FINANCIAL FLAGSHIP

PAYMENT AND SECURITIES SETTLEMENT SYSTEMS IN THE MIDDLE EAST AND NORTH AFRICA

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* DISCLAIMER - The current version of this chapter is based on the country assessments undertaken within the Arab Payment Initiative (API), the World Bank Global Payment Systems Survey 2008 and the Arab Monetary Fund (AMF) "Payment and Settlement Systems in the Arab Region Statistical Booklet 2009". This chapter is in the process of being updated with the responses to the World Bank Global Payment Systems Survey 2010; thus, some information may be outdated or incomplete and not reflect the current status in the country.

Abstract

This chapter provides a comprehensive overview of payment and securities settlement systems of MENA countries, from which a number of high-level recommendations have been drawn. The chapter is organized by topic, covering issues related to legal framework, large value payment systems, retail payment systems, securities settlement systems, cross-border payments and remittances, payment systems oversight and cooperation. The main resources used as references are the country assessments undertaken within the Arab Payment Initiative (API), the World Bank Global Payment Systems Survey 2008 and the Arab Monetary Fund (AMF) "Payment and Settlement Systems in the Arab Region Statistical Booklet 2009".

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The payments and securities settlement system is the infrastructure (comprised of institutions, instruments, rules, procedures, standards, and technical means) established to effect the transfer of monetary value between parties discharging mutual obligations. A securities clearance and settlement system can be considered as part of the overall payment mechanisms of a country in that it satisfies the main features of this overall definition. In this case, the exchange of financial value consists both of the exchange of securities (equity, fixed income, or derivatives) and the exchange of liquid funds (usually sight deposits). An efficient system reduces the cost of exchanging goods and services, and it is indispensable to the functioning of the interbank, money, and capital markets.

As many countries are embarking on projects to reform and modernize their payments and securities settlement systems, domestic policymakers are faced with the formidable task of how best to design payment system infrastructures in fast-changing technological and institutional environments. These tasks become increasingly complex as competition and innovation require an always changing combination of efficiency, reliability, safety, and system stability in the provision of payment services to larger numbers of individual users and institutions.

This chapter provides a comprehensive overview of payment and securities settlement systems of MENA countries, from which a number of high-level recommendations have been drawn. The chapter is organized by topic, covering issues related to legal framework, large value payment systems, retail payment systems, securities settlement systems, cross-border payments and remittances, payment systems oversight and cooperation. The main resources used as references are the country assessments undertaken within the Arab Payment Initiative (API), the World Bank Global Payment Systems Survey 2008[1] and the Arab Monetary Fund (AMF) "Payment and Settlement Systems in the Arab Region Statistical Booklet 2009".

Individual Arab countries are undertaking payment system reforms, including as a result of the Arab Payment Initiative (API), and are working towards increased regional integration. The objective of the API, launched in 2005, is to describe and assess the payment systems of the countries of the Middle East and North Africa (MENA) Region with a view to identifying possible improvement measures in their safety, efficiency and integrity. Within the API, international teams of payment system experts have been deployed to Bahrain, Djibouti, Egypt, Jordan, Lebanon, Morocco, Palestine, Qatar, Syria, Sudan, UAE, and Yemen. In addition to individual country reforms, there is a growing interest in the Arab region, as in other regions of the world, towards the possible efficiency gains that could be achieved by adopting integrated frameworks for regional payment and securities settlement systems.

[1] The World Bank, "Payment Systems Worldwide: A Snapshot. Outcomes of the Global Payment Systems Survey 2008", Washington DC, June 2008.

Main findings

The legal and regulatory framework for payment and securities settlement systems in the Arab region is one of the weakest in the world. Although there are usually basic laws affecting general payments and their settlement, such as central bank laws, banking laws and, in some cases, even securities laws, specific payment systems laws are not commonly present among the institutional arrangements for payments in Arab countries. Consequently, key issues are not adequately addressed in the payments system frameworks of the countries in the region. In particular, in many MENA countries the legal framework does not cover fundamental payment system concepts, such as settlement finality, bilateral and multilateral netting, and non-existence of zero-hour rules.

Until just recently, most MENA countries used exclusively cheques to initiate all large value payments. Cheques are still used for large-value payments in virtually all the national payments systems in the region and remain the principal instrument for large-value payments in one out of three countries in the region, according to the World Bank Global Payment Systems Survey. In these countries, cheque usage is driven mainly by commercial activity since cheques are an established payment instrument with reasonably sound legal support for their use. For this reason, the countries in the region with basic and more developed national payments systems have well established and, in some cases, relatively efficient domestic currency cheque clearing and settlement systems.

To increase efficiency and reduce risk related to cheque-based systems, many central banks in the region have established RTGS systems to settle large-value inter-bank payments. However, several RTGS systems need to be updated and made more efficient, so that all relevant market participants use them intensively. This should also facilitate a reduction in the use of cheques for large-value payments.

The MENA region is characterized by a heavy use of cash and cheques, which keeps retail payments far from optimal from the point of view of efficiency and risk control. The infrastructure to process retail payment instruments and key policy decisions that affect the safety, soundness and efficiency of the services provided is considered insufficient in the majority of the MENA countries. Central banks and all stakeholders in the retail arena must work together on a clear strategy to promote the intensive use of retail electronic payment instruments and reduce the importance of cheques.

The adequacy of remittance systems is variable in the GCC countries. Authorities of countries with a competitive and efficient remittance market should share best practices with the other countries in the region. Cooperation between payment system overseers of sending and receiving countries should be increased to foster security, cost efficiency and reliability of cross-border payments mechanisms. The attention of national authorities on this matter should not be limited to balance of payments and money laundering consideration, but extended to aspects such as transparency of fees and other charges or timing of accreditation of funds to end beneficiaries.

Many countries in the region do not have any regulatory agency or supervisory function over securities other than the self-regulation of the stock exchange. This undermines the trust in the system, especially from a foreign investor perspective, and it constitutes an important obstacle for further development of the securities market. This becomes more crucial in some envisaged reforms for the payment system, because liquidity management will become a crucial issue and an important element through the collateralized money market.

The oversight empowerment for SSSs is missing in some cases. The securities supervisor oversight responsibilities on the SSSs must be strengthened by law and, institutionally, by devoting adequate resources and establishing an effective cooperative framework with other regulators, self-regulatory organizations, and the private sector.

Securities immobilization or dematerialization at securities depositories has been largely accomplished in the region, but additional efforts are needed to achieve greater standardization. A standardized settlement cycle must be clearly fixed and identified for all the trades executed in the securities markets and true delivery versus payment should be achieved.

In most MENA countries the law gives some authority to the central bank over the payment system. However, the legal foundation of oversight of clearance and settlement systems is not always solid; consequently, the authority of the central banks to enforce any general rules or directives they might impose on the overall national payments system can be compromised. Most central banks in the region indicated in the World Bank Global Payment Systems Survey that they have a specific unit or department with responsibility for payment system oversight. However, few of these central banks have specific legal authority at the basis of their oversight functions through their central bank law or other statutory instruments.

Central banks in MENA should broaden the focus beyond the two traditional main oversight objectives of efficiency and reliability payment systems to a wider set of issues, including the promotion of competition in the payment services market and the protection of consumer interests.

Cooperation among regulators is an essential component of the oversight function and is lacking in most MENA countries. Formal cooperative arrangements for the payment system as a whole do not exist in MENA countries. In the area of international cooperation, the AMF has played a leading role in enhancing cooperation in the region.

Abbreviations

ACH	Automatic Clearinghouse
AMF	Arab Monetary Fund
API	Arab Payment Initiative
ATM	Automated Teller Machines
BCP	Business Continuity Plan
CPSIPS	Core Principles for Systemically Important Payment Systems
CPSS	Committee on Payment and Settlement Systems
CSD	Central Securities Depositories
DVP	Delivery Versus Payment
GCC	Gulf Cooperation Council
GPs	General Principles for International Remittance Services
IOSCO	International Organization of Securities Commissions
MENA	Middle East and North Africa
MTO	Money Transfer Operator
POS	Point-Of-Sale
PSDG	World Bank Payment System Development Group
RTGS	Real Time Gross Settlement
SRO	Self-regulatory organization
SSS	Securities Settlement System
STP	Straight-Through Processing
SWIFT	Society for Worldwide Interbank Financial Telecommunication

1. Overview

The soundness and efficiency of a payments system determines the efficiency with which transaction money is used in the economy, and the risks associated with its use. The payments and securities settlement system is the infrastructure (comprised of institutions, instruments, rules, procedures, standards, and technical means) established to effect the transfer of monetary value between parties discharging mutual obligations. A securities clearance and settlement system can be considered as part of the overall payment mechanisms of a country in that it satisfies the main features of this overall definition. In this case the exchange of financial value consists both of the exchange of securities (equity, fixed income, or derivatives) and the exchange of liquid funds (usually sight deposits). An efficient system reduces the cost of exchanging goods and services, and it is indispensable to the functioning of the interbank, money, and capital markets. A weak payments and securities settlement system may severely drag on the stability and developmental capacity of an economy; its failures can result in inefficient use of financial resources, inequitable risk-sharing among agents, actual losses for participants, and, at the extreme, and loss of confidence in the financial system and in the very use of money.[2]

As many countries are embarking on projects to reform and modernize their payments and securities settlement systems, domestic policymakers are faced with the formidable task of how best to design payment system infrastructures in fast-changing technological and institutional environments. These tasks become increasingly complex as competition and innovation require an always changing combination of efficiency, reliability, safety, and system stability in the provision of payment services to larger numbers of individual users and institutions.

The central banks of the leading industrial countries have been the main actors in moving the policy debate forward and in taking concrete steps to improve domestic and cross-border payment system performance. Their leading role is due to their historical involvement in payment systems and the implications for an effective monetary policy of a sound payment system. In practice, the specific role filled by central banks in the payment system differ from country to country and can include the provision of special purpose large value, time-critical, funds transfer systems, bulk low value electronic systems, including automated clearing house services, and government securities clearance and settlement services. Regulation and oversight of payment systems and services are also functions that central banks are increasingly performing.[3]

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[2] Listfield and Montes-Negret (1994) discuss how an efficient payment system contributes to the development of modern, market-based financial institutions and markets.
[3] See Padoa-Schiopa (1999).

The initial prominent role played by the private sector in the implementation and operation of securities settlement systems is now being replaced by a combination of roles shared between the private and public sectors with specific and well defined roles being assigned to the securities regulator. The private sector has traditionally provided most of the payment services to end-users. In addition, the private sector is normally involved in retail clearing services and clearance and settlement of non-government securities. In this latter regard, in some countries, especially those in the early stages of capital markets development, comprehensive and rigorous attention to regulatory issues is sometimes lacking as initial major emphasis is placed, quite naturally, on matters relating to operational efficiency and cost. Today, securities clearance and settlement systems are recognized as having the same inherent risks as those associated with systemically important payment mechanisms. Both the efficiency and the safety[4] and soundness aspects of these systems are now receiving closer attention from domestic securities regulators as well as international organizations.

Individual Arab countries are undertaking payment system reforms, including as a result of the Arab Payment Initiative (API), and are working towards increased regional integration. The objective of the API, launched in 205 by the World Bank and the Arab Monetary Fund (AMF) in cooperation with the International Monetary Fund (IMF), is to describe and assess the payment systems of the countries of the Middle East and North Africa (MENA) Region with a view to identifying possible improvement measures in their safety, efficiency and integrity. Within the API, international teams of payment system experts have been deployed to Bahrain, Djibouti, Egypt, Jordan, Lebanon, Morocco, Palestine, Qatar, Syria, Sudan, UAE, and Yemen. In addition to individual country reforms, there is a growing interest in the Arab region, as in other regions of the world, towards the possible efficiency gains that could be achieved by adopting integrated frameworks for regional payment and securities settlement systems.

This chapter draws from country assessments undertaken within the API. The World Bank Global Payment Systems Survey 2008[5] and the Arab Monetary Fund (AMF) "Payment and Settlement Systems in the Arab Region Statistical Booklet 2009" were also used as a reference. The chapter is organized by topic, covering issues related to legal framework, large value payment systems, retail payment systems, securities settlement systems, cross-border payments and remittances, payment systems oversight and cooperation. Each section includes a brief

[4] These concepts include: speed of settlement, certainty of settlement (correct amount, correct party, correct date, clear understanding when finality occurs), reliability (availability, in accordance with rules and regulations), safety and soundness (to ensure against fraud, credit and systemic risk, privacy), convenience (easy access, consistent with technological capabilities), cost (realistic, consistent with the service provided), universality (equitable basis by all financial institutions, interface with other systems).

[5] The World Bank, "Payment Systems Worldwide: A Snapshot. Outcomes of the Global Payment Systems Survey 2008", Washington DC, June 2008. The following MENA countries responded to the questionnaire: Algeria, Egypt, Iran, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, United Arab Emirates, Yemen. It should be noted here that not all the twelve countries are included in all tables below, since in some case information may not be available (the country did not respond to the question represented in the table) or not be applicable. The number in parenthesis indicates how many countries for each region are considered in the table.

context, which generally identifies international standards and best practices, and observations summarizing the overall findings. Annex I contains a brief description of the status of all major payment system issues in individual MENA countries.

2. Legal and regulatory framework

2.1. Context

An appropriate legal framework is needed to underpin a sound and efficient payment system. The legal environment should include the following: (1) laws and regulations of broad applicability that address issues such as insolvency and contractual relations between parties; (2) laws and regulations that have specific applicability to payment systems (such as legislation on electronic signature, validation of netting, and settlement finality); and (3) the rules, standards, and procedures agreed to by the participants of a payment system.

The legal infrastructure should also cover other activities carried out by both public and private sector entities. For example, the legislative framework may establish clear responsibilities for the central bank or other regulatory bodies, such as oversight of the payment systems or the provision of liquidity to participants in these systems. Finally, relevant pieces of legislation that have an impact on the soundness of the payment system include a law on transparency and security of payment instruments, terms, and conditions; antitrust legislation for the supply of payment services; and legislation on privacy.

Although laws are normally the appropriate means to enforce a general objective in the payments field, in some cases, regulations by the overseers may be an efficient way to react to a rapidly changing environment. In other cases, specific agreements among participants may be adequate. In such cases, a professional assessment of the enforceability of these arrangements is usually required. Finally, because the payment system typically includes participants incorporated in foreign jurisdictions or it might operate with multiple currencies or across borders, it may be necessary to address issues associated with foreign jurisdictions.

A reliable and predictable legal framework is also important for the operation of a Securities Settlement System (SSS). This depends on the laws, rules, and procedures that support the holding, transfer, pledging, and lending of securities and related payments, and how these work in practice—that is, whether system operators, participants, and their customers can enforce their rights. If the legal framework is inadequate or its application is uncertain, it can give rise to credit or liquidity risks for system participants and their customers or to systemic risks for financial markets as a whole.

A variety of laws and legal concepts can affect the performance of clearing and settlement systems. Weaknesses in contract laws, company laws, bankruptcy and insolvency laws, custody laws, and property laws may impede the performance of a clearing system. There is a need for an adequate legal basis that is able to accommodate technological advances. Key aspects of the settlement process that the legal framework should support include enforceability of transactions, protection of customer assets (particularly against insolvency of custodians), immobilization or dematerialization of securities, netting arrangements, securities lending (including repos and other economically equivalent transactions), finality of settlement, arrangements for achieving delivery versus payment, default rules, liquidation of assets pledged or transferred as collateral, and protection of the interests of beneficial owners. The rules and contracts related to the operation of the SSS should be enforceable in the event of insolvency of a system participant, irrespective of whether the participant is located in the jurisdiction whose laws govern the SSS or is in another jurisdiction.

An important emerging issue is the legal status of digital signatures. If digital signatures are to substitute for handwritten signatures, they must be legally binding. A critical need is to ensure that laws are both enforced and are enforceable in all relevant jurisdictions. In addition, disputes should become the subject of court proceedings only as a last resort. This can be achieved through the specification and acceptance of clear, comprehensive, and fair arbitration processes.

The status in the region for legal and regulatory framework is included in Annex 1.

2.2. Observation

According to the World Bank Global Payment Systems Survey, the legal and regulatory framework for payment and securities settlement systems in the Arab region is one of the weakest in the world. Although there are usually basic laws affecting general payments and their settlement, such as central bank laws, banking laws and, in some cases, even securities laws, specific payment systems laws are not commonly present among the institutional arrangements for payments in Arab countries (Table 1). Consequently, key issues are not adequately addressed in the payments system frameworks of the countries in the region. At a worldwide level the central bank law is clearly the basic legal reference for payment and settlement issues. Compared to other regions, the central bank law seems to be less relevant in the MENA region, while central bank regulations are an important reference for payment systems. Banking laws seem to have a greater influence in the Arab countries. In general, securities market laws and civil or commercial codes do not contain references to payment system issues.

Table 1 - Pieces of legislation with explicit references to payment systems

	Central Bank Law		Banking Law		Payment Systems Law		Securities Markets Law		Civil Code/ Commercial Code		Central Bank Regulation with power of law		Other	
Region	#	%	#	%	#	%	#	%	#	%	#	%	#	%
East Asia and Pacific (10)	7	70%	4	40%	2	20%	6	60%	3	30%	7	70%	4	40%
Europe and Central Asia (16)	16	100 %	12	75%	8	50%	8	50%	10	63%	13	81%	8	50%
Latin America & Caribbean (30)	28	93%	17	57%	10	33%	20	67%	5	17%	14	47%	8	27%
Middle East & North Africa (12)	**9**	**75%**	**6**	**50 %**	**4**	**33%**	**5**	**42%**	**6**	**50%**	**10**	**83%**	**4**	**33%**
South Asia (6)	6	100 %	4	67%	3	50%	1	17%	1	17%	5	83%	2	33%
Sub-Saharan Africa (27)	26	96%	10	37%	17	63%	9	33%	6	22%	13	48%	15	56%
European Union-15 (15)	12	80%	6	40%	7	47%	7	47%	5	33%	3	20%	7	47%
EU-Newer members (12)	12	100 %	10	83%	5	42%	10	83%	3	25%	8	67%	6	50%
Other Developed Countries (14)	13	93%	9	64%	9	64%	7	50%	7	50%	6	43%	7	50%

** Source: World Bank Global Payment System Survey, 2008*

In many MENA countries the legal framework does not cover fundamental payment system concepts, such as settlement finality, bilateral and multilateral netting, and non-existence of zero-hour rules (Table 2). There is a lack of provisions regarding acceptance, irrevocability, or settlement finality of an order to be processed by the system. These concepts are especially important in the event of insolvency. In netting systems, the legal definition of these concepts would reduce uncertainties and limit systemic liquidity risk from unwinding procedures. Also, in general the exclusion of zero-hour and similar rules is not explicitly covered by legal provisions.

Related to the **lack of rules on settlement finality**, many legal frameworks in the region fail to define specific triggers for the intervention of financial institutions, creating uncertainty about the effective daily closing of the system or central bank credit risk exposure. In countries where the legal framework is more advanced, there is still the possibility that settlement finality is negatively affected because of bankruptcy proceedings through which fraudulent transactions may be reversed several days before the participant is declared bankrupt. However, the impact in the case of RTGS systems is likely to be negligible due to the gross nature of the system. Also, some problems of interpretation may arise, because, generally, settlement finality is regulated in detail only in system regulations, which have a lower hierarchy than the bankruptcy laws. Initiatives to engage the judicial system in this debate are worth pursuing.

In a number of countries there is no explicit legal recognition of the multilateral netting arrangements and therefore it is unclear what would be the interpretation of a court in case of an insolvency proceeding. Because netting is used on a very broad scale for cheque clearing, other retail payments, and even for the settlement of securities transactions, this constitutes a serious legal risk. It may also hamper further development of financial instruments such as derivatives. It is important to protect netting schemes from potentially disruptive insolvency laws so that even if a system participant fails during the day, a liquidator cannot unwind settlement occurring on a net basis later in the day. Where missing in existing legislations, relevant provisions should be introduced to permit full enforceability of electronic transfers and the electronic processing of instruments such as cheques, including recognition of electronic signature. A legal basis for the collateral pledge is generally absent and should be covered in the legal framework.

Table 2 - Payment system concepts covered in the legal framework of selected MENA countries

	Settlement finality	Bilateral and multilateral netting	Electronic processing of payments	Non-existence of any zero hour rules	Enforceability of security interests in repos/collateral arrangements	Protection of collateral pledged in a payment system
Algeria	x	X	X	x	x	x
Bahrain	x	X				
Egypt			X		x	x
Iran			X			
Jordan		X	X	x	x	x
Kuwait		X	X	x		
Lebanon					x	x
Morocco		X	X		x	
Oman	x	X			x	x
Qatar	x	X				
Saudi Arabia	x		X	x	x	x
UAE	x					
Yemen			X			
TOTAL (13)	6 (46%)	7 (54%)	8 (61%)	4 (31%)	7 (54%)	6 (46%)

* *Source: World Bank Global Payment System Survey, 2008*

A comprehensive payment system law is missing in most MENA countries. Only a few countries in the region have enacted a payment system law that covers, among other topics, settlement finality, the protection of systems against bankruptcy proceedings, and the specific oversight powers of the central bank. A similar approach could prove beneficial for other countries, because current legal provisions are generally spread in several laws, and in many cases lack clarity or the required level of specificity. Plans to educate the judicial system on the specific legal needs of the financial sector and on the systemic implications of the application of certain laws should be put in place as soon as an exhaustive assessment of the legal framework is completed.

In a number of countries central banks' oversight over payment systems are implicit and central banks are not given a general power to ensure the adequate and safe functioning of payments. Central banks in the region are generally empowered by law for the oversight of payment systems. In most cases, oversight powers are to be found in central bank laws. When these powers are implicit, they should be explicitly assigned to central banks, and a general power to ensure the adequate and safe functioning of payments in the country should be given to central banks.

In several countries in the region, there is no explicit legal recognition of the multilateral netting arrangements and therefore it is unclear what would be the interpretation of a court in case of an insolvency proceeding. Because netting is used on a very broad scale for cheque clearing, other retail payments, and even for the settlement of securities transactions, this constitutes a serious legal risk. It may also hamper further development of financial instruments such as derivatives. It is important to protect netting schemes from potentially disruptive insolvency laws so that even if a system participant fails during the day, a liquidator cannot unwind settlement occurring on a net basis later in the day.

The legal framework for securities settlement systems in MENA is mixed. Securities markets legislation in MENA usually includes the legal basis for immobilization and dematerialization. However, not in all countries are transactions linked to securities settlement system legally final, creating a potential for counterparty risk. In some countries, customer assets under custodian arrangements are not regulated. Also, the legal basis for securities lending does not exist in many cases or detailed regulations have not been developed.

There is a lack of laws that support finality of transactions linked to securities settlement systems. Finality must be integrated into the legal framework for securities settlement: without this legal basis it is uncertain whether in case of bankruptcy the transfer of securities to the counterparty or its custodian could take place, even if the counterparty has already paid for the securities.

In general, protection of customer assets under custodian arrangements is clearly established; however, there is still a lack of regulation on this matter in a number of countries. Therefore, assets pledged as collateral by clearing members are not covered adequately by the laws, thus compromising the capacity to execute collateral posted by the members' customers.

For many markets, the low volume of market trading makes it difficult to develop the legal basis in any kind of practical way. However, the current situation could constitute a good opportunity to consider the development of the legal and regulatory framework to be prepared for an eventual recovery of market volumes.

Heterogeneous legal regimes across MENA countries pose a major problem for cross-border payments and regional settlement systems. There is limited awareness and knowledge of legal practicalities such as "conflicts of laws" across jurisdictions. This presents a critical problem since payment service contracts and regulations signed by, and with, cross-border organizations and individuals must be recognized and validated in laws and the courts of the various participating countries in the MENA region. Indeed, the very basis of the legal systems can vary substantially across the countries, most notably between common law systems, civil code regimes and Islamic laws.

Consequently, the legal support in various countries for contractual agreements that are the foundation for participation in a regional payments system may not be well founded in all the member countries of the region. The same concern applies to issues such as payment netting and finality and collateral rights of non-resident lenders for credit arrangements across jurisdictions. Counterparties and the legal standing of the intra-regional system, itself, may be at risk unless these forms of contractual arrangements have sound legal support within the jurisdictions of the countries participating in a regional payments system. The mechanism, particularly the contractual agreements and procedural rules that inter-link national payment systems to facilitate the clearing and settlement of cross-border payments, can only be strengthened if the participating systems have sound legal regimes that recognize the contractual rights and obligations of the direct and indirect participants in the regional system. In the absence of a minimally sound legal basis to payments and payment settlement in all participating countries, the inter-linking mechanism may need to be designed in a way that minimizes the counterparty and system-wide legal risks from the integrated systems.

3. Large Value Payment Systems

3.1. Context

Large-value systems are the most significant component of the national payment system. This is because they can generate and transmit systemic disturbances to the financial sector. Several measures can be adopted to minimize these systemic risks. If the system is characterized by a deferred net settlement of payment transactions, risk control measures include the introduction of bilateral and multilateral caps, the implementation of loss-sharing agreements, and the pledging of collateral.

The development of Real Time Gross Settlement (RTGS) systems is one response to the growing awareness of the need for sound risk management in large-value funds transfer systems. [6] RTGS systems can offer a powerful mechanism for limiting settlement and systemic risks in the interbank settlement process, because they can effect final settlement of individual fund transfers on a continuous basis during the processing day. In addition, RTGS systems can contribute to the reduction of settlement risk in securities and foreign exchange transactions by facilitating delivery versus payment and payment versus payment mechanisms. Variants of the

[6] The international standards for systemically important payment systems are the CPSS Core Principles Committee of Payment and Settlement Systems (CPSS), Core Principle for Systemically Important Payment Systems, BIS, January 2001

basic RTGS system—the so-called hybrid systems— that take into account liquidity saving features in net settlement systems are being introduced in some countries around the world.

The status in the region for large value payment systems is included in Annex 1.

3.2. Observation

Until just recently, most MENA countries used exclusively cheques to initiate all large value payments. Cheques are still used for large-value payments in virtually all the national payments systems in the region and remain the principal instrument for large-value payments in one out of three countries in the region, according to the Global Payment Systems Survey. In these countries, cheque usage is driven mainly by commercial activity since cheques are an established payment instrument with reasonably sound legal support for their use. For this reason, the countries in the region with basic and more developed national payments systems have well established and, in some cases, relatively efficient domestic currency cheque clearing and settlement systems.

To increase efficiency and reduce risk related to cheque-based systems, many central banks in the region have established RTGS systems to settle large-value inter-bank payments.[7] Saudi Arabia was the first Arab country to implement an RTGS system in 1997. In subsequent years, the central banks in many other MENA countries have established their own RTGS systems, which have become the backbone of their national payments system. Within the past decade, the central banks in Algeria, Bahrain, Egypt, Jordan, Kuwait, Morocco, Oman, Qatar and the United Arab Emirates have implemented RTGS systems. The central banks in Libya and Palestine have recently begun to implement their RTGS systems.

A total of 14 RTGS systems are currently in place in the MENA region (Table 3). However, in some countries cheque systems are still used for large-value payments. In most of these cases, the cheque clearinghouse is used jointly with the RTGS system. Central banks play a key role as both operators and settlement agents for RTGS system. At a global level, according to the World Bank Payment System Survey, SWIFT closed-user groups and proprietary telecommunications networks are by far the most common communication channels for the RTGS systems. Most RTGS systems in the MENA region are operating a proprietary telecommunication network. RTGS systems in the region generally aim at a partial recovery of operation and/or investment costs, reflecting a global trend.

Among the notable examples in the Arab region, with regard to the operating entities and payment services of the RTGS systems, the Saudi Arabia Monetary Agency's Banking Technology Department has become a reference for organizational structure, technology and technical support and service diversity. Interesting is also the case of Jordan, whose multi-

[7] The efficiency and safety drawbacks for cheques as a large-value payment instrument are even more pronounced for cross-border payments.

currency RTGS system was designed to address local (multi-currency) monetary circumstances and regulatory issues.

Table 3 - Systems for Large-Value Fund Transfers

Country	Available Systems	Main System Used*	Country	Available Systems	Main System Used*
Algeria	RTGS	RTGS	**Mauritania**	Multilateral Net	Other
Bahrain	RTGS	RTGS	**Morocco**	ACH + RTGS	RTGS
Djibouti	-	-	**Oman**	ACH + RTGS	RTGS
Egypt	RTGS (launched March 2009)	Other	**Qatar**	RTGS	RTGS + CCH
Iran	RTGS	RTGS + CCH	**Saudi Arabia**	RTGS	RTGS
Iraq	RTGS	-	**Tunisia**	ACH + RTGS	-
Jordan	RTGS	RTGS + CCH	**UAE**	RTGS	RTGS + CCH
Kuwait	RTGS	RTGS + CCH	**West Bank and Gaza**	RTGS (expected launch Nov. 2010)	-
Lebanon	ACH + Domestic Swift (Manual)	CCH	**Yemen**	-	CCH
Libya	RTGS	-			

** Source: World Bank Global Payment System Survey, 2008*

In the majority of cases, RTGS participants can mobilize their reserve requirements either fully or partially during the operating day as an important source of liquidity. Central banks/operators that allow RTGS participants to use reserve requirements in full represent a clear majority. Generally, lines of credit are used as a source of liquidity in the RTGS systems. Finally, the vast majority of RTGS systems in the region rely on the central bank providing some form of credit, either in the form of a loan, repo or account overdrafts.

While at a global level the operator demands high quality collateral to minimize its own credit exposure in nearly all RTGS systems where participants have access to credit facilities, this percentage is lower for the systems in MENA. In the region collateral is not required in some cases, and in one case account overdrafts and/or credit are not limited. In all systems in the region, intraday loans are converted into overnight loans at penalty rates in the event a system participant does not repay the loan by the end of the day. Centralized queuing facilities are used in all MENA RTGS systems as a liquidity management tool, allowing payment orders to wait in a queue until all the required conditions for the processing of such payment orders are met. Also, participants can generally set priorities for the processing of their payment orders and change these priorities while the orders are waiting in the queue. Pricing policy is used to promote a smooth flow of payments throughout the day in only one of the systems surveyed.

According to the Global Payment System Survey, the MENA region is one of the weakest in terms of resilience and business continuity practices (Table 4). Increasing attention is being paid worldwide to the topic of enhancing the resilience and ensuring proper business continuity of systems that are of critical importance for the financial system.

Table 4 - Resilience and business continuity

Region	Routine procedures are in place for periodical data back-ups		Data storage media kept in sites other than main processing site		Back-up servers have been deployed at the main processing site		A fully equipped alternate processing site exists		Operator has documented a formal BCP - Business Continuity Plan		BCP include procedures for information dissemination and for crisis management		Business continuity arrangements are regularly tested	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
East Asia and Pacific (5)	5	*100 %*	5	*100%*	5	*100%*	5	*100 %*	4	*80%*	4	*80%*	5	*100 %*
Europe and Central Asia (16)	16	*100 %*	12	*75%*	10	*63%*	11	*69%*	12	*75%*	10	*63%*	11	*69%*
Latin America & Caribbean (15)	15	*100 %*	13	*87%*	12	*80%*	10	*67%*	14	*93%*	7	*47%*	8	*53%*
Middle East & North Africa (9)	**8**	***89%***	**6**	***67%***	**6**	***67%***	**6**	***67%***	**6**	***67%***	**8**	***89%***	**6**	***67%***
South Asia (2)	2	*100 %*	2	*100%*	2	*100%*	2	*100 %*	2	*100%*	2	*100%*	2	*100 %*
Sub-Saharan Africa (14)	13	*93%*	12	*86%*	10	*71%*	12	*86%*	13	*93%*	12	*86%*	7	*50%*
European Union-15 (15)	12	*80%*	9	*60%*	10	*67%*	14	*93%*	15	*100%*	15	*100%*	15	*100 %*
EU-Newer members (10)	10	*100 %*	9	*90%*	8	*80%*	7	*70%*	10	*100%*	9	*90%*	10	*100 %*
Other Developed Countries (12)	12	*100 %*	12	*100%*	10	*83%*	11	*92%*	12	*100%*	11	*92%*	12	*100 %*

Source: World Bank Global Payment System Survey, 2008.

Generally, formal rules exist in MENA RTGS systems that allow the operator to exclude a participant in a timely manner. Almost all RTGS system operators indicated in the Global Payment System Survey that there is an explicit policy statement that deals with granting direct access to, and excluding participants from, the system upon the fulfillment of a certain set of criteria. When a policy exists, direct access to the system depends on the institutional standing of participants (i.e. whether they are banks, other financial institutions, or non-financial institutions). In some case direct access is also related to the fulfillment of a set of objective criteria (e.g. minimum capital or technological requirements).

Box 1. Regional harmonization of payments systems

In 2009, the Arab Monetary Fund, in cooperation with the World Bank, undertook a project to study the feasibility of integrating the national payments systems of member countries in the Arab region and to investigate possible arrangements by which to implement such an integrated regional payment system. The principle objectives for establishing a regional system would be to improve the overall efficiency in the clearing and settlement of intra-regional payments and to facilitate further the integration and development of the economic and financial systems among Arab countries region-wide.

The study, finalized in August 2009, indicated that the establishment of an Arab Regional Payment System (ARPS) would be feasible, and even desirable for achieving further regional economic integration, growth and development, due to:

- the current up-trends in intra-regional trade, labor mobility, and capital flows;
- the recent bilateral and multilateral initiatives aimed at further integrating the national economic and financial systems in the region;
- the increasing level of intra-regional payments from all transaction sources resulting from these regional developments; and,
- the interest and commitment of some of the major countries in the region and their commercial and central banks.

In addition, the study highlighted certain major aspects related to the model proposed to inter-connect the national payment systems with a regional settlement agent, and to the participation of central banks in the ARPS as well as a description of similar experiences and initiatives launched in different regions in the world.

The feasibility study was first discussed among the members of the Arab Committee on Payment and Settlement Systems in May 2009, and presented later in September 2009 to the Governors Council of Arab Central Banks. The Council mandated the AMF to undertake further detailed studies on some key aspects of the project in order to bring appropriate and complete answers to all the queries raised by the AMF member countries. To this end, the AMF, with the cooperation of the PSDG, worked closely with the members of the Arab Committee on Payment and Settlement Systems to examine the issues and produce detailed outlines related to the business, legal and IT frameworks in addition to providing an idea about the tentative costs of implementing such system.

Integration of securities settlement systems was also taken into consideration; however, it was concluded that, even though desirable, integration of SSSs should not yet be covered under the scope of the project at this stage.

4. Retail Payment Systems

4.1 Context

The availability to consumers of a wide range of payment instruments is essential in a market economy. A proper use of payment instruments can positively affect economic development and growth, in particular through a positive impact on the stability of the currency.

The use of retail payment instruments differs among countries due to a variety of factors including cultural, historical, economic and legal. However, common trends can be observed, namely: the continued primacy of cash (in volume terms) for face-to-face payments; growth in payment cards use; increased use of direct funds transfers, especially debit transfers, for remote payments; and changes in market arrangements for providing and pricing retail payment instruments and services delivered to end-users.

Central banks are currently involved in retail payments in three main ways: 1) in an operational capacity; 2) as payment system overseers, or 3) as catalysts or facilitators of market and regulatory evolution. Even though the involvement of the central bank in retail payments varies from country to country, each central bank should examine developments in its markets periodically in the light of some identified policy issues, [8] in order to form a view on whether such issues arise in practice. The World Bank Policy Brief on *Balancing Cooperation and Competition in Retail Payment Systems*[9] presents a suggested reform agenda for retail payment systems.

The status in the region for retail payment systems is included in Annex 1.

4.2. Observation

The MENA region is characterized by a heavy use of cash and cheques, which keeps retail payments far from optimal from the point of view of efficiency and risk control. The infrastructure to process retail payment instruments and key policy decisions that affect the safety, soundness and efficiency of the services provided is considered insufficient in the majority of the MENA countries.[10] Central banks and all stakeholders in the retail arena must work together on a clear strategy to promote the intensive use of retail electronic payment instruments and reduce the importance of cheques.

The number of cashless payment transactions[11] per capita in the region is very low, but there is a clear difference between GCC and non-GCC countries (Table 5 and Figure 1).

[8] Bank for International Settlements, Committee on Payment and Settlements Systems, *Policy Issues for Central Banks in Retail Payments* (September 2002), Consultative Report for public comments.
[9] Available at www.worldbank.org/paymentsystems
[10] Working paper "*Measuring Payment System Development*", based on the Global Payment Systems Survey 2008
[11] The number represents the sum of payment transactions made with cheques, direct credit transfers, direct debits, and payments with debit cards and credit cards.

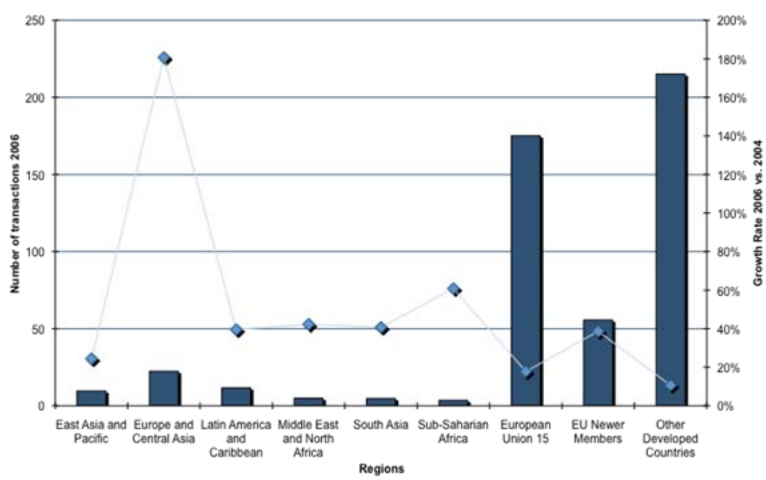
While in most developed countries this figure is usually above 100, in most non-GCC MENA countries there was less than 1 transaction per capita in 2006. With the only exception of Egypt, the number of cashless transactions per capita grew between 2004 and 2006. The impressive growth for Yemen is due to the very recent introduction of payment cards. The number of transactions per capita for GCC countries is 5.7, while in non-GCC countries there were only 0.5 transactions per capita in 2006. Moreover, in the GCC countries the use of cashless payment instruments is growing at a much faster pace (56%) than in the non-GCC countries (22%).

Table 5 - Cashless payment transactions in selected Arab countries for year 2006

Country	Number	Per capita	Growth '06 vs. '04
Algeria	5,760,000	0.2	17%
Egypt	9,322,000	0.1	-6%
Jordan	10,931,900	2.0	18%
Kuwait	77,161,265	29.7	65%
Lebanon	34,727,000	8.6	18%
Morocco	26,905,766	0.9	21%
Oman	1,873,446	0.7	-2%
Qatar	2,758,419	2.8	21%
Saudi Arabia	89,816,432	4.5	73%
United Arab Emirates	23,000,000	5.4	19%
Yemen	2,864,862	0.1	195%
Total	**285,121,090**	**1.4**	**43%**
Total GCC	*194,609,562*	*5.7*	*56%*
Total non-GCC	*90,511,528*	*0.5*	*22%*

Source: World Bank Global Payment System Survey, 2008

Figure 1 - Cashless retail payment transactions per capita for year 2006



In most MENA countries cheque clearinghouses are operated by central banks. Cheques are standardized in the great majority of cases, which should allow for a more intensive and efficient use of processing devices such as readers and sorters. Automatic cheque processing is quite common in the region. However, in most systems cheque truncation[12] has not been implemented and physical exchange of cheques is still required. As regards the basic settlement features of cheque clearinghouses, in the majority of cases net balances are calculated and settled once every day. The same trend can be observed worldwide (in 71 countries out of 102, according to the Global Payment Systems Survey). In most Arab countries final settlement takes place through an RTGS. If an RTGS is not used, final settlement takes place in central bank money. Customers are generally credited by T+2 and multilateral net balances are usually calculated.

Automatic Clearinghouses (ACH) for payment instruments that are fully electronic have been launched or are in the process of being launched only in a few MENA countries. In particular, only 5 (Algeria, Egypt, Jordan, Morocco, Oman) of the 12 countries that participated to the Global Payment Systems Survey have an ACH that processes direct debit and credit. It has been recognized that an ACH is a key component that complements the overall efforts to modernize the national payment system. However, in many countries of the region the ACH is either too slow to catch up with the needs of customers or too limited in scope. In some cases, the ACH project aims only at improving the cheque-clearing system. This is not only inadequate, but may even be counterproductive as the investments required for this purpose may crowd out the development of modern payment instruments or give the false impression that cheque processing can be less costly than that of other instruments. It is recommended that central banks actively support the full deployment of an ACH that is able to process modern payment instruments such as credit transfer and direct debits.

The number of Automated Teller Machines (ATM) and Point-Of-Sale (POS) is growing at a relatively fast pace in the region (Table 6). Availability of ATM and POS terminals is clearly higher in GCC countries. This reflects a global trend, since usually high income countries have a higher number of terminals.

[12] Cheque truncation refers to the electronic processing of cheques. Instead of being physically sent to the beneficiary's bank, cheques are stored and send in electronic format.

Table 6 - Statistics on availability of ATM and POS terminals (per 1 million inhabitants as of 2008)

Country	ATMs	Growth '08 vs. '06	POS	Growth '08 vs. '06
Bahrain	307	24%	9974	27%
Egypt	45	41%	434	30%
Kuwait	298	32%	5533	30%
Lebanon	265	11%	3542	24%
Libya	23	109%	29	867%
Morocco	116	29%	609	9%
Qatar	428	-3%	5870	25%
Saudi Arabia	362	41%	2916	21%
Tunisia	121	44%	928	25%
United Arab Emirates	516	29%	5235	16%
Yemen	13	63%	91	26%*
West Bank and Gaza	63	50%	326	-2%

* Growth rate is 2008 vs. 2006

Source: AMF Payment and Settlement Systems in the Arab region statistical booklet

While interoperability[13] for ATM is generally good, in some countries POS payment card circuits are characterized by low interoperability resulting in a very inefficient use of the available infrastructure. Interoperability of ATMs seems to be quite good, as 8 countries out of 12 indicated that all payment and cash withdrawal cards can be used seamlessly, though probably at a cost, at all ATMs in the country. The degree of interoperability is lower for POS, as 5 countries indicated it as full, 4 as partial, and 1 as low. The lack of POS interoperability translates into merchants having several terminals (one for each card processor) on their premises, which increases overall costs and favors merchants giving incentives to costumers to pay with cash. The lack of retail electronic payment instruments also makes the card system more cumbersome and costly because card processor pay merchants with cheques or merchants need to have an account at many banks to receive credits from every card processor they work with.

Payment card use in MENA is very low in global comparison. While in almost all high income countries around the world there is one payment card or more per every inhabitant, in the MENA region this figure is much lower even for GCC countries (Table 7). Moreover, according to the Central Banks that answered to the World Bank Global Payment Systems Survey, payment cards are actually used more for cash withdrawals than as payment instruments. In almost half of the countries in the region there is more than one payment card switch and more than one card processing center or clearinghouse. In principle, this situation may simply reflect the historical structure of the market and may not have any implications for the overall efficiency of payment card systems in the country. However, it has been observed that the multiplicity of card switches and processing centers is related to the lack of interoperability of payment card systems. This

[13] Interoperability is a situation in which payment instruments belonging to a given scheme may be used in other countries and in systems installed by other schemes. Interoperability requires technical compatibility between systems, but can only take effect where commercial agreements have been concluded between the schemes concerned.

seems to be the case for the MENA region, since the countries that have more than one card switch or processing center also indicated in the Global Payment Systems Survey that interoperability of ATM and POS is partial or low in their systems.

Table 7 - Payment cards in circulation (per 1,000 inhabitants as of 2006)

Country	Debit Cards	Growth ’06 vs. ’04	Credit Cards	Growth ’06 vs. ’04
Egypt	37	36%	13	32%
Iran	289	-	0	0%
Kuwait	818	22%	206	74%
Lebanon	210	25%	111	27%
Morocco	85	69%	-	-
Saudi Arabia	421	55%	0	0%
United Arab Emirates	668	-	496	-
Yemen	8	275%	(Counted with debit cards)	(Counted with debit cards)

Source: World Bank Global Payment System Survey, 2008

Central banks and all stakeholders in the retail payments arena should work together to promote the intensive use of efficient electronic payment instruments, and define a clear strategy and a feasible implementation plan for this purpose. In particular, central banks and payment services providers should engage in major marketing and educational campaigns to raise awareness among consumers of new payment instruments and circuits available, and to provide the necessary information on their features. Similar efforts are also useful when new projects and services are launched. Payment services providers can also agree on developing a set of incentives for consumers to begin using these services and testing their benefits. Formal cooperative arrangements, such as a National Payment System Council, should be in place to ensure effective cooperation among stakeholders, between stakeholders and authorities and among authorities.

5. Cross-border Payments and Remittances

5.1. Context

Retail cross-border payments, notably trade-related payments and person-to-person remittances, are increasingly relevant for many economies. Increasing remittance flows are a result of growing economic integration and interdependence among countries at all levels and the increasing flow of migrants throughout the world. From a policy-making perspective, retail cross-border payments share many of the features of domestic retail payments.

Remittances can be expensive relative to the often low incomes of migrant workers and to the rather small amounts sent, typically no more than a few hundred dollars or the equivalent at a time. Also, it may not be easy for migrants to access remittance services if they do not speak the local language or do not have the necessary documentation, and the relatively undeveloped financial infrastructure in some countries may make it difficult for recipients to collect their remittances. In some cases, the services are unreliable, particularly when if concerns the time taken for the funds to be transferred. In addition, some markets are uncompetitive or have regulatory that hamper competition.

The World Bank and the CPSS co-chaired a Task Force to establish General Principles (GPs) of universal applicability that identify the features and functions that should be satisfied by remittance systems, providers, and financial intermediaries. The GPs cover areas such as transparency and consumer protection, payment system infrastructure, legal and regulatory environment, market structure and competition, and governance and risk management. The GPs provide the first internationally recognized payment system framework for remittance transfer, and they are expected to facilitate international policy coordination in the area of remittance transfer. In parallel with the finalization of the GPs report, which was published in January 2007, the World Bank developed, together with other international financial institutions, a Guidance Report with detailed guidelines and actions for the implementation of the GPs.

The status in the region for cross-border payments and remittances is included in Annex 1.

5.2. Observation

The MENA region had the highest value worldwide of remittances as a share of the GDP in 2008 (3.8%[14]). Within the region both sending and receiving countries can be identified. In particular, the UAE and Saudi Arabia are among the main remittance sending countries worldwide. Significant outflows have also been recorded from Oman, Lebanon, Kuwait, Qatar and Bahrain. On the other hand, the major receiving countries are Morocco, Jordan, Lebanon, Tunisia, Egypt, Algeria, and Djibouti. In the case of Lebanon, it should be noted that remittance flows are significant in both directions; however, the country is still a net receiver and remittances represented over 25% of its GDP in 2008.

The adequacy of remittance systems is variable in the GCC countries. In the UAE and Saudi Arabia the market for remittances seems to work well. It is competitive, there is a wide range of licensed operators, and there is reasonable transparency of pricing and conditions. Moreover, prices are low by international standards. Remittance corridors from the UAE and Saudi Arabia are among the cheapest according to the World Bank Remittance Prices Worldwide database[15]. In particular, most corridors from the UAE ranked within the ten cheapest corridors worldwide in the first quarter 2010; most corridors from Saudi Arabia can be found within the twenty cheapest corridors globally in the same period. Among other factors, this seems to be a result of

[14] World Bank Migration and Remittances Team (Middle East and North Africa 3.8%, South Asia 3.7%, Sub-Saharan Africa 2.2%, Latin America and the Caribbean 1.8%, Europe and Central Asia 1.6%, East Asia and Pacific 1.6%)
[15] Available on the Internet at http://remittanceprices.worldbank.org

good regulations. For example, since May 2009, the Electronic Wage Payment System enables banks and Money Transfer Operators (MTOs) in the UAE to introduce new services for corporate customers and to provide more convenient and cheaper remittance processing. Additionally, capital requirements and governance rules for MTOs in the UAE seem appropriate. Other major sending countries in the region, such as Bahrain and Qatar, still show a lack of regulation for the remittance market. In particular, MTOs are generally not subject to standards for aspects such as transparency of fees and other charges, or the timing of accreditation of funds to end beneficiaries.

According to the central banks that responded to the Global Payment System Survey, commercial banks are regarded as the most relevant remittance service providers in most Arab countries. However, these results, other than reflecting the actual market shares, could indicate a misperception on the part of central banks with regard to the remittance industry in their countries. In fact, World Bank Payment System Development Group (PSDG) experience and research show that international and local MTOs play a major role in the market for remittances in the region.

Correspondent banking arrangements for cross-border payments can turn into a less costly and convenient alternative for customers. Another possible benefit is that remittances could be channeled all the way through banks instead of, typically, through non-regulated specialized companies. Nevertheless, central banks, in cooperation with banking supervisors, should carefully monitor these mechanisms and other related developments to make sure they do not bring in new or incremental risks for the domestic banks involved, for example related to AML-CTF compliance.

In some countries, a large share of remittances are channeled through non-regulated specialized institutions, which lack minimum acceptable standards in areas such as transparency of fees and other charges or the timing of accreditation of funds to end beneficiaries. In this regard, the regulatory perspective should be widened from the traditional areas of balance of payments and money laundering to include payment system issues, in particular related to efficiency, transparency, and risks. Central banks, in coordination with other authorities, should also decide whether new actions or regulations are necessary to protect customers, and to foster a safe and efficient provision of services in this area. Remittance service providers should be involved in this process along the lines set up by the GPs.

6. Securities Settlement Systems

6.1. Context

This section covers issues related to securities settlement other than legal issues, which have been covered earlier in the chapter. In particular, the following topics are covered: clearing and settlement processes, settlement risk, operational issues, custody risk, regulatory and oversight issues, organizational arrangements for central securities depositories, and cross-border settlement.

The clearance and settlement process includes capturing trade information, trade matching, confirming and affirming institutional investor's trades, clearing, and settlement. The final goal is to achieve same-day settlement. One of the most widely recognized concepts is that the longer it takes to settle a securities trade, the greater the risk that settlement may not take place. In this regard, the CPSS and the International Organization of Securities Commissions (IOSCO) recommend that trade settlement occur by T+3 or less. However, often T+3 is no longer regarded as best practice. Same-day settlement could be considered as the final goal, although it is generally recognized that this may not be achievable in the short or medium term, particularly for cross-border transactions.

Regardless of the settlement cycle, the frequency and duration of settlement failures should be monitored closely. The profile of market investors (retail versus wholesale, domestic versus foreign) and their intermediaries should be taken into account because this can influence the practicality of the targeted clearing and settlement cycle. Appropriate trade-off between risk, cost, and convenience must be made, or else the system will not satisfy user requirements at an affordable and acceptable cost, and thus might constrain market development.

The settlement process exposes market participants to different risks, and the system should be designed to minimize these risks. The immobilization or dematerialization of securities reduces or eliminates certain risks, such as destruction or theft of certificates. The transfer of securities by book entry is a precondition for the shortening of the settlement cycle for securities trades, which reduces replacement cost risks. Delivery Versus Payment (DVP) is one of the primary means by which a market can reduce the risk inherent in securities transactions. The DVP concept seeks to eliminate principal risk from securities transactions by ensuring that sellers give up their securities if, and only if, they receive full payment and vice versa. The CPSS has identified three different models of DVP[16]. The use of a central counterparty that interposes itself between counterparties of securities trades is becoming more common. It is an especially effective tool for reducing risks vis-à-vis active market participants. The use of a central counterparty concentrates risk and reallocates it among participants.

Operational risk is a major risk category. Operational risk can arise from inadequate (1) control of systems and processes; (2) management, more generally e.g., lack of expertise, poor supervision or training, and inadequate resources; (3) identification or understanding of risks and the controls and procedures needed to limit them; and (4) attention paid to ensure that procedures are understood and complied with.

[16] According to the classification of the CPSS-BIS (in "Delivery Versus Payment in Securities Settlement System", 1992), in Model 1 DVP both legs of a securities settlement transaction, that is the transfer of funds and the transfer of securities, are settled on a gross basis under DVP conditions. In Model 2 DVP the securities transfer is executed on a gross basis, while the funds transfer is made on a net basis. In Model 3 DVP both legs of a transaction are made on a net basis.

Custody risk is the risk of losses on securities held in custody because of the custodian's (or sub-custodian's) insolvency, negligence, misuse of assets, committing of fraud, poor administration, or inadequate record keeping. A custodian should employ procedures ensuring that all customer assets are appropriately accounted for and kept safe. Customer securities must also be protected against claims of the custodian's creditors (typically client assets are given preferential treatment under insolvency law).

A specific allocation of responsibilities for securities clearance and settlement supervision is important. In most cases, this function is performed together with the general supervision function of participant entities without any special attention being given to clearance and settlement issues. There is a trend toward regulatory oversight policy being implemented at two levels, substituting for traditional direct supervisory activity. The regulator conducts oversight of the activities of self-regulatory organizations (SROs) such as Central Securities Depositories (CSDs) and exchanges, while the SROs conduct oversight of the activities of participants. Mutual cooperation between the securities regulator and the central bank as well as their cooperation with other relevant authorities is important in achieving their respective policy goals.

It is widely accepted that a securities market should be supported by the CSD with the broadest possible industry participation. Admission should be open to all qualified market participants needing access to the CSD. Membership standards for system operators should be established to minimize risk. Certain minimum standards of financial responsibility, operational capacity (including system security and integrity), experience, and competence should be required for participation in the systems. Mandatory capital requirements for participants are the first safety net against a participant's failure. The rules for clearing and depository organizations should avoid discrimination among potential and actual participants. The rules should provide fair procedures for review of decisions concerning denials of access. In addition, the system should provide participants with a meaningful opportunity to participate in the administration of the organization's affairs.

No single set of governance arrangements is appropriate for all institutions in the securities markets, but an effectively governed institution should meet certain basic requirements. Governance arrangements should be clearly articulated, coherent, comprehensible, and fully transparent. Governance arrangements should therefore seek to minimize the conflicts between the objectives of owners, users, and other interested parties, and as far as possible to resolve any remaining conflicts. Financial markets operate most efficiently when participants have access to information on the risks to which they are exposed and can take action to manage those risks. The need for transparency applies to the entities that form the clearing, settlement, and custodial infrastructure of the securities markets.

The settlement of cross-border securities transactions is more complicated and involves more risk than that of domestic transactions. Links among CSDs permit participants from multiple jurisdictions to settle trades in securities through a simple gateway operated by either the domestic or an international CSD. However, CSDs need to design links carefully to ensure that risks are reduced. They must address legal and operational complexities. A CSD should evaluate the financial integrity and operational reliability of any CSD with which it intends to establish a link.

The status in the region for securities settlement systems is included in Annex 1.

6.2. Observation[17]

Securities settlement systems oversight

Many countries in the region do not have any regulatory agency or supervisory function over securities other than the self-regulation of the stock exchange. This undermines the trust in the system, especially from a foreign investor perspective, and it constitutes an important obstacle for further development of the securities market. This becomes more crucial in some envisaged reforms for the payment system, because liquidity management will become a crucial issue and an important element through the collateralized money market.

The oversight empowerment for SSSs is missing in some cases. The securities supervisor oversight responsibilities on the SSSs must be strengthened by law. This law must regulate the powers of the securities regulator and authorize it to cooperate with the central bank to issue regulations relating to securities clearing and settlement activities. Securities settlement oversight should be institutionally strengthened by devoting adequate resources and establishing an effective cooperative framework with other regulators, self-regulatory organizations, and the private sector.

In half of the Arab countries that participated to the Global Survey, securities markets are regulated by a specific public sector agency. In countries where this is not the case, it is usually because either a regulatory function does not exist at all, or because the existing functions, typically of a registration rather than a regulatory nature, lie in a department of the Ministry of Finance or the central bank.

In only five out of twelve countries surveyed the securities market law (SML) applies to all securities that are traded in the country. In three cases the SML only applies to securities issued by the private sector, while, typically, securities issued by the government and/or the central bank are regulated by special laws or government decrees.

When present, securities regulators are generally empowered to license and supervise all stock exchanges. However, the MENA region has one of the lowest values in terms of securities

[17] This section is largely based on the World Bank Global Payment System Survey, as additional information on the SSSs in Arab countries is very poor. However, because the Global Survey was conducted with central banks only, and due to its global nature, it was not overly ambitious in the area of SSSs. While SSSs are increasingly considered an integral part of the payments system, many central banks still do not have any operational, regulatory or oversight responsibilities over SSSs, especially when these systems serve securities that are traded at stock exchanges and/or issued by the private sector.

regulator that shares responsibility with the central bank for the oversight of SSSs. Stock exchanges and securities depositories are generally not given self-regulatory powers.

Securities immobilization or dematerialization at securities depositories has been largely accomplished in the region, but additional efforts are needed to achieve greater standardization. Lack of securities standardization is an important obstacle, mainly in the case of public securities. A modern securities market needs to have a securities depository and fungible securities. Therefore two actions are needed: (1) the amount of outstanding government debt in the form of non-standardized and non-fungible securities should be drastically reduced or totally exchanged into fungible ones within a specific time span; (2) all the physical securities kept in custody by participants of the securities depositories should be immobilized in the securities depositories. In the vast majority of countries, there are two or more specialized securities depositories, each handling specific types of securities, with the most common division being between the markets for private securities on the one hand, and securities issued by the government and central bank on the other.

Main settlement features

A standardized settlement cycle must be clearly fixed and identified for all the trades executed in the securities markets, this is particularly relevant in the stock exchanges, where a T+3 settlement cycle could be implemented. A rolling settlement cycle of T+3 or shorter is used for all trades in four out of the seven central bank-operated systems in MENA (Table 8). Shorter settlement cycles for securities traded in the stock exchanges should be taken into consideration, especially those related to bilateral trades between market participants. In two cases the securities depository has a real-time interface with the RTGS system. Model 1 DVP (delivery versus payment) settlement mode is used by two systems of this kind. In other two cases model 2 DVP is used, while model 3 DVP is never used. The fact that three central banks did not indicate any of the three DVP alternatives could implicitly mean that securities transfers in those systems are not made under a DVP environment, or that the system (in most cases a basic Registry) is used only as a basic ownership registry for primary market transactions.

Table 8 - Central bank-operated securities registries, depositories and SSSs - Main settlement features

	Rolling settlement cycle of T+3 or shorter is used for all securities trades	DVP model used	Guarantee fund or other mechanism ensures settlement in case of default
Algeria	x	2	
Egypt	x	1	
Iran		-	
Jordan	x	1	
Kuwait		-	
Lebanon		-	
Morocco		-	
Oman		-	
Qatar	x	-	
Saudi Arabia		2	x
UAE		-	
Yemen		-	

Source: World Bank Global Payment System Survey, 2008

Some SSSs allow for extensions of the standardized settlement cycle should a failure occur in the settlement process. It is essential to count on appropriate risk management tools to guarantee settlement in the case of failure on settlement date. Settlement procedure on a DVP basis would be highly contributive to avoid settlement extensions. Given a failure in the delivery of securities on settlement date and counting on a guarantee regime and a settlement system on a DVP basis, SSSs could execute buy-in procedures in the securities markets to reduce the risk in the system. That is, in case of a settlement failure, allow the purchase of securities in the market at the seller's cost. Sometimes the shortening of settlement cycles is not possible, due to the participation of foreign investors in the local markets and the need to provide instructions to custodians regarding the release of securities. The introduction of Straight-Through Processing (STP) mechanisms could help to avoid longer settlement cycles in these cases. However, another factor is the lack of facilities to move the monies on T, even locally, if there is no direct access to central bank settlement.

In most cases, central bank-operated systems are exclusive for commercial banks in terms of participation and custody arrangements. In only one case, beneficial owners can be individually identified directly in the system as advisable, while for the other cases the central bank system can identify the securities for which a direct participant is itself the beneficial owner and those for which it is a nominal holder; beneficial owners of the latter can be then identified only in the internal accounts of the participant acting as custodian. In half of the securities depositories operated by exchanges or other private sector organizations, only brokers-dealers are direct participants in the CSD. Identification of all beneficial owners directly in the securities depository is possible in five countries out of eight (63%). This percentage is significantly higher than that of central bank-operated securities registry and depositories, a natural explanation for this being that the latter systems are, in general, designed almost exclusively for wholesale transactions. In other two cases, there is a single tier of accounts but direct participants acting as custodians are required to segregate their own holdings from those of their customers and for which they appear as nominal holders

Operational reliability and business continuity for securities settlement systems also require more attention in most of the MENA countries. In all surveyed systems routine procedures for periodical data back-ups are in place and data storage media are kept in sites other than main processing site. However, back-up servers at the main processing site have not been deployed. A fully equipped alternate processing site generally exists. Most operators have adopted a Business Continuity Plan (BCP) that includes procedures for information dissemination and crisis management.

Some improvements in delivery versus payment practices are needed in the MENA region. A rolling settlement cycle of T+3 or shorter is used for all trades in nearly all systems in the region. Model 2 DVP is used in four cases out of eight; model 3 DVP is used by two operators and model 1 DVP is adopted in one case. Out of the six systems that use model 2 or 3 DVP, four rely on a guarantee fund or other mechanism to ensure settlement in case of default. Four systems use central bank money for the final settlement of the cash leg in securities transactions; however, only one of these systems has a real-time interface with RTGS system. In general, the stock exchange does not act as a central counterparty. Securities lending mechanisms have been implemented only in Egypt and Morocco.

Table 9 - Private sector/exchange-operated securities depositories and SSSs - Main settlement features

	Rolling settlement cycle of T+3 or shorter is used for all securities trades	DVP model used	CSD has a real-time interface with the RTGS	CSD has no real-time interface with the RTGS, but central bank money is used for settlement	A securities lending mechanism has been implemented	The stock exchange acts as central counterparty
Algeria	X	3	x			
Egypt	X	2		X	x	
Iran		-				
Jordan	X	2				
Kuwait	X	1				
Lebanon	X	3		X		
Morocco	X	2		X	x	x
Oman		-				
Qatar		-				
Saudi Arabia	X	2				
UAE		-				
Yemen		-				

Source: World Bank Global Payment System Survey, 2008

Coordination and links between securities and monetary flow transfers on a DVP basis model are essential. Some systems do not yet settle on a DVP basis, i.e. payments are not necessarily linked to securities transfers and vice versa. Therefore, principal risk exists and no measures have been taken to eliminate principal risk and to reduce and mitigate replacement risk (that is, a guarantee regime). Coordination and links between securities and monetary flow transfers on a DVP basis model are essential. Replacement risk must be reduced or mitigated with the implementation of a strict guarantee regime.

A number of systems in MENA have imperfect DVP procedures. Due to the time differences between the clearing of the cash leg and the clearing of the securities leg, principal risk could occur if a broker goes bankrupt in the meantime. In that case, it might be difficult to transfer the securities form the special pledge account of the depository in which they are blocked at the beginning of the trade day to the defaulter's counterparty, even if the counterparty has already paid for these securities.

Automatic securities lending and borrowing facilities are not the rule in markets throughout the region, mainly due to the low level of activity. Such mechanisms can provide the SSS with an effective risk management tool for the securities leg of market transactions. Prior to its establishment, securities lending must be recognized and encouraged by law. The finalization of the standardization process is essential for this mechanism to be effective. Barriers of any kind should be removed.

Risk management

There is room for improvement in the current risk management tools used to cover settlement failures. The authorities should determine if current risk management tools are enough to cover potential failures, especially taking into account the fact that existing guarantee funds can be used for failures other than those associated with settlement. A specific guarantee specific guarantee fund exclusively for settlement failures could be separated from a more general guarantee fund. In some cases, operations are unwound previous to the use of the guarantee funds, and no risk management tool is established for failures on the settlement side, except to compensate the broker-dealer for the fee. In order to avoid potential system risk, the guarantee funds should be used previous to the unwinding and a buy-in or similar mechanism should be established to cover securities failures. In some cases, the total value of the guarantees seems enough to cover failures for both –securities and funds– at the current levels of market volume and value. The introduction of systems of dynamic guarantee should be explored.

Related to the funds side, the use of cheques in the settlement process implies important settlement risks. Central bank money is used in transactions, on many occasions. However, settlement in the central bank's money is not normally mandatory and payments by cheque are sometimes used. The use of central bank money to settle transactions relating to securities markets should be encouraged: this is especially important for developing markets, although not required by international standards. Existing funds settlement systems in some countries already allow for the use of other type of funds transfer systems (for example, RTGS) that would eliminate this risk. Due to the nature of securities transactions, funds settlement should take place by an instrument that allows for finality at the end of settlement day.

Normally, non-bank clearing members and broker-dealers do not have access to central bank money; this imposes a liquidity constraint for their operations. If there is a lack of liquidity in the financial system or an inefficient management of liquidity and market practices of the broker-dealers and their clients, the shortage of liquidity could be exacerbated; if combined with the problem of settlement without DVP, this increases the liquidity problem. Banking innovation in payments mechanisms might bring some reduction of liquidity pressures at the broker and customers level. Also, provision of funds from the final investor to the broker-dealer to execute the transactions would ease the liquidity problem.

Certain aspects of resilience and business continuity arrangements are generally adequate, but others need improvement. In almost all surveyed systems routine procedures for periodical data back-ups are in place and data storage media are kept in sites other than main processing site. Back-up servers at the main processing site have generally been deployed. A fully equipped alternate processing site exists in only half of the surveyed systems. Alternate sites should be in place at the earliest possible time to cover any contingency in the system. These sites and disaster-recovery facilities must enable operations to be recovered in a manner that does not disrupt settlement. A number of operators have not adopted a Business Continuity Plan (BCP) that includes procedures for information dissemination and crisis management.

7. Oversight and cooperation

7.1 Context

Central banks perform a number of functions in their national clearing, settlement, and payment arrangements. Smooth and reliable money transfer mechanisms affect the efficiency of financial markets and the real economy; they also have an impact on the central bank's lender-of-last-resort function, the conduct of monetary policy, and liquidity management. Market forces alone may not be able to achieve the objectives of efficiency and reliability of the payments system because participants and operators may not have adequate incentives to minimize the risk of their own failure, or the costs their failure may impose on other participants. In addition, the institutional structure of the payment system may not provide incentives or mechanisms for efficient design and operation. For these reasons, central banks' involvement in the payments system is an integral component of their overall mandate to ensure financial system stability and maintain confidence in the domestic currency. This may include direct involvement in managing clearing and settlement systems and in overseeing the payments system by developing rules, principles, and best practices under which private payment arrangements operate.

The oversight role of the central bank is at the heart of the current international debate and the function is emerging as a key facet of central bank activity. The role of the central bank is particularly important when the country is engaged in a comprehensive reform of its payments system. In this case, the central bank has a leading role to play in developing a vision for the reformed system, in coordinating with all stakeholders, and in carrying out the reform plan. Direct involvement of the central bank in managing clearing and settlement systems has been the first step toward governing the overall structure and operation of a country's payments system and ensuring that the desire to limit systemic risk, especially in the area of large-value payment systems, is adequately taken into account.

In many cases, this role stems from the need to ensure a widespread adoption of more advanced technology in the fund transfer mechanisms and to avoid possible discriminations in access to payment services. In all cases, to pursue the public interest in the payments system, central banks should ensure that the systems that they operate comply with the principles and guidelines they establish and, as overseers, ensure the (financial and operational) reliability and efficiency of the clearing and settlement systems they do not operate. The central bank's oversight role is more prominent when payments reform is complete and the central bank is called upon to ensure the ongoing monitoring of the reliability and efficiency of the domestic system.

In an increasing number of countries, payments system oversight is entrusted to the central bank by law. Specifying objectives in the law may be the most direct way of providing a well-founded legal basis for the central bank to implement its policies and make it accountable in pursuing its goal and mandate in the payment system. For countries that are reforming their payment systems, it is important for the central bank to have a well-founded legal framework that clearly defines its payment system role and objectives.

The international consensus is that systems posing systemic risks should fall under the direct control of the overseer. Typical examples of these systems are those that handle transactions of a high value at both the individual and aggregate level. In some countries, retail (low-value) systems also fall under control of the oversight agency because of their importance in the overall efficiency of the payments system, their potential impact on the public trust of money, and their relevance to the ultimate objective of economic growth. Increasing attention is being paid to securities clearance and settlement systems as relevant components of the overall payments system. The oversight of these systems might well be a cooperative effort of two or more regulatory agencies.

The evolution toward a new central bank role in payment systems calls for a careful consideration of at least three issues:

- The adequacy of legal enforcement of central bank actions in the payments system should be evaluated. The central bank role in payment systems stems from its responsibility for financial market stability and monetary policy. In many countries, a clearly stated legal enforcement for the central bank's activity as overseer of the payments system has facilitated the fulfillment of the central bank's objectives.
- The internal organization of the central bank may also be worth evaluating. Experience in many central banks indicates that significant improvements can be achieved by setting up

a unit specifically devoted to payments policy issues. Typically, such a unit could develop a policy framework and tools (e.g., data collection and periodical inspections) for use in assessing the appropriateness of individual payment systems. This function could be undertaken in close coordination with the banking supervisor. The staff of this unit should have adequate skills. Typical aspects to be analyzed in administering the oversight functions include, inter alia, potential risks emerging from the clearinghouses, the adequacy of risk control measures, the potential implications of unwinding procedures, and efficiency issues.

- Effective cooperation must be achieved between the overseer and market players, among domestic regulators, and among international oversight agencies. In particular, central banks without bank supervisory powers may face considerable information limitations, especially in crisis management situations. An effective way to overcome this problem is to stipulate formal rules for granting the overseer adequate access to supervisory information. The institutionalization of information- sharing arrangements may reduce the risk that the exchange of information might be hampered by frictions in cooperation between different institutions. Various solutions can be adopted for this purpose, from signing a memorandum of understanding that specifies the framework for cooperation, to assuring contacts between institutions through joint board membership, or the establishment of a comprehensive market regulatory/supervisory body where all the institutions with oversight responsibilities are represented and mandated to cooperate. Cooperation must also be pursued between the overseer and the securities market regulators, as securities settlement is an integral part of the payments system, and problems in securities market clearing and settlement may easily spill over to the payments system and vice versa.

Effective cooperation among market participants, between regulators and market participants, and among regulators is essential for the development of a sound and efficient payments system. Cooperation problems may be especially relevant within interbank clearing and settlement systems. In these systems, risk profiles—both at the system level and at the level of the individual intermediary—may not be fully assessed by participants. In addition, the concern with having to support less reliable intermediaries may lead larger participants to discriminate against smaller ones, even when the smaller ones are technically eligible to participate in the system. Finally, the payment system industry also depends on agreements between producers to ensure that different components of the system are compatible.

Most recently, the emergence of new types of nonbank intermediaries and payment instruments has strengthened the need for cooperation at a comprehensive level in payment systems. The safety and efficiency objectives of payment and securities settlement systems may be pursued by other public sector authorities in addition to the central bank and the securities commission. Examples include legislative authorities, ministries of finance, and competition authorities. There are also complementary relationships between oversight, banking supervision, and market surveillance. Appropriate cooperation among supervisors can be achieved in a variety of ways; for example, exchanges of views and information between relevant authorities may be conducted by holding regular or ad hoc meetings. Agreements on the sharing of information may be useful for such exchanges.

The status in the region for oversight and cooperation is included in Annex 1.

7.2. Observation

In most MENA countries the law gives some authority to the central bank over the payment system. However, the legal foundation of oversight of clearance and settlement systems is not always solid; consequently, the authority of the central banks to enforce any general rules or directives they might impose on the overall national payments system can be compromised. Without legal backing, central bank oversight amounts to only a voluntary code of conduct and guidelines for system participants. Not all participants may always comply voluntarily since regulations and procedures that may benefit the system as a whole do not always benefit the individual participants equally. Moreover, with the absence of a specific statutory mandate, not all the central banks in the region with an oversight function have developed a comprehensive framework with clear scope, objectives and instruments for payment system oversight.

Most central banks in the region indicated in the World Bank Global Payment Systems Survey that they have a specific unit or department with responsibility for payment system oversight. About one-half of the central banks in the region indicate that they actively oversee the operations of their national payment system. More than one-half of the central banks in the region indicated that the oversight unit is organizationally separated from their payment system operating units and with separate reporting lines to senior policy-makers in their central bank. However, few of these central banks have specific legal authority at the basis of their oversight functions through their central bank law or other statutory instruments.

Just over half of the central banks in the MENA region have set down their objectives for payment system oversight function in a formal public document. In most cases (nearly 70%), these objectives are only vaguely stated, such as ensuring the 'safety and efficiency' of relevant payment systems, with no definition of the specific aspects and measures of systemic safety and efficiency that they pursue.[18] A few central banks expand their oversight objectives to include other issues such as the competitiveness among system participants or the prevention of anti-competitive collusive practices among payment service providers. In the context of establishing the oversight function, each central bank should disclose publicly its objectives relating to all significant payment system matters along with its implementation strategies. To this end, it is suggested that central banks develop a comprehensive policy statement. This policy statement should provide sufficient guidance to private sector organizations for all payment systems on

[18] It should be noted that this is not a failure exclusive to the central banks in the Arab region. Even in countries with more developed economic, financial and payment systems, central banks that oversee payments systems are only beginning to specify their oversight objectives in terms of observable measures and targets.

matters relating to governance, day-to-day management, risk mitigation, and on the policies that must be satisfied by all transactions that are ultimately settled in its books.

Virtually all central banks with an oversight function report that all the systemically important funds transfer systems operating in the jurisdiction are subject to oversight. In most cases, systems for retail payments (including remittances), securities settlement systems and foreign exchange settlement systems are excluded from their definition of systemically important systems and are not subject to central bank oversight function, even though some could be considered as systemically important under accepted definitions (e.g., CPSIPS).

Central banks in MENA should broaden the focus beyond the two traditional main oversight objectives of efficiency and reliability payment systems to a wider set of issues, including the promotion of competition in the payment services market and the protection of consumer interests. These objectives might be pursued by the central banks, as payment system overseers, especially in those cases not embraced by other regulatory or supervisory authorities. It is also recommended that the central banks apply their oversight authority over all payment and securities settlement system in the country, both systemically important and retail, because the latter are especially important in supporting economic activity and the public trust in money.

As a group, the central banks in the MENA region rank well below the other regions average in terms of knowledge about the broad range of specific instruments that can be used in payment system oversight. Even so, they do focus their use on some of the main oversight instruments commonly used in virtually all other regions. These instruments include: i) high-frequency monitoring and on-site inspection; ii) dialogue and moral suasion; and, iii) regulations and sanctions. Only the central banks of Algeria and Egypt report using all these oversight instruments. Kuwait uses all but regulations and sanctions, while Lebanon reports using only regulations and sanctions. Morocco reports using all instruments except on-site inspection while Jordan and the UAE use only on-site inspection, regulations and sanctions. In other words, there is limited common use of the same instruments among the central banks in the region, due in part to different limitations on their legal authority for oversight.

Equally striking is the absence of basic payments statistics and data in most MENA countries. It has become increasingly apparent in other regions that the absence of an adequate statistical database on basic instrument usage and clearing and settlement volumes and values has significant policy consequences. The absence of data, and of the analysis derived from them, can limit the ability of policy-makers to understand the functioning of their own payment systems clearly enough to assess policy options for effective development of these systems.

Cooperation among regulators is an essential component of the oversight function and is lacking in most MENA countries. The payment system overseer (central bank), the Ministry of Finance, the banking supervisor, the securities commission, and other relevant authorities should identify and implement procedure and process changes to address any weaknesses or inconsistencies in the regulatory arrangements and to ensure a high level of cooperation in the way that policies are implemented. Consideration should be given to the need for joint task forces to address problems of common interest or the preparation of appropriate memoranda of understanding.

Formal cooperative arrangements for the payment system as a whole do not exist in MENA countries. It is strongly recommended that, in each country, the central bank establish a formal national payment system council. The new body to be formed should include representatives from all major stakeholders with an interest in payments and securities clearance and settlement systems improvements. This new body should be used as the main tool, also, to secure a constructive dialogue between regulators and market participants. The central bank should provide strong leadership and the secretariat of such a body. Payment system councils could establish some forms of interaction among them, in particular to move forward the harmonization and integration agenda.

In the area of international cooperation, the AMF has played a leading role in enhancing cooperation in the region. The Arab Committee for Payments and Settlement Systems, created and sponsored by the AMF, provides a forum for the Arab states to exchange information on their experiences with payment system change and to follow-up on emerging issues that are of interest for the whole region.

8. Concluding Remarks

The analysis shows that payment systems in MENA countries still have considerable margins for improvement. Even though several efforts have been made in this direction, a comprehensive approach for the development of payment and securities settlement systems in the region is necessary. This section highlights the main issues discussed above.

This chapter should be considered as a "living document"; information will be updated, in particular with the new data from the forthcoming Global Payment Systems Survey 2010. The World Bank will keep supporting the development of payment systems in the MENA region and the implementation of the recommendations presented here through the Arab Payment Initiative (API).

The following main recommendations can be highlighted.

Legal and regulatory framework

- Review the legal and regulatory framework to identify barriers to improvements in efficiency or safety, and cooperate with relevant public and private entities to ensure that such a framework keeps pace with market developments. Particular issues in this regard would be for the central bank to assess whether the current legal framework effectively supports the use of modern (that is, electronic) payment and related arrangements.

Large-value payment systems

- Make existing RTGS systems more efficient, so that all relevant market participants use them intensively. This should also facilitate a reduction in the use of cheques for large-value payments.
- Implement RTGS systems in the countries that still do not have one, in order to improve the safety and efficiency of their financial infrastructure. In some countries the cheque clearinghouse remains systemically important because many large-value payments are settled through it, or because it remains the main payment system in the country. Because it is difficult and costly for cheque systems to substantially reduce systemic risk and comply with international standard, the launch of RTGS systems is recommended as a better option than focusing efforts on creating guarantee funds or other risk-management tools for systemically important cheque clearinghouses.

Retail payment systems

- Support the development of effective standard and infrastructure arrangements, in order to promote migration from cash and cheques, still widely used in MENA countries, to electronic payment alternatives.
- Monitor whether competitive market conditions and behaviors are in place and take appropriate actions to foster such conditions.

Cross-border payments and remittances

- Increase cooperation between payment system overseers of sending and receiving countries to foster increased security, cost efficiency and reliability of cross-border payments mechanisms. The attention of national authorities on this matter should not be limited to balance of payments and money laundering consideration, but extended to aspects such as transparency of fees and other charges or timing of accreditation of funds to end beneficiaries.

- Authorities of countries with a competitive and efficient remittance market should share best practices with the other countries in the region.

Securities settlement systems

- Strengthen SSSs oversight by establishing a regulatory agency or function over securities other than the self-regulation of the stock exchange.
- Achieve full immobilization and dematerialization of securities, and aim at greater standardization.
- Achieve true delivery versus payment and identify a standardized settlement cycle for all the trades executed in the securities markets. This is particularly relevant in the stock exchanges, where a T+3 settlement cycle could be implemented.

Oversight and cooperation

- Establish appropriate organizational arrangement and staffing in central banks. This includes forming a small unit in charge of payment system oversight to be separated to the extent possible from the units in charge of operating the systems offered by the central bank. Central banks should ensure that an adequate degree of participant cooperation exists, and that it is sufficient to promote and realize the desired organizational and operational arrangements.
- Define and implement appropriate actions that central bank can undertake in case participants do not comply with published rules and regulations (for example, the application of predetermined penalties and sanctions for compliance failures).
- Collect and distribute relevant statistical information to demonstrate the use being made of each system and the extent to which the systems are satisfying end user and other market needs. Information and public policy statements relating to all substantial payment system matters should be disclosed by central banks in a manner that ensures wide dissemination among payment system stakeholders and the general public.
- Establish national payment system councils.

ANNEX 1 – COUNTRY TABLES

Legal and regulatory framework

Country	Legal and regulatory framework
Algeria	The legal framework for payments consists primarily of the Banking Law and Central Bank Regulations. The following issues are covered by legal provisions: clarity of timing of final settlement; legal recognition of (bilateral and multilateral) netting arrangements; recognition of electronic processing of payments; non-existence of any zero hour or similar rules; enforceability of security interests provided under collateral arrangements and of any relevant repo agreements; protection from third-party claims of securities and other collateral pledged in a payment system. As for securities settlements, the following specific issues are covered: dematerialization of securities; securities ownership transfers through book entries; finality of settlement (securities and funds transfers); protection of custody arrangements from third-party claims in the event of the bankruptcy of the custodian; securities lending arrangements. The legal framework provides a general basis for the oversight function of the Central Bank over the payment systems.
Bahrain	The legal framework for payments consists primarily of the Law of Commerce, the Central Bank of Bahrain and Financial Institutions Law (CBB Law) of 2006, and Central Bank's subordinate legislation. Central Bank Regulation and Contract also govern payments or the operation of the systems. The following issues are covered by legal provisions: clarity of timing of final settlement; legal recognition of (bilateral and multilateral) netting arrangements. The legal statute of the CBB provides a general, although not explicit, basis for the oversight function over the payment systems. There are no provisions developing the oversight function and the implications of this activity for the participants in payment and securities settlement systems.
Djibouti	No information available.
Egypt	The general legal framework comprises the Constitution, the Civil Code, the Banking Law, the Central Bank Law, the E-Signature Law, as well as rules and regulations set and decisions taken by the relevant entities owning/operating/overseeing the payment and securities clearing infrastructure. It is to be noted that executive regulations are legally binding, but their coverage is limited by the scope of the laws that they supplement. The following issues are covered by legal provisions: recognition of electronic processing of payments; enforceability of security interests provided under collateral arrangements and of any relevant repo agreements; protection from third-party claims of securities and other collateral pledged in a payment system. In the area of securities issuance, clearing, and settlement, the Central Securities Depository and Registry Law, supplemented by the Ministerial Decree of the Ministry of Foreign Trade N°906 of 2001, makes depositing of securities compulsory. This Law defines and establishes the Central Depository function and the Central Registrar function as regulated

Country	Legal and regulatory framework
	activities and creates the legal basis for the dematerialization of securities permitting their transfer in book-entry form. Finality of settlement, protection of custody arrangements from third-party claims in the event of the bankruptcy of the custodian and securities lending arrangements are also covered by the legal provisions. The Law of the Central Bank, the Banking Sector and Money contains the legal basis for the oversight function of the Central Bank of Egypt (CBE).
Iran	The only piece of legislation containing direct reference to payment systems in Iran is the E-Commerce Law. As a result, only recognition of electronic processing of payments is covered by legal provision. However, the Central Bank has the authority to design, issue and enforce regulations on Payment Systems. Dematerialization of securities is also covered by law. The Central Bank empowerment to oversee payment systems in the country is general, in the context of ensuring the adequate and safe functioning of payments in the country. Non-banking financial institutions are required to obtain a specific license from the Central Bank to provide payment services.
Iraq	The legal framework for the banks and the Central Bank is set out under the Banking Law of 19 September 2003 and the Central Bank of Iraq Law of 6 March 2004. The enactment of these Laws brings Iraq into line with international banking standards, and seeks to promote confidence in the economy by establishing a safe, sound, competitive and accessible banking system. It is the objective of the CBI, with the support of these laws, to sustain domestic price stability, and promote a competitive and stable financial system. The payment system laws clarifying the rules on finality, electronic payment systems, and full cheque truncation are currently still in development or under review by the CBI. However, the legal agreements for participating in the Iraq Payment System assure all parties that their legal rights are protected within the Iraqi Payment System (IPS). Furthermore, Central Bank instructions on payment systems Rules and Procedures are legally binding on Participants under the terms of the IPS Participant Agreements. An interim Securities Law was published in April 2004. Further Securities Laws need to be developed to cover private sector activities as well as the regulation of the primary and secondary markets in Government Securities. This will include enforceability of collateral arrangements and repo agreements and immediate execution of pledges supporting settlements in the IPS.
Jordan	The main laws that govern payments and securities settlement systems are the Law of the Central Bank of Jordan, the Banking Law, the Electronic Transactions Law, and the Securities Markets Law. The CBJ also issues Payment Systems Regulations. The following issues are covered by legal provisions: legal recognition of (bilateral and multilateral) netting arrangements; recognition of electronic processing of payments; non-existence of any zero hour or similar rules; enforceability of security interests provided under collateral arrangements and of any relevant repo agreements; protection from third-party claims of securities and other collateral pledged in a payment system. The Securities Markets Law (SML) of 2002 provides a clear and detailed legal underpinning for all key issues related to securities clearance and settlement, including: i) regulatory and supervisory powers over market infrastructures; ii) dematerialization of securities, iii) securities ownership transfers through book entries; iv) finality of securities transfers; v) segregation of securities and funds belonging to licensed persons and their

Country	Legal and regulatory framework
	customers; vi) protection of assets held under custody from claims of creditors of the custodian in the event of the bankruptcy of the latter; vii) *prima facie* legal evidence of ownership records to be located solely in the central securities depository. The Jordanian legislative framework does not formally assign to the central bank the responsibility to perform the oversight function on the payment system.
Kuwait	The general legal framework comprises the Commerce and Civil Code, the Central Bank Law and Central Bank Regulations having the Power of Law, and the Settlement Systems Procedures. The following issues are covered by legal provisions: legal recognition of (bilateral and multilateral) netting arrangements, recognition of electronic processing of payments; non-existence of any zero hour or similar rules. As for securities settlements, the following specific issues are covered: securities ownership transfers through book entries; finality of settlement (securities and funds transfers); protection of custody arrangements from third-party claims in the event of the bankruptcy of the custodian. Central Bank's oversight powers are to be found in the Central Bank Law. Empowerment to oversee payment systems in the country is explicit, granting the Central Bank powers to operate, regulate, and oversee payment systems.
Lebanon	The general legal framework in Lebanon comprises the Central Bank Law, the Code of Money and Credit, Central Bank Regulations having the power of Law, and Law # 133 "Modifying Article 70 of the Code of Money and Credit". The following issues are covered by legal provisions: enforceability of security interests provided under collateral arrangements and of any relevant repo agreements; protection from third party claims of security and other collateral pledged in a payment system. As for securities settlements, the following specific issues are covered: dematerialization of securities, securities ownership transfers through book entries; finality of settlement (securities and funds transfers); protection of custody arrangements from third party claims in the event of the bankruptcy of the custodian. Central Bank's oversight powers over the national payment systems are to be found in the Code of Money and Credit, and in Law #133. Empowerment is explicit, granting the Central Bank of Lebanon powers to operate, regulate, and oversee payment systems.
Libya	The legal framework for payments consists of Libyan Financial and Banking Laws, and Central Bank Regulations. Clarity of timing of final settlement is covered by legal provisions; there is no legal recognition of netting arrangements.
Morocco	The general legal framework in Morocco comprises the Constitution, the Civil Code, the Code of Commerce, the Penal Code, laws and executive regulations (which supplement and specify the laws). More specifically, the legal environment for payment related activities consists of the Banking Law of February 2006, the Bank Al-Maghrib Law of November 2005, several supplementary laws and executive regulations (which are legally binding and which coverage is limited by the scope of the laws that they supplement), rules and decisions taken by the relevant Ministries as well as Bank Al-Maghrib. The following issues are covered by legal provisions: legal recognition of (bilateral and multilateral) netting arrangements, recognition of electronic processing of payments; enforceability of security interests provided under collateral arrangements and of any relevant repo agreements.

Country	Legal and regulatory framework
	The main laws that cover securities and securities clearing and settlement systems are the Stock Exchange Law, the Law on the Central Securities Depository and Securities Dematerialization, and the Law on the Activities of the Securities Regulator. The CSD Law establishes a single CSD in Morocco and provides the legal underpinning for the dematerialization of securities, and their transfer through a book-entry system. This law covers other relevant issues for securities settlement systems, including custody activities, although it does not provide explicit protection for custody arrangements. The law also does not mention the concept of settlement finality for securities transfers. Central Bank's oversight powers are to be found in Art.10 of the November 2005 Bank Al-Maghrib, and in Chapter IV of the decree n° 14/G/2006 dated 20 July 2006 by the Bank Al-Maghrib's Governor related to the creation of the Moroccan RTGS system. Article 10 of the Bank Al-Maghrib Law does not include any limitations regarding the scope of the oversight function and empowers Bank Al-Maghrib to oversee and regulate the smooth functioning and the security of payment systems as a whole, i.e. including all individual payment system, be they operated by Bank Al-Maghrib or not.
Oman	The general legal framework comprises the Banking Law, the Commerce Code, and Central Bank Regulations having the power of Law. The following issues are covered by legal provisions: clarity of timing of final settlement especially where there is insolvency; legal recognition of (bilateral and multilateral) netting arrangements; enforceability of security interests provided under collateral arrangements and of any relevant repo agreements; protection from third party claims of security and other collateral pledged in a payment system. As for securities settlements, the following specific issues are covered: dematerialization of securities, securities ownership transfers through book entries; finality of settlement (securities and funds transfers). The Central Bank Law entitles Central Bank of Oman to oversee the national payment systems.
Qatar	The Law of the Qatar Central Bank of 2006 clarifies the powers and the responsibilities of the QCB in the area of payment and settlement systems. Some of the most relevant provisions in this area include: Article 5, item 7, grants the QCB powers to: "Establish, administer and develop supporting central banking services and systems, including payment systems, clearance, and credit centers, among others." Article 5, item 11, empowers the QCB to: "Supervise and control the investment funds and the payment and clearance systems, and organize the issuance of fixed proceeds securities". Also, article 12, item 07, indicates that the QCB, to achieve its objectives shall "Approve the policies for the supervision and control over […] payment and clearance systems […]". Article 118 states that "The Governor shall issue the necessary decisions and instructions for enforcement of the provisions of this Law". According to QCB's Legal Department, this shall be interpreted as the regulations/instructions issued by the QCB having the power of law. Article 32 further states, referring specifically to payment systems, that "The QCB shall issue the appropriate instructions for the application and work of the different payment systems and digital money, and for the organization of clearance works", while Article 86 indicates that "…QCB shall issue the policies and instructions regarding electronic banking and financial activities and other electronic activities which fall within its function..."

Country	Legal and regulatory framework
	There is also Law 14 of 1995 establishing the Doha Securities Market. Apart from these, no other laws deal directly with payment system issues, instruments or activities.
Saudi Arabia	The legal framework for payments consists of Central Bank Law, Banking Law, Payment Systems Law, Securities Market Law, Commerce Code, Central Bank Regulations. The following issues are covered by legal provisions: clarity of timing of final settlement; recognition of electronic processing of payments; non-existence of any zero hour or similar rules; enforceability of security interests provided under collateral arrangements and of any relevant repo agreements; protection from third-party claims of securities and other collateral pledged in a payment system. As for securities settlements, the following specific issues are covered: dematerialization of securities; securities ownership transfers through book entries; finality of settlement (securities and funds transfers); protection of custody arrangements from third-party claims in the event of the bankruptcy of the custodian. Central Bank oversight powers are to be found in the Central Bank Law. Empowerment to oversee payment systems in the country is explicit, granting it powers to operate, regulate, and oversee payment systems. All non-bank payment services providers are required to obtain a specific license from the Central Bank or other relevant authority to provide payment services.
Syria	The legal framework for payments consists primarily of the Civil Code, Commercial Code, Company Law and Civil Procedural Law, Central Bank Law, and Banking Law. The insolvency regime, laid down in the Commercial Code, contains the zero-hour rule and claw-back rules. A legal framework for the holding and transfer of securities in fungible and book-entry form is missing. Most of the securities issued by Syrian entities may currently only be created in the form of registered securities. The legal framework does not provide a general basis for the oversight function of the Central Bank over the payment systems.
Tunisia	No information available.
United Arab Emirates	The general legal framework comprises the Civil Code, the Central Bank Law, and the Central Banks regulations having the power of law. Payment finality is covered by the legal dispositions; there is no explicit legal recognition of the netting arrangements; electronic documents and signatures are not regulated. As for securities, only the finality settlement is regulated by law. The Central Bank Law entitles the CB to oversee of the payment system.
West Bank and Gaza	The Palestine Monetary Authority (PMA) was established by decree in 1995 as an independent institution and was confirmed by law in 1997. It was intended to serve a broad range of central banking functions as envisaged in the Paris Protocol. Since then, it has principally carried out the functions of banking supervision, payment services, research and statistics. The PMA is currently undergoing a process of restructuring and internal reform aimed at transforming the current institution into a full-fledged, modern central bank. A key element of the restructuring program is the development of a National Payment System (NPS) which will promote and underpin the growth and modernization of the financial

Country	Legal and regulatory framework
	system and therefore the economy in Palestine. Within the PMA strategic transition plan into a full-fledged modern Central Bank, the PMA has started the process of developing both the Banking Law and the Central Bank Law in a way to enhance compliance with best international practices and principles. The Anti-Money Laundering Law was approved in 2007.
Yemen	Payment activities are basically governed by the Commercial Law, Central Bank Law, Payment System Law, Central Bank regulation having the power of law. Collateral arrangements may not be enforceable in Yemen. A type of pledge based on Treasury Bills has been recognized by the regulation issued in 1995 by the high level Issuance Committee. Pursuant to Article 38 of the Central Bank Law, loans and overdrafts granted by the Central Bank of Yemen (CBY) to commercial banks should be collateralized in the form of commodities, TBs or Bonds. However, according to the assessment made by the legal department of CBY, it is very unlikely that any of these collaterals can be enforced by Courts.

Large value payment systems

Country	Large value payment systems
Algeria	The RTGS System is owned and operated by the Bank of Algeria. It was launched in 2006. In the same year, the RTGS system processed 147,478 transactions, for a total value of 2,298 billion USD. The primary means through which direct RTGS participants send their payment orders for processing are SWIFT International Network, SWIFT closed users' group, and proprietary telecommunications network. Participants other than commercial banks have direct access to the RTGS. There is an explicit access/exclusion policy. Access to the RTGS is granted on the basis of institutional standing and the fulfillment of a set of objective criteria to ensure a safe and sound operation of the system. Formal rules or arrangements are in place to allow the RTGS operator to exclude a system participant in a timely fashion. Centralized queuing arrangements are in place. The main resolution algorithms used are FIFO and multilateral offsetting is also used as a resolution algorithm. The offsetting mechanism can be triggered manually by the RTGS operator. Participants can set priorities to their payment orders and change the priorities once these orders are in a queue waiting to be settled. Reserve requirements at the Bank of Algeria can be freely used during the day. The RTGS operator grants intraday credit. Should an intraday repo not be paid by the end of the day, it will be automatically converted into an overnight repo; a penalty rate applies in this case. The pricing policy aims at recovering all costs (operational and investment) in full and is used to incentivize the smooth flow of payments through the system during the day. Routine procedures are in place for periodical data back-ups. Tapes and other storage media are kept in sites other than the main processing site. A fully equipped alternate processing site exists. A formal Business Continuity Plan is in place.
Bahrain	The CBB owns and operates a RTGS system where all inter-bank payments are processed and settled in real time, on-line mode. This system was launched in June 2007. In the remainder of 2007 the RTGS system processed 921 transactions, for a total value of 222 million BHD. In the first half of 2008, RTGS processed 1,144 transactions, for a total value of 343 million BHD. The global SWIFT payment network is used as the communication backbone for the transmission of payment instructions. The RTGS system provides for third-party payments. The RTGS system enables the banks to have real time information on, for example, account balances, used and available intra-day credit, queue status, transaction status etc. The RTGS system is multi-currency capable and based on Straight Through Processing (STP). The RTGS system is open from 8 am to 1.40 pm every business day. At the end of each business day, banks transfer any remaining balances on their RTGS accounts to the CBB standing facilities. Any remaining negative balances on banks RTGS accounts or clearing accounts are charged with a penalty interest rate.

Country	Large value payment systems
Djibouti	No information available.
Egypt	Egypt is currently implementing a full-fledged RTGS system. The current large value payments system was introduced in March 2000. The FIN Copy system at present is the only channel through which payments may be settled with same-day value. FIN Copy uses a closed-group SWIFT network for sending and receiving payments orders, and daily account statements and balances to the participating banks. Only direct participation is envisaged. The system is not fully automated, since at present some transactions related to clearing processes (e.g. cards, foreign exchange) are entered manually into the general ledger. Banks can obtain collateralized liquidity from the CBE only by using the collateral deposited at the central bank. Although payments are considered by the CBE irrevocable and final as soon as they are entered into the system, the actual settlement, takes place after the closing of the system. Therefore, the current large value system can be regarded as a gross system with deferred settlement. Although each commercial bank participating in the system is required to cover any debit balance shown in its account at the CBE by agreement with any other bank, the final settlement of all payments entered by banks in the system is assured by the central bank itself. Payment orders are settled even if this results in overdrafts on the sender's current account. No collateral is required for such account overdrafts. These overdrafts are charged with a high penalty rate. The current system does not provide on-line liquidity management. The CBE does not charge users for the payment service it provides through the FIN-Copy system.
Iran	Both an RTG and a cheque clearinghouse are used in Iran for large-value fund transfers. The RTGS was launched in 2007 and is operated by the Central Bank. Participants send their payment orders for processing through a proprietary telecommunication network. The pricing policy aims at recovering all costs (operational and investment) in full in five years. Current account overdrafts and opening balances and funds received from other participants are the main source of liquidity during the day. Current account overdrafts/credit is limited, but no collateralization is required. Intraday liquidity that is not repaid by the end of the system's operating day is transformed into overnight at penalty rates. If a participant does not have enough balance (and/or credit) in its current account with the RTGS operator to process new payments, the payment order goes into a queue for later processing. Routine procedures are in place for periodical data back-ups and back-up servers have been deployed at the main processing site. However, an alternate processing site and a formal business continuity plan do not exist. Access to the RTGS is granted on the basis of institutional standing (i.e. whether the applicant is a bank or some other specific type of financial institution).
Iraq	The RTGS system went live successfully in Baghdad on 24 August 2006, this system connected the Central Bank of Iraq (CBI), which operates the system, with the main branches of the banks and the Ministry of Finance to exchange the high value and important payment orders inside Iraq. The System Rules, including finality, are supported by

Country	Large value payment systems
	contractually binding Participant Agreements. In addition to administering the settlement accounts and operating the system, the CBI installs the RTGS connectivity systems at participating banks and trains the bank staff in the use of the system. The system has high-security features such as (Four Eyes) principle, requiring user e-tokens which are provided by the CBI. There are three physical operating sites for the RTGS system, one live site and two backup sites with data mirroring and recovery features. Currently, 35 banks participate in the RTGS system, along with the Ministry of Finance. The Government Securities Registration Systems (GSRS), which was activated in November 2008, manages the government securities issued by the Central Bank of Iraq and by the Ministry of Finance and is linked to the RTGS system for transaction settlement. The GSRS is multi-functional. It manages the auction process for the primary market issuance of government securities; maintains the primary register for securities ownership and processes interest and redemption payments; settles secondary market transactions; and administers other related internal accounts and records.: The Interface of GSRS with the RTGS system send details of payment instructions for "Delivery versus Payment" (DvP) settlement of the funds leg of GSRS transactions and receive confirmations that funds have been transferred in settlement of these transactions. It also sends details of payment instructions resulting from new issuance of government securities (amount due from participants to MoF as a result of auctions) and for interest payments and redemptions (amount due to participants from MoF) to RTGS participants. The GSRS also interfaces with the ACH system to provide information about pledge positions at the beginning of each ACH session and to pass details of the execution of pledges carried out during the settlement of ACH sessions. The CBI seeks to develop the GRSR system further by linking it with the Iraq Stock Exchange in order to exchange the securities and stocks in the secondary market through this system.
Jordan	Inter-bank payments are executed mainly through centralized settlement accounts using the RTGS-JO, a real time gross settlement system owned by the member banks and operated by CBJ. The system went live in September 2002. Other important systems in the country like the automated cheque clearinghouse (ECCH) and securities settlement systems settle multilateral net positions at the RTGS-JO. During 2007, the system processed 264.1 thousand transactions for an aggregate value of 88.1 billion JOD. RTGS-JO uses SWIFT as secure financial messaging service provider. The system has 22 direct participants all of which are commercial banks. There is no formal document defining the rationale for the access policy to the RTGS-JO. Also, there are no clear exit and exclusion criteria. No formal pricing policies have been elaborated by the CBJ. For the RTGS-JO, so far the pricing policy has been based solely on cost recovery considerations. To address liquidity risks, the RTGS-JO offers a variety of mechanisms, including the partial use of required reserves throughout the day for payment purposes, and an intraday credit facility. A link to CBJ's book entry system for securities allows liquidity to be provided via intra-day repos with government securities or central bank CDs (Certificates of Deposit) as underlying securities. If intraday liquidity is not repaid by the end of the day

Country	Large value payment systems
	a penalty rate will be charged. Centralized queuing arrangements are in place. Multilateral offsetting is used as resolution algorithm. The offsetting mechanism can be triggered manually by the RTGS operator. Participants can set priorities to their payment orders and change them once these orders are in a queue waiting to be settled. A fully equipped alternate processing site exists. A formal Business Continuity Plan is in place.
Kuwait	The RTGS System is owned and operated by the Central Bank of Kuwait. It was launched in 2004. In 2008, the RTGS system processed 686,252 transactions, for a total value of 284,277 M KD. The primary means through which direct RTGS participants send their payment orders for processing are SWIFT International Network, and proprietary telecommunications network. There is an explicit access/exclusion policy for the RTGS system. Access to the RTGS is granted on the basis of institutional standing and the fulfillment of a set of objective criteria to ensure a safe and sound operation of the system. Formal rules or arrangements are in place to allow the RTGS operator to exclude a system participant in a timely fashion. Centralized queuing arrangements are in place. Both bilateral and multilateral offsetting is used as resolution mechanism. Participants can set priorities to their payment orders and change the priorities to their payment orders once these orders are in a queue waiting to be settled. The main sources of liquidity during the day are opening balances and funds received from other participants during the day, and lines of credit between banks. The RTGS operator allows current account overdrafts. Should an intraday repo not be paid by the end of the day, it will be automatically converted into an overnight repo; a penalty rate applies in this case. The RTGS operator makes no charges for the processing/settlement of payment orders. Routine procedures are in place for periodical data back-ups. Tapes and other storage media are kept in sites other than the main processing site. A fully equipped alternate processing site exists. A formal Business Continuity Plan is in place and business continuity arrangements are regularly tested.
Lebanon	The BDL Transfer System (domestic and cross-border credit transfers) is operated by the Central Bank of Lebanon. BDL, which is not a real time gross settlement system, has been operational since 1964. It is a SWIFT based system. In 2008, BDL processed 612.35 thousand credit transfers, for a total value of 124,974,522 million Lebanese Pounds.
Libya	The Central Bank of Libya own and operates the RTGS system, which went line on April 1st 2008. In 2008, the RTGS system processed 94 transactions, for a total value of 515,914,528 LYD. All banks and financial institutions are allowed to connect directly to the system.

Country	Large value payment systems
Morocco	The Moroccan Gross Settlement System (SRBM) is a real time gross settlement (RTGS) system operated by Bank Al-Maghrib and is operational since September 7, 2006. Inter-bank payments are made by credit transfers between centralized settlement accounts using the SRBM. The SRBM is a pure RTGS system; once the correspondent account of the sending bank is debited and the correspondent account of the recipient bank is credited with the amount of a payment, the interbank settlement is final. In 2008, the SRBM has processed 112,472 transactions for a total value of 275.6 billion USD. The SRBM uses the SWIFT network for sending and receiving payments orders. Participants and sub-participants are defined in Annex 1 of the SRBM Regulation. No participation criteria have been specified for each participant category. At present, the SRBM system has 16 direct participants (commercial banks and Bank Al-Maghrib) and 4 so-called “technical participants” (Maroclear, SIMT, CMI, Casablanca Stock Exchange). The National Treasury, the Post Office and broker-dealers are all sub-participants. Through the SRBM, Bank Al-Maghrib provides an intraday liquidity facility to direct participants in the form of a non-interest bearing repo. Participants can use all their reserve requirements balance during the day. The SRBM pricing is roughly mentioned in the SRBM rules in Annex 1 of the decree by Bank Al-Maghrib’s Governor related to the creation of the Moroccan RTGS system. The pricing policy includes a fixed fee and a variable monthly cost related to, respectively, the investment cost and monthly usage of the system. Routine procedures are in place for periodical data back-ups. Tapes and other storage media are kept in sites other than the main processing site. A fully equipped alternate processing site exists. Bank Al-Maghrib has documented a formal business continuity plan, and business continuity arrangements are regularly tested. Business continuity arrangements also include procedures for crisis management and information dissemination
Oman	The Central Bank of Oman owns and operates the RTGS system, which was launched in September 2005. In 2008 the system processed 375 thousand transactions, for a total value of 93,333 million Rials Omani. The primary means through which direct RTGS participants send their payment orders for processing is the proprietary telecommunications network. Participants other than commercial banks have direct access to the RTGS. There is an explicit access/exclusion policy. Access to the RTGS is granted on the basis of institutional standing and the fulfillment of a set of objective criteria to ensure a safe and sound operation of the system (e.g. capital requirements, technological capacity, internal risk controls, appropriate management, etc). Formal rules or arrangements are in place to allow the RTGS operator to exclude a system participant in a timely fashion. Centralized queuing arrangements are in place. The main resolution algorithms used is FIFO and multilateral offsetting is also used as resolution algorithm. The offsetting mechanism can be triggered manually by the RTGS operator. Participants can set priorities to their payment orders and change the priorities to their payment orders once these orders are in a queue waiting to be settled.

Country	Large value payment systems
	Reserve requirements at the Central Bank of Oman can be freely used during the day. The RTGS operator grants intraday credit, either in the form of a loan or a repo. Should an intraday repo not be paid by the end of the day, RTGS operator transforms the intraday credit into overnight at penalty rates. The pricing policy aims at partial recovery of the operational cost of the system plus full recovery of the investment costs. Routine procedures are in place for periodical data back-ups. Tapes and other storage media are kept in sites other than the main processing site. A fully equipped alternate processing site exists. A formal Business Continuity Plan is in place, and business continuity arrangements are regularly tested.
Qatar	The RTGS system, which is operated by the QCB, was launched in 2001. Payment messages among banks are processed under straight-through-processing (STP), with no manual intervention. With the launch of the RTGS the cheque system has reduced its systemic relevance. In 2006, the RTGS system processed 2,758,419 operations, for a total value of QAR 145,655 million. Direct RTGS participants use international SWIFT network to send payment instructions to the QCB. There is an explicit access/exclusion policy. Access to the RTGS is granted on the basis of institutional standing and the fulfillment of a set of objective criteria to ensure a safe and sound operation of the system. Formal rules or arrangements are in place to allow the RTGS operator to exclude a system participant in a timely fashion. Participants other than commercial banks can only hold settlement-only accounts with no access to Central Bank credit. Centralized queuing arrangements are in place. The main resolution algorithms used are FIFO and multilateral offsetting algorithm. The offsetting mechanism can be triggered manually by the RTGS operator. Participants can set priorities to their payment orders and change the priorities to their payment orders once these orders are in a queue waiting to be settled. Reserve requirements at the QCB can be freely used during the day. The RTGS operator grants intraday credit. Should an intraday repo not be paid by the end of the day, it will be automatically converted into an overnight repo; a penalty rate applies in this case. There is no charge for the RTGS services the QCB provides to commercial banks. Routine procedures are in place for periodical data back-ups. Tapes and other storage media are kept in sites other than the main processing site. A fully equipped alternate processing site exists. A formal Business Continuity Plan is in place.
Saudi Arabia	The RTGS System is owned and operated by the Saudi Arabian Monetary Authority. It was launched in 1997. In 2006, the RTGS system processed 20,786,767 transactions, for a total value of 3,734 billion USD. Direct RTGS participants send their payment orders for processing primarily through proprietary telecommunications network. There is an explicit access/exclusion policy. Access to the RTGS is granted on the basis of

Country	Large value payment systems
	the fulfillment of a set of objective criteria (e.g. capital requirements, technological capacity, internal risk controls, appropriate management, etc). Formal rules or arrangements are in place to allow the RTGS operator to exclude a system participant in a timely fashion. Participants other than commercial banks have direct access to the RTGS. A specific RTGS Users' Group is in place for the RTGS operator to address participants' needs. Centralized queuing arrangements are in place. The main resolution algorithms used are FIFO and multilateral offsetting algorithm. The offsetting mechanism can be triggered manually by the RTGS operator. Participants can set priorities to their payment orders and change the priorities to their payment orders once these orders are in a queue waiting to be settled. The main sources of liquidity during the day are opening balances and funds received from other participants during the day, and lines of credit between banks. The RTGS operator allows current account overdrafts and grants credit, either in the form of a loan or a repo. Should an intraday repo not be paid by the end of the day, it will be automatically converted into an overnight repo; a penalty rate applies in this case. The pricing policy aims at recovering all costs (operational and investment) in full and is used to incentivize the smooth flow of payments through the system during the day. Routine procedures are in place for periodical data back-ups. Tapes and other storage media are kept in sites other than the main processing site. Back-up servers have been deployed at the main processing site. A fully equipped alternate processing site exists. A formal Business Continuity Plan is in place. Business continuity arrangements include procedures for crisis management and information dissemination. Business continuity arrangements are regularly tested.
Syria	In average, 300 interbank transactions (account to account) are processed every day at the CBS main office, for a total value of 10 billion LS. The Current Accounts Department also processes everyday 400 payments on behalf of the city councils of Syria, for a total value of 10 million LS, and a large number of payments on behalf of various public entities. As the CBS does not provide settlement services in US dollars, the interbank transactions in this currency are cleared bilaterally between the banks, using SWIFT messages to issue payment transactions between themselves. Cash is never used to settle interbank claims Interbank payment transfers are settled on the books of the CBS by credit transfers on the banks' current accounts. Payment orders are received physically at the CBS offices and the payments are settled individually and continuously in central bank money on the current accounts held by the CBS. The accounts structure at the CBS is organized according to the de-centralized model. The main offices of the commercial banks have accounts at the CBS headquarters, while their branches outside Damascus hold accounts at the CBS branches. The CBS has currently 11 branches in the whole country. The regulatory reserve requirements are held in separate accounts and are usually not used for payments purposes. There is no telecommunication link between the CBS headquarters in Damascus and its branches located in other cities. Furthermore, some of the CBS branches use computer databases to manage the accounts, while others still rely on a pure paper-based accounting.

Country	Large value payment systems
	The transaction data are saved on a CD every day after the closure of the system. Intra-branch payments are free, while inter-branch payments are expensive. The CBS does not charge any fixed fee for maintaining the accounts and accessing the system. Besides the direct credit transfers on the current accounts and the issuance of paper-based credit transfers at the clearinghouse, the third means of settling interbank payments in Syria is to use the correspondent banking services of the Commercial Bank of Syria. Every commercial bank operating in Syria holds an interest-bearing account at the Commercial Bank of Syria.
Tunisia	The RTGS system was launched in 2006 and is currently the main system used for large-value funds transfers in Tunisia.
United Arab Emirates	The RTGS system, which was launched in 2000, is operated by the Central Bank. In 2006, it processed 1 million operations, for a total value of 936,408 million USD. The primary means through which direct RTGS participants send their payment orders for processing are SWIFT International Network, SWIFT closed users' group, and proprietary telecommunications network. Participants other than commercial banks have direct access to the RTGS and can only hold settlement-only accounts with no access to CB credit. Centralized queuing arrangements are in place. The main resolution algorithms used are FIFO and multilateral offsetting algorithm. Reserve requirements at the Central Bank can be freely used during the day. The RTGS operator grants credit, either in the form of a loan or a repo. Should an intraday repo not be paid by the end of the day, it will be automatically converted into an overnight repo; a penalty rate applies in this case. The offsetting mechanism can be triggered manually by the RTGS operator. The pricing policy is not related to cost recovery. There is an explicit access/exclusion policy for the RTGS system. Access to the RTGS is granted on the basis of institutional standing.
West Bank and Gaza	The PMA is currently implementing a full-fledged RTGS system. At the moment, for large-value payments the PMA operates two Clearing Houses in Ramallah and Gaza which handle all cheques, as well as transfers of a value less than USD10,000. The daily volume of cheques and bank transfers exchanged between banks in Palestine via the PMA's Clearing House is approximately 10,000. As for electronic networking, a number of banks have acquired SWIFT connections within Palestine, but others use their parent banks' head office connections. The clearing procedures are quasi manual and time consuming. Cheques are presented physically to the Clearing House and are exchanged on a bilateral basis among the representatives of banks in a daily clearing session. The clearing is carried out separately for cheques in each of the four currencies (US Dollars, Israeli Shekels, Jordanian Dinars

Country	Large value payment systems
	and Euros). No encoding, sorting, truncation or storage services are provided at present by the Clearing House(s). The clearing operations have direct links with the PMA central computerized accounting system in Ramallah for final settlement. Settlement is carried out on a Deferred Net basis (DNS) through posting in the four currencies to the Current accounts of the commercial banks with the PMA. Posting takes place through electronic transmission from the Clearing House to the PMA's accounting system of the banks' net positions in the four currencies at 10:00 a.m. daily (at the end of the manual clearing session). Banks are required to cover their positions to at least the minimum balances in the Current accounts. If a bank has insufficient funds in any of its current accounts to cover its settlement requirements, a grace period is granted until 1:30 p.m. to enable funds to be provided. If there are still insufficient funds after that time, a penalty is applied. All of this is carried out automatically by the PMA accounting system. If a bank continues to be unable to settle, the PMA tries to facilitate a suitable overnight loan arrangement. There is no formal procedure for unwinding of payments in case of any bank's inability to settle. Non-cheque payments for values above USD 10,000 are made in the form of fax instructions which are sent to the PMA Banking Department between 8.30 a.m. and 1.00 p.m. Settlement is executed after 1.00 p.m. (i.e. after settlement of Clearing House positions) on a Deferred Net Settlement basis by simultaneously debiting the sending bank's settlement account while crediting the account of the receiving bank. Value date is T+1. A form of manual optimization of payment sequencing is carried out to avoid potential gridlock arising. However, finality is achieved only at the end of the business day when the entries have been transmitted to the Accounting Department which manages the accounts of banks, in the same process used for settlement of cheque clearing operations. In the event that the sending bank lacks the funds, the settlement is made on the next settlement day on which funds become available. At present, the PMA does not formally provide intraday credits to banks. Risk management procedures are not adequately developed to ensure the legal and financial soundness of the settlement.
Yemen	Starting in September 2005, settlement of all interbank payments at the CBY is made using SWIFT. The system processed in the last quarter of 2005 357 transactions (payment orders in Yrls) with an aggregate value of Yrls 20.2 billion, averaging Yrls 56.4 million per transaction. The system has also processed 349 transactions (payment orders in US Dollar) during this period with an aggregate value of 48.1 million USD averaging 137.8 thousands USD per transaction. The CBY intends to enlarge this low volume by encouraging large companies, public sector enterprises and government agencies to use SWIFT instead of issuing cheques for high value payments. The system does not yet conform to an RTGS design.

Retail payment systems

Country	Retail payment system
Algeria	The most used non-cash retail payment instruments are cheques (5.15 million transactions, 0.2 per capita, in 2006, for a USD 88.43 million value) and direct credits (0.61 million transactions in 2006, for a USD 1,908 million value). Cheques are standardized. Processing of cheques is automated, and cheque truncation is used. Net balances are calculated and settled once a day. Multilateral net balances are calculated. No special procedure for large-value cheques has been implemented. The ACH allows the processing of both direct credits and direct debits. Non-bank institutions can be direct participants in the ACH. Net balances are calculated and settled at least once a day. Final settlement of net positions takes place through the RTGS system. No specific risk management mechanism is in place for the ACH. In the event a participant is unable to settle its debit position, an unwinding procedure would be initiated. Participants have access to information on their preliminary position in the clearinghouse during the day. Payment cards are not used extensively as payment instruments. In 2006 there were 376 ATMs in the country. ATMs and POS terminals are interoperable. For payment cards, final settlement of net positions takes place through the RTGS system. Accessibility of non-cash payment instruments and services for individuals through commercial banks and postal system is adequate.
Bahrain	The CBB offers an Automated Cheque Clearing System (ACS), which was implemented in 1993. It is a Deferred Net Settlement (DNS) System. The ACS is based on the Magnetic Ink Character Recognition (MICR) coding scheme and processes inter-bank cheques through pre-programmed cheque sorting machines. The system has contributed to making the cheque clearing process more efficient. In order to improve further the cheque clearing process, the CBB is in the process of implementing an image-based Cheque Truncation System (CTS) which is expected to go live in the first half of 2008. Under the image-based CTS, the cheque images and the associated MICR particulars and not the physical instruments, will be submitted to the receiving bank through the CBB. The CTS will provide for earlier completion of the cheque clearing cycle with faster realization of funds. The cheque images will be used for debiting the drawer's accounts. Besides cheques, retail transactions are carried out mainly with cash and to a lesser extent with payment cards. At present, payment cards are used mainly for ATM cash withdrawals, although this situation is changing with the growth of the card base, especially debit cards. The CBB is the settlement bank for ATM transactions across the GCC. The ATM clearing is based on a Deferred Net Settlement (DNS) system. The Benefit Company in Bahrain receives and processes all the ATM transactions. The GCC net, a leased line network across the GCC countries, provides for the communication backbone for the transmission of all the ATM transactions and settlement related electronic messages.

Country	Retail payment system
Djibouti	No information available.
Egypt	The cheque is the primary cashless instrument used for corporate and retail payments in Egypt. It is used extensively both by corporations and individuals. In 2006 a total of 9.3 million interbank cheques (0.1 per capita) were processed with an aggregate value of USD 50,651 million. The CBE operates the cheque-clearing system through a system of three regional cheque clearinghouses. The main one is located in the capital city of Cairo and handles the majority of transactions (70-80 percent). There are 48 direct participants. Cheques are standardized. Each of the three clearinghouses settles independently. In the case of Cairo clearinghouse, which is the only one with automated processes at the moment, on the day of presentment (T) or even early during the next morning banks send an electronic message to the CBE with the details of each paper item. Bilateral balances are calculated by the system and at the end of the clearing session the information is sent to CBE's accounting department for settlement, which occurs by the end of T+1 via the FIN-Copy system. Funds are available at customer accounts normally on T+2. In the case of the other clearinghouses interbank settlement is achieved by T+2. Payment cards were introduced in recent years and the number of cards is still low. By the end of 2006 there were approximately 1 million credit cards and 2.8 million debit cards in use. A total of 2,000 ATM machines and almost 26,000 POS devices existed by 2006. At present, all transactions with card using the major brands like Visa and MasterCard must travel abroad for approval purposes. The CBE then calculates interbank obligations for local cards used in Egypt.
Iran	There were 6,800 ATMs and 127,000 POS in Iran in 2006. 20 million debit cards were in circulation, 300 million transactions were made for a total value of $25,770 million. Local brands dominate the marketplace for payment cards. Final settlement of net positions takes place through an RTGS system. There is a high level of interoperability for ATMs and POS; however, cards are generally not used as payment instruments, but mainly for cash withdrawals. As regards the cheque clearinghouse, net balances are calculated and settled once a day; multilateral net balances are also calculated. Final settlement of net positions takes place through the RTGS system and customer accounts are credited no later than T+2. A special procedure for large-value cheques is not in place. A specific risk management mechanism is in place and the central bank (or the operator) provides ultimately liquidity to the system. An ACH for direct credits and/or direct debits is not available in the country.
Iraq	Although established in 2006 with the participation of five banks, the ACH system was not fully activated until the beginning of 2009. Currently, 15 banks are scheduled to participate in the ACH and the CBI plans to install the system throughout all provinces. As with the RTGS system, the CBI will prepare the branches of participating banks for entry into the system train the banks `staff. As part of the IPS development, an automated cheque processing system is under

Country	Retail payment system
	development. Cheques have been standardized, with a MICR code line, and most of the banks have already produced their cheques in the required form. The plan is to implement full truncation of cheques with electronic cheque data and images forwarded for final presentment and settlement. Some legal changes are necessary in order to allow the paper to remain at the initial point of presentment for collection, where it can be archived, and destroyed after a period of time.
Jordan	The CBJ started to operate the new ECCH in July 2007. The new system processes electronically cheque images and data; the physical exchange of cheques is no longer necessary. Cheques processed through the ECCH are cleared and settled on the same day (T+0) at the interbank level. In the first quarter of 2008, the total number of cheques processed through the ECCH was 2.9 million with an aggregate gross value of 9.55 billion JOD. The number of payment cards is growing rapidly. There were approximately 2.64 million VISA cards in use at the end of 2007, while the total cards issued under MasterCard brand reached nearly 200,000. There are four POS networks in the country totaling nearly 24,500 POS terminals. The networks are operated by VISA Jordan as a unique acquirer of VISA transactions (the biggest network), International Cards Corporation for MasterCard, National Express for cards issued under their proprietary brand, and Jordan Ahli Bank for those MasterCard cards issued by them. These networks are not interoperable. Regarding ATMs, to facilitate interoperability among the various networks the banking community set up a national switch (JO-NET) operated by VISA Jordan since 1997. On a daily basis, the clearing of all cards payment transactions is executed independently by the different POS network operators on the basis of bilateral settlements. VISA Jordan runs the same process for the inter-bank ATM transactions performed through JO- NET.
Kuwait	The most used non-cash retail payment instruments are cheques (2.22 million transactions in 2008, for the total value of 11,388 million KD) and debit cards (the volume of payments by debit cards totaled 64.8 million in 2006, for a total value of 6,229 million KD). The cheque clearinghouse is operated by the Central Bank. Net balances are calculated and settled once a day. Multilateral net balances are calculated. Final settlement of net positions takes place through the RTGS system. Customer accounts are credited no later than T+2. There is a specific guarantee fund in place for the system, and the Central Bank provides ultimately liquidity to the system. Payment cards are not used extensively as payment instruments, for uses other than cash withdrawals at ATMs As for payment infrastructure, in 2008 there were 1026 ATMs in the country, and 19,039 POS terminals. Accessibility of non-cash payment instruments and services for individuals through commercial banks and postal system is adequate.
Lebanon	The most used cashless retail payment instruments in Lebanon are cheques (3.377 million transactions in 2008, for a total value of 14,091,392 million Lebanese Pounds) and payment cards (11.10 million transactions in 2008, for 2349000 million Lebanese Pounds value). The cheque clearinghouse (BDL Clearing Houses) is operated by the Central Bank of

Country	Retail payment system
	Lebanon. Cheques are standardized. Processing of cheques is automated, but physical exchange is required. Net balances are calculated and settled once a day. Multilateral net balances are calculated. Final settlement takes place in Central Bank money, but not through an RTGS. Customer accounts are credited no later than T+2. No specific risk management mechanism is in place. In the event a participant is unable to settle its debit position, an unwinding procedure would be initiated. Participants have access to information on their preliminary position in the clearinghouse during the day. There are three card processing centers. In 2008 there were 1140 ATMs in the country and three networks for ATMs/cash dispensers. In the same year, there were 38,231 POS terminals, and four networks. ATMs and POS terminals are interoperable. Accessibility of non-cash payment instruments and services for individuals through commercial banks and postal system is adequate.
Libya	No information available.
Morocco	The current retail payment instrument demand is cheque-based. In 2008, 27.2 million cheques were processed, for a total value of 903, 122 million MAD. Cheques are processed through Morocco's Remote Interbank Clearing System or SIMT. Cheques are standardized, processing of cheques is automated, and cheque truncation is used. Net balances are calculated and settled once a day, and final settlement takes place through an RTGS system. As for risk controls, participants have access to information on their preliminary position in the clearinghouse during the day; the operator provides ultimately liquidity to the system. At present, SIMT also processes on a national basis direct credits and direct debits. The processing cycle for direct credits and direct debits is similar to cheques. Net balances are calculated and settled at least once a day, and final settlement of net positions takes place through an RTGS system. In the area of payment cards, the Moroccan Banking Association decided to facilitate a national card switch to integrate the four previously non-interoperable ATM and POS networks in the country. CMI is the network switch: it provides technical processing, authorization, clearing, and payment. There are 3,629 ATMs (2008) in the country and 5 million cards with cash function (2008). Accessibility of non-cash payment instruments and services for individuals through commercial banks is adequate.
Oman	The most used non-cash retail payment instruments are cheques (1.87 million transactions, 0.7 per capita, in 2006, for a USD 6.98 billion value). The cheque clearinghouse is operated by the Central Bank of Oman. Cheques are standardized. Processing of cheques is automated, but physical exchange is required. Net balances are calculated and settled once a day. Multilateral net balances are calculated. Final settlement of net positions takes place through an RTGS system, and customer accounts are credited no later than T+2. No specific risk management mechanism is in place; in the event a participant is unable to settle its debit position, an unwinding procedure

Country	Retail payment system
	would be initiated The ACH is operated by the Central Bank of Oman. It allows the processing of both direct credits and direct debits. Non-bank institutions can be direct participants in the ACH. Net balances are calculated and settled at least once a day. Final settlement of net positions takes place through an RTGS system. No specific risk management mechanism is in place for the ACH. In the event a participant is unable to settle its debit position, an unwinding procedure would be initiated. Payment cards are not extensively used as payment instruments. In 2006 there were 537 ATMs in the country. ATMs terminals are interoperable. Accessibility of non-cash payment instruments and services for individuals through commercial banks is adequate.
Qatar	Cash and cheques are the major payment instruments for retail transactions. In 2006, 2.7 million cheques (3.3 per capita) were processed, for a total value of 40,459 million USD. To transfer funds to a party at another bank the only option besides cheques is for bank customers to request their bank to send an electronic funds transfer, which in practice would be done through the RTGS. However, as this system does not handle third-party information, the process is not very efficient or reliable, and is rarely used. The QCB recently modernized the cheque clearinghouse. Cheque truncation was introduced together with differentiated processes for large-value and low-value cheques. For low-value cheques, i.e. those below a 200,000 Riyals threshold, as soon as commercial banks receive cheques to be paid by other banks must scan them and send the image to the paying bank through the QCB. Low-value cheques are not settled in a gross basis but rather go into a processing queue. During the night, multilateral net balances are calculated and the QCB makes the corresponding debits/credits to the accounts commercial banks hold with it. The exchange of images allows commercial banks to know beforehand, how much they will have to pay/they will receive before the QCB actually executes the multilateral netting process and makes the corresponding postings to the banks' current accounts. There are no other risk management tools in place for the low-value cheque system. In the area of payment cards, the QCB introduced the National ATM and EFTPOS Switch (NAPS), which provides the switching for ATM and EFTPOS transactions made with locally issued debit cards. Through the NAPS, interbank balances resulting from ATM and EFTPOS transactions are calculated automatically every operating day and multilateral net positions are settled at the current accounts commercial banks hold at the QCB. There are separate clearance and settlement processes for ATMs, EFTPOS and also for the interbank fees resulting from the use of these systems. Regarding cards issued with international brands like Visa and MasterCard, the same ATMs or EFTPOS devices can be used, but in this case the transactions are re-directed to Visa and MasterCard international processing centers and interbank balances are settled through correspondent bank accounts abroad.
Saudi Arabia	The most used payment instruments are payment cards (83,132 million transactions, 3.5 per capita, in 2006, for a USD 8,367 million value), and cheques (6.2 million transactions, 0.3 per capita, in 2006, for a USD 101,759 million value). The cheque clearinghouse is operated by the SAMA. Cheques are standardized. Processing

Country	Retail payment system
	of cheques is automated, but physical exchange is required. Multilateral net balances are calculated. Final settlement of net positions takes place through an RTGS system. Customer accounts are credited no later than T+2. No special procedure for large-value cheques has been implemented. No separate ACH has been implemented, in part because the RTGS system handles both high & low value transactions. Payment cards are actually used extensively as payment instruments. Local brands dominate the marketplace for payment cards. In 2006 there were 6,079 ATMs and 52,784 POS in the country. ATMs and POS terminals are interoperable. Final settlement of net positions takes place through an RTGS system. Accessibility of non-cash payment instruments and services for individuals through commercial banks is considered adequate.
Syria	Cash is the main payment instrument used in the country and still accounts for the huge majority of retail payments. The CBS manages and operates a clearinghouse for cheques and credit transfer orders in local currency. The net positions resulting from the clearing are settled on the current accounts of the CBS. The clearinghouse, which is located in the main office of the CBS, clears cheques and credit transfer orders between the banks and branches established in Damascus. Consequently, the payments involving branches located outside Damascus are settled either directly on the current accounts of the CBS or cleared bilaterally. Recently, the commercial banks have started to issue debit cards and install ATMs and POS terminals. Although the number of cards in circulation remains low at around 200,000, it is expected to increase substantially in the coming years. Two separate ATMs and POS networks are being developed in the country. Card payment transactions are handled within the proprietary network switches of the two banks. These banks provide card payment services to other banks. This situation could evolve towards a fragmented situation where the two existing networks could become interoperable and, at the same time, a single national switch could be developed under the auspices of the CBS.
Tunisia	Cheques are the most used payment instruments in Tunisia.
United Arab Emirates	Cheques are the most used payment instruments in the UAE (23 million transactions, 5 per capita, in 2006, for a total value of 187,297 million USD). The cheque clearinghouse is operated by the Central Bank. Cheques are standardized. Processing of cheques is automated, but physical exchange is required. No special procedure for large-value cheques has been implemented. Net balances are calculated and settled once a day. Multilateral net balances are calculated. Final settlement of net positions takes place through an RTGS system. Customer accounts are credited no later than T+2. In the event a participant is unable to settle its debit position, an unwinding procedure would be initiated. Participants have access to information on their preliminary position in the clearinghouse during the day. There are limits in place to protect netting systems from

Country	Retail payment system
	significant exposures. There is a specific guarantee fund in place for the system, although if necessary the central bank would ultimately provide liquidity to the system. Payment cards are actually used extensively as payment instruments. Local brands dominate the marketplace for payment cards. In 2006 there were 1,603 ATMs and 29,770 POS in the country. ATMs terminals are interoperable. Final settlement of net positions takes place through an RTGS system. Accessibility of non-cash payment instruments and services for individuals through commercial banks, non-bank financial institutions and the postal system is considered inadequate.
West Bank and Gaza	The payment environment in Palestine is predominantly paper-based, with cash remaining an important payment medium for the general public. The use of non-cash payment instruments is growing, but remains relatively modest and is dominated by cheques and paper-based direct transfer orders. In addition to cheques, paper-based money orders are widely used to settle long-term obligations such as house rental fees, mortgages, utility bills, life-insurance premiums, car monthly installments, payrolls, etc. This medium of payment is slow and costly, particularly when money is being transferred from an account at one bank to an account at another bank, or from the bank's headquarters to the various branches of the same bank, as an inter-bank communication database is lacking and intra-bank systems are inadequate in some cases, particularly in the smaller banks. The use of electronic payment instruments such as intra-bank direct credits and debits is increasing. The larger banks operate their own ATM networks, and there are about 160 ATMs installed (as of June 2007). The PMA requires all new bank branches to be equipped with ATMs, so the number of installed machines is growing. The ATM networks are not interconnected and so each card can only be used at an ATM belonging to its issuing bank. Some banks are starting to introduce Visa Electron cards, which will be able to be used in all ATMs and POS terminals. At the end of 2006 the number of ATM cards issued totaled 229,593. POS usage is at a very early stage, and so far only the Bank of Palestine, which is the largest Palestinian-owned bank, has established a POS network. This covers all supermarkets and large stores in the Ramallah area (approximately 450 merchants), with somewhat over 1,500 terminals installed and 25,471 debit cards issued by the end of 2006. The Bank of Palestine is also the only bank which issues its own credit cards (branded Visa and MasterCard). These are integrated with its POS operation, with in-house processing of credit card transactions.
Yemen	Cash is still the major payment instrument for individuals, while cheques are primarily used in commercial transactions, as well as for some government and inter-bank payments. In 2006, 665,973 cheques were processed, for a total value of 7,538 million USD. The CBY manually operates the cheque-clearing system. There are five cheque clearing houses. At the beginning of 2004, the CBY set up a separate clearing session for cheques issued in USD on local banks, 3 days a week. There are two sessions on each settlement day: the first for normal clearing and settlement, and the second for the clearing and settlement of returned cheques (which across the whole country account for some 2.8percent by volume and 3.8percent by value of all cheques). Multilateral net settlement takes place across the current accounts of the banks at the CBY. Funds are available to the

Country	Retail payment system
	customer generally by T+3. However, the clearing of cross-governorates cheques, which amount to 2.5 percent of total cheques, is still slow since the use of truncation has not been introduced, discouraging the use of cheques to make payments between governorates. Cross-border settlement can add 3 days to the settlement cycle. Payment cards were introduced by the banking sector in recent years and the number of cards is still low. By end-2006, there were 174,742 cards (debit and credit) in use, 5 ATM networks, a total of 163 ATM machines and 1,555 POS devices.

Securities settlement systems

Country	Securities settlement system
Algeria	The securities market is at a nascent stage, characterized by only a few or none primary issuances, and few or none secondary market trades. Different stock exchanges are currently operating in Algeria, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD). *Central Bank-operated securities registry or CSD* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. The CSD has a real-time interface with the RTGS. Model 2 DVP is used. Only commercial banks are direct participants in the CSD. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 3 DVP is used. CSD has a real-time interface with the RTGS. Only brokers-dealers are direct participants in the CSD. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist.
Bahrain	
Djibouti	There is no stock exchange currently operating in Djibouti.
Egypt	Different stock exchanges are currently operating in Egypt, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD). *Central Bank-operated securities registry or CSD* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 1 DVP is used. Only commercial banks are direct participants in the CSD. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures are in place for periodical data back-ups. The CSD operator has a formal business continuity plan. A fully equipped alternate processing site does not exist. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 2 DVP is used. The CSD does not have an interface with the RTGS, but central bank money is used for settlement. A securities lending mechanism has been implemented. Both brokers/dealers and other financial institutions (i.e. commercial banks)

Country	Securities settlement system
	can be direct participants. Beneficial owners are identified at the individual level in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist.
Iran	The securities market is at a nascent stage, characterized by only a few or none primary issuances, and few or none secondary market trades. One or more stock exchanges are currently operating in Iran. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is not used for all securities trades. Only brokers-dealers are direct participants in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan do not exist.
Iraq	No information available.
Jordan	Different stock exchanges are currently operating in Jordan, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD). *Central Bank-operated securities registry or CSD* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 1 DVP is used. Only commercial banks are direct participants in the CSD. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 2 DVP is used. Beneficial owners are identified at the individual level in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site does not exist. The operator has a formal business continuity plan.
Kuwait	Different stock exchanges are currently operating in Kuwait, each one handling only certain types of securities. *Central Bank-operated securities registry or CSD* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is not used for all securities trades. The CSD has a real-time interface with the RTGS. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is not regularly used to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 1 DVP is used. Only brokers-dealers are direct participants in the CSD. Beneficial owners are identified at the individual level in the CSD. Routine procedures are

Country	Securities settlement system
	in place for periodical data back-ups. A fully equipped alternate processing site exists. The operator does not have and a formal business continuity plan.
Lebanon	The securities market is at a nascent stage, characterized by only a few or none primary issuances, and few or none secondary market trades. Different stock exchanges are currently operating in Lebanon, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD). *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is regularly used to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 3 DVP is used. The CSD does not have an interface with the RTGS, but central bank money is used for settlement. Both brokers/dealers and other financial institutions (i.e. commercial banks) can be direct participants. Beneficial owners are identified at the individual level in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan do not exist.
Libya	No information available.
Morocco	One or more stock exchanges are currently operating in Morocco. The great majority of negotiable securities in the country are immobilized or dematerialized in one securities depositories (CSD), handling all type of securities. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is regularly used to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 2 DVP is used. The CSD does not have an interface with the RTGS, but central bank money is used for settlement. A securities lending mechanism has been implemented. The Stock exchange acts as central counterparty. Both brokers/dealers and other financial institutions (i.e. commercial banks) can be direct participants. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures for periodical data back-ups are not in place. A fully equipped alternate processing site and a formal business continuity plan do not exist.
Oman	The securities market is at a nascent stage, characterized by only a few or none primary issuances, and few or none secondary market trades. Different stock exchanges are currently operating in Oman, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD). *Central Bank-operated securities registry or CSD* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is not used for all securities trades. Beneficial owners are identified at the individual level in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site exists. The CSD operator does not have a formal business continuity plan.
Qatar	The securities market is at a nascent stage, characterized by only a few or none primary issuances, and few or none secondary market trades. Different stock exchanges are currently operating in Qatar, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or

Country	Securities settlement system
	more securities depositories (CSD). *Central Bank-operated securities registry or CSD* The CSD is used regularly to facilitate ownership transfers stemming from secondary market transactions. Only commercial banks are direct participants in the CSD. Beneficial owners cannot be identified at the individual level in the CSD, but direct participants are required to segregate their own holdings from those of their customers. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan do not exist.
Saudi Arabia	Different stock exchanges are currently operating in Saudi Arabia, each one handling only certain types of securities. The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD). *Central Bank-operated securities registry or CSD* A rolling settlement cycle of T+3 or shorter is not used for all securities trades. Model 2 DVP is used. Only commercial banks are direct participants in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist. *CSD and SSS operated by the Stock Exchange or other private sector entity* The CSD is regularly used to facilitate ownership transfers stemming from secondary market transactions. A rolling settlement cycle of T+3 or shorter is used for all securities trades. Model 2 DVP is used. Only brokers-dealers are direct participants in the CSD. Beneficial owners are identified at the individual level in the CSD. Routine procedures are in place for periodical data back-ups. A fully equipped alternate processing site and a formal business continuity plan exist.
Syria	There is no central securities depository or a securities settlement system in Syria.
Tunisia	The system of clearing and settlement of securities is implemented by STICODEVAM and is consistent with best practices. Securities are dematerialized and a fully automatic accounting system is in place. A rolling settlement cycle of T+4 is used for all securities trades. Delivery of securities versus payment happens on the same day. To the extent that transactions are settled directly on the books of the Central Bank, credit and liquidity risks are passed onto the participants in the clearing and settlement process at the Central Bank.
United Arab Emirates	There are different stock exchanges operating in the UAE. Some of them handle all types of securities; some others handle only certain types of securities.
West Bank and Gaza	No information available.
Yemen	There is no stock exchange currently operating in Yemen.

Cross-border payments and remittances

Country	Cross-border payments and remittances
Algeria	In 2009 Algeria received USD 2,193 million remittance inflows, equals 1.3% of its GDP. All RSPs have to be licensed by a competent authority, but are not subject to specific safety and efficiency requirements related to the services they provide. All RSPs need to comply with anti-money laundering (AML) regulations.
Bahrain	In 2008 USD 1,774 were sent from Bahrain.
Djibouti	In 2009 Djibouti received USD 30 million remittance inflows, equals 3.5% of its GDP.
Egypt	In 2009 Egypt received USD 7,150 million remittance inflows, equals 5.3% of its GDP. All RSPs have to be licensed by a competent authority, but are not subject to specific safety and efficiency requirements related to the services they provide.
Iran	In 2009 Iran received USD 1,072 million remittance inflows, equals 0.3% of its GDP. All RSPs have to be registered and licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide and to anti-money laundering (AML) regulations.
Iraq	In 2008 Iraq received USD 3 million remittance inflows.
Jordan	In 2009 Jordan received USD 3,604 million remittance inflows, equals 19% of its GDP. All RSPs have to be licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide and to anti-money laundering (AML) regulations.
Kuwait	In 2008 USD 559 were sent from Kuwait. RSPs do not need to be registered nor do they need a license by a competent authority. RSPs are only subject to anti-money laundering (AML) regulations.
Lebanon	In 2009 Lebanon received USD 7,000 million remittance inflows, equals 25% of its GDP. In 2008 USD 4,028 were sent from Lebanon. All RSPs have to be registered and licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide.
Libya	In 2009 Libya received USD 16 million remittance inflows, a percentage of its GPD close to zero.

Country	Cross-border payments and remittances
Morocco	In 2009 Morocco received USD 6,264 million remittance inflows, equals 8% of its GDP. All RSPs have to be licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide and to anti-money laundering (AML) regulations.
Oman	In 2009 Oman received USD 38 million remittance inflows. In 2008 USD 5,181 were sent from Oman. All RSPs have to be registered and licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide and to anti-money laundering (AML) regulations.
Qatar	Qatar is one of the most relevant remittance sending countries in the region. Remittances are channeled mainly through non-bank money transfer operators (MTOs). Immigration to Qatar has been very high in the last decade, thus the increasing trend of remittances is expected to continue. All RSPs have to be registered and licensed by a competent authority. RSPs are only subject to anti-money laundering (AML) regulations.
Saudi Arabia	Saudi Arabia is one of the main remittance sending countries worldwide. In 2008 USD 21,696 were sent from Saudi Arabia. All RSPs have to be registered and licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide.
Syria	In 2009 Syria received USD 638 million remittance inflows, equals 1.5% of its GDP.
Tunisia	In 2009 Tunisia received USD 1,966 million remittance inflows, equals 4.9% of its GDP.
United Arab Emirates	The UAE are among the main remittance sending countries worldwide. The market for remittances seems to work well in the UAE. It is competitive, there is a wide range of licensed operators, prices are low by international standards and there is reasonable transparency of pricing and terms. With effect from 1 May 2009, the Electronic Wage Payment System will enable banks and MTOs to introduce new services for corporate customers and to provide more convenient and cheaper remittance processing. AML/CFT compliance appears to be high. Capital requirements (AED 2 million plus an additional 10% for each additional branch opened) and governance rules for MTOs are appropriate. However, there is no consumer protection act in the UAE and there are no “conduct of business” rules for retail financial services. As regards the legal environment for remittances, there are three matters that the team would urge the CB of the UAE to consider. Firstly, further steps should be taken to bring unregistered hawaladars into the formal system. Secondly, the Central Bank should keep a careful watch over the MOU between MTOs that sets minimum prices for remittance transfers. The minimum figure (AED 15) is low at present, but in the future the MOU

Country	Cross-border payments and remittances
	could limit competition in the market. Thirdly, the exclusivity agreements imposed by Western Union and MoneyGram are anti-competitive and should be banned. Although these international operators have only a small market share, they are considerably more expensive than other channels. The mission team suspects that many poorer migrants may have to use these operators because they need a Cash to Cash service or because their beneficiaries live in rural areas. The higher charges may be being paid by those least able to afford them.
West Bank and Gaza	In 2009 USD 7,000 million remittance inflows were received in the West Bank and Gaza.
Yemen	In 2009 Yemen received USD 1,403 million remittance inflows, equals 5.3% of its GDP. All RSPs have to be registered and licensed by a competent authority. All RSPs are subject to specific safety and efficiency requirements related to the services they provide and to anti-money laundering (AML) regulations.

Oversight and cooperation

Country	Oversight and cooperation
Algeria	The Bank of Algeria's payment system oversight function has been established and is performed regularly and in an on-going basis. There is a specific department within the Bank of Algeria responsible for payment system oversight. Payment system oversight is performed over all relevant payment systems in the country regardless of whom the operator of such systems is. The main oversight instruments used are: monitoring; dialogue and moral suasion; production and publication of statistics and other payment system reports; issue of regulations and application of sanctions; on-site inspections. There is no significant cooperation with other relevant authorities (e.g. bank supervisors, securities regulators) in the context of payment system oversight activities. A formal National Payments Council is in place.
Bahrain	The CBB has responsibility for the oversight of the payment system. Although the oversight is performed by the same organization as the operator, there is separation of duties from the payment operator. The objectives of oversight activities include ensuring a smooth, efficient and secure functioning of the national payment systems.
Djibouti	No information available.
Egypt	The legal basis for the oversight competence of the CBE is general enough to potentially cover Securities Clearing and Settlement Systems. However, the oversight function has still to be actually developed. The securities regulator and supervisor in Egypt is the CMA. The CMA is in charge of licensing the CSD and all categories of its members. It is entitled to verify the compliance of MCSD with legal and regulatory provisions on-site and off-site. The securities regulator can impose different types of penalties.
Iran	The Central Bank's payment system oversight function has been established and it is performed regularly and in an on-going basis. There is a specific unit or department within the Central Bank responsible for payment system oversight. The payment system oversight function is segregated from payment system operational tasks either through organizational means or via independent reporting lines. Oversight objectives include the safety and efficiency of relevant payment systems, as well as the pursuit of a higher level of competitiveness among system participants, avoiding of collusive practices, consumer protection, and other specific issues. Payment system oversight is performed over all relevant payment systems in the country regardless of whom the operator of such systems is. Instruments used for the payment systems oversight include production and publication of

Country	Oversight and cooperation
	statistics and other payment system reports, issue of regulations and application of sanctions, on-site inspections. Cooperation between relevant authorities occurs mostly in an informal/*ad-hoc* basis. The Central Bank consults stakeholders on particular operational issues. Sometimes this includes the creation of an ad-hoc task force or working group.
Iraq	Among the primary objectives of the CBI is the promotion of sustainable growth and prosperity based in part on the development of a stable and competitive market-based financial system. To help achieve this objective, the CBI has identified as one of its principal functions the establishment, oversight and promotion of a sound and efficient payment system. To date the focus of oversight has been on the establishment and promotion of the critical architecture for the national payment system.
Jordan	The CBJ does not perform the payment system oversight function formally, but rather on an ad-hoc basis. There is no primary or secondary legislation defining the scope, objectives and modus operandi of the oversight function. The available instruments are regulation and moral suasion in the context of central bank's activities. There are three cooperation arrangements on payment systems in Jordan, notably the National Payments Council (NPC), the Clearing House Committee (CHC) and the Association of Banks in Jordan (ABJ). While the NPC has only a limited number of members all licensed banks are a member of the CHC. There is no formal and structured cooperation framework in place between other regulatory authorities (i.e. the JSC) on payment system issues.
Kuwait	A specific department within the Bank of Kuwait is responsible for payment system oversight. Objectives of payment system oversight only include the safety and efficiency of relevant payment systems. Payment system oversight is performed over all systemically important funds transfer systems and over all relevant payment systems in the country as long as such systems are operated by commercial banks. The main oversight instruments used are: monitoring; dialogue and moral suasion, on-site inspections. There is no significant cooperation with other relevant authorities (e.g. bank supervisors, securities regulators) in the context of payment system oversight activities, or it occurs mostly in an informal/*ad-hoc* basis
Lebanon	There is a specific department within the Central Bank responsible for payment system. Objectives only include the safety and efficiency of relevant payment systems. Payment system oversight is performed only over central bank-operated systems, mainly through the issue of regulations and application of sanctions. Although not formalized, the Central Bank of Lebanon holds regular meetings with stakeholders senior levels (almost exclusively from bankers' association) to discuss strategic issues for the payment system.

Country	Oversight and cooperation
Libya	Central Bank has responsibility for the oversight of the national payment systems (both large-value and low-value), and makes sure that these systems operate according to standards and governing policy.
Morocco	The oversight function over the national payment systems is performed by a specific department of the Central Bank, is segregated from payment system operational tasks either through organizational means or via independent reporting lines. The Central Bank has set down its objectives in carrying out the payment system oversight function in a policy document; these objectives only include the safety and efficiency of relevant payment systems. Oversight function is performed over all relevant payment systems in the country regardless of who the operator of such systems is, manly through dialogue and moral suasion. Cooperation with other relevant authorities occurs mostly in an informal/*ad-hoc* basis. Although not formalized, the Central Bank holds regular meetings with stakeholders senior levels (almost exclusively from the bankers' association) to discuss strategic issues for the payment system.
Oman	The Central Bank of Oman's payment system oversight function has been established and is performed regularly and in an on-going basis. There is a specific department within the Central Bank responsible for payment system oversight. The payment system oversight function is segregated from payment system operational tasks either through organizational means or via independent reporting lines The Central Bank has set down its objectives in carrying out the payment system oversight function in a policy document; these objectives only include the safety and efficiency of relevant payment systems. Oversight function is performed over all relevant payment systems in the country regardless of who the operator of such systems is, manly through on-site inspections and monitoring. Cooperation with other relevant authorities occurs mostly in an informal/*ad-hoc* basis. It mostly involves regular meetings and exchange of opinions and views. Although not formalized, the Central Bank holds regular meetings with stakeholders' senior levels to discuss strategic issues for the payment system. The Central Bank also consults stakeholders on particular operational issues; sometimes this may include the creation of an ad-hoc task force or working group.
Qatar	The QCB overall powers for payment system oversight are explicitly stated in various articles of the QCB Law of 2006, mainly articles 5, 12, and 118. Such powers are broad, allowing the QCB to license, regulate and oversee any payment system. Payment system oversight is performed only over central bank-operated system, mostly through monitoring. In the area of cooperative oversight, the QCB has been working actively in building and enhancing existing cooperation mechanisms with other regulators in Qatar (i.e. Qatar Financial Markets Regulatory Authority), and with GCC and other Arab central banks (e.g. through the Arab Payment System Committee).

Country	Oversight and cooperation
Saudi Arabia	The SAMA's payment system oversight function has been established and is performed regularly. There is a specific unit within the SAMA responsible for payment system oversight. The payment system oversight function is segregated from payment system operational tasks either through organizational means or via independent reporting lines. Payment system oversight is performed over all relevant payment systems in the country regardless of whom the operator of such systems is. The main oversight instruments used are: monitoring; dialogue and moral suasion; on-site inspections. Cooperation with other relevant authorities involves mostly regular meetings and exchange of opinions and views. Although not formalized, the SAMA holds regular meetings with stakeholders' senior levels to discuss strategic issues for the payment system. The SAMA consults stakeholders on particular operational issues, sporadically and/or mostly on a bilateral basis. Sometimes this includes the creation of an ad-hoc task force or working group.
Syria	The CBS payment system oversight function has not been formally established and there is not a specific unit or department within the CBS responsible for payment system oversight.
Tunisia	No information available.
United Arab Emirates	The Central Bank's payment system oversight function has been established and it oversees all relevant payment systems in the country. There is a specific unit within the Central Bank responsible for payment system oversight. The payment system oversight function is segregated from payment system operational tasks either through organizational means or via independent reporting lines. The main oversight instruments used are: issue of regulations and application of sanctions; on-site inspections; monitoring. Cooperation with other relevant authorities involves mostly regular meetings and exchange of opinions and views. The Central Bank consults stakeholders on particular operational issues. Sometimes this includes the creation of an ad-hoc task force or working group.
West Bank and Gaza	A payments steering committee has been formed by the PMA. Its members are drawn from the PMA (with representatives from the Payments, IT, Banking Supervision, Clearing and Banking and Investment Departments), the banking community (with representatives from six banks) and the Association of Banks in Palestine.
Yemen	Oversight powers are to be found in the Payment System Law. Although not formalized, the CBY holds regular meetings with stakeholders' senior level to discuss strategic issues for the payments system.