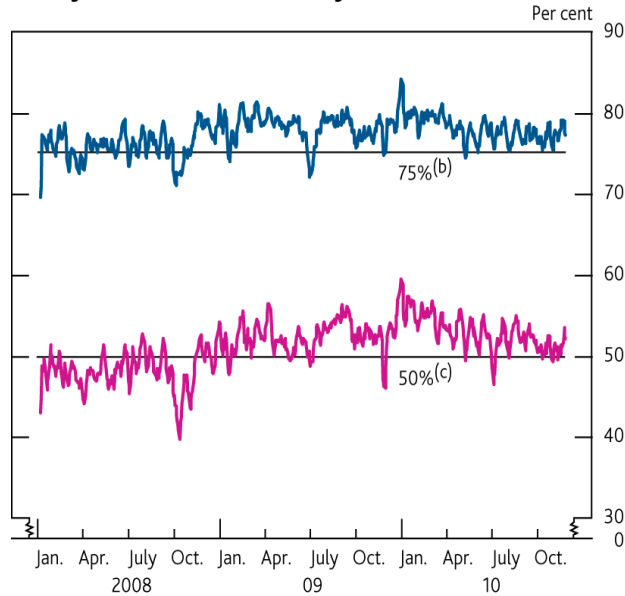
It should be noted that CHAPS has never been put into Bypass mode nor has a member defaulted, so the likelihood of both events occurring at the same time is very small. In addition, members can choose whether they wish to participate in the Bypass mode (for example, CLS Bank has indicated it will not participate). Nonetheless, CHAPSCo needs to clarify the consequences of a participant default in Bypass mode in order to fully comply with Principle III.

A member cannot make a CHAPS payment unless it has sufficient funds available on its settlement account with the BoE. These settlement accounts double as banks' reserves accounts and as such typically have a significant amount of funds on them for use intraday. If members require further liquidity, the BoE provides collateralized intra-day liquidity. The majority of this intra-day liquidity is provided by the BoE undertaking intra-day repurchase agreements with members under the terms of the Master Repurchase Agreement and in accordance with the procedures set out in the RTGS Reference Manual. Securities eligible for these repurchase agreements are limited to the BoE's Narrow Open Market Operations Collateral set. Although the values are much smaller, the BoE also provides intra-day credit against deposits in members' cash ratio deposit accounts at the BoE, and against Euro balances transferred to the BoE's correspondent bank in Target2 (De Nederlandsche Bank).

To aid liquidity management, all banks have real-time information on their balances and the status of payment messages via the enquiry Link with the BoE. Both centralized and individual members' schedulers enable members to manage the order in which payments settle; the majority of members use their own schedulers.

To mitigate liquidity risk, members have access to a queuing mechanism. Even if a member has insufficient funds for a payment to settle, the member can still submit payment messages to the RTGS processor. These messages will be queued within the RTGS processor until funds become available. Circles' processing, whereby offsetting payments are settled on a "simultaneous gross" basis, which is distinct from netting, can be used to clear any build-up of queues. Throughput guidelines are used to help prevent liquidity hoarding. Under CHAPS Procedural Documentation, members are required to manage payment flows in accordance with the following guidelines: 50 percent of payment value by 12:00 and 75 percent of payment value by 14:30. The BoE and CHAPSCo regularly monitor members' throughput performance, using the monthly average as a performance metric, as described in the chart below.

Average Percentage of Sterling Payments Sent by CHAPS Members by 12:00 and 14:30^(a)



Source: Bank of England, Financial Stability Report, December 2010

- (a) Five-day moving average, weighted by value of payments sent.
 (b) CHAPS throughput guideline at 14:30.
 (c) CHAPS throughput guideline at 12:00.

There are no financial penalties for failing to consistently meet throughput guidelines; instead, CHAPSCo uses peer pressure to promote attainment of the targets. Escalation procedures lead to a “Star Chamber” hearing in which the noncompliant member will be asked to list the remedial steps it is taking to more consistently meet the targets. As the chart illustrates, on average, members generally, but not always, meet the throughput guidelines.

In extreme scenarios, there is a risk that liquidity might be drained from the system because a member is unable to send but can still receive payments. The probability of this risk materializing is relatively low as CHAPSCo monitor members’ payment flows and would soon be aware if a member had stopped sending, but was still receiving. Nonetheless, there are three contingency procedures for such situations: use of the Settlement Bank Liquidity Scheme (SBLS), faxing, and enquiry Link transfer of priority payments.

The SBLS could be invoked where there was a risk that liquidity might be drained from the system as a result of a member’s inability to send (but not to receive) payments. Under SBLS, the operationally stricken member can recycle liquidity back into the system by making intra-day loans available to other members. The transfer of funds between settlement accounts associated with such loans is carried out via the Enquiry Link (assuming the stricken member’s operational outage hasn’t affected access) or via authenticated fax with the BoE. An operationally stricken member that decides to make an SBLS loan is exposed to credit risk, and this credit risk is managed outside of the CHAPS scheme. CHAPSCo and the BoE are currently reviewing the SBLS to see if enhancements

	<p>can be made. One consideration is to replace the ex-ante limits on the values that members lend in the SBLs with a broader commitment to recycle liquidity (but that would be subject to the approval of credit departments). In addition, CHAPSCo and the BoE have run CHAPS member outage walkthrough exercises with member banks which exercised SBLs arrangements.</p> <p>Contingency tests have shown that the faxing of small numbers of priority payments is generally operationally feasible and members have confirmed that they can identify priority payments for processing in such a scenario. Payments via authenticated fax are considered payments under the CHAPS scheme.</p>
Assessment	Broadly Observed.
Comments	<p>In the unlikely scenario that RTGS were to become inoperable at both primary and secondary sites for a substantive period of time, Bypass mode offers the main contingency option for continuing CHAPS operations, and, in this case, there is some credit risk between members. To achieve full observance, CHAPSCo needs to develop procedures to make clear where losses would fall in the event that a member in a net debit position were to default while in Bypass mode. The BoE has identified this need in its assessment of CHAPS and has asked CHAPSCo to consider how to ensure settlement in the event of a member default while in Bypass mode, making clear where losses would fall. It is expected that this work will be completed in 2011. In the medium term, CHAPSCo and the BoE are considering a further back-up option that would be used instead of the Bypass mode in the event both of the BoE's RTGS sites were down.</p>
CP IV	The system should provide prompt final settlement on the day of value, preferably during the day and at a minimum at the end of the day.
Description	<p>During normal operations, settlement finality occurs in real time, upon the debiting and simultaneous crediting of the relevant members' settlement accounts at the BoE. This is also the point of irrevocability. The designation of CHAPS under the Settlement Finality Regulations provides added assurance that the finality of settlement in the event of member insolvency would not be subject to (successful) legal challenge.</p> <p>If an operationally stricken member sends a payment message via the Enquiry Link, then settlement finality (and irrevocability) occurs upon the debiting and crediting of the relevant members' settlement accounts. If the message is sent by authorized fax, then the point of irrevocability is the point at which the fax is received by the BoE, and finality of settlement occurs upon debiting and crediting of settlement accounts. The finality of these contingency payments are protected by the designation of CHAPS under the Settlement Finality Regulations.</p> <p>In Bypass mode, settlement of payments would not take place in real time. The point of irrevocability of the payment order is the point at which the sending member transmits the payment message to SWIFT. Final settlement takes place on a multilateral net basis at the end of each settlement cycle, based on members' agreed upon bilateral position. It is likely that two settlement cycles would be used in Bypass mode, one in the middle of the afternoon and one at the end of the day. However, if necessary, more than two cycles can be used to reduce the build-up of net debit positions. Payments in Bypass mode are still covered by CHAPS' designation under the FMIRs.</p>
Assessment	Observed
Comments	

CP V	A system in which multilateral netting takes place should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single settlement obligation.																											
Description	<p>In the normal operating mode, settlement takes place on a gross, real-time basis. Thus, under normal operations, Principle V does not apply.</p> <p>However, multilateral netting and settlement would occur in Bypass mode. Messages would be delivered directly between sending and receiving members without copying any details to the RTGS system. Members would provide CHAPS with agreed bilateral positions; CHAPSCo then calculate multilateral net settlement positions. These positions would then be forwarded to the BoE for settlement. Although Bypass mode has never been used, it is available in the event that the BoE's primary and standby systems are unavailable to process settlement requests in respect of CHAPS payments. At present, the rules of the system do not address the consequences of a participant default in Bypass mode. This is addressed under Core Principle III.</p>																											
Assessment	Non applicable																											
Comments																												
CP VI	Assets used for settlement should preferably be a claim on the central bank; where other assets are used, they should carry little or no credit risk and little or no liquidity risk.																											
Description	<p>Settlement between CHAPS members takes place through transfers of claims on the BoE.</p> <p>However, the system is highly tiered in that many financial institutions do not participate directly in the system, but rather indirectly through the services of one of the direct members. Thus, a significant amount of large value payment activity in the United Kingdom is settled in commercial bank money rather than in central bank money. This is a potential source of vulnerability, since, if a member having large settlement obligations were unable to settle for operational or financial reasons, the payment system would face significant liquidity pressures.</p> <p>Direct participation has recently increased with JP Morgan and Bank of America both becoming CHAPS members in the second half of 2010. And when the FSA introduces new liquidity regulations requiring banks to hold a dedicated buffer of liquid assets to meet intra-day liquidity needs, direct members may impose more stringent requirements on their clients. This may increase the incentives to participate directly in CHAPS, especially as the liquidity savings mechanisms under development are introduced.</p> <p>Despite these developments, CHAPS payments remain highly concentrated, as seen in the table below, which provides the concentration of activity among the top-2 and top-5 members over time.</p> <p>Percentage of CHAPS payment value sent by top-2 and top-5 members, 2003-2010</p> <table border="1" data-bbox="492 1671 1451 1770"> <thead> <tr> <th>Year</th> <th>2003</th> <th>2004</th> <th>2005</th> <th>2006</th> <th>2007</th> <th>2008</th> <th>2009</th> <th>2010</th> </tr> </thead> <tbody> <tr> <td>Top-2</td> <td>52.2</td> <td>50.6</td> <td>52.4</td> <td>54.0</td> <td>53.2</td> <td>53.7</td> <td>54.5</td> <td>49.5</td> </tr> <tr> <td>Top-5</td> <td>84.3</td> <td>84.5</td> <td>85.2</td> <td>85.4</td> <td>85.2</td> <td>83.3</td> <td>84.5</td> <td>80.4</td> </tr> </tbody> </table> <p>In 2010, there was a modest decrease in concentration among the top-2 and top-5 members, but the two most active members still combine for half of the payment value flowing through CHAPS each day. Consequently, there is significant</p>	Year	2003	2004	2005	2006	2007	2008	2009	2010	Top-2	52.2	50.6	52.4	54.0	53.2	53.7	54.5	49.5	Top-5	84.3	84.5	85.2	85.4	85.2	83.3	84.5	80.4
Year	2003	2004	2005	2006	2007	2008	2009	2010																				
Top-2	52.2	50.6	52.4	54.0	53.2	53.7	54.5	49.5																				
Top-5	84.3	84.5	85.2	85.4	85.2	83.3	84.5	80.4																				

	<p>exposure to commercial settlement banks in general and to these two institutions in particular, which implies credit risk needs to be managed outside of the system (use of commercial bank money instead of central bank money).</p> <p>The BoE is working with the FSA to ensure that the prudential regulation of banks, whether direct participants or their customers, takes account of the concentration risks in CHAPS. The FSA and BoE had a series of meetings with the main sterling settlement banks in 2009/10 on management of credit exposure arising from their provision of settlement bank services, including exposures faced during periods of financial stress. As a result, the FSA has published good practices for credit risk management in this area.³ Supervisors will follow up with the relevant banks through normal supervisory processes.</p>
Assessment	Observed
Comments	The BoE should continue its efforts to raise awareness of the risks of tiering and, where practical, continue to encourage direct participation in the system. The high concentration of payments in two settlement banks should be monitored by banking supervisors. Although these banks are very large and well supervised, it is important that the system vulnerabilities posed by the concentration of CHAPS payments be carefully reflected in the supervisory process.
CP VII	The system should ensure a high degree of security and operational reliability and should have contingency arrangements for timely completion of daily processing.
Description	<p>The policy choices relating to security, operational standards, and business continuity are generally made at a senior level of management (for example, signed-off by the CHAPS Board, with company manager involved in decision). The procedural documentation contains generally comprehensive procedures covering both business as normal operations as well as those for use during contingency scenarios.</p> <p>CHAPS' security controls are primarily set out in the Security Policy and the Security Code of Conduct, which are based on the ISO 27002. The Security Policy is a high-level policy description covering end-to-end clearing, which is reviewed annually (or additionally when major changes occur) and approved by the CHAPSCo Board. The Security Code of Conduct specifies a range of security controls that CHAPS' members and suppliers are expected to have in place. The controls include encryption, authentication, and contingency. They also cover physical and logical access controls to systems. Members are required to fill out a detailed questionnaire each year with regard to their compliance with the Code (and the other obligations they face as members). Members are required to self-certify compliance with the Code annually, including by the head of audit of member institution, which prompts internal reviews by the member's audit function.</p> <p>Operation of the core RTGS processing infrastructure is in effect outsourced by CHAPSCo to the BoE. The MOU, between the BoE and CHAPS, lists a wide range of performance targets for the BoE, which is also subject to the Code of Conduct. The most important performance target is the aim of ensuring that the RTGS system is available on average for 99.95 percent of the operating day over the course of each month. The BoE failed to meet the availability standard in 2 out of the 12 months of 2008; however, since the start of 2009 there has only been one eight-minute period (in February 2010) in which RTGS was unable to process CHAPS payments. CHAPSCo Operational Committee is responsible for</p>

³ http://www.fsa.gov.uk/pubs/guidance/fg11_02.pdf.

	<p>monitoring operational performance.</p> <p>The MOU clearly specifies the lines of communication for reviewing operational performance and incidents. CHAPSCo and the BoE's operational area have processes in place to monitor, review, and follow up on operational incidents that affect RTGS. Technical errors and problems are dealt with and rectified on a timely basis.</p> <p>The MOU also requires the BoE to ensure that the capacity within RTGS is sufficient such that it can process a peak day's volume within four hours. This target is sufficiently demanding to ensure that CHAPS can cope with above-average volumes. The historic peak was around 300,000 payments in a day, but in recent years volumes have fallen and flattened at a lower level. Consequently, system processing capacity is somewhat less pertinent than in the past. Nevertheless, the BoE conducts a number of volume tests each year to demonstrate that it can meet this requirement of the MOU, using the 300,000 benchmark. Results show that the BoE can process 300,000 payments in 2.5 hours.</p> <p>SAS70s are conducted annually with respect to both CHAPSCo and the operation of RTGS. Overall, there were no outstanding items flagged by either of the SAS70s that are of material concern (for year 2010). For RTGS satisfactory results from tests, such as penetration tests, provide assurance regarding a number of security features. Changes to the RTGS system are first made in a test environments to verify that the changes are working as designed and stable. The SAS70s for RTGS and CHAPSCo have not identified any issues in relation to the adequacy of staffing (numbers, roles, performance etc); there are clear communications procedures for ensuring the appropriate staff can be contacted out-of-hours in the event of an operational incident.</p> <p>CHAPS' business continuity, resiliency and recovery provisions and procedures are extensive, and through initiatives such as the Tripartite Resilience Benchmarking Project, which was repeated at the end of 2007, have been shown to be of a high standard. Business continuity and contingency procedures are described in the CHAPS Procedures, RTGS Manual and CHAPS Functional Specification. All roles and responsibilities within CHAPS Co and RTGS have designated deputies. There are no known single points of failure; there is considerable redundancy built into the infrastructure on the primary site as well as there being a "hot" back-up site in Debden. In recent years the benchmark for the resilience of critical financial infrastructure has continued to rise; CHAPSCo appears to be aware of this and is giving consideration to the merits of strengthening arrangements further.</p> <p>While in most cases having a "hot" back-up site provides good resilience to operational shocks, the two processing sites are only around 12 miles apart as the crow flies and therefore still exposed to the (low probability) risk of a wide-area event.</p> <p>If RTGS were to become inoperable at both primary and secondary sites for a substantive period of time, Bypass mode offers the main contingency option. In Bypass mode, settlement of payment messages would not take place in real time. Messages would be delivered directly between sending and receiving members without copying any details to the RTGS system. Members would provide CHAPS with agreed bilateral positions; CHAPSCo then calculate multilateral net settlement positions. These positions would then be forwarded to the BoE for settlement.</p>
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	<p>CHAPSCo and the BoE are considering whether to proceed with the Market Infrastructure Resilience Service, which is a generic RTGS system that would be provided by SWIFT but operated by the BoE. This would replace the Bypass mode in the event both of the BoE's systems were down. This work is still in the planning phase and is subject to project approval. If approved, preliminary timelines estimate a delivery date of 2013/2014.</p> <p>CHAPSCo carries out a comprehensive set of contingency exercises together with members of the system and the BoE (as infrastructure provider). CHAPS performed well during the 2007 Tripartite Resilience Benchmarking Project and the November 2009 Market-wide Exercise. Other tests include remote site working, fax testing and SWIFT "cold start" tests. The BoE and CHAPSCo have discussed how testing could be made more rigorous, for example more regular tests of operations in Bypass mode.</p> <p>Members also play a key role in the smooth operation of the system and CHAPSCo places high importance on the resilience and robustness of members' feeder systems and interfaces with CHAPS. The Procedural Documentation sets out guidelines for the service levels expected of members. Member performance is monitored by CHAPS' Operational Committee. Amongst other things, the guidelines stipulate that members are expected to minimize "cut-off extensions" of the daily CHAPS timetable and meet throughput criteria. Failure of members to meet the guidelines can result in a member being asked to appear before the "Star Chamber." At these hearings, members are asked to set out the steps it is taking to restore its level of service to the expected level. Thereafter, CHAPSCo will liaise with the member and monitor implementation of remedial changes against an agreed plan. Although this "peer pressure" approach is not as severe a deterrent as options such as financial penalties, historically it generally appears to be sufficient to ensure that members meet the guidelines.</p>
Assessment	Observed
Comments	<p>Additional comment: The two processing sites are only around 12 miles apart as the crow flies and therefore still exposed to the risk of a wide-area event. Therefore, the mission strongly encourages CHAPSCo and the BoE to proceed with their objective of implementing an RTGS-based back-up solution in the event both of the RTGS operational sites were down. This work is still in the planning phase and is subject to project approval. If approved, preliminary timelines estimate a delivery date of 2013/2014.</p>
CP VIII	The system should provide a means of making payments, which is practical for its users and efficient for the economy.
Description	<p>CHAPS is a real-time system. As such, it appears to offer an efficient solution for those wanting to make payments that are time critical, require a high degree of certainty regarding the timing of the payment and/or wish to avoid the settlement risk entailed in making payments which are not settled immediately. Real-time gross settlement systems require a higher degree of resilience than many other systems, however, which inevitably makes them more costly to operate and hence use. The higher liquidity costs associated with RTGS systems also make it more costly to use.</p> <p>The CHAPSCo charges are kept to a minimum consistent with the provision of appropriate services and the recovery of all operating costs. Costs are distributed pro rata among members, based on volume, subject to a minimum charge of 2 percent (applied up to an overall maximum of 26 percent of costs being charged in this manner, in order to limit the total contribution of low-volume members). Members face two batches of calls for funds in June and December, and the</p>

	<p>December call will be lowered if the yearly budget has not been exhausted.</p> <p>The BoE applies three objectives in determining its RTGS fees:</p> <ul style="list-style-type: none"> • to recover the BoE's investment and running costs, including all allocated overheads attributed to the members; • to recover attributable costs taking one year with another; and • to avoid cross-subsidization of one service by another. <p>The BoE's current tariff is 16.5 pence per transaction, down from 17.1 pence. The BoE also charges a yearly account management fee.</p> <p>Members will also face charges for using the SWIFT FIN Copy, as well as their bilaterally negotiated charges for sending SWIFT messages.</p> <p>Like other RTGS systems, CHAPS imposes high liquidity demands on its direct members. The BoE provides collateralized intra-day liquidity free of charge; the cost to members is the opportunity cost of lodging this collateral with the BoE. There is no evidence that members have lacked adequate collateral to make payments, which suggests that these liquidity costs have not been excessively burdensome until now. The BoE (working closely with CHAPSCo) has undertaken extensive analysis on possible liquidity saving mechanisms within CHAPS which would reduce the liquidity costs.</p>
	<p>According to the MOU between the BoE and CHAPSCo, the transmission time between one member's payment system and another should be no longer than 60 seconds (30 seconds for network processing and 30 seconds for processing by the RTGS processor). However, transmission is generally much quicker.</p> <p>The Faster Payment Service went live in May 2008. The new system is expected to take over 50 percent of CHAPS volumes over the next five years, but migration has been slower than expected. As migration takes place, this could potentially increase the average costs of making RTGS payments. To ensure CHAPS remains a practical, economically attractive way for making these payments, CHAPSCo and the BoE will need to carefully consider their response to the costs implications of volumes migrating to the FPS.</p>
Assessment	Observed
Comments	
CP IX	The system should have objective and publicly disclosed criteria for participation, which permit fair and open access.
Description	<p>The access criteria for CHAPS are set out in the CHAPS Rules and are available on the CHAPSCo public website. The CHAPS Rules themselves are not published but are made available to potential members.</p> <p>Membership is restricted to financial institutions that hold sterling settlement accounts at the BoE, qualify as a participant as set out in the Settlement Finality Regulations, and are able to comply with the technical and operational requirements of the CHAPS system (as set out in the rules and its reference documents). Members must also be a shareholder of the Company; this should not be excessively burdensome and seems reasonable given the organizational structure.</p> <p>CHAPSCo also charges an entry fee for new members, which is currently at £70,000. The fee is justified by CHAPSCo as a contribution to help offset the technical costs incurred by it and its existing members in adding new members to the system. The fee is not judged to be a significant barrier to entry. Indeed,</p>

	<p>discussions with the market suggest that the main barrier to entry is the lack of a business case.</p> <p>Information on fees is not published but has to be requested from CHAPSCo, which may make it more difficult for a prospective member to develop a complete business case.</p>
Assessment	Observed.
Comments	<p>Additional comment:</p> <p>The mission encourages CHAPSCo to make the CHAPS Rules and fees public.</p>
CP X	The system's governance arrangements should be effective, accountable and transparent.
Description	<p>CHAPSCo has a clear governance structure, with the Board having ultimate responsibility for the management of the system. The Board delegates day-to-day management of the scheme to the Company Manager. Company documentation is available to members via "Livelink." Nonetheless, CHAPSCo governance arrangements could be made more transparent to the public.</p> <p>The CHAPSCo Board is composed entirely of CHAPS and FPS member settlement banks. CHAPSCo lags best practice given the absence of representation by independent Board members, although as described below, the Payments Council provides strategic guidance and it does have independent representation. CHAPSCo Board decisions are made on a consensus basis, but only CHAPS members engage in decisions relating to CHAPS and, similarly, only FPS members do so for decisions relating to FPS. Member engagement also takes place through the member-led committees, some of which are shared CHAPS/FPS committees, while others are unique to the individual system.</p>

	<p>CHAPSCo has a contractual relationship with the Payments Council (PC) under which the scheme must conduct their affairs in a way that is consistent with the PC's Payments Plan, cooperating fully and providing "all reasonable assistance" to the PC's work. The PC was set up to provide more independent input into the development of the U.K. payments landscape, addressing the criticism of the Cruickshank Report that banks had too much control over this development. Consequently, the Board of the PC has four independent members, which collectively exercise a veto. The PC doesn't interfere in the day-to-day operation of CHAPSCo and the other payment scheme operators, but rather it provides strategic guidance with the goal of promoting efficiency, innovation, and integrity across the payment schemes.</p> <p>CHAPSCo operates both FPS and CHAPS and this raises challenges with respect to management and governance, particularly given the different stages of development of the two systems. CHAPSCo needs to demonstrate that it has sufficient resources to satisfy the needs of both schemes during both business as usual and contingency situations. Since February 2010, CHAPSCo has also shared management, on an interim basis, with Bacs after appropriate arrangements were not in place for a permanent appointment following the retirement of the CHAPSCo Company Manager.</p> <p>CHAPSCo has commissioned jointly with Bacs an independent review of the governance and management of the schemes, due to report in January 2011. This will provide an assessment of its management capability and governance model in the context of strategic issues currently facing the respective schemes. Its scope includes: strategic goals, composition and functioning of the Board, cross-scheme issues, and senior management structure and resourcing. The BoE has had significant input into this governance review. A report has been</p>
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	completed and the plans for implementation are currently being developed.
Assessment	Broadly Observed
Comments	<p>CHAPSCo is the operator of both FPS and CHAPS, which raises challenges with regard to governance. In addition, governance concerns extend to succession planning following the departure of the CHAPSCo Company Manager. To fully observe this Principle, CHAPSCo needs to demonstrate that it can simultaneously operate and manage both the CHAPS and FPS schemes, which is complicated by the fact they are at entirely different stages of development. CHAPSCo also needs to demonstrate improvements to its succession planning. It is expected that improvements to governance are forthcoming following an external review currently underway. The BoE has provided important input to this governance review on matters such as Board composition, senior manager appointments, and the operation of multiple schemes. A report has been completed and plans for implementation are under development. The BoE will be monitoring progress.</p> <p>As an additional recommendation, the CHAPS governance structure could be made more transparent.</p>
Responsibility A	The central bank should define clearly its payment system objectives and should disclose publicly its role and major policies with respect to systemically important payment systems.
Description	<p>The BoE's broad financial stability objective is codified in the Banking Act 2009. This objective is "to contribute to protecting and enhancing the stability of the financial systems of the United Kingdom."</p> <p>Part 5 of the Banking Act 2009 establishes a statutory regulatory regime for payment systems. This regime, operated by the BoE, replaced the previous non-statutory arrangements. Under the statutory regime, interbank payment systems which meet the criteria set out in section 185(1) of the Act may be recognized by HM Treasury and brought within the BoE's oversight regime. Part 5 of the Act also gives the BoE a set of statutory tools to assist its oversight function.</p>

The two criteria in section 185(1) for identifying interbank payment systems that are of systemic significance to the United Kingdom are as follows.

- The first criterion identifies systems that would have the potential to threaten the stability of, or confidence in, the U.K. financial system if there were any deficiencies in their design or if their operation were disrupted.
- The second criterion identifies systems where any deficiency in design or disruption to their operation could lead to serious consequences for business or other interests throughout the United Kingdom.

Section 185(2) specifies certain factors that should be taken into consideration when assessing systemic significance of interbank payment systems:

- the number and value of the transactions that the system presently processes or is likely to process in the future;
- the nature of the transactions that the system processes;
- whether those transactions or their equivalent could be handled by other systems;
- the relationship between the system and other systems; and
- whether the system is used by the BoE in the course of its role as a monetary authority.

The Act also includes requirements for operators of recognized payment systems to have regard for Principles published by the BoE. The BoE uses the 10 Core Principles for Systemically Important Payment Systems, plus the following four additional principles:

- **Business Risk:** The system should manage its business risks so that its users can rely on continuity of its services.
- **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
- **Indirect Participants:** The system should understand and manage risks that are brought to the system as a result of participants' relationships with indirect participants
- **Outsourcing:** The system should manage its outsourced relationships prudently, ensuring that contractual and risk management arrangements are clear, appropriate and robust.

The BoE 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 BoE follows a program of risk reviews for each system, which includes an annual review against the BoE's principles.

The BoE uses its Oversight Risk Framework as an input into its risk reviews of recognized systems. The Oversight Risk Framework assigns risks to three broad headings: settlement risk, business risk, and operational risk. It also includes a "register" of possible risks and assigns probabilities and impacts to each of the risks. This helps to rank the relative importance of particular risks within a system.

The outcome of the BoE's risk reviews is formalized in Expectations Letters to

	<p>each system operator, which set out the BoE'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 BoE expects them to be completed. With regard to CHAPS, the BoE delivered its Expectation Letter following its last risk review in May 2010.</p> <p>The BoE 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.</p> <p>In addition to its oversight role in payments, the BoE has a closely related operational role. It is the operator of the RTGS system, which provides real-time gross settlement for CHAPS and CREST, as well as settlement of other payment schemes (FPS, Bacs, Cheque and Credit Clearing, LINK). The RTGS also facilitates intra-day liquidity transfers, reserve account transfers, and transfers in respect of the note circulation system. The BoE is a shareholder in CHAPSCo, consistent with its status as a settlement member and attends CHAPSCo Board meetings with "observer status."</p> <p>The BoE also plays a role designating systems under the Settlement Finality Regulations. In order for a payment system to receive the protections from insolvency law under these Regulations, the system must be designated by the BoE. In other words, the BoE considers whether a payment system that has applied for designation meets the criteria specified in the Regulations.</p> <p>The statutory framework for Payment System Oversight and the BoE's objectives and approach to Oversight are described on its public website. Detailed information on the BoE's Oversight role and policies was published in September 2009 and is available publicly on the website.</p> <p>Since 2005 the BoE has published an annual Payment Systems Oversight Review (PSOR). These set out key developments in U.K. payment systems and explain the focus of the BoE's oversight work. No report was published in 2009 owing to the change of regime to a statutory footing. The BoE expects to publish the first report since the implementation of the Banking Act 2009 later this year. This report will adopt a different format to the previous reports (it will be shorter with a greater focus on the main risks and mitigants, rather than a principle-by-principle assessment of the system).</p>
Assessment	Observed
Comments	
Responsibility B	The central bank should ensure that the systems it operates comply with the core principles.
Description	<p>The entity with the responsibility for managing and operating CHAPS is CHAPSCo, whereas the BoE operates the RTGS system that underpins CHAPS. CHAPS is a recognized system under the Banking Act 2009, but the BoE's RTGS system is not. The RTGS system would have the potential to threaten the stability of, or confidence in, the U.K. financial system if there were any deficiencies in its design or if its operation were disrupted. However, the RTGS is not an interbank payment system for the purposes of the Banking Act 2009, since, of itself, it is not considered to constitute arrangements designed to facilitate or control the transfer of money between financial institutions (the BoE considers it is an arrangement to transfer money between financial institutions' accounts at the BoE, not between the institutions themselves).. In addition, the BoE's RTGS system is not designated under the Settlement Finality Regulations.</p>

	<p>The BoE does not formally assess its RTGS system against the core principles, except to the extent that it does so indirectly and in a fragmented manner through its oversight of CHAPS (and other recognized systems that use it, such as CREST, FPS, and Bacs). However, not all activity in the RTGS is undertaken in regard to these recognized systems. For example, end-of-day net settlement of the Cheque and Credit system and the LINK system take place over RTGS. These RTGS transfers are small in value because they represent the multilateral net positions of all activity in those schemes throughout the settlement period. However, they are extremely important since the RTGS transfers effect of the discharge of obligations arising in these schemes. The RTGS is also used to process others funds transfers, such as intra-day liquidity movements, adjustments to reserve account balances, movements to reflect transactions in the note circulation system, or transfers which can occur outside of CHAPS operating hours or as a contingency measure.</p> <p>The BoE's RTGS is clearly the most important component of the U.K. payments and settlement infrastructure. Consequently, the BoE should undertake an assessment of the RTGS system against the Core Principles. This is important because not all RTGS activity is undertaken in the context of overseen systems, or systems designated under the Settlement Finality Regulations. For example, an assessment of the legal basis supporting RTGS would include evaluation of the potential for any insolvency practitioner to attempt to challenge an RTGS adjustment made for the settlement of LINK. The assessment would also evaluate the processes and procedures in place to support RTGS activity that can occur outside of recognized systems, such as intra-day liquidity movements, or payments made outside of CHAPS hours, or those made to recycle liquidity via the Settlement Bank Liquidity Scheme.</p> <p>It would also be beneficial to have a single, cohesive assessment of the RTGS, rather than the assessment taking place in a fragmented and incomplete manner through the oversight of recognized systems. While the BoE was extremely cooperative in providing the assessors with information they requested about the RTGS system, the assessors discovered first-hand the limitations of not having a single, comprehensive assessment of the RTGS system in one unified document.</p> <p>For these reasons, it is recommended the BoE undertake a formal, direct, and holistic assessment of the RTGS against the Core Principles. This should be a specifically designated and arm's length assessment of the RTGS directly by the BoE's oversight function, as distinct from episodic reviews conducted by internal bank departments such as internal audit.</p>
Assessment	Broadly Observed.
Comments	<p>The BoE assesses the RTGS infrastructure against the Core Principles in an indirect and fragmented manner through its oversight of CHAPS (and other recognized systems that use the RTGS, such as CREST, FPS, and Bacs). However, not all activity in the RTGS infrastructure is undertaken in regard to these recognized systems. Given the importance of the RTGS to the U.K. financial system, the BoE should undertake a direct, unified assessment of the RTGS, systemically evaluating it against the Core Principles. This should include an assessment of the finality of RTGS movements made outside the context of schemes designated under the Settlement Finality Regulations</p>
Responsibility C	The central bank should oversee observance with the core principles by systems it does not operate and it should have the ability to carry out this oversight.
Description	<p>Interbank payment systems, which meet the criteria set out in section 185 of the 2009 Banking Act, may be recognized by HMT and thus brought within the BoE's oversight regime. The treasury has issued a guidance note on the process for</p>

	<p>recognizing systems, which is publicly available.</p> <p>In addition to CHAPS, other recognized systems are: CLS; Bacs; FPS; and the inter-bank payment systems operated as part of CREST, LCH, and ICE. For each recognized system, the BoE undertakes a risk review process, which analyzes:</p> <ul style="list-style-type: none"> • qualitative information about the features of the system and its operations; • quantitative information and statistics in relation to the system's flows, and the resulting risks; • target areas for further risk mitigation; and • where the system's current level of observance of the CPSS Principles lies relative to the BoE's assessment of the appropriate level. <p>In terms of the BoE's ability to carry out oversight, it is provided with a series of statutory tools in the Banking Act 2009:</p> <ul style="list-style-type: none"> • Under Section 204 the BoE may require the provision of information which the BoE thinks will help HM Treasury in determining which systems should be recognized, or which the BoE otherwise requires in relation to its oversight functions. • Section 190 gives the BoE a power to instruct an operator to take particular actions in respect of the system's rules. • Section 191 gives the BoE a general power to issue directions to the operators of recognized interbank payment systems. • Section 193–194 gives the BoE powers to appoint an inspector to enter premises on, or from which, any part of a recognized interbank payment system is operated. This would include the premises of any outsourced technical services providers. • Section 195 gives the BoE 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 BoE 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). <p>Regarding the provision of information under Section 204, the BoE has identified a core set of information, related to the BoE's principles, that it has requested from each recognized payment system where relevant, together with an indication of how frequently it expects the information to be updated. The BoE reserves the right to make other requests on a case by case basis.</p> <p>The BoE has a dedicated Oversight team of 12 staff, several members of which have specialist skills. The Oversight team has a separate reporting line from the Operational teams (RTGS, intra-day credit). Where specific skills are not available within the team they are drawn on from other areas, such as the BoE's Legal Unit. Hiring and keeping the right expertise is challenging. In addition, the expert teams are facing other demands, in particular stemming from the EU and international regulatory agendas.</p>
Assessment	Observed
Comments	

Responsibility D	The central bank, in promoting payment system safety and efficiency through the core principles, should cooperate with other central banks and with any other relevant domestic or foreign authorities.
Description	<p>The BoE cooperates with the FSA, given the FSA's interest in payment systems. Under the Financial Services Markets Act 2000, the FSA is responsible for the regulation of recognized bodies, such as the operators of CCPs and SSSs, and these infrastructures may have payment system embedded within them. The FSA is also the regulator for many participants in recognized interbank payment systems, including U.K. banks and the U.K. subsidiaries of foreign banks. As such, the FSA is responsible for the regulation of credit, liquidity, and operational risks the participants may incur by using such systems.</p> <p>Another area of cooperation relates to designation under the Settlement Finality Regulations of a system through which both securities transfers and payment transfers are effected. For these systems, the FSA will consult the BoE before deciding whether to make a designation order.</p> <p>Section 192 of the Banking Act 2009 deals with the interaction of the statutory powers of the BoE and the FSA, which requires that the BoE, in exercising its powers under Part V of the Banking Act, have regard for any action that the FSA has taken or could take. In addition, the BoE must consult with the FSA before taking action under Part V in respect of a recognized payment system that is operated by an investment exchange or clearing house recognized under the Financial Services and Markets Act.</p> <p>The BoE and FSA have agreed to an MOU which covers their respective roles and responsibilities in relation to payment and settlement systems, and how they intend to fulfill these roles.</p> <p>The BoE regularly liaises with the Payments Council, which is a voluntary membership organization that sets strategy for U.K. payments.</p> <p>At the international level, the BoE participates in a number of co-operative oversight colleges and works to ensure that they provide an effective tool for addressing oversight concerns about the relevant system. The BoE participates in colleges for CLS, the LCH.Clearnet Group, Euroclear SA and SWIFT.</p> <ul style="list-style-type: none"> • CLS Bank is based in New York and the U.S. Federal Reserve is its lead overseer and chairs the CLS Oversight Committee (OC). The OC comprises 23 central banks and meets in person at least annually along with more frequent written communication and teleconferences. It discusses the risks in new products and services as well as issues such as liquidity risk across the CLS system and the impact of central clearing on CLS. • The LCH.Clearnet Group is incorporated in the United Kingdom and is subject to supervision on a consolidated basis by the French Autorité de Contrôle Prudenciel. The central banks and regulatory authorities from Belgium, France, the Netherlands, Portugal, and the United Kingdom participate in cooperative oversight meetings at both high level and working level, with rotating chairmanship of these meetings. The college discuss issues relevant at the group level. • The Euroclear Group (ESA) is based in Belgium and the National Bank of Belgium (NBB) and Commission Bancaire, Financiere et des Assurances jointly chair the ESA High Level Committee (HLC) and the ESA Technical Committee (TC). The HLC and TC comprise six central banks and six

	<p>national regulators .The ESA HLC meets biannually and the ESA TC meets quarterly. They discuss common services delivered by ESA to the Central Securities Depositories (CSDs) in the Group and issues such as governance, operational reliability and risk management.</p> <ul style="list-style-type: none"> • Although SWIFT, the messaging service, is not a recognized payment system in the United Kingdom, its services are of systemic importance as it is used by financial market infrastructures which are important to U.K. financial stability. It has its head office in Belgium and the NBB is its lead overseer and chairs the oversight arrangements. The thirteen co-operating central banks are organised in a two-tier structure of senior and technical level. The senior level oversight group meets twice a year and discusses oversight strategy and policies related to SWIFT. The technical level group meets four to five times a year with SWIFT management and internal audit. <p>The BoE is also active in international groups of overseers. For example, the BoE is a member of CPSS and the ECB's Payment and Settlement Systems Committee.</p>
Assessment	Observed
Comments	