

**Financial Infrastructure Policy and Research Series  
Financial and Private Sector Development Vice Presidency  
The World Bank Group**

**PAYMENT SYSTEMS WORLDWIDE  
A SNAPSHOT**

**Outcomes of the Global Payment Systems Survey 2008**

**APPENDIX**

**Country-by-Country Answers**

**PAYMENT SYSTEMS DEVELOPMENT GROUP**

**Payment Systems Policy and Research Series  
Financial and Private Sector Development Vice Presidency  
The World Bank Group**

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**LEGAL FRAMEWORK**

**Table I.1  
Pieces of legislation with direct/explicit references to payment systems**

	Central Bank Law	Banking Law	Payment Systems Law	Securities Markets Law	Civil Code/commercial code	Central Bank Regulations having the power of law	Other
Afghanistan	X	X	X				
Albania	X	X			X	X	
Algeria		X				X	
Angola	X	X	X	X		X	
Argentina	X	X		X	X	X	X
Armenia	X	X	X	X	X	X	X <sup>1</sup>
Australia	X		X				
Austria	X	X					X
Azerbaijan	X	X			X		
Bahamas	X						
BCEAO	X		X				X
Belarus	X	X			X	X	X
Belgium	X		X	X	X		
Belize							X <sup>2</sup>
Bhutan	X					X	
Bolivia	X	X		X			
Bosnia - Herzegovina	X	X	X	X		X	
Botswana	X		X	X			X
Brazil	X	X	X	X		X	X <sup>3</sup>
Bulgaria	X	X	X	X		X	
Cambodia	X	X	X			X	
Canada	X	X	X	X	<sup>4</sup>	X	X
Cape Verde	X		X	X		X	X
Chile	X	X		X	X	X	
China	X					X	
Colombia	X	X		X			X
Costa Rica	X						X
Croatia	X	X	X	X	X	X	<sup>5</sup>
Cyprus	X			X		X	X
Czech Republic	X	X	X	X	X	X <sup>6</sup>	
DR of Congo	X	X			X	X	
Denmark				X			
Dominican Republic	X					X	X <sup>7</sup>
ECCB	X	X	X	X			
Egypt	X	X		X	X	X	X
El Salvador	X	X		X		X	
Estonia	X	X		X		X	X <sup>8</sup>
Fiji				X		X	
Finland	X		X		X		
France	X				X		<sup>9</sup>
Georgia	X					X	X
Germany	X	X			X		

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	Central Bank Law	Banking Law	Payment Systems Law	Securities Markets Law	Civil Code/commercial code	Central Bank Regulations having the power of law	Other
Ghana	X	X	X	X			
Greece	X		X			X	X
Guatemala	X	X		X	X	X	
Guyana	X			X		X	
Honduras	X			X		X	X
Hong Kong	X	X	X	X	X	X	
Hungary	X	X		X <sup>10</sup>		X	
Iceland	X	X	X	X	X	X	
India	X <sup>11</sup>	X	<sup>12</sup>	X	X	X	X
Indonesia	X	X		X	X	X	
Iran							X <sup>13</sup>
Ireland	X						
Israel	X		X	X			X <sup>14</sup>
Italy		X		X			X
Jamaica							
Japan	X	X		X	X		
Jordan	X	X	X	X	X	X	
Kazakhstan	X	X	X				X <sup>15</sup>
Kenya	X						X
Kuwait	X					X	
Kyrgyz Republic	X	X	X	X	X	X	X
Latvia	X	X				X	X
Lebanon	X <sup>16</sup>					X	X <sup>17</sup>
Lesotho	X					X	
Lithuania	X		X	X			
Luxembourg	X	X <sup>18</sup>	X <sup>19</sup>				X <sup>20</sup>
Macao		X					
Macedonia	X		X	X	X	X	X <sup>21</sup>
Madagascar		X				X	
Malaysia	X		X				X <sup>22</sup>
Malta	X	X		X		X	
Mauritius	X	X		X	X <sup>23</sup>		X
Mexico	X	X	X	X		X	X
Moldova	X	X		X	X	X	X
Mongolia	X	X		X	X	X	
Morocco	X	X		X	X	X	X
Mozambique	X	X	X	X	X	X	
Myanmar							X <sup>24</sup>
Namibia	X		X				
Nepal	X	X				X	
Netherlands	X			X	X		
Netherlands Antilles	X					X	
New Zealand	X			X	X		
Nicaragua	X					X	
Norway	X		X				X
Oman		X			X	X	
Pakistan	X	X	X			X	X
Paraguay	X						

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	Central Bank Law	Banking Law	Payment Systems Law	Securities Markets Law	Civil Code/commercial code	Central Bank Regulations having the power of law	Other
Peru	X			X	X		
Philippines				X			
Poland	X	X					X
Portugal	X		X <sup>25</sup>	X		X	X
Qatar	X		X	X			
Romania	X	X		X	X		
Russia	X	X			X	X <sup>26</sup>	
Rwanda	X					X	
San Marino	X		X				X
Saudi Arabia	X	X	X	X	X	X	
Serbia	X		X	X		X	
Singapore	X	X	X		X		X
Slovak Republic	X	X	X	X	X	X	X
Slovenia	X	X	X	X			X
Solomon Islands	X	X		X		X	X
South Africa	X		X	X	X	X	
Spain	X	X	X	X		X	X
Sri Lanka	X		X			X	
Sudan	X	X		X	X	X	X
Sweden	X	X	X				
Swaziland	X					X	
Switzerland	X	X			X	X	
Taiwan	X	X				X	X
Tajikistan	X	X			X		
Tanzania	X	X				X	X
Thailand	X			X	X	X	X <sup>27</sup>
Trinidad and Tobago	X	X		X	X	X	
Turkey	X	X		X		X	X
Uganda	X						
Ukraine	X		X			X	
United Arab Emirates	X				X	X	
United Kingdom				X			X
USA	X	X	X	X	X	X	X
Uruguay	X					X	
Venezuela	X					X	
Yemen	X		X			X	
Zambia	X	X	X			X	
Zimbabwe	X	X	X	X	X	X	X

- 1 Law on Fund Transfers by Credit Payment Orders.
- 2 Central Bank Act section 49/Clearing House Agreement.
- 3 Resolutions issued by "Conselho Monetário Nacional", which is responsible for the regulation of the national financial system.
- 4 No specific reference in general law but applicable law.
- 5 Consumer Protection Law.
- 6 Ley No.126-02 de Comercio Electrónico y Firmas Digitales.
- 7 Law of Obligations Act, Law of Property Act, Bankruptcy Act, Estonian Central Register of Securities Act, Insurance Activities Act, regulations of the Minister of Finance concerning securities settlement.
- 8 With respect to securities settlement systems.
- 9 Monetary and Financial Code.
- 10 Financial institutions.

- 11 The Government has granted the authority to the Central Bank to design issue and enforce regulations on Payment Systems.
- 12 A separate legislation (already passed by the Parliament) when enacted would provide the central bank explicit powers to regulate / oversee payment and settlement systems.
- 13 GENERAL NOTE: With effect from 1 May 2003, the Central Bank of Ireland, which came into being in 1943, was re-structured and re-named as the Central Bank and Financial Services Authority of Ireland (CBFSAI) when the Irish Financial Services Regulatory Authority (the Financial Regulator) was established as the single regulator for all financial services in Ireland. The re-structured entity was formally established on 1 May 2003. The CBFSAI carries out all of the activities formerly carried out by the Central Bank of Ireland, together with additional regulatory and consumer protection functions for the financial services sector. The CBFSAI has two component entities:
  - the Central Bank, which has responsibility for monetary policy functions, financial stability, economic analysis, currency and payment systems, investment of foreign and domestic assets and the provision of central services; and
  - the Irish Financial Services Regulatory Authority (Financial Regulator), an autonomous entity within the CBFSAI with responsibility for financial sector regulation and consumer protection.
- 14 RTGS agreement with the participants.
- 15 Instructions and rules, which established by the National Bank of Kazakhstan.
- 16 Code of money and credit.
- 17 Law n. 133.
- 18 Financial sector law.
- 19 Included in the Financial Sector law.
- 20 Central bank circulars.
- 21 Law on data in electronic form and electronic signature, Law on enforced collection, Law on bankruptcy.
- 22 Rules and Guidelines.
- 23 The Code Civil Mauricien.
- 24 Financial Institution of Myanmar.
- 25 There is no Payment Systems Law. What exists is a collection of various Decree-Laws and other Legal Documents ruling specific issues.
- 26 Fulfillment of requirements of normative acts of the Bank of Russia is obligatory for all credit organizations; in this connection the specified normative acts are understood as laws in the given context.
- 27 The Electronic Transaction Act, B.E. 2544 (2001) provides the legal recognition of electronic data messages. The Royal Decree Regulating Electronic Payment Service Business, B.E.

**LEGAL FRAMEWORK**

**Table I.2**  
**Do legal provisions cover the following specific issues?**

	Clarity of timing of final settlement especially when there is an insolvency	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
Afghanistan	X					
Albania	X	X		X	X	X
Algeria	X	X	X	X	X	X
Angola	X	X	X	X	X	X
Argentina	X	X	X	X		
Armenia	X	X	X	X	X	X
Australia	X	X	X	X	X	X
Austria	X	X	X	X	X	X
Azerbaijan	X	X	X	X	X	X
Bahamas			X			
BCEAO	X	X	X	X	X	
Belarus	X	X	X	X		
Belgium	X		X	X	X	X
Belize			X			
Bhutan		X				
Bolivia		X	X		X	
Bosnia-Herzegovina	X	X		X		
Botswana	X	X	X	X	X	X
Brazil	X	X	X	X	X	X
Bulgaria	X	X	X	X		
Cambodia						
Canada	X	X	X	X	X	X
Cape Verde	X	X	X			
Chile	X	X	X	X	X	X
China	X	X				
Colombia	X	X	X	X	X	X
Costa Rica				X		
Croatia		X	X			
Cyprus	X	X	X	X	X	X
Czech Republic	X	X	X	X	X	X
DR of Congo		X				
Denmark	X	X	X	X	X	X
Dominican Republic	X	X	X	X	X	
ECCB	X	X	X		X	X
Egypt			X		X	X
El Salvador	X	X	X			X
Estonia	X	X	X	X	X	X
Fiji		X	X		X	
Finland	X	X	X	X	X	X
France	X	X	X	X	X	X

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	Clarity of timing of final settlement especially when there is an insolvency	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
Georgia	X		X		X	X
Germany	X	X	X	X	X	X
Ghana	X	X	X		X	X
Greece	X	X	X	X	X	X
Guatemala		X	X			
Guyana						
Honduras						
Hong Kong	X	X	X	X	X	X
Hungary	X	X	X	X	X	X
Iceland	X	X	X	X	X	X
India	<sup>1</sup>	<sup>2</sup>	X		<sup>3</sup>	<sup>4</sup>
Indonesia	X	X		X	X	X
Iran			X			
Ireland	X		X	X	X	X
Israel	X	X	X	X <sup>5</sup>	X	X
Italy	X	X	X	X	X	X
Jamaica			X			
Japan			X	X	X	X
Jordan		X	X	X	X	X
Kazakhstan	X	X	X	X	X	
Kenya			X			
Kuwait		X	X	X		
Kyrgyz Republic	X	X	X		X	X
Latvia	X	X	X	X	X	X
Lebanon					X	X
Lesotho	X	X		X		
Lithuania	X	X	X	X	X	X
Luxembourg	X	X	X	X	X	X
Macao			X			
Macedonia	X	X	X	X		
Madagascar						
Malaysia	X	X	X			
Malta	X	X		X	X	X
Mauritius	X <sup>6</sup>	X <sup>7</sup>	X		X <sup>8</sup>	X <sup>9</sup>
Mexico	X	X	X	X		X
Moldova	X	X	X	X	X	X
Mongolia	X	X	X	X	X	
Morocco		X	X		X	
Mozambique	X	X	X	X		X
Myanmar						
Namibia	X	X		X	X	X
Nepal	X	X	X		X	X
Netherlands	X	X	X	X	X	X
Netherlands Antilles			X			
New Zealand	X <sup>10</sup>	X	X	X	X	X

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	Clarity of timing of final settlement especially when there is an insolvency	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
Nicaragua	X		X	X		
Norway	X	X	X	X	X	X
Oman <sup>11</sup>	X	X			X	X
Pakistan	X	X	X	X	X	X
Paraguay						
Peru	X		X	X	X	
Philippines						
Poland	X	X	X	X		X
Portugal	X		X	X		X
Qatar	X	X				
Romania	X	X	X	X	X	X
Russia		X	X	X	X	
Rwanda		X	X			
San Marino	X					
Saudi Arabia	X		X	X	X	X
Serbia	X	X	X	X	X	X
Singapore	X	X	X	X		
Slovak Republic	X	X	X	X	X	X
Slovenia	X	X	X	X	X	X
Solomon Islands	X					X
South Africa	X	X		X	X	X
Spain	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X
Sudan	X	X	X		X	X
Sweden	X	X	X	X	X	X
Swaziland					X	X
Switzerland	X	X	X	X	X	X
Taiwan	X		X	X		
Tajikistan	X		X		X	
Tanzania			X			
Thailand		X	X	X	X	X
Trinidad and Tobago			X		X	
Turkey	X	X	X	X	X	X
Uganda <sup>12</sup>						
Ukraine	X		X		X	X
United Arab Emirates	X					
United Kingdom	X	X	X	X	X	X <sup>13</sup>
USA	X	X	X	X	X	X
Uruguay			X			
Venezuela			X			
Yemen			X			
Zambia	X	X	X	X	X	X
Zimbabwe	X	X		X	X	

1 Has been defined in the Payment and Settlement Systems Bill passed by the Parliament.

- 2 Set off of mutual claims bilaterally is recognized. However, there are no specific legal provisions covering multilateral netting arrangements. Bilateral netting is presently recognized by the India Contract Act. The Payment and Settlement Systems Bill which has been passed by the Parliament gives legal recognition to multilateral netting which is the basis of DNS system which is used for cheque clearing and retail electronic systems.
- 3 Security interests under collateral arrangements are generally enforceable through a Court of law. However, certain security interests in favor of banks and financial institutions can be enforced even outside the Court under the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002. However, there are no specific legal provisions on enforceability of security interests under repo agreements.
- 4 The Payment and Settlement Systems Bill passed by the Parliament specifically provides for appropriation of collateral (by system provider) pledged by participants in payment system in case of default.
- 5 The zero hour rule exist but not relevant to the RTGS transaction.
- 6 So far, clarity of timing of final settlement is done through the law of contract. However, provision is being made by statute in the Insolvency Bill.
- 7 This is done by way of contract.
- 8 This is done by way of contract.
- 9 This is done by way of contract.
- 10 Designated systems only.
- 11 A comprehensive legal framework has been submitted to the Government for legislative process.
- 12 Existing laws do not specifically deal with the above issues. However, the draft National Payment System, CSD and other payment system-related bills deal with many of the above issues. However, the bills are yet to be tabled in Parliament for discussion and subsequent enactment into law.
- 13 Indicates that there is no express provision but sufficient general law.

**LEGAL FRAMEWORK**

**Table I.3**  
**Scope of application of the legal provisions in question I.2**

	...apply only to payment systems operated by the Central Bank?	...apply to all systemically important payment systems?	...apply to all payment systems in the country?
Afghanistan	X		
Albania	X	X	X
Algeria			X
Angola			X
Argentina		X	
Armenia			X
Australia		X	
Austria			X
Azerbaijan			X
Bahamas			
BCEAO			X
Belarus	X		
Belgium		X	
Belize			
Bhutan	X		X
Bolivia	X		
Bosnia - Herzegovina	X		
Botswana		X	X
Brazil			X
Bulgaria			X
Cambodia	X		
Canada <sup>1</sup>		X	X
Cape Verde		X	
Chile		X	
China	X	X	
Colombia			X
Costa Rica	X		
Croatia		X	
Cyprus		X	
Czech Republic			X <sup>2</sup>
DR of Congo			
Denmark		X	
Dominican Republic			X
ECCB			X
Egypt			X
El Salvador		X	X <sup>3</sup>
Estonia			X
Fiji	X		
Finland	X	X	
France			X
Georgia	X		
Germany			X
Ghana		X	

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	...apply only to payment systems operated by the Central Bank?	...apply to all systemically important payment systems?	...apply to all payment systems in the country?
Greece			X <sup>4</sup>
Guatemala	X		
Guyana			
Honduras			X
Hong Kong		X	
Hungary		X	
Iceland		X	
India			X <sup>5</sup>
Indonesia	X	X	
Iran			X
Ireland			X
Israel		X	X
Italy		X	
Jamaica			X
Japan			X
Jordan			X
Kazakhstan			X
Kenya			X
Kuwait	X		
Kyrgyz Republic		X	
Latvia	X	X	
Lebanon			X
Lesotho			X
Lithuania			X
Luxembourg	X		
Macao	X		
Macedonia			X
Madagascar			
Malaysia		X	X
Malta		X	X
Mauritius			X
Mexico		X	X
Moldova		X	X
Mongolia			X
Morocco			X
Mozambique	X		
Myanmar		X	X
Namibia	X	X	X
Nepal		X	
Netherlands		X	
Netherlands Antilles	X		X
New Zealand			X
Nicaragua	X		
Norway		X	
Oman			X
Pakistan			X
Paraguay			
Peru		X	

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	...apply only to payment systems operated by the Central Bank?	...apply to all systemically important payment systems?	...apply to all payment systems in the country?
Philippines			
Poland		X	
Portugal	X		X
Qatar	X		
Romania		X	X
Russia			X
Rwanda			X
San Marino			X
Saudi Arabia			X
Serbia			X
Singapore <sup>6</sup>	X	X	
Slovak Republic	X	X	X
Slovenia			X
Solomon Islands	X		
South Africa	X		
Spain			X <sup>7</sup>
Sri Lanka		X	
Sudan			X
Sweden			X
Swaziland			
Switzerland			X
Taiwan		X	
Tajikistan			X
Tanzania			X
Thailand			X
Trinidad and Tobago			X
Turkey		X	
Uganda			
Ukraine			X
United Arab Emirates	X		
United Kingdom		X	
USA	X	X	X
Uruguay			X
Venezuela			X
Yemen			X
Zambia		X	
Zimbabwe		X	X

- 1 Apply generally for some laws and to specified systems for others.
- 2 It is more complicated: to all but there is only one system operated by the CB till today.
- 3 The Central American Treaty on Payments and Settlement Systems applies to Systemic Important Payment Systems.
- 4 If designated payment systems, where law requires.
- 5 Subject to the riders mentioned under each previous question.
- 6 Certain laws such as finality law apply to "designated systems" which may not be central bank operated or systemically important.
- 7 It applies to all systems designated as such by Law 41/1999, on payment and securities settlement systems. Transposition of Directive 98/26/EC (upgraded with changes of law 2/2004).

**LEGAL FRAMEWORK**

**Table I.4**  
**Do legal provisions cover the following specific issues related to securities settlement?**

	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
Afghanistan		X			
Albania	X	X	X	X	
Algeria	X	X	X	X	X
Angola	X	X	X	X	X
Argentina	X	X	X		
Armenia	X	X	X	X	
Australia	X	X	X	X	X
Austria	X	X	X	X	X
Azerbaijan	X	X	X	X	X
Bahamas					
BCEAO	X	X	X		X
Belarus	X	X	X		
Belgium	X	X	X	X	X
Belize		X			
Bhutan					
Bolivia	X	X	X		
Bosnia-Herzegovina	X	X	X	X	
Botswana	X	X	X		X
Brazil	X	X	X	X	X
Bulgaria	X	X	X		X
Cambodia					
Canada	X	X	X		
Cape Verde	X		X	X	
Chile	X	X	X	X	X
China					
Colombia	X	X	X	X	X
Costa Rica		X	X	X	X
Croatia	X	X		X	
Cyprus	X	X	X		
Czech Republic	X	X	X	X	X
DR of Congo					
Denmark	X	X	X	X	X
Dominican Republic		X	X		
ECCB	X	X	X		
Egypt	X	X	X	X	X
El Salvador	X	X	X <sup>1</sup>		
Estonia	X	X	X	X	X
Fiji		X			X
Finland	X	X	X	X	X
France	X	X	X	X	X
Georgia	X	X	X	X	X

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	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
Germany	X	X <sup>2</sup>	X	X	X
Ghana	X	X		X	
Greece	X	X	X	X	
Guatemala			X		
Guyana	X	X	X		
Honduras	X	X			X
Hong Kong		X	X	X	
Hungary	X	X	X	X	X
Iceland	X	X	X	X	
India	X	X	X <sup>3</sup>		X <sup>4</sup>
Indonesia	X	X	X		X
Iran	X				
Ireland	X	X	X		
Israel	X				
Italy	X	X	X	X	X
Jamaica					
Japan	X	X		X	X
Jordan	X	X	X	X	
Kazakhstan	X		X	X	X
Kenya	X	X			X
Kuwait		X	X	X	
Kyrgyz Republic	<sup>5</sup>	X	X	X	X
Latvia	X	X	X	X	
Lebanon	X <sup>6</sup>	X <sup>7</sup>		X	
Lesotho					X
Lithuania	X	X	X	X	
Luxembourg	X	X	X	X	
Macao					
Macedonia	X	X	X	X	
Madagascar					
Malaysia	X	X	X	X	
Malta	X	X	X	X	
Mauritius	X	X	X	X	
Mexico		X	X	X	X
Moldova	X	X	X	X	X
Mongolia	X	X	X		
Morocco	X	X		X	X
Mozambique	X	X	X	X	X
Myanmar					
Namibia			X		
Nepal	X	X			X
Netherlands	X	X	X	X	
Netherlands Antilles					
New Zealand	X	X	X <sup>8</sup>		
Nicaragua					
Norway	X	X	X	X	X

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	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
Oman	X	X	X		
Pakistan			X	X	X
Paraguay					
Peru	X	X	X	X	
Philippines	X	X	X	X	
Poland	X	X	X	X	X
Portugal	X	X	X	X	X
Qatar			X		
Romania	X	X	X		
Russia	X	X	X	X	
Rwanda					
San Marino			X		
Saudi Arabia	X	X	X	X	
Serbia	X	X	X	X	X
Singapore	X	X	X	X	X
Slovak Republic	X	X	X	X	X
Slovenia	X	X	X	X	
Solomon Islands		X	X		X
South Africa					
Spain	X	X	X	X	X
Sri Lanka	X	X	X	X	X
Sudan	X	X	X	X	X
Sweden	X	X	X	X	X
Swaziland					
Switzerland	X		X	X	X
Taiwan	X	X	X		X
Tajikistan	X				
Tanzania	X	X	X	X	X
Thailand		X	X	X	X
Trinidad and Tobago					
Turkey	X	X	X		X
Uganda					
Ukraine	X	X	X	X	
United Arab Emirates			X		
United Kingdom	X	X <sup>9</sup>	X	X	X
USA					
Uruguay		X <sup>10</sup>		X	
Venezuela	X	X			
Yemen					
Zambia					
Zimbabwe	X	X	X	X	X

- 1 Through the Central American Treaty on Payments and Settlement Systems.
- 2 General civil code rules on the transfer of ownership would also cover the transfer of ownership held "indirectly".
- 3 The bye-laws of the stock exchanges and clearing corporation of such exchanges generally specify the finality of the settlements. These bye-laws derive their power from the Statute.
- 4 Securities and Exchange Board of India (the securities market regulator for securities other than Government securities) has issued a Scheme for securities lending.

- 5 Expecting the very limited number of the government securities.
- 6 Bank Shares.
- 7 Bank Shares.
- 8 Finality occurs in respect of intermediaries in a designated payment system. Generally finality and irrevocability arises as a result of contractual provisions embodied in the rules agreed to members of payment systems.
- 9 Indicates that there is no express provision but sufficient general law.
- 10 Stock Market Law, Commercial Societies Law.

**LEGAL FRAMEWORK**

**Table I.5  
Central Bank's payment systems oversight power**

	The Central Bank has no formal powers to perform payment system oversight	Oversight powers are to be found in the Central Bank Law	Oversight powers are to be found in the Payment System Law	Oversight powers are to be found in other laws	Empowerment is general, in the context of "ensuring the adequate and safe functioning of payments in the country"	Empowerment is explicit, granting it powers to operate, regulate, and oversee payment systems
Afghanistan						
Albania		X		X	X	
Algeria			X		X	
Angola			X			X
Argentina		X		X	X	X
Armenia		X	X			X
Australia		X	X	X		X
Austria		X		X		X
Azerbaijan		X				X
Bahamas	X			X	X	
BCEAO			X		X	
Belarus		X				X
Belgium		X			X	
Belize					X	
Bhutan				X	X	
Bolivia	X				X	
Bosnia - Herzegovina	X				X	
Botswana			X	X		X
Brazil			X			X
Bulgaria		X			X	X
Cambodia		X				X
Canada			X			X
Cape Verde		X				X
Chile	X	X			X	X
China						
Colombia	X				X	
Costa Rica		X				
Croatia		X	X		X	X
Cyprus		X		X		X
Czech Republic		X	X		X	
DR of Congo						
Denmark				X	X	X
Dominican Republic		X				X
ECCB		X	X	X	X	X
Egypt		X			X	
El Salvador				X	X	
Estonia					X	
Fiji		X				X
Finland		X			X	
France		X			X	

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	The Central Bank has no formal powers to perform payment system oversight	Oversight powers are to be found in the Central Bank Law	Oversight powers are to be found in the Payment System Law	Oversight powers are to be found in other laws	Empowerment is general, in the context of "ensuring the adequate and safe functioning of payments in the country"	Empowerment is explicit, granting it powers to operate, regulate, and oversee payment systems
Georgia					X	
Germany		X			X	
Ghana		X	X			
Greece		X				X
Guatemala	X				X	
Guyana		X		X		
Honduras					X	
Hong Kong			X			X
Hungary		X		X		X
Iceland		X	X <sup>1</sup>		X	X
India		X <sup>2</sup>	<sup>3</sup>			<sup>4</sup>
Indonesia		X			X	X
Iran					X	
Ireland		X		X	X	X
Israel			X			
Italy				X <sup>5</sup>		X
Jamaica	X					
Japan		X			X	
Jordan				X	X	
Kazakhstan		X			X	X
Kenya					X	
Kuwait		X				X
Kyrgyz Republic					X	
Latvia		X			X	X
Lebanon		X <sup>6</sup>		X <sup>7</sup>		X
Lesotho			X			X
Lithuania					X	
Luxembourg		X	X			X
Macao	X					
Macedonia		X	X			
Madagascar						
Malaysia		X	X			X
Malta		X				X
Mauritius		X		X		X
Mexico		X	X	X	X	X
Moldova		X				X
Mongolia		X				X
Morocco		X				X
Mozambique			X			X
Myanmar						
Namibia		X	X			X
Nepal		X				X
Netherlands					X	
Netherlands Antilles					X	X
New Zealand		X				

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	The Central Bank has no formal powers to perform payment system oversight	Oversight powers are to be found in the Central Bank Law	Oversight powers are to be found in the Payment System Law	Oversight powers are to be found in other laws	Empowerment is general, in the context of "ensuring the adequate and safe functioning of payments in the country"	Empowerment is explicit, granting it powers to operate, regulate, and oversee payment systems
Nicaragua					X	
Norway		X	X		X	X
Oman		X				
Pakistan			X			X
Paraguay					X	
Peru	X					
Philippines	X				X	
Poland		X		X		
Portugal		X	X <sup>8</sup>			X
Qatar		X				
Romania						X
Russia					X	X
Rwanda		X			X	
San Marino		X				X
Saudi Arabia		X				X
Serbia		X	X			X
Singapore			X		X	X
Slovak Republic		X	X			X
Slovenia		X	X		X	X
Solomon Islands		X				
South Africa		X	X			X
Spain		X				X
Sri Lanka		X	X	X		X
Sudan		X		X		
Sweden		X			X	
Swaziland		X			X	X
Switzerland		X				X
Taiwan		X		X	X	
Tajikistan		X		X		
Tanzania		X				X
Thailand				X	X	X
Trinidad and Tobago	X				X	
Turkey		X		X		X
Uganda					X	
Ukraine		X	X			X
United Arab Emirates		X				X
United Kingdom	X				X	
USA	<sup>9</sup>	X		X		X
Uruguay		X			X	
Venezuela		X			X	
Yemen		X	X			X
Zambia			X			X
Zimbabwe		X	X	X		X

1 Law on settlement finality in payment systems.

2 Limited oversight power in respect of transactions between banks/financial institutions.

- 3 Payment and Settlement Systems Bill passed by Parliament provides for formal oversight powers.
- 4 Payment and Settlement Systems Bill passed by Parliament provides for formal oversight powers.
- 5 Banking law.
- 6 Code of money and credit.
- 7 Law n. 133.
- 8 There is no Payment Systems Law. What exists is a collection of various Decree-Laws and other Legal Documents ruling specific issues.
- 9 The Federal Reserve has explicit, formal oversight powers with respect to the payment systems it operates. Its authority to oversee private-sector systems comes from a variety of sources, but there is no general statutory authority to oversee payment systems per se. See comments in I.6 for additional detail.

**LEGAL FRAMEWORK**

**Table I.6  
Additional comments to answers for question I.5**

Albania	(b) in addition, BoA is in the process of preparing a Payments System Oversight Policy;(d) Oversight powers are to be found also in the new "Banking Law"
Angola	The Central Bank Law has a generic provision to operate, regulate and oversee payment systems
Armenia	For details you can visit our website (www.cba.am), where you can find "Payment and Settlement System of the Republic of Armenia" (a kind of our "Red Book") and "Conception on Payment System Oversight by the Central Bank of Armenia"
Australia	The reference to "Other laws" above is that the central bank may approve payment systems with the effect that multilateral netting is legally certain and zero hour does not apply
Austria	Ad d.) Settlement Finality Act
Azerbaijan	Authorities of the National Bank of Azerbaijan in Payment Systems sphere: <ul style="list-style-type: none"> <li>• organizes, regulates and supervises payment systems including settlement and clearing (processing) systems to ensure their steady function;</li> <li>• allows clearing (processing) organizations permission and oversees upon rules defined by norm acts;</li> <li>• determines rules and conditions of realization of the non-cash settlements and transfers through credit organizations, and forms and contents of the payment documents as well;</li> <li>• sorts bank accounts, establishes rules of their opening, conducting and closing;</li> <li>• has the right to define the minimal requirements on reliability and security for clearing systems used by credit organizations;</li> <li>• performs other authorities upon organization of payment systems.</li> </ul>
Bahamas	Section 25 of the Central bank of The Bahamas Act 2000 provides that the Bank "may promote the establishment of a bank clearing system and provide facilities therefore.
Belize	Section 49 of the Central Bank of Belize Act - Subject to the provisions of this Act, the Bank may do any banking business or anything that is incidental to or consequential upon the exercise of its powers or the discharge of its functions under this Act, including the promotion of the establishment and maintenance of a bankers' clearing house in Belize.
Bolivia	The Central Bank is currently working in a project of a payment systems law.
Brazil	The legal provision applies to all clearing and settlement service providers recognized by the central bank, as defined in central bank regulation.
Canada	Powers to oversee and regulate are in the Payment Clearing and Settlement Act. Authority to operate a payment settlement system, which is taken as reference to an internal Bank of Canada settlement account management and transfer system for eligible account holders, are in the Bank of Canada Act.
Colombia	In Colombia, the Law 795 of 2003 empowered the Central Bank to regulate the large value payment systems, the Ministry of Finance to regulate low value payment systems and the Financial Superintendence to supervise the payment systems in general.
ECCB	Central Bank Law provides for the protection of the financial system including doing all in the Central Bank's powers to ensure financial stability and economic development. Payment Legislation is currently pending in the local legislatures.
El Salvador	El Salvador has already signed the Central America and Dominican Republic Treaty on Payments and Settlements Systems. The Treaty empowers the regional central banks to perform the oversight function on both, national and regional payments and settlements systems. Actually, all the regional central banks are lobbying in order to have the Treaty approved by their respective Congress. In addition, the Salvadorian BCR is currently designing its Oversight Strategy, which is expected to be implemented in 2008.
Fiji	Reserve Bank of Fiji is working on an automated payment system (RTGS) which should be available before the end of 2007. The Reserve Bank of Fiji Act contains general powers. Specific powers for the oversight of the Payments System are covered under Regulations issued pursuant to the Reserve Bank of Fiji Act.
Finland	The Bank of Finland has also an explicit right to provide payment services, including settlement, i.e. it has also the right to operate payment systems. Securities laws mandate CSD and licensing authority to consult the central bank with regard to CSD's rules and license procedures.
France	Concerning I.5 d above, oversight powers are to be found in the Monetary and Financial Code.
Germany	As the Bundesbank belongs to the Eurosystem (ECB and National Central Banks of countries that have adopted the EURO as common currency) generally also some provisions in the "Treaty establishing the European Community" can be understood as empowerment to oversee payment systems.
Honduras	A project of a payment systems law has been elaborated. It has been submitted to the Congress for approval.
India	A more explicit framework would be provided when the Payment Systems Bill is enacted as law. The Bill has been passed by the Parliament and is awaiting notification. Pending the enactment of the Payment and Settlement System Bill, the Reserve Bank of India is exercising its power under the RBI Act, 1934 to ensure smooth, safe and efficient operations of payment and settlement systems. The central bank under Section 58 (2) (p) and 58(2) (pp), of the RBI Act, 1934 is empowered to frame regulations and rules for the systems operated by banks.
Indonesia	About question I.5 f, The central bank law explicitly granting power to operate and regulate payment system but not mentioning about power to oversee.

Ireland	From an EU perspective, the legal basis for the CBFSAI's oversight role is covered in the Treaty establishing the European Community, and also in the Statute of the European System of Central Banks and the European Central Bank. Article 105 (2) of the Treaty, and Article 3 of the Statute, both state "...the basic tasks to be carried out through the ESCB shall be...to promote the smooth operation of payment systems."
Israel	Most of the legal aspects in this section are currently in the process of change as a result of the Payment System Reform process undertaken by the Bank of Israel. When completed most of the Core Principles for Systematically Important Payment Systems (SIPS ( that are referred to in this section will be complied with. "Payment Systems Law" was accepted and published at February 2008.
Jamaica	Work has advanced the oversight function as well as establishing an appropriate legal framework covering all provisions referred to in this section. This body of work is scheduled for simultaneous completion with the RTGS and CSD projects.
Kazakhstan	Oversight powers are to be found in the other normative legal acts, such as Rules of payment systems Oversight.
Kenya	Discussions are at an advanced stage between the Central Bank of Kenya and the relevant Government offices with the aim of finalizing a National Payment Systems draft law for tabling in Parliament. This draft law contains clear provisions that accord the Central Bank the power to operate, regulate and oversee payment systems.
Kyrgyz Republic	The Law On the National Bank of the Kyrgyz Republic (NBKR) contents only general empowerment like NBKR provides efficiency, reliability and safety payment system. However the NBKR has developed the Regulation on payment system oversight on March 2006. Currently this regulation is supplementing by methodological procedures on performing the payment system' oversight.
Lebanon	Law n. 133 dated 26/10/1999 gave Banque Du Liban the power to reform, regulate and oversee the Payment Systems.
Lesotho	The Bank's power to oversee the payment is explicitly stated in the NPS Bill which is not yet promulgated by Parliament of Lesotho.
Namibia	With respect to the Central Bank Law, Bank of Namibia Act, 1997 (Act No. 15 of 1997), empowerment is general in the context of ensuring stability in payment systems.
New Zealand	The Reserve Bank has oversight/information gathering, but not regulatory powers.
Norway	Norges Bank has a general responsibility to promote efficient payment systems according to the Central Bank Law, and a specific responsibility to oversee that authorized systems (SIPS) comply with the Payment System Law.
Peru	Although the Central bank is not empowered to do oversight, it is implicitly understood that the Central Bank has a natural interest for a sound financial system as well as sound payment systems, given its task to preserve monetary stability. This has led the Central Bank to establish agreements with the RTGS participants and issue Central Bank regulations on the clearing and settlement of retail payment instruments by the private electronic clearing house.
Poland	The formal powers to perform payment system oversight are to be found in the Act on settlement finality in payment systems and in securities settlement systems and on the oversight on these systems.
Russia	Concerning point f: regarding payment system of Bank of Russia. In section VII X* means «planned in the documents being developed».
Sudan	The Electronic Transactions Act was approved by the Cabinet. Now it is in the final stages of approval by the National Assembly (the Parliament).
Sweden	
Swaziland	The CBS Amended Act 2004 provides both general and explicit powers to the central bank. The National Clearing and Settlements System Bill has been awaiting promulgation for the past four years.
Thailand	The Royal Decree Regulating Electronic Payment Service Business B.E. that is expected to be enacted by the end of 2007, will empower BOT to regulate non-financial institutions providing electronic payment service providers whose business transactions are important for financial stability, the security of electronic data, and consumer protection.
Trinidad and Tobago	With regard to a, d and f, draft amendments to an existing law are with the authorities.
Uganda	The law as it stands is inadequate. Even the general clause empowering the central bank to ensure efficient functioning of the payment system limits itself to clearing systems, possibly because at the time of its enactment, the most widely known non-cash payment system was a cheque clearing system.
United Kingdom	The Bank of England is given responsibility for oversight of payment systems under a Memorandum of Understanding with HM Treasury and the Financial Services Authority, but has no legal powers.
USA	The Federal Reserve Act provides the Board of Governors of the Federal Reserve Systems with general supervisory authority over the payment systems operated by the Federal Reserve Banks. U.S. law does not provide the Federal Reserve with general statutory authority to supervise and enforce its policies against payment and securities settlement systems per se. Rather, the Federal Reserve's authority over private sector systems is derived primarily from the Federal Reserve's supervisory and enforcement authority over the various types of financial institutions that operate or participate in such systems or its ability to impose terms and conditions for the use of Federal Reserve settlement services. The extent of the Federal Reserve's supervisory and operational relationships with these institutions varies and, consequently, the Federal Reserve's authority over different systems similarly varies. Specifically, the nature and extent of its authority varies from system to system depending on (a) the charter type of a particular payment or securities settlement system operator or service provider, (b) the types of institutions that use a particular system or service, and (c) the types of services the system operator, service provider, and/or its users obtain from the Federal Reserve. These powers may include one or more of the authorities to charter, to examine, to enforce (e.g., through cease and desist orders, suspension, removal, membership revocation, monetary penalties, etc.), to compel disclosure of information, to provide access to payment services, and/or to provide access to intra-day credit.

Uruguay	Legal and Regulatory Framework are being developed. Oversight power is defined in Payment System Law, which is in process of approval.
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**LEGAL FRAMEWORK**

**Table I.7**  
**Is a specific license required for non bank payment services providers to provide payment services?**

	Non-banking financial institutions	Clearinghouses	Central Counterparties	Central Securities Depositories	Money Transfer Operators	Payment card processing companies	Other
Afghanistan	X				X		
Albania	X	X	X	X	X	X	
Algeria	X	X	X	X	X	X	
Angola	X	X	X	X	X	X	
Argentina	X	X	X	X			
Armenia	X	X		<sup>1</sup>	X <sup>2</sup>	X <sup>3</sup>	X
Australia	X	X	X	X			
Austria		X	X	X	X	X	
Azerbaijan <sup>4</sup>						X	
Bahamas					X		
BCEAO	X	X	X	X	X	X	X
Belarus	X			X			
Belgium					X		
Belize	X				X		
Bhutan	X	X			X		
Bolivia		X		X			
Bosnia-Herzegovina	X			X	X	X	
Botswana	X	X	X	X	X	X	
Brazil	X	X	X	X	X		
Bulgaria		X		X		X	
Cambodia	X				X		
Canada	X	X		X			
Cape Verde	X	X	X	X	X	X	X <sup>5</sup>
Chile	X	X	X	X		X	
China	X	X	X	X	X	X	X
Colombia	X	X		X	X		
Costa Rica	X	X	X	X			
Croatia	X	X	X	X			
Cyprus					X		X <sup>6</sup>
Czech Republic	X	X	X	X	X		
DR of Congo	X	X			X	X	
Denmark		X	X	X			
Dominican Republic		X		X		X	
ECCB	X	X			X		
Egypt	X		X	X	X	X	X
El Salvador	X	X	X	X		X	
Estonia				X			
Fiji	X	X		X	X	X	
Finland <sup>7</sup>	X	X	X	X			
France <sup>8</sup>	X	X	X	X	X	X	
Georgia							
Germany			X	X	X		X <sup>9</sup>
Ghana	X	X	X	X	X		

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	Non-banking financial institutions	Clearinghouses	Central Counterparties	Central Securities Depositories	Money Transfer Operators	Payment card processing companies	Other
Greece	X				X		
Guatemala	X	X					
Guyana	X						
Honduras	X	X	X	X	X	X	
Hong Kong							
Hungary <sup>10</sup>	X	X	X	X	X	X	
Iceland	X		<sup>11</sup>	X	X	X	
India <sup>12</sup>	<sup>13</sup>	<sup>14</sup>	<sup>15</sup>		X <sup>16</sup>		
Indonesia	X	X	X	X	<sup>17</sup>		
Iran	X						
Ireland					X		
Israel <sup>18</sup>							
Italy	X		X	X <sup>19</sup>	X		
Jamaica	X			X	X		
Japan			X	X	X		
Jordan	X	X	X		X	X	
Kazakhstan	X	X		X		X	
Kenya							X <sup>20</sup>
Kuwait	X				X	X	
Kyrgyz Republic	X						
Latvia <sup>21</sup>	X						
Lebanon	X	X			X	X	
Lesotho							
Lithuania	X	X	X	X			
Luxembourg	X	X	X	X		X	
Macao	X	X			X	X	
Macedonia				X	X		
Madagascar							
Malaysia	X	X	X	X	X	X	
Malta	X	X	X	X	X	X	
Mauritius	X	X	X		X	X	
Mexico	X	X	X	X			
Moldova							
Mongolia	X	X	X	X			
Morocco	X	X	X	X	X	X	
Mozambique	X	X	X	X	X	X	X
Myanmar							
Namibia	X	X	X	X	X	X	
Nepal	X	X			X		
Netherlands	X	X			X		
Netherlands Antilles	X				X		
New Zealand							
Nicaragua							
Norway		X					
Oman	X	X			X		
Pakistan	X	X	X		X	X	X
Paraguay	X						<sup>22</sup>
Peru	X	X	X	X	X		
Philippines							

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	Non-banking financial institutions	Clearinghouses	Central Counterparties	Central Securities Depositories	Money Transfer Operators	Payment card processing companies	Other
Poland		X				X	
Portugal	X	X	X	X	X <sup>23</sup>	X	
Qatar	X	X		X	X		
Romania		X	X	X			X <sup>24</sup>
Russia <sup>25</sup>							X <sup>26</sup>
Rwanda	X	X	X	X	X	X	
San Marino	X	X					
Saudi Arabia	X	X	X	X	X	X	
Serbia	X	X	X	X	X	X	
Singapore	<sup>27</sup>	<sup>28</sup>	<sup>29</sup>	<sup>30</sup>	X		
Slovak Republic	X	X			X		
Slovenia	X	<sup>31</sup>	<sup>32</sup>	<sup>33</sup>	X	<sup>34</sup>	X <sup>35</sup>
Solomon Islands	X				X	X	
South Africa	X	X		X	X	X	
Spain <sup>36</sup>	X	X	X	X	X	X	
Sri Lanka							
Sudan	X	X				X	
Sweden <sup>37</sup>		X	X	X	X		
Swaziland		X					
Switzerland							
Taiwan	X	X	X	X	X	X	
Tajikistan	X						
Tanzania	X	X		X	X		
Thailand	X	X	X	X	X	X	X <sup>38</sup>
Trinidad and Tobago	X			X			
Turkey		X		X		X	
Uganda <sup>39</sup>	X	X	X	X			
Ukraine	X						
United Arab Emirates							
United Kingdom	X	X	X	X	X		X <sup>40</sup>
USA			<sup>41</sup>	<sup>42</sup>	X		X <sup>43</sup>
Uruguay							<sup>44</sup>
Venezuela							
Yemen	X	X			X	X	
Zambia	X	X			X	X	
Zimbabwe	X	X		X	X	X	

- 1 Central Securities Depositories are allowed to perform clearing operations by the Law "On Securities Market Regulation".
- 2 Under the Law "On Payment Systems and Payment Service Organizations", there are two types of payment service organizations (PSO): money transfer organizations and clearing and processing organizations. All PSOs must get license from the Central Bank of Armenia (CBA). Besides, to participate in a foreign payment system (such as Western Union, Money Gram, Anelik, Contact, etc.) the Armenian member (either bank or licensed money transfer organization) must get the CBA's permission/approval.
- 3 Foreign Exchange is required to obtain a specific license from the Central Bank for foreign exchange trade.
- 4 Note: According the "Law about banks" only banks have a right to provide payment services.
- 5 Exchange Houses of Bureaus.
- 6 Electronic Money Institutions.
- 7 License is not required in Finland for the provision of payment services. However, license is required for the provision of securities brokering, clearinghouse, central counterparty and CSD-services. (It can be noted, however, that licensing requirements for the provision of payment services are to be changed due to the recently approved EU-Directive on Payment Services in the Internal Market, to be implemented in national legislations by

- 1 November 2009. According to the Directive, the provision of payment services will require a credit institution, electronic money institution, postal office or payment institution -license).
- 8 Provision of means of payment (any instrument which enables any person to transfer funds, regardless of the medium or the technical process used) is a banking transaction in France. Pending to further change in EU legislation, to carry out regularly such activity, a specific license as credit institution must be obtained from CECEI (Comité des établissements de crédit et des entreprises d'investissement).
  - 9 E-Money issuers need a banking license as this activity is defined as banking business in Germany; issuers of credit cards and travelers cheques need a license as financial services institute.
  - 10 With reference to b, c, d, currently in Hungary these three main functions are provided for by a single company acting as a specialized credit institution.
  - 11 We don't have central counterparties in Iceland.
  - 12 The clearing houses at present are managed by the central bank or one of the public sector owned banks. Clearing houses for cheque clearing are opened by banks with specific approval of the Reserve Bank of India. There is only one central counterparty for Government Securities clearing and Forex Clearing which has been setup by banks with active support and involvement by Reserve Bank of India. Though no formal license has been issued by the Reserve Bank of India, active involvement in setting up of a company has the characteristic of central bank approval. Western Union Money transfer is allowed only for inward remittance and therefore are subject to the provisions of the Foreign Exchange Management Act, 1999 administered by the Central Bank. No direct oversight is exercised on the card processing companies; however, instructions are issued to banks which are regulated entities and issuing cards in collaboration with these card companies. Please also see comments at 1.6.
  - 13 The non-banking financial institutions which are companies are regulated and supervised by the Central Bank. There is no specific license for operating a payment system.
  - 14 The non-banking financial institutions which are companies are regulated and supervised by the Central Bank. There is no specific license for operating a payment system.
  - 15 The non-banking financial institutions which are companies are regulated and supervised by the Central Bank. There is no specific license for operating a payment system.
  - 16 From the FEMA angle.
  - 17 Central bank only gives license to money remitters. If the money remitters have cooperation with money transfer operators, the money remitters must provide information about the cooperation to central bank (i.e. agreement, company profile, security audit report).
  - 18 In terms of the Banking (Licensing Law) (1981) the activity of the "maintenance of a system of payments, including the collection, transfer and conversion of moneys" is reserved for licensed banks only. Therefore, non-bank payment service providers cannot undertake the activities stated. The answers below are therefore shown as "not applicable".
  - 19 For the CCP it is required a formal approval of the system's operating rules but not a specific authorization to the management company.
  - 20 Letters of no objection are obtained from the Central Bank by commercial banks through which the services/products are to be offered.
  - 21 No specific license for providing payment services is required, however, according to law, only banks, electronic money institutions and post can offer payment services.
  - 22 Cooperatives.
  - 23 Presently, "NO". Money Transfer Operators operate jointly with banks. In the near future, after the transposition of the European Directive on Payment Systems, all payment institutions will require an authorization from the Central Bank to operate.
  - 24 Operators of SSS.
  - 25 Concerning subsection I.7: payment services are given by credit organizations only in the presence of license.
  - 26 If the activity of other provider of payment services assumes opening and conducting bank accounts, in this case Bank of Russia license is required.
  - 27 Non-bank credit/charge card providers like Diners but no licensing scheme.
  - 28 ACH required to be approved, but not "licensed".
  - 29 CCP required to be approved, but not "licensed".
  - 30 CSD required to be approved, but not "licensed"
  - 31 Not for their core business, which is not defined as payment services. Otherwise, the answer provided under g. applies to them as well.
  - 32 Not for their core business, which is not defined as payment services. Otherwise, the answer provided under g. applies to them as well.
  - 33 Not for their core business, which is not defined as payment services. Otherwise, the answer provided under g. applies to them as well.
  - 34 Not for their core business, which is not defined as payment services. Otherwise, the answer provided under g. applies to them as well.
  - 35 Any legal person wishing to provide payment services.
  - 36 The final positions are settled in central bank money.
  - 37 For a. and f. as far as the payment services are not based on transfer of funds. for e. notification is enough.
  - 38 E-money, payment transaction switching, settlement agent/bank, bill payment services, credit card networking, and EDC networking.
  - 39 Please note that while in some cases, there may be no specific legal requirement for a license, many intending payment service providers make it a point to secure central bank clearance or "no objection". NBFIs and clearing houses would be licensed by the central bank, while central counterparties and non-government CSDs would be licensed or cleared by the Capital Markets Authority.

- 40 Electronic Money Institutions.
- 41 The private-sector central counterparties and central securities depositories in the United States do not provide general payment services. These entities are subject to a registration requirement with either the Securities and Exchange Commission or the Commodity Futures Trading Commission, but this registration is not to provide payment services per se.
- 42 The private-sector central counterparties and central securities depositories in the United States do not provide general payment services. These entities are subject to a registration requirement with either the Securities and Exchange Commission or the Commodity Futures Trading Commission, but this registration is not to provide payment services per se.
- 43 PayPal.
- 44 Entidades de cobranza centralizadas.

**LARGE VALUE PAYMENT SYSTEMS**

**Table II.1**  
**Main system(s) used for large-value funds transfers**

	RTGS system	Cheque Clearinghouse	Other
Afghanistan			X <sup>1</sup>
Albania	X	X	
Algeria	X		
Angola	X	X	
Argentina	X		
Armenia	X		
Australia	X		
Austria	X		
Azerbaijan	X		
Bahamas	X		
BCEAO	X		
Belarus	X		
Belgium	X		
Belize		X	
Bhutan		X	
Bolivia	X		
Bosnia - Herzegovina	X		
Botswana	X <sup>2</sup>	X <sup>3</sup>	
Brazil	X		
Bulgaria	X		
Cambodia		X	
Canada	X <sup>4</sup>		
Cape Verde <sup>5</sup>			
Chile	X <sup>6</sup>		X <sup>7</sup>
China	X		
Colombia	X <sup>8</sup>	<sup>9</sup>	<sup>10</sup>
Costa Rica	X		
Croatia	X		
Cyprus			X
Czech Republic	X		
D. R. of Congo		X	
Denmark	X		
Dominican Republic		X	
ECCB	X	X	
Egypt			X
El Salvador		X	
Estonia	X		
Fiji	X <sup>11</sup>		
Finland	X		
France	X		
Georgia	X		
Germany	X		
Ghana	X		
Greece	X		
Guatemala	X	X	

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	RTGS system	Cheque Clearinghouse	Other
Guyana		X	
Honduras		X	
Hong Kong	X		
Hungary	X		
Iceland	X		
India	X	X <sup>12</sup>	
Indonesia	X		
Iran	X	X	
Ireland	X		
Israel	X <sup>13</sup>	X <sup>14</sup>	15
Italy	X		
Jamaica		X	X
Japan	X <sup>16</sup>		X <sup>17</sup>
Jordan	X	X	
Kazakhstan	X		
Kenya	X	X	
Kuwait	X	X	
Kyrgyz Republic	X <sup>18</sup>		X <sup>19</sup>
Latvia	X		
Lebanon		X	X
Lesotho	X		
Lithuania	X		
Luxembourg	X		
Macao			X
Macedonia	X		
Madagascar		X	
Malaysia	X		
Malta	X		
Mauritius	X	X	
Mexico <sup>20</sup>	X		X
Moldova	X		
Mongolia			X
Morocco	X		
Mozambique		X	X
Myanmar			X <sup>21</sup>
Namibia	X		
Nepal		X	X
Netherlands	X		
Netherlands Antilles	X		X
New Zealand	X		
Nicaragua		X	X
Norway	X		
Oman	X		
Pakistan		X	
Paraguay		X	
Peru	X		
Philippines	X <sup>22</sup>	X <sup>23</sup>	24
Poland	X		
Portugal	X		
Qatar	X	X	

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	RTGS system	Cheque Clearinghouse	Other
Romania	X		
Russia			X <sup>25</sup>
Rwanda		X <sup>26</sup>	
San Marino			X
Saudi Arabia	X		
Serbia	X		
Singapore	X		
Slovak Republic	X		
Slovenia	X <sup>27</sup>		
Solomon Islands		X	X
South Africa	X		
Spain	X		
Sri Lanka	X		
Sudan		X	
Swaziland		X <sup>28</sup>	X <sup>29</sup>
Sweden	X		
Switzerland	X		
Taiwan	X		
Tajikistan	X		
Tanzania	X	X	
Thailand	X		
Trinidad and Tobago	X <sup>30</sup>	X <sup>31</sup>	X <sup>32</sup>
Turkey	X		
Uganda	X		
Ukraine	X		
United Arab Emirates	X	X	
United Kingdom	X		
USA <sup>33</sup>	X		X
Uruguay	X	X	
Venezuela	X <sup>34</sup>	X <sup>35</sup>	
Yemen		X	
Zambia	X		
Zimbabwe <sup>36</sup>	X <sup>37</sup>	X <sup>38</sup>	

**Note:** Percentages below reflect the share of total large-value payments in the country (in value) that flow through such system.

- 1 ACCS, Afghanistan Clearing and Settlement System.
- 2 96%.
- 3 4%.
- 4 The preferable description is large-value payment systems (LVPS) not RTGS (CPSS, 2005).
- 5 RTGS under development.
- 6 59%.
- 7 41% (DNS - Deferred Net Settlement Systems).
- 8 91%.
- 9 5.7%.
- 10 3.3%.
- 11 100%.
- 12 High Value Clearing – paper based clearing at 27 clearing houses in the country.
- 13 32%. The ZAHAV system was launched at 31 July 2007, fully operated at September 1st 2007.
- 14 6%.
- 15 ACH 40%. Securities 10%.
- 16 85%.
- 17 15%.
- 18 value – 75%, volume – 5%.
- 19 Interbank clearing house of retail payments (SIPS).

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- 20 The main system settles payments with a netting mechanism more than twice a minute. Payments that cannot be settled with the available liquidity are returned to the queue.
- 21 SWIFT Debit Authority.
- 22 Peso 85%.
- 23 1%.
- 24 USD 14%.
- 25 Payment system of the Bank of Russia is a gross settlement system. From July, 2007 – the Banking Electronic Speed Payments (BESP) system, a real-time gross settlement system the owner and operator of which is the Bank of Russia, will be implemented.
- 26 All inter-bank paper and card based payment instructions go through the Clearing House irrespective of amount. There is no separation of large and low value in the clearing house.
- 27 Banka Slovenije and Slovenian commercial banks are direct participants of RTGS+ (TARGET) system, which is operated by Deutsche Bundesbank.
- 28 90.3%.
- 29 9.7%.
- 30 59.3%.
- 31 40.3%.
- 32 ACH 0.4%.
- 33 Share of payments by value over U.S. large-value systems: 59% - Fedwire (RTGS); 41% - CHIPS (real-time system with gross and net settlement functionality).
- 34 66%.
- 35 33%.
- 36 4.2% are small value payments.
- 37 88%.
- 38 7.8%.

LARGE VALUE PAYMENT SYSTEMS

Table II.2  
RTGS Operator, Settlement Agent, and the year in which system began operations on a full scale.

	RTGS 1			RTGS 1			RTGS 1		
	Operator	Settlement Agent	Year	Operator	Settlement Agent	Year	Operator	Settlement Agent	Year
Albania	CB	CB	2004						
Algeria	CB	CB	2006						
Angola	CB	CB	2005						
Argentina	CB	CB	1997						
Armenia	CB	CB	1997						
Australia	CB	CB	1998						
Austria	CB	CB	1997						
Azerbaijan	CB	CB	2001						
Bahamas	CB	CB	2004						
BCEAO	CB	CB	2004						
Belarus	CB	CB	1998						
Belgium	CB	CB	1996						
Bolivia	CB	CB	2003						
Bosnia - Herzegovina	CB	CB	2001						
Botswana	CB	CB	2006						
Brazil	CB	CB	2002	Banks Association	CIP	2002			
Bulgaria	CB	CB	2003						
Canada	CPA <sup>1</sup>	Bank of Canada	1999						
Chile	CB	CB	2004						
China	PBC	PBC	2005						
Colombia	CB	CB	1998						
Costa Rica	CB	CB	1999						
Croatia	CB	CB	1999						
Czech Republic	CB	CB	1992						
Denmark	CB		2001						
ECCB	CB	CB	2000						
Estonia	CB	CB	2002						
Finland	CB	CB	1991						
France	CB	CB	1997						
Georgia	CB	CB	2001						
Germany	CB	None	2001						
Ghana	CB	CB	2003						
Greece	CB	CB	1999						
Guatemala	CB	CB	2006						
Hong Kong <sup>2</sup>	HKICL	CB <sup>3</sup>	1996	HKICL	HSBC <sup>4</sup>	2000	HKICL	SCB <sup>5</sup>	2003
Hungary	CB	CB	1999						
Iceland	Outsourced (owner CB) <sup>6</sup>	CB	2000						
India	CB	CB	2004						
Indonesia	CB	CB	2000						
Iran	CB	CB	2007						
Ireland	CB	CB	1997						

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	RTGS 1			RTGS 1			RTGS 1		
	Operator	Settlement Agent	Year	Operator	Settlement Agent	Year	Operator	Settlement Agent	Year
Israel	Bol	Bol	2007						
Italy	CB	CB	1997						
Japan	CB	CB	2001						
Jordan	CB	CB	2002						
Kazakhstan	KISK of CB	CB	2000						
Kenya	CBK	CBK	2005						
Kuwait	CBK	CBK	2004						
Kyrgyz Republic	CB	CB	2003						
Latvia	CB	CB	2000						
Lesotho	CB	CB	2006						
Lithuania	CB	CB	2007						
Luxembourg	CB	CB	1999						
Macedonia	CB	CB	2001						
Malaysia	CB	CB	1999						
Malta	CB	CB	2002						
Mauritius	CB	CB	2000						
Mexico	CB	CB	1995						
Moldova	CB	CB	2006						
Morocco	CB	CB	2006						
Namibia	CB	P.clearinghouse	2002						
Netherlands	CB	CB							
Netherlands Antilles	CB	CB	1997						
New Zealand	CB	N/A	1998						
Norway	CB	CB	1999						
Oman	CB	CB	2005						
Peru	CB	CB	2000						
Philippines	CB	CB	2002	PDS	Citibank	1999			
Poland	CB	CB	1996	CB	CB	2005			
Portugal	CB	CB	1996						
Qatar	CB	CB	2000						
Romania	CB	CB	2005						
Russia	CB	CB	2007						
Saudi Arabia	CB	CB	1997						
Serbia	CB	CB	2003						
Singapore <sup>7</sup>	CB	CB	1998	MAS	MAS	2006			
Slovak Republic	CB	CB	2003						
Slovenia	CB of Germany								
South Africa	CB	CB	1998						
Spain	CB	CB	1996						
Sri Lanka	CB	CB	2003						
Swaziland	CB	CB	2007						
Sweden	CB		1990						
Switzerland	Private company <sup>8</sup>	CB	1987						
Taiwan	CB	CB	2002						
Tajikistan	CB	CB	2002						
Tanzania	CB	CB	2004						
Thailand	CB	CB	1995	CB	CB	2001			

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	RTGS 1			RTGS 1			RTGS 1		
	Operator	Settlement Agent	Year	Operator	Settlement Agent	Year	Operator	Settlement Agent	Year
Trinidad and Tobago	CB <sup>9</sup>	CB	2004						
Turkey	CB	CB	1992						
Uganda	CB	CB	2005						
Ukraine	CB	CB	1994						
United Arab Emirates	CB	CB	2000						
United Kingdom	CB	CB	1996						
USA	CB	CB	1918						
Uruguay	CB <sup>10</sup>	CB	1981	CB <sup>10</sup>	CB	1996	CB <sup>11</sup>	CB	2000
Venezuela	CB	CB	1998						
Zambia	CB	CB	2004						
Zimbabwe	CB	CB	2002						

- 1 Canadian Payments Association owns and operates the Large Value Transfer System.
- 2 HKICL – Hong Kong Interbank Clearing Limited.  
HKMA – Hong Kong Monetary Authority.  
HSBC – Hong Kong and Shanghai Banking Corporation.  
SCB – Standard Chartered Bank.
- 3 HKD RTGS.
- 4 USD RTGS.
- 5 EUR RTGS.
- 6 Outsourced to the Icelandic bank's data center which acts as a technical operator.
- 7 MEPS and MEPS+.
- 8 Mutually owned by Swiss banks.
- 9 Enhancement.
- 10 SE.DE.CI.
- 11 SEDEC.
- 12 AGATA.

**LARGE VALUE PAYMENT SYSTEMS**

**Table II.3/a  
Statistics for RTGS Systems**

	Volumes of Transactions			Value Settled in USD million		
	Payments in local currency			Payments in local currency		
	2006	2004	2002	2006	2004	2002
Albania	32,732	28,580	nap	27,155,963,303	21,167,315,175	nap
Algeria	147,478	nap	nap	2,298,898,071,625	nap	nap
Angola	45,096	nap	nap	42,312,155,409	nap	nap
Argentina	1,305,286	1,297,253	1,015,793	581,595,806,452	366,488,965,517	174,097,096,774
Armenia	1,001,000	637,000	830,000	9,321,430,288	3,049,671,978	1,655,040,112
Australia	6,400,000	5,800,000	5,000,000	29,415,384,615,385	25,021,428,571,429	17,243,888,888,889
Austria	4,392,160	3,683,425	3,475,072	14,454,065,000,000	10,587,586,250,000	6,613,148,181,818
Azerbaijan	370,000	370,000	387,000	26,496,666,667	10,164,000,000	5,049,000,000
Bahamas	19,036	10,919 <sup>1</sup>	nap	7,851,174,000	6,811,762,500	nap
BCEAO	287,402	164,976 <sup>2</sup>	nap	65,364,406,374	19,038,934,687	nap
Belarus	6,531,900	3,682,400	2,515,600	210,146,880,537	103,379,160,302	48,171,310,514
Belgium	2,817,435	2,730,924	2,439,951	43,170,375,000,000	31,657,500,000,000	20,259,545,454,546
Bolivia	21,264	5,400	Nap	6,857,875,000	1,788,734,177	nap
Bosnia – Herzegovina	591,823	480,935	257,691	23,300,117,569	11,986,577,209	6,437,990,536
Botswana <sup>3</sup>	21,132	nap	Nap	12,301,290,390	nap	nap
Brazil	10,374,137	10,384,954	5,259,441	29,225,448,181,818	14,926,248,620,690	11,678,271,379,310
Brazil CIP – Sitraf	2,009,435	1,233,573	1,810	68,657,727,273	29,713,448,276	11,379,310
Bulgaria	983,273	585,148	Nap	143,751,875,000	80,738,125,000	nap
<b>Canada</b>						
Chile	195,238	197,363	nap	1,444,775,281,916	1,211,214,312,438	nap
China	141,811,218	nap	nap	32,192,042,125,000	nap	nap
Colombia	2,330,000	1,550,000	920,000	2,494,900,000,000	1,356,100,000,000	889,300,000,000
Costa Rica	132,021	89,338	71,327	45,578,617,250	31,193,576,159	20,855,366,870
Croatia	171,092	114,021	103,803	383,576,034,483	227,016,500,000	114,398,607,595
Czech Republic	382,000,000	350,000,000	290,000,000	6,725,663,716,814	4,280,155,642,023	3,363,914,373,089
Denmark	680,000	631,000	366,000	11,201,525,423,729	8,840,000,000,000	5,110,379,746,835
ECCU	7,487	10,753	nap	1,821,265,185	1,082,851,852	nap
Estonia	46,614	40,663	15,901	59,232,846,172	44,176,738,227	30,211,749,975
Finland	524,300	455,800	390,600	7,183,000,000,000	5,933,625,000,000	3,400,363,636,364
France	4,600,000	4,000,000	3,800,000	168,750,000,000,000	135,000,000,000,000	81,818,181,818,182
Georgia	4,227,107	2,424,074	2,220,707	10,754,898,409	5,636,569,022	2,335,605,464
Germany	38,325,351	36,897,581	31,892,792	188,470,250,000,000	154,167,750,000,000	113,440,181,818,182
Ghana	93,103	36,749	21,500	51,682,342,170	41,330,930,858	14,030,821,788
Greece	1,520,000	1,370,000	1,210,000	8,591,025,000,000	4,496,450,000,000	2,439,572,727,273
Guatemala	39,345	nap	nap	43,543,118,421	nap	nap
Hong Kong HKD RTGS	4,598,079	3,774,194	3,417,104	18,360,000,000,000	13,065,256,410,256	10,369,102,564,103
Hungary	809,443	554,950	337,340	3,715,042,775,665	2,219,033,053,774	1,003,997,673,517
Iceland <sup>4</sup>	319,270	150,027	104,101 <sup>5</sup>	1,402,136,752,137	259,629,629,630	188,381,679,389
India <sup>6</sup>	3,521,712	362,742	nap	3,692,795,364,238	522,800,441,501	nap
Indonesia	6,900,000	5,000,000	2,200,000	3,177,317,043,879	2,613,214,301,696	1,479,293,753,759
Ireland	1,217,268	1,021,373	582,260	8,320,000,000,000	6,192,500,000,000	4,441,818,181,818

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	<i>Volumes of Transactions</i>			<i>Value Settled in USD million</i>		
	<i>Payments in local currency</i>			<i>Payments in local currency</i>		
	<i>2006</i>	<i>2004</i>	<i>2002</i>	<i>2006</i>	<i>2004</i>	<i>2002</i>
Italy	13,368,700	11,264,300	8,440,100	62,340,125,000,000	45,430,750,000,000	30,768,181,818,182
Japan	5,549,000	5,178,000	4,788,000	218,141,874,462,597	188,764,325,323,475	143,885,167,464,115
Jordan	238,146	150,180	129,114	252,485,714,286	216,441,000,000	105,636,000,000
Kazakhstan	8,293,200	6,196,600	3,216,700	735,731,958,763	213,979,411,765	96,452,707,110
Kenya	142,045	nap	Nap	118,769,264,910	nap	nap
Kuwait	373,000	89,000	Nap	458,000,000,000	115,000,000,000	nap
Kyrgyz Republic	59,427	41,107	27,843	3,263,681,592	2,192,488,263	1,166,311,301
Latvia	198,590	148,483	109,822	92,594,198,750	104,239,218,000	33,623,595,455
Lesotho <sup>7</sup>	2,472	nap	nap	1,337,647,059	nap	nap
Luxembourg	1,070,000	770,000	650,000	15,448,200,000,000	10,927,062,500,000	6,933,236,363,636
Macedonia	2,453,169	2,011,988	1,247,534	20,890,563,907	14,733,014,310	12,304,790,992
Malaysia	2,200,000	1,920,000	1,690,000	6,749,729,729,730	4,703,157,894,737	3,232,631,578,947
Malta	50,000	50,000	10,000	66,577,000,000	43,058,666,667	11,623,250,000
Mauritius	105,923	70,795	43,788	23,260,567,823	18,789,127,273	12,476,066,667
Mexico	19,126,115	4,527,633	3,501,335	10,710,898,256,881	7,892,392,212,389	7,103,570,824,742
Moldova <sup>8</sup>	518,145	nap	nap	11,962,591,603	nap	nap
Morocco <sup>9</sup>	100,629	nap	nap	362,802,306,065	nap	nap
Namibia	26,953	37,738	23,523	38,907,600,000	32,328,666,667	18,677,066,667
Netherlands	4,552,000	4,766,000	4,548,000	31,745,000,000,000	29,496,250,000,000	18,911,818,181,818
New Zealand	1,368,000	923,250	715,500	6,100,000,000,000	5,883,333,333,333	3,420,454,545,455
Norway	137,368	155,135	75,053	6,091,406,250,000	4,906,567,164,179	4,671,000,000,000
Oman	363,240	nap	nap	158,672,500,000	nap	nap
Peru	226,025	178,913	191,816	137,378,000,000	94,966,000,000	98,298,000,000
Philippines	439,028	259,221	5,685	2,358,674,463,938	589,285,714,286	38,759,689,922
Poland RTGS 1 - Sorbnet	1,269,427	909,535	481,287	11,907,185,064,516	6,350,334,864,865	3,922,822,829,268
Portugal	1,400,000 <sup>10</sup>	1,420,000	1,170,000	6,547,000,000,000	7,156,250,000,000	3,068,727,272,727
Qatar <sup>11</sup>	nav	nav	nap	nav	Nav	nap
Romania	1,548,371	nap	nap	688,337,857,143	Nap	nap
Saudi Arabia	20,786,767	15,393,539	11,514,855	3,734,864,864,865	2,111,578,947,368	1,922,105,263,158
Serbia	148,976,803	114,125,814	nap	315,382,214,765	127,017,064,846	nap
Singapore	2,864,799	2,237,692	2,037,449	8,698,315,225,625	5,797,681,360,588	5,574,842,726,667
Slovak Republic	130,000,000	109,000,000	nap	2,882,996,632,997	1,259,814,241,486	nap
Slovenia	1,567,213	1,370,990	1,351,429	398,469,005,236	253,505,197,505	167,100,999,167
South Africa <sup>12</sup>	1,700,000	1,630,000	nap	7,058,823,529,412	6,769,230,769,231	nap
Spain	10,747,625	4,818,353	3,957,131	103,107,311,250,000	100,414,888,750,000	61,803,142,727,273
Sri Lanka	175,357	138,119	nap	174,302,213,667	135,385,375,494	nap
Sweden	1,704,418	1,296,243	1,088,735	16,665,000,000,000	15,380,821,917,808	11,648,865,979,381
Switzerland	317,100,000	209,100,000	177,000,000	34,486,923,076,923	34,940,833,333,333	27,968,750,000,000
Taiwan	817,008	629,930	442,745	7,528,707,692,308	5,798,263,473,054	4,435,462,427,746
Tajikistan	404,400	383,900	319,200	2,473,909,091	1,858,900,000	1,029,214,286
Tanzania	139,972	56,034	nap	24,602,604,042	12,852,290,462	nap
Thailand	1,725,344	1,529,591	1,214,456	3,786,926,121,372	2,661,395,522,388	1,718,272,093,023
Trinidad and Tobago	26,809	4,205 <sup>13</sup>	nap	47,460,476,190	14,700,952,381	nap
Turkey	94,200,000	58,700,000	34,100,000	10,524,475,524,476	3,986,013,986,014	2,238,410,596,026
Uganda	68,426	nap	nap	16,072,461,894	Nap	nap

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	<i>Volumes of Transactions</i>			<i>Value Settled in USD million</i>		
	<i>Payments in local currency</i>			<i>Payments in local currency</i>		
	<i>2006</i>	<i>2004</i>	<i>2002</i>	<i>2006</i>	<i>2004</i>	<i>2002</i>
Ukraine	286,000,000	226,000,000	164,000,000	803,000,000,000	439,000,000,000	251,000,000,000
United Arab Emirates	1,019,447	805,756	803,386	936,408,378,378	661,161,351,351	331,247,297,297
United Kingdom	33,030,000	28,322,000	25,563,000	118,874,000,000,000	104,695,050,000,000	74,137,207,142,857
United States	133,605,267	125,103,104	114,979,176	572,645,790,000,000	478,946,945,000,000	405,761,750,000,000
Uruguay	115,880	67,000	74,000	50,669,754,098	70,883,173,702	27,498,643,396
Venezuela	533,669	394,855	182,084	525,740,568,235	186,914,820,494	114,447,028,424
Zambia	65,066	30,699	nap	33,846,687,575	10,923,434,263	nap
Zimbabwe	1,348,458	279,715	3,732	213,577,745,936	35,097,756,821	23,636,363,636

- 1 System started in May 2004. Figure provided multiplied by 1.5 to get annual figures.
- 2 System started in June 2004. Figure provided multiplied by 2 to get annual figures.
- 3 System became live in November 2006. Figure provided multiplied by 6 to get annual figure.
- 4 Figure for number of transactions covered June-Dec, and was multiplied by 1.8 to get annualized figures.
- 5 Original figure covered June-Dec. Was multiplied by 1.8 to get annualized.
- 6 System became live in March 2004. Figure provided multiplied by 1.35 to get annual figures.
- 7 System became live in August 2006. Figure provided multiplied by 3 to get annual figures.
- 8 System implemented in April 2006. Data multiplied by 1.5 to obtain annual figures.
- 9 The System started operating in Sep 2006. Figures indicate a multiplication by 3 to obtain annual figures.
- 10 SPGT+SLOD.
- 11 Qatar gave same figures for number of payments in RTGS and number of cheques.
- 12 System is available since 1995. Data was not provided for 2002.
- 13 Limited to the month of December 2004.

**LARGE VALUE PAYMENT SYSTEMS**

**Table II.3/b**  
**Statistics for RTGS systems that settle in foreign currency**

	Volume of transactions			Value settled in UDS mln		
	In foreign currency			In foreign currency		
	2006	2004	2002	2006	2004	2002
Argentina	21,826	4,952	11,169	25,214,000,000	1,290,000,000	8,084,000,000
Armenia	151	nap	nap	12,704,327	nap	nap
Bolivia	15,534	4,637	nap	7,038,000,000	3,052,000,000	nap
<b>Canada</b>						
Costa Rica	60,251	32,579	23,703	16,577,400,000	17,319,000,000	11,986,720,000
Denmark	116,000	92,000	nap	535,084,745,763	546,333,333,333	nap
Estonia	2,129	nap	nap	82,887,791	nap	nap
Guatemala	8,033	nap	nap	3,328,500,000	nap	nap
Hong Kong USD RTGS	1,742,335	1,273,107	813,806	1,562,000,000,000	1,356,000,000,000	1,274,000,000,000
Hong Kong EUR RTGS	24,444	9,260	nap	325,000,000,000	287,500,000,000	nap
Indonesia	nav	nav	nav	3,031,000,000,000	2,433,000,000,000	1,434,000,000,000
Jordan	34,801	17,502	6,177	6,597,000,000	1,762,000,000	nav
Kenya	10,392 <sup>1</sup>	nap	nap	2,441,000,000	Nap	nap
Peru	155,218	132,813	130,538	89,612,000,000	65,793,000,000	71,594,000,000
Philippines	360,000	250,000	nap	484,000,000,000	169,000,000,000	nap
Poland RTGS 2 - Sorbnet-Euro	99,964	nap	nap	427,576,250,000	Nap	nap
Sweden	205,668	246,308	230,955	1,357,500,000,000	2,178,750,000,000	1,259,090,909,091
United Kingdom	7,656,000	6,540,000	5,282,000	100,399,558,000,000	77,974,526,000,000	43,403,555,714,286
Uruguay	122,721	75,000	89,000	9,230,888,525	17,556,992,734	27,268,770,755

1 Figures available are for the last quarter of 2006. Info was multiplied by 4.

LARGE VALUE PAYMENT SYSTEMS

Table II.4  
Primary means through which payment orders are sent to the RTGS

	SWIFT International Network	SWIFT closed users' group	Proprietary telecommunications network	Other electronic means (e-mail, etc.)	Other paper means
Afghanistan					
Albania		X			
Algeria	X	X	X		
Angola		X			
Argentina			X		
Armenia			X <sup>1</sup>		
Australia		X			
Austria	X	X	X	X	X
Azerbaijan		X			
Bahamas		X			
BCEAO	X				
Belarus				X	
Belgium		X			
Belize					
Bhutan					
Bolivia			X		
Bosnia – Herzegovina		X			
Botswana		X			
Brazil			X		
Bulgaria		X			
Cambodia					
Canada	X <sup>2</sup>				
Cape Verde					
Chile		X			
China			X		
Colombia			X		
Costa Rica			X		
Croatia		X			
Cyprus					
Czech Republic			X	X	
D. R. of Congo					
Denmark		X			
Dominican Republic					
ECCB	X			X	X
Egypt					
El Salvador					
Estonia	X				
Fiji					
Finland		X	X		
France	X				
Georgia			X	X	
Germany		X			
Ghana		X			
Greece	X				
Guatemala	X		X		X

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	SWIFT International Network	SWIFT closed users' group	Proprietary telecommunications network	Other electronic means (e-mail, etc.)	Other paper means
Guyana					
Honduras					
Hong Kong			X		
Hungary		X			
Iceland			X		
India			X		
Indonesia			X		
Iran			X		
Ireland		X			
Israel	X	X			
Italy		X			
Jamaica					
Japan			X		
Jordan		X			
Kazakhstan			X		
Kenya		X			
Kuwait	X		X		
Kyrgyz Republic			X		X
Latvia		X			
Lebanon		X			
Lesotho					
Lithuania			X		
Luxembourg		X			
Macao					
Macedonia	X		X		
Malaysia			X		
Malta		X			
Mauritius		X			
Mexico			X		
Moldova	X <sup>3</sup>		X		
Morocco	X				
Mongolia					
Mozambique					
Myanmar					
Namibia	X	X			
Netherlands	X				
Nepal					
Netherlands Antilles	X			X	
New Zealand		X	X		
Nicaragua					
Norway		X			
Oman			X		
Pakistan					
Paraguay					
Peru			X		
Philippines		X	X		
Poland			X		
Portugal			X		
Qatar	X	X		X	X
Romania		X			

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	SWIFT International Network	SWIFT closed users' group	Proprietary telecommunications network	Other electronic means (e-mail, etc.)	Other paper means
Russia			X		
San Marino					
Rwanda					
Saudi Arabia			X		
Serbia			X		
Singapore		X			
Slovak Republic			X		
Slovenia					
Solomon Islands					
South Africa		X			
Spain		X	X		
Sri Lanka		X			
Sudan					
Swaziland		X			
Sweden		X	X		
Switzerland		X	X		
Taiwan			X		
Tajikistan				X	
Tanzania		X			
Thailand		X	X		
Trinidad and Tobago		X			
Turkey			X		
Uganda	X	X			
Ukraine			X		
United Arab Emirates			X		
United Kingdom		X			
USA			X		
Uruguay			X		
Venezuela		X	X		X
Yemen					
Zambia	X				
Zimbabwe		X			

- 1 "Electronic Payment System" (our RTGS system) was implemented on the basis of CBANet inter-bank computer network, which is a locally created network.
- 2 SWIFTNET.
- 3 Participants also have a possibility to access the System through the SWIFT International Network.

LARGE VALUE PAYMENT SYSTEMS

Table II.5  
Pricing and charges

	Operator makes no charges	Charges are applied have no particular relation to cost recovery	Partial recovery of the operational cost	Full recovery of operational cost
Afghanistan				
Albania				X
Algeria				X
Angola		X		
Argentina	X			
Armenia	X <sup>1</sup>			
Australia			X	
Austria				
Azerbaijan		X		
Bahamas				X
BCEAO				
Belarus				
Belgium				
Belize				
Bhutan				
Bolivia		X		
Bosnia - Herzegovina		X		
Botswana			X	
Brazil <sup>2</sup>				
Bulgaria				
Cambodia				
Canada				
Cape Verde				
Chile				
China			X	
Colombia				
Costa Rica				
Croatia				X
Cyprus				
Czech Republic				
D. R. of Congo				
Denmark				
Dominican Republic				
ECCB	X			
Egypt				
El Salvador				
Estonia		X <sup>3</sup>		
Fiji				
Finland			X	
France				
Georgia		X		
Germany				
Ghana			X	
Greece				
Guatemala			X	

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	Operator makes no charges	Charges are applied have no particular relation to cost recovery	Partial recovery of the operational cost	Full recovery of operational cost
Guyana				
Honduras				
Hong Kong				
Hungary				
Iceland				
India	X			
Indonesia				
Iran				
Ireland				X <sup>4</sup>
Israel				X
Italy				
Jamaica				
Japan			X	
Jordan			X	
Kazakhstan				
Kenya				X
Kuwait	X			
Kyrgyz Republic				X
Latvia			X	
Lebanon			X	
Lesotho				
Lithuania				
Luxembourg				
Macao				
Macedonia				
Malaysia				
Malta				
Mauritius				X
Mexico				
Moldova				
Morocco				
Mongolia				
Mozambique				
Myanmar				
Netherlands				X
Namibia				
Nepal				
Netherlands Antilles	X		X	
New Zealand				
Nicaragua				
Norway				
Oman				
Pakistan				
Paraguay				
Peru				
Philippines				
Poland				
Portugal				
Qatar	X	X		
Romania				X

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	Operator makes no charges	Charges are applied have no particular relation to cost recovery	Partial recovery of the operational cost	Full recovery of operational cost
Russia			X	
San Marino				
Rwanda				
Saudi Arabia				
Serbia				
Singapore				X
Slovak Republic				
Slovenia				
Solomon Islands				
South Africa				X
Spain				
Sri Lanka				
Sudan				
Swaziland		X		
Sweden				
Switzerland				
Taiwan				
Tajikistan				X
Tanzania		X		
Thailand			X	
Trinidad and Tobago			X	
Turkey				
Uganda		X		
Ukraine			X	
United Arab Emirates		X		
United Kingdom				
USA				
Uruguay	X <sup>5</sup>			
Venezuela			X	
Yemen				
Zambia		X		
Zimbabwe		X		

- 1 For the processing/settlement of payment orders through Electronic Payment System CBA does not make any charges, but participants pay for connecting to CBANet network (per month).
- 2 Answers from II.5 to II.17 are related to RTGS operated by CB.
- 3 The RTGS operator has rather stated that its objective is to cover the operational and overhead costs of both RTGS and the ACH because these systems were developed together; they are using the same hardware and are operated by the same operator. This objective has been reached – the revenues of both the RTGS and ACH cover the operational and overhead costs of the systems.
- 4 IRISCo, the RTGS system owner, recovers 100% of its costs annually from IRIS participants. However, this is not done on the basis of transaction charges, but by dividing the total costs between all participants, each paying in proportion to their shareholding in the company (which is in turn based on transaction volumes). In addition, the Central Bank, the system operator, separately bills participants in respect of the TARGET fees applicable to cross-border payment.
- 5 Only one participant pays (A.F.A.P.s).

**LARGE VALUE PAYMENT SYSTEMS**

**Table II.5  
Pricing and charges (continued)**

	Full recovery of operational cost plus partial recovery of investment	Full recovery of operational and investment costs	Full recovery of operational costs and investment plus profit
Afghanistan			
Albania			
Algeria		X	
Angola			
Argentina			
Armenia			
Australia			
Austria	X		
Azerbaijan			
Bahamas			
BCEAO	X		
Belarus			X
Belgium		X	
Belize			
Bhutan			
Bolivia			
Bosnia - Herzegovina			
Botswana			
Brazil		X	
Bulgaria		X	
Cambodia			
Canada		X	
Cape Verde			
Chile		X	
China			
Colombia			X
Costa Rica		X	
Croatia			
Cyprus			
Czech Republic		X	
D. R. of Congo			
Denmark		X	
Dominican Republic			
ECCB			
Egypt			
El Salvador			
Estonia			
Fiji			
Finland			
France			
Georgia			
Germany		X	
Ghana			
Greece		X	
Guatemala			

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	Full recovery of operational cost plus partial recovery of investment	Full recovery of operational and investment costs	Full recovery of operational costs and investment plus profit
Guyana			
Honduras			
Hong Kong		X	
Hungary		X	
Iceland	X		
India			
Indonesia			
Iran		X	
Ireland			
Israel			
Italy		X <sup>1</sup>	
Jamaica			
Japan			
Jordan			
Kazakhstan			X
Kenya			
Kuwait			
Kyrgyz Republic			
Latvia			
Lebanon			
Lesotho			
Lithuania		X	
Luxembourg		X	
Macao			
Macedonia		X	
Malaysia		X	
Malta		X	
Mauritius			
Mexico		X	
Moldova			
Morocco	X		
Mongolia			
Mozambique			
Myanmar			
Namibia	X		
Netherlands			
Nepal			
Netherlands Antilles			
New Zealand	X		
Nicaragua			
Norway		X	
Oman			
Pakistan			
Paraguay			
Peru		X	
Philippines		X	
Poland		X	
Portugal		X	
Qatar			
Romania			

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	Full recovery of operational cost plus partial recovery of investment	Full recovery of operational and investment costs	Full recovery of operational costs and investment plus profit
Russia			
San Marino			
Rwanda			
Saudi Arabia		X	
Serbia			X
Singapore			
Slovak Republic		X	
Slovenia			
Solomon Islands			
South Africa			
Spain		X	
Sri Lanka		X	
Sudan			
Swaziland			
Sweden		X	
Switzerland			X
Taiwan		X	
Tajikistan			
Tanzania			
Thailand			
Trinidad and Tobago			
Turkey		X	
Uganda			
Ukraine			
United Arab Emirates			
United Kingdom	X		
USA			X
Uruguay			
Venezuela			
Yemen			
Zambia			
Zimbabwe			

- 1 As already mentioned in the IMF assessment, in 2002 fees recovered from 80 to 85% of these costs with the balance been regarded as a positive externality.

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**Table II.6**  
**In case of a positive answer to any of the items e), f), or g) in question II.5,**  
**please indicate how many years were considered for recovery of investment costs/profit making:**

	The recovery of investment costs	To start generating a profit
	Years	Years
Afghanistan		
Albania		
Algeria	7	
Angola		
Argentina		
Armenia		
Australia		
Austria	6	
Azerbaijan		
Bahamas		
BCEAO	5	10
Belarus		
Belgium	12 <sup>1</sup>	
Belize		
Bhutan		
Bolivia		
Bosnia - Herzegovina		
Botswana		
Brazil	7	
Bulgaria	5	
Cambodia		
Canada	03-May	
Cape Verde		
Chile	20+	
China		
Colombia	5	
Costa Rica	5	
Croatia		
Cyprus		
Czech Republic	5	
D. R. of Congo		
Denmark	5	
Dominican Republic		
ECCB		
Egypt		
El Salvador		
Estonia		
Fiji		
Finland		
France		
Georgia		
Germany	8	
Ghana		

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	The recovery of investment costs	To start generating a profit
	Years	Years
Greece	4	
Guatemala		
Guyana		
Honduras		
Hong Kong	5	
Hungary	5	
Iceland	5	
India		
Indonesia		
Iran	5	
Ireland		
Israel		
Italy	8	
Jamaica		
Japan		
Jordan		
Kazakhstan	5 <sup>2</sup>	
Kenya		
Kuwait		
Kyrgyz Republic		
Latvia		
Lebanon		
Lesotho		
Lithuania	5	
Luxembourg	6	
Macao		
Macedonia	5	
Madagascar		
Malaysia	5	6
Malta	6	
Mauritius		
Mexico	8	
Moldova		
Mongolia		
Morocco	5	
Mozambique		
Myanmar		
Namibia		
Nepal		
Netherlands		
Netherlands Antilles		
New Zealand		
Nicaragua		
Norway	5	
Oman	Recovered upfront	n/a
Pakistan		
Paraguay		
Peru	5	
Philippines	5	6

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	The recovery of investment costs	To start generating a profit
	Years	Years
Poland	3	
Portugal		
Qatar		
Romania		
Russia		
Rwanda		
San Marino		
Saudi Arabia	10	
Serbia	1	1
Singapore		
Slovak Republic	4	
Slovenia		
Solomon Islands		
South Africa		
Spain	6	
Sri Lanka	10	
Sudan		
Swaziland		
Sweden	6	
Switzerland		2 <sup>3</sup>
Taiwan	5	
Tajikistan		
Tanzania		
Thailand		
Trinidad and Tobago		
Turkey	10	
Uganda		
Ukraine		
United Arab Emirates		
United Kingdom	4	
USA <sup>4</sup>		
Uruguay		
Venezuela		
Yemen		
Zambia		
Zimbabwe		

1 All investment costs from the start of development of ELLIPS (which went live in 1996).

2 Profitability 10%.

3 Opportunity costs of invested capital.

4 The laws and policies governing cost recovery for Federal Reserve priced services were introduced in 1980, well after the system was initially established.

**LARGE VALUE PAYMENT SYSTEMS**

**Table II.7**  
**Sources of liquidity in RTGS system**

	Opening balances and funds received from other participants during the day	Participants can use a part of their reserve requirements during the day	Participants can use all their reserve requirements balance during the day	Lines of credit between banks	The RTGS operator allows current account overdrafts	The RTGS operator grants credit, either in the form of a loan or a repo	Other
Afghanistan							
Albania	X	X		X		X	
Algeria	X	X	X			X	
Angola	X		X	X		X	
Argentina	X						
Armenia	X		X <sup>1</sup>				
Australia	X					X	
Austria			X			X	
Azerbaijan	X		X	X	X	X	
Bahamas	X	X	X	X		X	
BCEAO	X	X	X	X			
Belarus	X	X		X		X	
Belgium	X		X			X	
Belize							
Bhutan							
Bolivia	X			X		X	
Bosnia - Herzegovina			X				
Botswana	X			X		X	
Brazil	X		X			X	
Bulgaria	X		X	X			X
Cambodia							
Canada <sup>2</sup>	X			X <sup>3</sup>			X <sup>4</sup>
Cape Verde							
Chile	X		X	X		X	
China	X	X		X			X
Colombia	X		X			X	X
Costa Rica	X			X		X	
Croatia	X	X			X		
Cyprus							
Czech Republic	X		X			X	
D. R. of Congo							
Denmark	X				X	X	
Dominican Republic							
ECCB	X	X	X	X	X	X	
Egypt							
El Salvador							
Estonia	X		X			X <sup>5</sup>	
Fiji							
Finland	X		X		X		
France	X		X			X	
Georgia	X			X			
Germany	X		X				X <sup>6</sup>

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	Opening balances and funds received from other participants during the day	Participants can use a part of their reserve requirements during the day	Participants can use all their reserve requirements balance during the day	Lines of credit between banks	The RTGS operator allows current account overdrafts	The RTGS operator grants credit, either in the form of a loan or a repo	Other
Ghana	X		X			X	
Greece	X		X		X		
Guatemala	X		X			X <sup>7</sup>	
Guyana							
Honduras							
Hong Kong	X			X	X	X	
Hungary	X		X		X		
Iceland	X				X		
India	X	X	X <sup>8</sup>	X		X	
Indonesia	X		X	X		X	
Iran	X				X		
Ireland	X		X			X	
Israel	X		X	X	X <sup>9</sup>	X <sup>10</sup>	
Italy	X		X		X		
Jamaica							
Japan	X		X	X	X		
Jordan		X				X	
Kazakhstan	X		X	X			X
Kenya	X			X		X	
Kuwait	X			X	X		
Kyrgyz Republic	X		X <sup>11</sup>	X		X	X
Latvia	X		X		X		
Lebanon	X		X			X	
Lesotho							
Lithuania	X		X			X	
Luxembourg			X		X		
Macao							
Macedonia	X	X	X			X	
Madagascar							
Malaysia	X	X				X	
Malta	X		X			X	
Mauritius	X			X		X	
Mexico			X			X	
Moldova	X		X	X	X	X	
Mongolia							
Morocco			X	X		X	
Mozambique							
Myanmar							
Namibia	X	X		X		X	
Nepal							
Netherlands	X	X	X				X
Netherlands Antilles	X	X			X		
New Zealand	X <sup>12</sup>						
Nicaragua							
Norway	X				X		
Oman	X		X	X		X	
Pakistan							

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	Opening balances and funds received from other participants during the day	Participants can use a part of their reserve requirements during the day	Participants can use all their reserve requirements balance during the day	Lines of credit between banks	The RTGS operator allows current account overdrafts	The RTGS operator grants credit, either in the form of a loan or a repo	Other
Paraguay							
Peru	X		X			X	
Philippines	X		X	X		X	
Poland	X		X			X	
Portugal	X		X		X	X	
Qatar	X		X	X	X	X	
Romania	X		X			X	
Russia	X	X				X	
Rwanda							
San Marino							
Saudi Arabia	X			X	X	X	
Serbia	X		X	X		X	
Singapore			X			X	
Slovak Republic	X		X		X		
Slovenia							
Solomon Islands							
South Africa	X		X			X	
Spain	X		X			X	X <sup>13</sup>
Sri Lanka	X		X				X <sup>14</sup>
Sudan							
Swaziland	X		X	X		X	
Sweden						X	
Switzerland	X		X				X <sup>15</sup>
Taiwan	X	X			X		
Tajikistan	X						
Tanzania	X					X	
Thailand	X		X	X		X	
Trinidad and Tobago	X		X	X			X <sup>16</sup>
Turkey	X		X			X	
Uganda	X		X			X	
Ukraine	X		X	X		X	
United Arab Emirates	X	X	X		X		
United Kingdom						X	
USA	X		X	X			
Uruguay	X	X	X	X		X	
Venezuela	X		X			X	
Yemen							
Zambia	X	X		X		X	
Zimbabwe	X			X		X	X

- 1 Participants keep their reserve requirements on their current accounts.
- 2 Bank of Canada does not operate LVTS . It provides settlement facilities to LVTS participants – settlement accounts, intra-day collateralized credit and collateralized overnight credit. LVTS is a dual stream system. In the T1 stream, each participant fully collateralizes any Bank of Canada intra-day credit required to fund and out-payment. In the T2 stream, participants pool collateral so that a participant can borrow from the pool, if necessary, to help fund an out-payment with collateralized intra-day credit from the Bank of Canada. Intra-day loans are automatically re-paid through subsequent net in-payments and the collateral is released.
- 3 Collateral pooling and borrowing.
- 4 Bank of Canada intra-day collateralized credit.

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- 5 The RTGS operator offers this opportunity, but it is not used by the participants (the reserve requirements of the participants are quite high and therefore there is no need for additional liquidity).
- 6 The Deutsche Bundesbank as central bank of Germany provides intraday credit in Euro. Intraday credit is based on eligible collateral. Eligible collateral shall consist of the same assets and instruments as eligible assets for Euro system monetary policy operations. Intraday credit is provided free of charge.
- 7 Intraday liquidity.
- 8 There is no mechanism in place for monitoring of maintenance of CRR balance during the day.
- 9 Each loan given by Bank of Israel is against eligible collateral.
- 10 Only loans.
- 11 However use of reserves allowed during two weeks within the limit threshold, established by the NBKR.
- 12 Liquified in NZD through the use of USD/NZD Fx swaps.
- 13 The RTGS operator allows current account overdrafts fully collateralized.
- 14 Intraday liquidity facility.
- 15 Central bank as settlement agent grants intraday credits based on repo transactions.
- 16 Free intraday collateralized credit.

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Table II.8  
Operator's Management of its Credit Risk Exposure in the System

	High quality collateral required in all cases	Collateral required in all cases, but quality not always suitable	Account overdrafts and/or credit is limited, but no collateral required	No limits or collateral requirements for overdrafts/ credit
Afghanistan				
Albania	X			
Algeria	X			X
Angola	X			
Argentina				
Armenia <sup>1</sup>				
Australia	X			
Austria	X			
Azerbaijan	X			
Bahamas	X			
BCEAO	X			
Belarus	X			
Belgium	X			
Belize				
Bhutan				
Bolivia	X			
Bosnia - Herzegovina				X
Botswana	X			
Brazil	X			
Bulgaria				
Cambodia				
Canada	X			
Cape Verde				
Chile	X			
China	X			
Colombia	X			
Costa Rica		X		
Croatia	X			
Cyprus				
Czech Republic	X			
D. R. of Congo				
Denmark	X			
Dominican Republic				
ECCB	X		X	
Egypt				
El Salvador				
Estonia	X			
Fiji				
Finland	X			
France	X			
Georgia				
Germany	X <sup>2</sup>			
Ghana	X			
Greece	X			

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	High quality collateral required in all cases	Collateral required in all cases, but quality not always suitable	Account overdrafts and/or credit is limited, but no collateral required	No limits or collateral requirements for overdrafts/ credit
Guatemala	X			
Guyana				
Honduras				
Hong Kong	X		X	
Hungary	X			
Iceland	X			
India	X			
Indonesia	X			
Iran			X	
Ireland	X			
Israel	X			
Italy	X			
Jamaica				
Japan		X		
Jordan	X			
Kazakhstan				
Kenya	X			
Kuwait	X			
Kyrgyz Republic	X			
Latvia	X			
Lebanon	X			
Lesotho				
Lithuania	X			
Luxembourg	X			
Macao				
Macedonia	X			
Madagascar				
Malaysia	X			
Malta	X			
Mauritius	X			
Mexico	X			
Moldova	X			
Mongolia				
Morocco	X			
Mozambique				
Myanmar				
Namibia	X			
Nepal				
Netherlands	X			
Netherlands Antilles		X		
New Zealand	X			
Nicaragua				
Norway	X			
Oman	X			
Pakistan				
Paraguay				
Peru	X			
Philippines	X			
Poland	X			

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	High quality collateral required in all cases	Collateral required in all cases, but quality not always suitable	Account overdrafts and/or credit is limited, but no collateral required	No limits or collateral requirements for overdrafts/ credit
Portugal	X			
Qatar	X		X	
Romania	X			
Russia	X			
Rwanda				
San Marino				
Saudi Arabia	X			
Serbia	X			
Singapore	X			
Slovak Republic	X			
Slovenia				
Solomon Islands				
South Africa	X			
Spain	X			
Sri Lanka	X			
Sudan				
Swaziland	X			
Sweden	X			
Switzerland	X			
Taiwan	X			
Tajikistan				
Tanzania	X			
Thailand	X			
Trinidad and Tobago	X			
Turkey	X			
Uganda	X			
Ukraine				
United Arab Emirates			X	X
United Kingdom	X			
USA			X <sup>3</sup>	
Uruguay	X			
Venezuela	X			
Yemen				
Zambia	X			
Zimbabwe	X			

- 1 There are no overdraft/credit or collateral mechanisms in RTGS system, as the participants in average keep 10 times more liquidity, than needed.
- 2 Eligible collateral is subject to the same valuation and risk control rules as those laid down in Annex I to Guideline ECB/2000/7 (<http://www.ecb.europa.eu/pub/pubbydate/2000/html>).
- 3 Collateral is required in certain circumstances, but not all.

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Table II.9  
Non-repayment of Intraday Liquidity at the end of Operational Day

	Operator seizes the collateral immediately thereafter	Operator transforms the intraday credit into overnight at market rates	Operator transforms the intraday credit into overnight at penalty rates	Other
Afghanistan				
Albania		X		
Algeria			X	
Angola		X		
Argentina				
Armenia				
Australia			X	
Austria		X		
Azerbaijan	X			
Bahamas	X	X		
BCEAO			X	
Belarus		X		
Belgium			X	
Belize				
Bhutan				
Bolivia			X	
Bosnia - Herzegovina				
Botswana		X		
Brazil			X	
Bulgaria				
Cambodia				
Canada			X <sup>1</sup>	
Cape Verde				
Chile			X	
China				
Colombia			X	
Costa Rica				X
Croatia				X <sup>2</sup>
Cyprus				
Czech Republic			X	
D. R. of Congo				
Denmark	X			
Dominican Republic				
ECCB			X	
Egypt				
El Salvador				
Estonia	X			
Fiji				
Finland			X	
France <sup>3</sup>				
Georgia				
Germany				X <sup>4</sup>
Ghana		X		
Greece			X	
Guatemala	X			

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	Operator seizes the collateral immediately thereafter	Operator transforms the intraday credit into overnight at market rates	Operator transforms the intraday credit into overnight at penalty rates	Other
Guyana				
Honduras				
Hong Kong			X	
Hungary		X		
Iceland	X	X		
India	X <sup>5</sup>		X	
Indonesia			X	
Iran			X	
Ireland			X <sup>6</sup>	
Israel			X <sup>7</sup>	
Italy		X	X	X <sup>8</sup>
Jamaica				
Japan			X	
Jordan			X	
Kazakhstan				
Kenya			X	
Kuwait		X	X	
Kyrgyz Republic			X	
Latvia			X	
Lebanon			X	
Lesotho				
Lithuania		X		
Luxembourg			X	
Macao				
Macedonia		X		
Madagascar				
Malaysia			X	
Malta	X		X	
Mauritius		X		
Mexico			X	
Moldova				X <sup>9</sup>
Mongolia				
Morocco			X	
Mozambique				
Myanmar				
Namibia		X		
Nepal				
Netherlands	X		X	
Netherlands Antilles			X	
New Zealand				X <sup>10</sup>
Nicaragua				
Norway				X <sup>11</sup>
Oman			X	
Pakistan				
Paraguay				
Peru			X	
Philippines			X	
Poland <sup>12</sup>			X	
Portugal			X	
Qatar	X	X	X	

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	Operator seizes the collateral immediately thereafter	Operator transforms the intraday credit into overnight at market rates	Operator transforms the intraday credit into overnight at penalty rates	Other
Romania	X			
Russia			X	
Rwanda				
San Marino				
Saudi Arabia			X	
Serbia		X		
Singapore			X	
Slovak Republic		X		
Slovenia				
Solomon Islands				
South Africa			X	
Spain			X	
Sri Lanka			X	
Sudan				
Swaziland		X		
Sweden		X		
Switzerland			X	
Taiwan			X	
Tajikistan				
Tanzania			X	
Thailand			X	
Trinidad and Tobago			X	
Turkey			X	
Uganda	X			
Ukraine				
United Arab Emirates			X	
United Kingdom			X	
USA			X	
Uruguay			X	
Venezuela			X	
Yemen				
Zambia	X			X
Zimbabwe			X	

- 1 Only if the participant is deemed solvent. Other wise, the Bank of Canada seizes collateral and funds settlement
- 2 The RTGS operator transforms the intraday credit into overnight at Lombard loan rates.
- 3 The intraday credit is transformed automatically into overnight credit at the rate of the Euro system's marginal lending facility (at this date, 100 base points over the main refinancing rate).
- 4 The failure by credit institutions established in the EEA that are eligible counterparties for Euro system monetary policy operations and have access to the marginal lending facility, including when those credit institutions act through a branch established in the EEA and including branches established in the EEA of credit institutions that are established outside the EEA, to reimburse the intraday credit at the end of the day shall automatically be considered as a request by such entity for recourse to the marginal lending facility. The failure by
  - credit institutions established in the EEA that are not eligible counterparties for Euro system monetary policy operations and/or do not have access to the marginal lending facility, including when they act through a branch established in the EEA and including branches established in the EEA of credit institutions that are established outside the EEA;
  - investment firms established in the EEA provided that they have concluded an arrangement with a Euro system monetary policy counterparty to ensure that any residual debit position at the end of the relevant day is covered; and
  - entities that provide clearing or settlement services, which are established in the EEA and are subject to oversight by a competent authority, provided that the arrangements for granting intraday credit to such entities have been submitted to the Governing Council in advance and have been approved by the Governing Council to reimburse the intraday credit at the end of the day for whatever reason shall

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render that entity liable to the following penalties: if the entity in question has a debit balance on its account at the end of the day for the first time within any twelve-month period, then this entity shall incur penalty interest calculated at a rate of 5% above the marginal lending rate on the amount of such debit balance; if the entity in question has a debit balance on its account at the end of the day for at least the second time within the same twelve-month period, then the penalty interest mentioned above shall be increased by 2.5% for each time additional to the first that a debit position has occurred within this twelve-month period.

- 5 In addition penalty is charged.
- 6 ECB marginal lending rates are applied.
- 7 Key interest rate +1%.
- 8 The failure to reimburse the intraday credit at the end of the day by a participant which is an eligible counterparty for Euro system monetary policy operations and has access to the marginal lending facility is considered as a request for a recourse to the marginal lending facility at the marginal lending rate.
- 9 The RTGS operator transforms the intraday credit into overnight at the rate on overnight credits that are the ceiling interest rate of the rates corridor applied by NBM.
- 10 Generally, intraday credit is not provided as the system is strongly liquefied, primarily through the use of FX swaps.
- 11 That is 1.0 percent point above the interest rate for deposits. This is not referred to as a penalty rate.
- 12 If the bank fails to provide the funds necessary for repayment of the credit together with the interest due by the specified time (10.30 a.m. CET) on the next operating day, the National Bank of Poland will sell the securities in order to cover the bank's debt.

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**Table II.10**  
**If a participant does not have enough balance (and/or credit) in its current account with the RTGS operator to process new payments, what mechanism becomes applicable**

	The payment order is rejected immediately	The payment order goes into a queue for later processing	Other
Afghanistan			
Albania		X	
Algeria		X	
Angola		X	
Argentina	X		
Armenia	X		
Australia		X	
Austria		X	
Azerbaijan		X	
Bahamas		X	
BCEAO		X	
Belarus		X	
Belgium		X	
Belize			
Bhutan			
Bolivia	X		
Bosnia - Herzegovina		X	
Botswana		X	
Brazil	X	X	
Bulgaria		X	
Cambodia			
Canada	X	X	
Cape Verde			
Chile		X	
China		X	
Colombia		X	X
Costa Rica	X		
Croatia		X	
Cyprus			
Czech Republic		X	
D. R. of Congo			
Denmark		X	
Dominican Republic			
ECCB	X		
Egypt			
El Salvador			
Estonia		X	
Fiji			
Finland		X	
France		X	
Georgia		X	
Germany		X	
Ghana		X	
Greece		X	

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	The payment order is rejected immediately	The payment order goes into a queue for later processing	Other
Guatemala		X	
Guyana			
Honduras			
Hong Kong		X	
Hungary		X	
Iceland	X		
India		X	
Indonesia		X	
Iran		X	
Ireland		X <sup>1</sup>	
Israel		X <sup>2</sup>	
Italy		X	
Jamaica			
Japan	X		
Jordan		X	
Kazakhstan		X	
Kenya	X	X	
Kuwait		X	
Kyrgyz Republic	X	X <sup>3</sup>	
Latvia		X	
Lebanon <sup>4</sup>		X	
Lesotho			
Lithuania		X	
Luxembourg		X	
Macao			
Macedonia		X	
Madagascar			
Malaysia		X	
Malta		X	
Mauritius	X	X	
Mexico		X	
Moldova		X	
Mongolia			
Morocco		X	
Mozambique			
Myanmar			
Namibia	X		
Nepal			
Netherlands		X	
Netherlands Antilles		X	
New Zealand		X	
Nicaragua			
Norway		X	
Oman		X	
Pakistan			
Paraguay			
Peru		X	
Philippines		X	
Poland		X	
Portugal		X	

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	The payment order is rejected immediately	The payment order goes into a queue for later processing	Other
Qatar		X	
Romania		X	
Russia		X	
Rwanda			
San Marino			
Saudi Arabia		X	
Serbia		X	
Singapore		X	
Slovak Republic		X	
Slovenia			
Solomon Islands			
South Africa	X		
Spain		X	
Sri Lanka		X	
Sudan			
Swaziland	X	X	
Sweden		X	
Switzerland		X	
Taiwan		X	
Tajikistan	X		
Tanzania	X	X	
Thailand		X	
Trinidad and Tobago		X	X
Turkey		X	
Uganda <sup>5</sup>	X		
Ukraine	X		
United Arab Emirates		X	
United Kingdom		X	
USA	X		X <sup>6</sup>
Uruguay		X	
Venezuela		X	
Yemen			
Zambia	X		X
Zimbabwe <sup>7</sup>	X	X	

- 1 Payments in the queue for value on any given day are rejected at close of business if they have still not been settled by that time.
- 2 See question II.11.
- 3 The queuing mechanism will be able in the new RTGS system starting from the beginning of 2008.
- 4 Payments designated LO can be queued whereas those designated RG are rejected immediately.
- 5 Please note that the Bank of Uganda RTGS system provides for two distinct channels:
  - the Real Time Mechanism (RTM) where a payment is immediately rejected if there are no sufficient funds or collateral to support settlement of the funds transfer instruction, and
  - the Liquidity Optimizing Mechanism (LOM), where a payment order is queued if a participant does not have sufficient funds on the settlement account. N.B As we wanted the real-time settlement culture to take root and be appreciated, we initially implemented only the RTM option. We decided against implementing both the RTM and LOM simultaneously as RTGS participants, in pursuit of liquidity optimization, would have most likely opted for the LOM facility. Plans are now underway to implement the LOM option.
- 6 Overdrafts against net debit caps are generally monitored ex-post. In limited circumstances, a participant's intraday position may be monitored in real-time and any payment order that would result in a breach of that cap would be rejected.
- 7 Participants can make or choose to use the delayed route or real time route and the delayed route allows for the queuing of payment orders.

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Table II.11  
Queuing arrangements and prioritization

	A centralized queuing mechanism is used	A FIFO resolution algorithm is used	Bilateral offsetting is used as resolution algorithm	Multilateral offsetting is used as resolution algorithm	Both bilateral and multilateral offsetting is used
Afghanistan					
Albania	X	X			
Algeria	X	X		X	
Angola	X	X			X
Argentina					
Armenia <sup>1</sup>					
Australia	X		X		
Austria	X	X			
Azerbaijan	X	X			X
Bahamas		X		X	
BCEAO	X	X		X	
Belarus				X	
Belgium	X	X		X <sup>2</sup>	
Belize					
Bhutan					
Bolivia					
Bosnia - Herzegovina	X				
Botswana	X	X	X	X	X
Brazil		X			
Bulgaria	X	X		X	
Cambodia					
Canada	X	X			X
Cape Verde					
Chile	X	X		X	
China	X	X			
Colombia	X	X		X	
Costa Rica					
Croatia	X	X			
Cyprus					
Czech Republic	X	X			
D. R. of Congo					
Denmark	X			X	
Dominican Republic					
ECCB					
Egypt					
El Salvador					
Estonia	X	X			
Fiji					
Finland	X	X		X	
France <sup>3</sup>	X	X			
Georgia	X	X			
Germany	X	X			X
Ghana	X	X			
Greece	X	X		X	

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	A centralized queuing mechanism is used	A FIFO resolution algorithm is used	Bilateral offsetting is used as resolution algorithm	Multilateral offsetting is used as resolution algorithm	Both bilateral and multilateral offsetting is used
Guatemala	X	X	X	X	X
Guyana					
Honduras					
Hong Kong	X	X		X	
Hungary	X	X		X	
Iceland					
India	X	X		X	
Indonesia	X	X			
Iran	X	X			X
Ireland	X	X			X
Israel	X	X			
Italy	X	X	X		
Jamaica					
Japan					
Jordan	X			X	
Kazakhstan	X	X		X	
Kenya	X	X		X	
Kuwait	X				X
Kyrgyz Republic <sup>4</sup>	X	X		X	
Latvia	X	X			X
Lebanon	X	X			
Lesotho					
Lithuania	X	X			X
Luxembourg		X			
Macao					
Macedonia	X	X			
Madagascar					
Malaysia	X	X			
Malta	X				
Mauritius	X	X			X
Mexico <sup>5</sup>	X			X	
Moldova	X	X		X	
Mongolia					
Morocco		X		X	
Mozambique					
Myanmar					
Namibia					
Nepal					
Netherlands		X			
Netherlands Antilles	X	X			
New Zealand		X	X	X	X
Nicaragua					
Norway	X	X		X	
Oman	X	X		X	X
Pakistan					
Paraguay					
Peru		X			
Philippines	X	X			

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	A centralized queuing mechanism is used	A FIFO resolution algorithm is used	Bilateral offsetting is used as resolution algorithm	Multilateral offsetting is used as resolution algorithm	Both bilateral and multilateral offsetting is used
Poland	X	X		X	
Portugal	X	X	X	X	X
Qatar	X	X			
Romania	X	X			X
Russia		X			X
Rwanda					
San Marino					
Saudi Arabia	X	X		X	
Serbia	X	X			X
Singapore	X	X		X	
Slovak Republic					X
Slovenia					
Solomon Islands					
South Africa					
Spain	X	X			X
Sri Lanka	X	X			
Sudan					
Swaziland		X			X
Sweden	X	X			
Switzerland	X	X	X		
Taiwan	X	X			
Tajikistan					
Tanzania	X	X			X
Thailand	X	X			X
Trinidad and Tobago				X	
Turkey	X	X		X	
Ugandan <sup>6</sup>					
Ukraine					
United Arab Emirates	X	X	X		
United Kingdom	X				
USA					
Uruguay					
Venezuela		X			
Yemen					
Zambia	X	X			
Zimbabwe	X	X	X	X	X

- 1 A FIFO mechanism is used in the RTGS system, but there are no queuing arrangements and prioritization. However, there are plans to organize queuing mechanism in near future in a new type of system- hybrid system.
- 2 Only in case of gridlock.
- 3 Although the participants can not set priorities to their payment orders, the system will automatically grant a higher priority to CLS payments, Ancillary Systems settlements and Central Bank operations.
- 4 The current system does not have any queuing mechanism. But the new RTGS will support such mechanism on FIFO resolution.
- 5 Participants can set funds aside so settle high priority payments.
- 6 Although the option that provides for queuing is not yet implemented, it could possibly among others provide for b, e, f, h, i, j. However, implementation details and the feasible permutations of the above options will be worked out with the vendor.

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Table II.11  
Queuing arrangements and prioritization (continued)

	The offsetting mechanism is triggered automatically every certain period of time	The offsetting mechanism is triggered automatically by non-time-related parameters	The offsetting mechanism can be triggered manually by the RTGS operator	Participants can set priorities to their payment orders	Participants can change the priorities to their payment orders once these orders are in a queue waiting to be settled
Afghanistan					
Albania			X	X	X
Algeria			X	X	X
Angola	X		X	X	X
Argentina					
Armenia					
Australia	X			X	X
Austria				X	X
Azerbaijan	X		X	X	X
Bahamas	X	X	X	X	X
BCEAO			X	X	X
Belarus	X			X	X
Belgium		X	X	X	
Belize					
Bhutan					
Bolivia					
Bosnia - Herzegovina				X	X
Botswana		X	X	X	X
Brazil			X	X	
Bulgaria	X		X	X	X
Cambodia					
Canada	X		X	X	
Cape Verde					
Chile	X		X	X	X
China		X	X	X	X
Colombia	X			X	X
Costa Rica					
Croatia				X	X
Cyprus					
Czech Republic				X	
D. R. of Congo					
Denmark			X	X	X
Dominican Republic					
ECCB					
Egypt					
El Salvador					
Estonia				X	
Fiji					
Finland	X			X	X
France		X			
Georgia				X	X
Germany	X	X	X	X	X

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	The offsetting mechanism is triggered automatically every certain period of time	The offsetting mechanism is triggered automatically by non-time-related parameters	The offsetting mechanism can be triggered manually by the RTGS operator	Participants can set priorities to their payment orders	Participants can change the priorities to their payment orders once these orders are in a queue waiting to be settled
Ghana				X	X
Greece			X	X	
Guatemala	X	X	X	X	X
Guyana					
Honduras					
Hong Kong	X		X		
Hungary			X	X	X
Iceland					
India			X	X	X
Indonesia					
Iran	X		X	X	X
Ireland	X		X	X	X
Israel	X		X	X	X
Italy		X		X	X
Jamaica					
Japan					
Jordan			X	X	
Kazakhstan	X			X	X
Kenya	X		X	X	X
Kuwait				X	X
Kyrgyz Republic	X		X	X	X
Latvia		X	X	X	X
Lebanon	X		X	X	X
Lesotho					
Lithuania	X		X	X	X
Luxembourg					
Macao					
Macedonia			X	X	X
Madagascar					
Malaysia				X	X
Malta					
Mauritius	X		X	X	X
Mexico	X	X		X	
Moldova			X	X	X
Mongolia					
Morocco			X	X	X
Mozambique					
Myanmar					
Namibia					
Nepal					
Netherlands				X	X
Netherlands Antilles					
New Zealand	X				
Nicaragua					
Norway			X		X
Oman			X	X	X
Pakistan					

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	The offsetting mechanism is triggered automatically every certain period of time	The offsetting mechanism is triggered automatically by non-time-related parameters	The offsetting mechanism can be triggered manually by the RTGS operator	Participants can set priorities to their payment orders	Participants can change the priorities to their payment orders once these orders are in a queue waiting to be settled
Paraguay					
Peru					
Philippines				X	X
Poland	X		X		
Portugal	X	X	X		X
Qatar	X	X	X	X	
Romania	X		X	X	X
Russia			X	X	X
Rwanda					
San Marino					
Saudi Arabia			X	X	X
Serbia			X	X	X
Singapore	X		X	X	X
Slovak Republic	X			X	
Slovenia					
Solomon Islands					
South Africa					
Spain		X	X	X	X
Sri Lanka				X	X
Sudan					
Swaziland	X		X	X	X
Sweden					X
Switzerland		X		X	
Taiwan					
Tajikistan					
Tanzania	X		X		X
Thailand	X			X	X
Trinidad and Tobago	X	X	X	X	X
Turkey	X		X	X	X
Uganda					
Ukraine					
United Arab Emirates	X		X		
United Kingdom			X	X	X
USA					
Uruguay				X <sup>1</sup>	X <sup>2</sup>
Venezuela					
Yemen					
Zambia			X	X	
Zimbabwe	X		X	X	X

1 Manual process is required.

2 Manual process is required.

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**Table II.12**  
**Is the pricing policy used to incentivate the smooth flow of payments through the system during the day, to promote participants sending their payment orders early in the operational day?**

Afghanistan	
Albania	
Algeria	X
Angola	
Argentina	
Armenia	
Australia	
Austria	
Azerbaijan	
Bahamas	
BCEAO	X
Belarus	X
Belgium	
Belize	
Bhutan	
Bolivia	
Bosnia - Herzegovina	X
Botswana	X
Brazil	X
Bulgaria	X
Cambodia	
Canada	
Cape Verde	
Chile	
China	X
Colombia	X
Costa Rica	
Croatia	
Cyprus	
Czech Republic	X
D. R. of Congo	
Denmark	
Dominican Republic	
ECCB	
Egypt	
El Salvador	
Estonia	
Fiji	
Finland	
France	
Georgia	X
Germany	
Ghana	
Greece	
Guatemala	X

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Guyana	
Honduras	
Hong Kong	
Hungary	
Iceland	
India	
Indonesia	X
Iran	
Ireland	
Israel	1
Italy	
Jamaica	
Japan	
Jordan	
Kazakhstan	X
Kenya	X
Kuwait	
Kyrgyz Republic	
Latvia	
Lebanon	
Lesotho	
Lithuania	
Luxembourg	
Macao	
Macedonia	X
Madagascar	
Malaysia	
Malta	
Mauritius	
Mexico	
Moldova	
Mongolia	
Morocco	
Mozambique	
Myanmar	
Namibia	
Nepal	
Netherlands	
Netherlands Antilles	
New Zealand	
Nicaragua	
Norway	
Oman	
Pakistan	
Paraguay	
Peru	X
Philippines	
Poland	
Portugal	X
Qatar	
Romania	

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Russia	
Rwanda	
San Marino	
Saudi Arabia	
Serbia	X
Singapore	X
Slovak Republic	X
Slovenia	
Solomon Islands	
South Africa	X
Spain	
Sri Lanka	
Sudan	
Swaziland	X
Sweden	
Switzerland	X
Taiwan	X
Tajikistan	X
Tanzania	X
Thailand	X
Trinidad and Tobago	
Turkey	
Uganda	X
Ukraine	X
United Arab Emirates	
United Kingdom	
USA	
Uruguay	
Venezuela	
Yemen	
Zambia	X
Zimbabwe	

- 1 ZAHAV system has the option to activate differentiated charges based on the time of the day, so far Bank of Israel did not use that option.

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Table II.13  
Resilience and Business Continuity Practices

	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
Afghanistan							
Albania	X		X		X		
Algeria	X	X	X	X	X	X	X
Angola	X	X	X		X	X	
Argentina	X	X	X	X	X		X
Armenia	X	X	X	X	X <sup>1</sup>		X
Australia	X	X	X	X	X	X	X
Austria	X		X	X	X	X	X
Azerbaijan	X	X		X	X	X	X
Bahamas	X	X	X		X	X	X
BCEAO	X	X	X	X	X	X	
Belarus	X	X		X	X	X	X
Belgium	X	X	X	X	X	X	X
Belize							
Bhutan							
Bolivia	X			X	X		
Bosnia - Herzegovina	X	X	X	X	X	X	X
Botswana	X	X	X	X	X	X	X
Brazil	X	X		X	X		X
Bulgaria	X		X		X	X	X
Cambodia							
Canada	X	X	X	X	X	X	X
Cape Verde							
Chile	X	X	X	X	X	X	X
China	X	X	X	X			X
Colombia	X	X	X	X	X	X	X
Costa Rica	X	X	X	X	X		X
Croatia	X	X	X				
Cyprus							
Czech Republic	X	X		X	X	X	X
D. R. of Congo							
Denmark	X	X	X	X	X	X	X
Dominican Republic							
ECCB	X	X	X		X	X	
Egypt							
El Salvador							
Estonia	X	X	X		X	X	X
Fiji							
Finland	X	X	X	X	X	X	X
France	X	X	X		X	X	X
Georgia	X	X	X				
Germany	X	X	X	X	X	X	X

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	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
Ghana				X	X		
Greece	X		X		X	X	X
Guatemala	X	X	X	X	X	X	X
Guyana							
Honduras							
Hong Kong	X	X	X	X	X	X	X
Hungary	X	X	X	X	X	X	X
Iceland	X	X	X	X	X	X	X
India	X	X	X	X	X	X	X
Indonesia	X	X	X	X	X	X	X
Iran	X		X				
Ireland	X	X	X	X	X	X	X
Israel	X	X		X	X	X	X <sup>2</sup>
Italy				X	X	X	X
Jamaica							
Japan	X	X	X	X	X	X	X
Jordan				X	X	X	X
Kazakhstan	X	X		X	X	X	X
Kenya	X	X	X	X	X	X	X
Kuwait	X	X		X		X	X
Kyrgyz Republic	X	X	X	X	X	X	X
Latvia	X	X	X	X	X	X	X
Lebanon	X	X		X	X	X	
Lesotho							
Lithuania	X	X		X	X	X	X
Luxembourg				X	X	X	X
Macao							
Macedonia <sup>3</sup>	X		X				
Madagascar							
Malaysia	X	X	X	X	X	X	X
Malta	X	X	X		X		X
Mauritius	X	X	X	X	X	X	X
Mexico	X	X	X	X	X		
Moldova	X	X		X	X	X	X
Mongolia							
Morocco	X	X		X	X	X	X
Mozambique							
Myanmar							
Namibia	X	X	X	X	X	X	X
Nepal							
Netherlands	X			X	X	X	X
Netherlands Antilles	X		X				
New Zealand	X	X	X	X	X		X
Nicaragua							
Norway	X	X	X	<sup>4</sup>	X	X	X
Oman	X	X	X	X	X	X	X <sup>5</sup>
Pakistan							

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	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
Paraguay							
Peru	X	X	X	X	X		
Philippines	X	X	X	X	X	X	X
Poland	X	X	X	X	X	X	X
Portugal	X	X	X	X	X	X	X
Qatar	X	X	X		X	X	
Romania	X	X	X	X	X	X	X
Russia	X			X	X	X	X
Rwanda							
San Marino							
Saudi Arabia	X	X	X	X	X	X	X
Serbia	X	X	X	X	X	X	X
Singapore	X	X	X	X	X	X	X
Slovak Republic	X	X	X	X	X	X	X
Slovenia							
Solomon Islands							
South Africa	X	X	X	X	X	X	X
Spain	X	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X	X
Sudan							
Swaziland	X			X		X	
Sweden				X	X	X	X
Switzerland	X	X		X	X	X	X
Taiwan	X	X	X	X	X	X	X
Tajikistan	X						
Tanzania	X	X	X	X	X	X	X
Thailand	X	X	X	X	X	X	X
Trinidad and Tobago	X	X	<sup>6</sup>	X	X	X	
Turkey	X	X	X	X	X	X	X
Uganda	X	X	X	<sup>7</sup>	X	X	X
Ukraine	X	X	X	X	X	X	X
United Arab Emirates	X		X			X	
United Kingdom	X	X		X	X	X	X
USA	X	X	X	X	X	X	X
Uruguay	X	X <sup>8</sup>	X		X		
Venezuela	X	X	X		X	X	X
Yemen							
Zambia	X	X		X	X		
Zimbabwe	X	X	X	X	X	X	

- 1 Documented partly, but it includes the main issues.
- 2 Bank of Israel is in the process of preparing the procedure.
- 3 b, d, e, f and g are in progress.
- 4 We have a fully equipped alternative processing site, but it is not functioning as an alternate processing site.
- 5 Testing process is being perfected.
- 6 There is a fail-over server at the main processing site.
- 7 Please note that regarding (d), an alternate processing site is currently being put in place. It will have full time SWIFT connectivity, dedicated and dial-up communication lines etc., and we shall be able to work from there as and when required.
- 8 Only tapes.

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Table II.14  
If applicable, what is the targeted performance level for full system recovery?

	Minutes
Afghanistan	
Albania	30
Algeria	
Angola	10
Argentina	
Armenia	In the CBA main building usually 5 minutes, but not more than 30 minutes outside Yerevan approximately 2 hours
Australia	15 minutes for component failure, 40 minutes for recovery at the back up site, 60 minutes if relocation of staff is required
Austria	60
Azerbaijan	30 <sup>1</sup>
Bahamas	30
BCEAO	60
Belarus	240
Belgium	<120
Belize	
Bhutan	
Bolivia	
Bosnia – Herzegovina	30
Botswana	30
Brazil	30
Bulgaria	30
Cambodia	
Canada	under 120
Cape Verde	
Chile	NA
China	360
Colombia	30-120
Costa Rica	
Croatia	
Cyprus	
Czech Republic	60
D. R. of Congo	
Denmark	240
Dominican Republic	
ECCB	1440
Egypt	
El Salvador	
Estonia	120
Fiji	
Finland	NA
France	120
Georgia	NA
Germany	30
Ghana	20
Greece	120
Guatemala	120
Guyana	

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	Minutes
Honduras	
Hong Kong	45
Hungary	120
Iceland	
India	120
Indonesia	45
Iran	
Ireland	60
Israel	120 <sup>2</sup>
Italy	60/120
Jamaica	
Japan	120
Jordan	NA
Kazakhstan	120
Kenya <sup>3</sup>	
Kuwait	120
Kyrgyz Republic	no more than 120
Latvia	10-15
Lebanon	20
Lesotho	
Lithuania	120
Luxembourg	240
Macao	
Macedonia	240
Madagascar	
Malaysia	240
Malta	360
Mauritius	30
Mexico	NA
Moldova	15
Mongolia	
Morocco	120
Mozambique	
Myanmar	
Namibia	
Nepal	240
Netherlands	
Netherlands Antilles	
New Zealand	60
Nicaragua	
Norway	60
Oman	30
Pakistan	
Paraguay	
Peru	NA
Philippines	120
Poland	RTGS1: 240 – RTGS2: 120
Portugal	120
Qatar	NA
Romania	60
Russia	30

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	Minutes
Rwanda	
San Marino	
Saudi Arabia	5-10
Serbia	NA
Singapore <sup>4</sup>	
Slovak Republic	NA
Slovenia	
Solomon Islands	
South Africa	150
Spain	120
Sri Lanka	120
Sudan	
Swaziland	
Sweden	120
Switzerland	<120
Taiwan	30
Tajikistan	120
Tanzania	120
Thailand	240
Trinidad and Tobago	60
Turkey	30
Uganda <sup>5</sup>	
Ukraine	15-120 <sup>6</sup>
United Arab Emirates	NA
United Kingdom	45
USA	60
Uruguay	NA
Venezuela	NA
Yemen	
Zambia	NA
Zimbabwe	120

- 1 For full recovery in alternate processing site.
- 2 120 minutes from the time that the decision to move to DR site was accepted.
- 3 Not yet standardized.
- 4 For high availability – a couple of seconds. For the activation of the disaster recover site – 1 to 2 hours.
- 5 As the back up site is still under construction, the targeted time for full system recovery still being discussed. However, we are looking at between 60 –120 minutes as the time for full system recovery, where operations are shifted to a functional back up site. Otherwise, in the current arrangement, there are two production servers, which are tightly coupled, and closely monitoring each other. Should one fail, the other one takes over almost seamlessly.
- 6 15 minutes in the main processing site, 120 minutes in the alternated processing site.

**LARGE VALUE PAYMENT SYSTEMS**

**Table II.15  
RTGS access rules and policies**

	There is an explicit access/exclusion policy for the system	Access is granted on the basis of institutional standing	Access granted on the basis of the fulfillment of a set of objective criteria	Formal rules exist to allow operator to exclude a participant timely
Afghanistan				
Albania	X		X	X
Algeria	X	X	X	X
Angola	X	X	X	X
Argentina	X	X	X	X
Armenia		X	X <sup>1</sup>	
Australia	X		X	X
Austria	X	X		X
Azerbaijan	X	X		X
Bahamas	X	X		X
BCEAO	X	X	X	X
Belarus	X	X	X	X
Belgium	X	X	X	X
Belize				
Bhutan				
Bolivia	X	X		X
Bosnia – Herzegovina	X		X	X
Botswana	X		X	X
Brazil	X	X	X	X
Bulgaria	X		X	X
Cambodia				
Canada	X	X	X	X
Cape Verde				
Chile	X	X	X	X
China	X	X	X	X
Colombia	X	X	X	X
Costa Rica	X	X	X	X
Croatia	X	X		X
Cyprus				
Czech Republic		X		X
D. R. of Congo				
Denmark	X	X		X
Dominican Republic				
ECCB		X		
Egypt				
El Salvador				
Estonia	X	X		X
Fiji				
Finland	X	X	X	X
France	X	X	X	
Georgia	X	X		
Germany	X	X <sup>2</sup>	X	X
Ghana	X	X		X

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	There is an explicit access/exclusion policy for the system	Access is granted on the basis of institutional standing	Access granted on the basis of the fulfillment of a set of objective criteria	Formal rules exist to allow operator to exclude a participant timely
Greece	X	X	X	X
Guatemala	X	X	X	X
Guyana				
Honduras				
Hong Kong	X	X		X
Hungary	X	X		X
Iceland	X	X	X	X
India	X	X	X	X
Indonesia	X	X		X
Iran		X		
Ireland	X	X	X	X
Israel				
Italy		X	X <sup>3</sup>	
Jamaica				
Japan	X		X	X
Jordan	X	X		
Kazakhstan	X	X		X
Kenya	X	X		X
Kuwait	X	X	X	X
Kyrgyz Republic	X	X		X
Latvia	X	X		X
Lebanon	X	X	X	X
Lesotho				
Lithuania	X	X		X
Luxembourg	X	X		X
Macao				
Macedonia		X		X
Madagascar				
Malaysia		X		
Malta	X	X	X	X
Mauritius	X	X	X	X
Mexico	X	X	X <sup>4</sup>	X
Moldova	X	X	X	X
Mongolia				
Morocco	X	X		X
Mozambique				
Myanmar				
Namibia	X	X		X
Nepal				
Netherlands	X	X	X	X
Netherlands Antilles	X	X	X	X
New Zealand	X	X <sup>5</sup>		
Nicaragua				
Norway	X	X		X
Oman	X	X	X	X
Pakistan				
Paraguay				
Peru	X	X		

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	There is an explicit access/exclusion policy for the system	Access is granted on the basis of institutional standing	Access granted on the basis of the fulfillment of a set of objective criteria	Formal rules exist to allow operator to exclude a participant timely
Philippines	X	X	X	
Poland	X	X	X	X
Portugal	X	X		X
Qatar	X	X		X
Romania	X	X	X	X
Russia			X	X
Rwanda				
San Marino				
Saudi Arabia	X		X	X
Serbia	X	X		X
Singapore	X	X		X
Slovak Republic	X	X	X	X
Slovenia				
Solomon Islands				
South Africa	X	X	X	X
Spain	X		X	
Sri Lanka	X	X	X	X
Sudan				
Swaziland	X	X	X	X
Sweden		X	X	X
Switzerland	X	X	X	X
Taiwan	X	X	X	
Tajikistan		X	X	
Tanzania	X	X	X	X
Thailand	X	X	X	X
Trinidad and Tobago	X	X	X	X
Turkey	X	X		X
Uganda	X	X	X	X
Ukraine	X	X		
United Arab Emirates	X	X		
United Kingdom			X	X
USA	X	X		X
Uruguay			X	
Venezuela	X	X		
Yemen				
Zambia		X		X
Zimbabwe	X	X	X	X

- 1 There are no capital requirements, but there are some technical requirements for participants: they must be connected to CBANet and comply with a number of technical and security requirements.
- 2 Besides credit institutions established in the EEA and within the meaning of Article 1(1), first sub-item, of Directive 2000/12/EC of 20 March 2000 also other entities are allowed to have access to the RTGS system. In those cases the following rules apply:
  - investment firms as defined in Article 4(1)(1) of Directive 2004/39/EC of 21 April 2004 with the exclusion of the entities mentioned in Article 2(1) of Directive 2004/39/EC, provided that the investment firm in question is entitled to carry out the activities referred to under items 2,3,6 and 7 of Section A of Annex I to Directive 2004/39/EC;
  - entities which provide clearing or settlement services and which are subject to oversight by a competent authority;
  - central banks of other EU member states whose national RTGS systems are connected or linked to TARGET.
- 3 Technological capacity.
- 4 The operator only has criteria for technological capacity.

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- 5 Applicants must meet certain criteria, one of which is that the applicant is a “financial institution” as defined.

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Table II.16  
RTGS participants

	Participants other than commercial banks have direct access to the RTGS	Participants other than commercial banks can only hold settlement-only accounts with no access to Central Bank credit	Some or all of the non-commercial bank participants in the RTGS have access to Central Bank credit
Afghanistan			
Albania			X
Algeria	X		
Angola			
Argentina	X		
Armenia	X <sup>1</sup>	X <sup>2</sup>	
Australia	X		X
Austria	X	X	X
Azerbaijan		X	
Bahamas			
BCEAO	X		
Belarus			
Belgium	X <sup>3</sup>		X
Belize			
Bhutan			
Bolivia		X	
Bosnia - Herzegovina			
Botswana			
Brazil	X		X
Bulgaria			
Cambodia			
Canada	X	<sup>4</sup>	X
Cape Verde			
Chile			
China			
Colombia	X		X
Costa Rica	X		
Croatia	X	X	
Cyprus			
Czech Republic			
D. R. of Congo			
Denmark	X	X	
Dominican Republic			
ECCB	X	X	X
Egypt			
El Salvador			
Estonia	X	X	
Fiji			
Finland	X		X
France	X		X
Georgia	X		
Germany	X		X <sup>5</sup>
Ghana			

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	Participants other than commercial banks have direct access to the RTGS	Participants other than commercial banks can only hold settlement-only accounts with no access to Central Bank credit	Some or all of the non-commercial bank participants in the RTGS have access to Central Bank credit
Greece	X		X
Guatemala	X	X	X
Guyana			
Honduras			
Hong Kong			
Hungary	X	X	
Iceland	X	X	X
India	X <sup>6</sup>		X <sup>7</sup>
Indonesia	X	X	
Iran			
Ireland	X	X	
Israel	X		
Italy	X		X
Jamaica			
Japan	X		X
Jordan			
Kazakhstan	X		
Kenya		X	
Kuwait			
Kyrgyz Republic	X		
Latvia			
Lebanon			
Lesotho			
Lithuania	X	X	
Luxembourg			
Macao			
Macedonia	X	X	
Madagascar			
Malaysia	X	X	X
Malta	X	X	
Mauritius			
Mexico	X	X	
Moldova	X	X	
Mongolia			
Morocco	X	X	
Mozambique			
Myanmar			
Namibia			
Nepal			
Netherlands	X		X
Netherlands Antilles			
New Zealand	X		
Nicaragua			
Norway			
Oman	X		X
Pakistan			
Paraguay			
Peru	X	X	X

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	Participants other than commercial banks have direct access to the RTGS	Participants other than commercial banks can only hold settlement-only accounts with no access to Central Bank credit	Some or all of the non-commercial bank participants in the RTGS have access to Central Bank credit
Philippines	X	X	
Poland	X	X	
Portugal	X <sup>8</sup>		
Qatar		X	
Romania	X	X	
Russia	X	X	
Rwanda			
San Marino			
Saudi Arabia		X	
Serbia		X	
Singapore	X		
Slovak Republic	X	X	
Slovenia			
Solomon Islands			
South Africa			
Spain	X		X
Sri Lanka	X		X
Sudan			
Swaziland			
Sweden	X	X	
Switzerland	X		
Taiwan		X	
Tajikistan	X		
Tanzania	X	X	
Thailand	X	X	X
Trinidad and Tobago		X	
Turkey			
Uganda	X		X
Ukraine	X	X	
United Arab Emirates	X	X	
United Kingdom			
USA	X	X	
Uruguay	X	X	
Venezuela	X	X	
Yemen			
Zambia			
Zimbabwe	X	X	

- 1 The direct participants of the Electronic Payments System are the CBA, banks licensed by the CBA, and the Treasury.
- 2 The indirect participants of the Electronic Payments System are bank branches and Treasury offices. In 2001, it was decided to allow the Inter-State Bank—a resident of the Russian Federation—to become a remote direct participant in the Electronic Payments System. This decision allowed improving the efficiency of transfers with CIS countries through Inter-State Bank. From 2001, “Armenian Card” CJSC, too, is a participant in the Electronic Payments System, but it can only hold settlement account.
- 3 Only the Belgian Post can and has direct access to the RTGS.
- 4 CDS – as the securities settlement system central counterparty – and CLS Bank have such accounts with the Bank of Canada, which acts as their settlement agent in LVTS.
- 5 For those entities intraday credit is limited to the day in question and no extension to overnight credit is allowed.
- 6 Primary Dealers are also direct members.
- 7 Collateralized intra-day liquidity support is provided to all RTGS members.
- 8 The Treasury and some public sector bodies.

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**Table II.17**  
**Is there a specific RTGS Users' Group in place for the RTGS operator**  
**to better address participants' needs?**

Afghanistan	
Albania	X
Algeria	
Angola	X
Argentina	
Armenia	<sup>1</sup>
Australia	X
Austria	X
Azerbaijan	
Bahamas	X
BCEAO	
Belarus	X
Belgium	X
Belize	
Bhutan	
Bolivia	
Bosnia - Herzegovina	X
Botswana	X
Brazil	X
Bulgaria	
Cambodia	
Canada	X
Cape Verde	
Chile	X
China	X
Colombia <sup>1</sup>	X
Costa Rica	X
Croatia	
Cyprus	
Czech Republic	
D. R. of Congo	
Denmark	
Dominican Republic	
ECCB	
Egypt	
El Salvador	
Estonia	X
Fiji	
Finland	X
France	X
Georgia	
Germany	X
Ghana	X
Greece	X

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Guatemala	
Guyana	
Honduras	
Hong Kong	
Hungary	X
Iceland	
India	X
Indonesia	X
Iran	
Ireland	X
Israel	X
Italy	X
Jamaica	
Japan	
Jordan	
Kazakhstan	X
Kenya	X
Kuwait	X
Kyrgyz Republic	
Latvia	X
Lebanon	X
Lesotho	
Lithuania	
Luxembourg	X
Macao	
Macedonia	
Madagascar	
Malaysia	X
Malta	X
Mauritius	
Mexico	X
Moldova	X
Mongolia	
Morocco	X
Mozambique	
Myanmar	
Namibia	
Nepal	
Netherlands	
Netherlands Antilles	X
New Zealand	X
Nicaragua	
Norway	
Oman	
Pakistan	
Paraguay	
Peru	
Philippines	
Poland	

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Portugal	X
Qatar	
Romania	X
Russia	X
Rwanda	
San Marino	
Saudi Arabia	X
Serbia	X
Singapore	X
Slovak Republic	
Slovenia	
Solomon Islands	
South Africa	X
Spain	X
Sri Lanka	X
Sudan	
Swaziland	X
Sweden	X
Switzerland	X
Taiwan	
Tajikistan	X
Tanzania	X
Thailand	X
Trinidad and Tobago	X
Turkey	X
Uganda	
Ukraine	
United Arab Emirates	
United Kingdom	X
USA	X
Uruguay	
Venezuela	
Yemen	
Zambia	X
Zimbabwe	X

- 1 There is no specific RTGS Users' Group, but all the changes are discussed with participants within Banking Association.
- 2 Payment System's Committee created in 2005.

RETAIL PAYMENT SYSTEMS

Table III.1/a  
Number of ATMs and POS

	ATMs				POS			
	2006	2006 (per 1 mln inhabitant)	2004	2002	2006	2006 (per 1 mln inhabitant)	2004	2002
Afghanistan	10	0	Nav	nav	nap	nap	Nap	nap
Albania	335	107	93	nav	1,183	377	155	nav
Algeria	376	11	297	252	nav	nav	Nav	nav
Angola	325	20	85	31	339	21	10	0
Argentina	8,166	209	6,124	5,667	nav	nav	Nav	nav
Armenia <sup>1</sup>	180	60	71	22	1,326	441	629	170
Australia <sup>2</sup>	24,805	1,209	21,731	17,183	555,611	27,075	477,790	418,222
Austria	7,987	969	7,974	7,028	99,106	12,027	86,690	68,939
Azerbaijan <sup>3</sup>	1,073	127	769	nav	2,053	242	1890	nav
Bahamas	83	254	78	80	nav	nav	nav	nav
BCEAO	nav	nav	Nav	188	3,000	34	2,000	1,020
Belarus <sup>4</sup>	1,542	159	887	319	12,716	1,309	6,488	2,247
Belgium	13,944	1,341	13211	11,676	115,231	11,080	108,284	135,743
Belize	50	168	nav	nav	2,228	7,496	nav	nav
Bhutan	2	3	2	0	0	0	0	0
Bolivia	562	60	507	418	1,520	163	1,570	2,218
Bosnia – Herzegovina	538	138	nav	nav	11,448	2,929	nav	nav
Botswana	184	102	166	123	2,316	1,287	1,621	1,339
Brazil <sup>5</sup>	170,311	903	139,457	129,913	1,916,000	10,154	1,187,000	628,000
Bulgaria	2,360	307	1,753	829	20,906	2,715	6,837	2,554
Cambodia	102	7	nav	nav	nav	nav	nav	nav
Canada	57,000	1,727	48,000	40,000	592,000	17,939	546,000	495,000
Cape Verde	61	118	37	31	386	745	154	155
Chile	5,175	315	4,001	3,673	nav	nav	nav	nav

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	ATMs				POS			
	2006	2006 (per 1 mln inhabitant)	2004	2002	2006	2006 (per 1 mln inhabitant)	2004	2002
China	102,000	78	nav	nav	818,000	622	nav	nav
Colombia	6,766	149	5,888	5,431	77,256	1,696	55,000	54,000
Costa Rica <sup>6</sup>	nav	nav	nav	550	13,588	3,097	nav	nav
Croatia <sup>7</sup>	2,641	595	nav	nav	55,272	12,455	nav	nav
Cyprus <sup>8</sup>	444	580	415	355	21,278	27,797	20,531	11,055
Czech Republic	3,156	309	2,744	2,254	61,820	6,050	44,404	25,358
DR of Congo	4	0	nav	nav	20	0	nav	nav
Denmark <sup>9</sup>	3,092	570	2,943	2,822	123,564	22,762	123,564	127,423
Dominican Republic	1,552	161	1,318	1,323	28,283	2,942	29,280	19,449
ECCU	178	304	156	nav	4,124	7,050	3,575	nav
Egypt <sup>10</sup>	2,000	27	1,418	1,098	26,000	345	24,202	14,000
El Salvador	934	134	780	816	6,908	988	6,000	nav
Estonia	918	685	779	719	14,665	10,936	11,113	7,353
Fiji	122	143	107	85	1,202	1,408	956	1,042
Finland	1,669	318	1,729	2,110	105,000	19,981	96,000	79,000
France	47,827	784	43,714	38,975	1,095,000	17,940	1,060,000	956,000
Georgia	468	105	70	24	1,898	428	200	nav
Germany	53,887	654	52,595	50,487	578,420	7,019	520,020	460,609
Ghana	145	6	85	60	nav	nav	nav	nav
Greece <sup>11</sup>	6,739	606	5,864	5,078	463,494	41,707	454,476	350,554
Guatemala <sup>12</sup>	812	63	774	655	8,812	683	7,781	nav
Guyana <sup>13</sup>	nav	nav	nav	30	nav	nav	nav	292
Honduras	nav	nav	nav	nav	nav	nav	nav	nav
Hong Kong	1,984	283	1,959	2,018	32,121	4,582	28,142	26,172
Hungary <sup>14</sup>	3,810	379	3296	2742	45,827	4,557	43713	37683
Iceland	nav	nav	242	233	nav	nav	nav	nav
India	20,000	18			280,000	252	nav	nav
Indonesia	16,878	76	12,725	9,752	185,533	832	nav	nav
Iran	6,800	98	nav	nav	127,000	1,837	nav	nav

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	ATMs				POS			
	2006	2006 (per 1 mln inhabitant)	2004	2002	2006	2006 (per 1 mln inhabitant)	2004	2002
Ireland	3,306	806	2932	1412	50,000	12,195	50000	50000
Israel	nav	nav	nav	nav	nav	nav	nav	nav
Italy	44,000	751	40,000	40,000	1,117,000	19,071	1,008,000	848,000
Jamaica	372	140	302	nav	13,609	5,109	10,484	nav
Japan <sup>15</sup>	136,510	1,070	136,510	140,150	1,242,670	9,742	1,242,670	1,063,070
Jordan	nav	nav	nav	nav	nav	nav	nav	nav
Kazakhstan <sup>16</sup>	2,267	148	1,124	702	12,150	794	5,822	5,285
Kenya	734	21	324	174	2,334	66	1,180	1,080
Kuwait	715	275	491	383	13,508	5,196	8,833	6914
Kyrgyz Republic <sup>17</sup>	47	9	9	1	518	100	293	186
Latvia <sup>18</sup>	952	416	875	842	16,256	7,109	11,893	8,326
Lebanon <sup>19</sup>	1,006	248	881	686	12,062	2,975	9,723	6,606
Lesotho	51	29	36	22	nav	nav	nav	nav
Lithuania	1,146	337	1,012	889	20,787	6,119	13,556	10,340
Luxembourg	435	941	397	375	8,683	18,793	7,836	7,197
Macao	271	585	212	191	nav	nav	nav	nav
Macedonia	297	146	nav	nav	9,546	4,684	nav	nav
Madagascar	55	3	nav	nav	600	31	nav	nav
Malaysia <sup>20</sup>	6,056	235	4,981	4,213	156,161	6,061	17,535	1,133
Malta <sup>21</sup>	154	380	151	138	9,095	22,457	8,034	6,575
Mauritius	326	260	283	251	5,341	4,261	4,250	3,573
Mexico	25,655	246	20,416	17,011	286,691	2,751	160,289	129,971
Moldova	182	47	nav	nav	1,125	293	nav	nav
Mongolia	45	15	nav		1,725	585	nav	nav
Morocco <sup>22</sup>	2,761	91	1,727	1,179	15,000	492	nav	nav
Mozambique	377	19	nav	nav	3,440	171	nav	nav
Myanmar	neg	nav	neg	neg	neg	nav	neg	neg
Namibia	nav	nav	nav	nav	nav	nav	nav	nav
Nepal	145	5	23	9	nav	nav	nav	nav

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	ATMs				POS			
	2006	2006 (per 1 mln inhabitant)	2004	2002	2006	2006 (per 1 mln inhabitant)	2004	2002
Netherlands	8,114	496	7,889	7,530	214,474	13,101	197,996	177,168
Netherlands Antilles	155	665	nav	nav	270	1,159	nav	nav
New Zealand	2,321	563	2,019	1,889	125,000	30,300	118,000	95,000
Nicaragua	205	39	112	103	nav	nav	nav	nav
Norway	2113	455	2180	2188	97,767	21,054	92,206	80,106
Oman	537	205	nav	nav	nav	nav	nav	nav
Pakistan	1,948	12	786	nav	38,460	242	nav	nav
Paraguay <sup>23</sup>	nav	nav	230	221	4,245	706	4,245	3,650
Peru	2,614	92	1,983	1,300	nav	nav	nav	nav
Philippines	6,867	81	5,469	4,228	52,000	615	nav	34,227
Poland	9,938	261	8,054	7,145	176,475	4,630	143,230	112,021
Portugal	16,017	1,513	12,627	11,117	171,367	16,182	137,123	113,654
Qatar	432	522	299	231	nav	nav	nav	nav
Romania	6,013	279	3,290	2,047	52,724	2,448	17,500	5,753
Russia	39,266	276	19,727	9,045	171,481	1,204	101,389	45,373
Rwanda	30	3	11	11	129	14	111	111
San Marino	47	1,643	43	nav	1,767	61,783	1,652	nav
Saudi Arabia	6,079	257	4,054	3,120	52,784	2,229	35,521	24,291
Serbia	1,348	181	450	neg	48,194	6,479	16,266	neg
Singapore <sup>24</sup>	1,777	404	1,609	1,547	26802	6,101	26,802	23,460
Slovak Republic	2,009	373	1,700	1,366	24,155	4,486	19,644	15,871
Slovenia	1,522	762	1,389	1,095	29,234	14,635	34,770	29,452
Solomon Islands	12	25	4	2	96	196	69	46
South Africa	35,200	743	13,200	nav	655,000	13,821	525,000	nav
Spain	58,454	1,342	55,399	49,876	1,385,839	31,824	1,055,103	892,952
Sri Lanka	1,155	58	833	636	8,753	443	6,542	4,256
Sudan	127	3	neg	neg	75	2	neg	neg
Swaziland	94	83	47	43	nav	nav	nav	nav
Sweden <sup>25</sup>	2,800	310	2,701	2,647	176,637	19,527	161,098	142,021

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	ATMs				POS			
	2006	2006 (per 1 mln inhabitant)	2004	2002	2006	2006 (per 1 mln inhabitant)	2004	2002
Switzerland <sup>26</sup>	nav	nav	5,382	5,187	88,055	11,833	88,055	80,655
Taiwan	24,781	1,089	21,449	16,787	157,249	6,908	152,478	111,147
Tajikistan	56	8	14	2	29	4	4	0
Tanzania	125	3	61	nav	1,600	41	nav	nav
Thailand	21,988	340	10,602	7,885	208,942	3,228	84,000	61,000
Trinidad and Tobago <sup>27</sup>	300	229	310	301	8,000	6,113	8,101	7,961
Turkey	16,511	226	13,544	12,069	1,300,000	17,824	900,000	500,000
Uganda	280	9	nav	nav	500	17	nav	nav
Ukraine	14,718	316	8,104	2,618	62,045	1,332	33,411	21,714
United Arab Emirates	1,603	346	nav	nav	29,770	6,421	nav	nav
United Kingdom	60,468	1,002	54,412	40,825	631,008	10,454	571,955	487,219
United States	395,000	1,317	383,000	352,000	5,183,000	17,277	4,900,000	3,500,000
Uruguay	nav	nav	nav	nav	37,060	10,900	nav	nav
Venezuela <sup>28</sup>	5,391	200	4,498	4,302	133,009	4,922	82,765	66,513
Yemen <sup>29</sup>	163	8	56	8	1,555	72	200	nav
Zambia	133	11	nav	nav	342	29	nav	nav
Zimbabwe	516	39	342	409	1,551	119	1,788	1,991

Note: see footnotes and comments after Table III.3.1b.

**RETAIL PAYMENT SYSTEMS**

**Table III.1/b**  
**Number of Debit and Credit Cards**

	<i>Debit Cards</i>				<i>Credit Cards</i>			
	<i>2006</i>	<i>2006 (per 1000 inhabitants)</i>	<i>2004</i>	<i>2002</i>	<i>2006</i>	<i>2006 (per 1000 inhabitants)</i>	<i>2004</i>	<i>2002</i>
Afghanistan	nap	nap	nap	nap	nap	nap	nap	nap
Albania	343,711	110	33,288	nav	9,754	3.1	806	nav
Algeria	nav	nav	nav	nav	nav	nav	nav	nav
Angola	164,015	10	57,762	133	0	nav	0	0
Argentina	13,342,600	341	11,935,100	12,231,900	13,392,900	342.4	8,312,200	8,760,000
Armenia	209,113	70	108,865	22,412	cwdc	nav	cwdc	cwdc
Australia	29,929,973	1,459	27,283,983	25,261,240	17,634,370	859.3	15,296,030	14,297,174
Austria	7,000,000	850	6,600,000	8,000,000	8,800,000	1,068.0	nav	nav
Azerbaijan	1,542,000	182	790,000	nav	cwdc	nav	cwdc	cwdc
Bahamas	nav	nav	nav	nav	111,116	339.8	101053	nav
BCEAO	250,000	3	125,000	110,000	0	0.0	0	0
Belarus	3,882,511	400	2,197,397	496,787	cwdc	nav	cwdc	cwdc
Belgium	13,181,271	1,267	12,551,000	11,863,000	3423910	329.2	3,176,000	3,039,000
Belize	67,074	226	nav	nav	14,352	48.3	nav	nav
Bhutan	0	0	0	0	172	0.3	58	0
Bolivia	nav	nav	482,869	396,381	nav	nav	76,928	116,834
Bosnia - Herzegovina	855,393	219	nav	nav	176,054	45.0	nav	nav
Botswana	265,000	147	272,000	246,000	70,000	39	14,000	11,000
Brazil	187,000,000	991	149,000,000	114,000,000	79,000,000	418.7	53,000,000	40,000,000
Bulgaria	4,833,449	628	5,017,419	1,596,056	131,643	17.1	56,050	18,049
Cambodia	10,652	1	nav	nav	6,230	0.4	nav	nav
Canada	nav	nav	nav	nav	61,769,000	1,871.8	56,536,000	52,000,000
Cape Verde	82,412	159	54,016	45,870	1,772	3.4	0	0
Chile	7,416,599	451	4,650,232	3,046,222	4,069,551	247.4	2,701,294	2,666,654

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	Debit Cards				Credit Cards			
	2006	2006 (per 1000 inhabitants)	2004	2002	2006	2006 (per 1000 inhabitants)	2004	2002
China	1,081,350,000	822	nav	nav	cwdc	nav	nav	nav
Colombia	12,800,000	281	10,200,000	8,180,000	4,500,000	98.8	2,200,000	2,800,000
Costa Rica	nav	nav	nav	nav	nav	nav	nav	nav
Croatia	5,651,364	1,273	nav	nav	1,667,250	375.7	nav	nav
Cyprus	379,571	496	350,364	267,231	363,144	474.4	349,181	299,799
Czech Republic	6,824,413	668	6,713,956	5,658,300	1,356,841	132.8	402,353	113,200
DR of Congo	nav	Nav	nav	nav	nav	nav	nav	nav
Denmark	4,218,739	777	3,609,651	3,290,000	1,021,356	188.1	789,933	541,000
Dominican Republic	nav	nav	nav	nav	nav	nav	nav	nav
ECCU	63,097	108	5,943	nav	68364	116.9	65,980	nav
Egypt	2,800,000	37	2,060,098	nav	1,000,000	13.3	759,765	nav
El Salvador	721,956	103	474,107	nav	175,628	25.1	437,621	nav
Estonia	1,272,395	949	1,071,021	964,483	344,202	256.7	232,557	155,091
Fiji	nav	nav	nav	nav	nav	nav	nav	nav
Finland	4,948,000	942	4,474,000	3,879,000	7,132,000	1,357.2	5,395,000	4,590,000
France	51,200,000	839	49,112,000	45,404,109	28,100,000	460.4	26,100,000	nav
Georgia	910,893	205	110,171	23,470	11,501	2.6	24	0
Germany	88,118,490	1,069	88,501,790	93,657,520	17,960,340	217.9	20,431,930	19,693,610
Ghana	nav	nav	nav	nav	0	0.0	0	0
Greece	6,746,268	607	5,339,416	5,274,603	6,360,581	572.4	5,718,424	5,463,395
Guatemala	nav	nav	3,006,917	1,815,030	nav	nav	1638369	1,286,028
Guyana	nav	nav	nav	117,070	nav	nav	nav	0
Honduras	nav	nav	nav	nav	nav	214.8	nav	nav
Hong Kong	nav	nav	nav	nav	nav	nav	nav	nav
Hungary	6,642,571	661	6,029,979	5,025,386	1,580,024	157.1	524017	646857
Iceland	424,012	1,418	352,098	331,141	300,363	1,004.7	233,969	203,042
India	74,980,000	68	nav	nav	23,120,000	20.8	nav	nav
Indonesia	30,600,000	137	25,100,000	22,400,000	8,300,000	37	5,500,000	4,100,000
Iran	20,000,000	289	nav	nav	0	0.0	0	0

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	Debit Cards				Credit Cards			
	2006	2006 (per 1000 inhabitants)	2004	2002	2006	2006 (per 1000 inhabitants)	2004	2002
Ireland	1,623,000	395	1,293,046	1,044,000	2163000	526.4	2,002,000	1,870,000
Israel	nav	nav	nav	nav	nav	nav	nav	nav
Italy	37,000,000	632	31,000,000	28,000,000	31,000,000	529.3	27,000,000	22,000,000
Jamaica	1,286,491	483	1,083,012	nav	229,389	86.1	223,410	nav
Japan	390,000,000	3,057	390000000	360000000	273,380,000	2,143	273380000	254000000
Jordan	nav	nav	nav	nav	nav	nav	nav	nav
Kazakhstan	4,100,808	268	2,359,333	1,495,899	cwdc	nav	cwdc	cwdc
Kenya	750,085	21	356,989	202,018	73,238	2.1	59,164	18,215
Kuwait	2,127,566	818	1,742,866	nav	535,082	205.8	306,757	nav
Kyrgyz Republic	33,688	6	13,536	3,069	cwdc	nav	cwdc	cwdc
Latvia	988,663	432	672,638	404,546	233,432	102.1	66,813	9,492
Lebanon	850,266	210	682,265	429,422	451,919	111.4	355,005	182,407
Lesotho	nav	nav	nav	nav	0	0.0	0	0
Lithuania	3,218,266	947	2,452,494	1,427,702	244,506	72.0	85,589	36,276
Luxembourg	435,927	943	394,980	391,500	558,957	1,209.8	333,076	329,100
Macao	nav	nav	nav	nav	302,906	654.1	nav	nav
Macedonia	221,617	109	nav	nav	106,458	52.2	nav	nav
Madagascar	60,000	3	nav	nav	0	0.0	nav	nav
Malaysia	18,600,000	722	10,200,000	nav	8,800,000	341.5	6,600,000	4,400,000
Malta	344,652	851	314,018	274,400	120,534	297.6	108,490	98,390
Mauritius	782,760	624	680,600	259,600	196,457	156.7	176,562	159,674
Mexico	35,897,214	344	31,788,759	32,383,132	20,417,391	195.9	11,649,617	7,822,364
Moldova	557,984	145	338,511	147,000	21,068	5.5	1,764	1,088
Mongolia	nav	nav	nav	nav	nav	nav	nav	nav
Morocco	2,577,925	85	1,527,529	1,195,515	cwcc	nav	cwcc	cwcc
Mozambique	968,862	48	nav	nav	47,554	2.4	nav	nav
Myanmar	neg	nav	neg	neg	neg	nav	neg	neg
Namibia	nav	nav	nav	nav	nav	nav	nav	nav
Nepal	nav	nav	nav	nav	nnav	nav	nav	nav

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	Debit Cards				Credit Cards			
	2006	2006 (per 1000 inhabitants)	2004	2002	2006	2006 (per 1000 inhabitants)	2004	2002
Netherlands	25,479,000	1,556	22,000,000	21,600,000	5,958,571	364.0	5,800,000	5,100,000
Netherlands Antilles	nav	nav	nav	nav	nav	nav	nav	nav
New Zealand	5,100,000	1,236	4,700,000	4,700,000	2,500,000	606.0	2,400,000	2,700,000
Nicaragua	nav	nav	nav	nav	561,023	106.9	nav	nav
Norway	10,138,000	2,183	9,326,000	8,212,000	3,553,000	765.1	2,502,000	1,925,000
Oman	nav	nav	nav	nav	nav	nav	nav	nav
Pakistan	3,483,000	22	nav	nav	1,973,000	12.4	808,000	nav
Paraguay	nav	nav	nav	nav	nav	nav	nav	nav
Peru	7,919,695	279	5,216,304	3,136,462	4,664,393	164.4	3,294,741	1,439,025
Philippines	nav	nav	nav	17,700,000	5,560,000	65.7	nav	3,600,000
Poland	16,943,727	445	14,282,900	15,080,287	6,354,172	166.7	1,996,263	807,531
Portugal	10,700,000	1,010	10,900,000	11,000,000	6,900,000	651.6	5,300,000	3,600,000
Qatar	nav	nav	nav	nav	nav	nav	nav	nav
Romania	7,862,583	365	5,485,679	3,260,366	1,248,982	58.0	307,962	237,203
Russia	68,922,200	484	33,837,400	15,407,800	5,659,600	39.8	1,319,400	84,200
Rwanda	12,000	1	11096	7500	0	0	0	0
San Marino	29,440	1,029	26,869	nav	14,241	497.9	8,161	nav
Saudi Arabia	9,970,000	421	6,440,000	5,620,000	0	0.0	0	0
Serbia	4,328,534	582	2,109,086	neg	857,608	115.3	28,224	neg
Singapore	nav	nav	6,200,000	5,913,000	5,090,000	1,158.6	3,933,000	3,223,000
Slovak Republic	3,364,304	625	2,870,250	2,162,208	1,111,557	206.4	684,271	251,600
Slovenia	2,412,485	1,208	2,310,190	1,707,668	1,207,052	604.3	1,011,236	847,450
Solomon Islands	nav	nav	nav	nav	nav	nav	nav	nav
South Africa	26,291,317	555	15,125,000	nav	6,792,193	143.3	5,004,000	nav
Spain	31,580,000	725	32,760,000	32,670,000	38,490,000	883.9	28,960,000	20,950,000
Sri Lanka	2,871,976	145	1,752,177	1,214,000	810,179	41.0	508,917	326,675
Sudan	104,168	3	neg	neg	neg	nav	neg	neg
Swaziland	nav	nav	nav	nav	nav	nav	nav	nav
Sweden	6,825,000	754	6,331,000	4,894,000	3,624,000	400.6	3,080,000	2,584,000

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	Debit Cards				Credit Cards			
	2006	2006 (per 1000 inhabitants)	2004	2002	2006	2006 (per 1000 inhabitants)	2004	2002
Switzerland	nav	nav	6,021,000	5,798,000	nav	nav	3,391,000	3,333,000
Taiwan	nav	nav	nav	nav	38,324,000	1,683.5	44,182,000	31,591,000
Tajikistan	13,675	2	nav	nav	0	0.0	0	0
Tanzania	199,024	5	nav	nav	13,374	0.3	nav	nav
Thailand	13,952,784	216	8,425,023	nav	10,900,566	168.4	8,648,100	5,633,363
Trinidad and Tobago	548,000	419	501,544	405,505	189,691	144.9	178,624	152,970
Turkey	53,500,000	734	43,100,000	35,100,000	32,400,000	444.2	26,700,000	15,700,000
Uganda	1,500,000	50	nav	nav	500	0.0	nav	nav
Ukraine	26,396,261	567	17,079,751	6,149,959	6,078,108	130.5	nav	nav
United Arab Emirates	3,098,099	668	nav	nav	2,301,396	496.4	nav	nav
United Kingdom	68,348,000	1,132	65,544,000	59,419,000	69,521,000	1,151.8	69,888,000	58,794,000
United States	271,000,000	903	267,000,000	249,000,000	1,318,000,000	4,393	1,246,000,000	1,257,000,000
Uruguay	nav	nav	nav	nav	677,357	199	nav	nav
Venezuela	neg	nav	neg	neg	4,003,044	148.1	3,065,670	2,576,792
Yemen	174,742	8	46,654	nav	Cwdc	nav	cwdc	cwdc
Zambia	356,822	30	nav	nav	0	0.0	0	0
Zimbabwe	1,770,264	135	nav	nav	10,416	0.8	nav	nav

**NOTE:** cwdc means "counted together with debit cards".

- 1 Figure for debit cards includes both debit and credit cards.
- 2 Total number of ATMs and POS terminals are given as averages over the year. Total number of credit cards includes charge cards.
- 3 Total number of debit and credit cards is 1.542
- 4 Figure for debit cards includes both debit and credit cards.
- 5 Figures for 2006 are estimates.
- 6 Figures for POS terminals are a WB estimate on the basis of 2004 figures provided by the Bankers' Association.
- 7 Figure for credit cards also includes revolving cards, delayed debit cards, and charge cards.
- 8 All figures for 2006 are actually from end-2005.
- 9 Figures for POS terminals for 2006 are actually from 2004.
- 10 Figure for 2006 is actually from end-2005.
- 11 Figure for credit cards also includes delayed debit cards.
- 12 Figure for 2004 is actually end-2003. Other figures taken from CEMLA and other sources.
- 13 Figure for 2002 is actually from end-2000.

- 14 Figure for credit cards also includes charge cards. Starting 2004, credit cards linked to a credit line without an interest-free period are classified as debit cards.
- 15 Figures for 2006 are actually from 2004: ATMs and credit cards as of March; POS terminals and debit cards as of October. Terminals with debit and credit functions are counted twice. Figure for credit cards Includes cards with a delayed debit function.
- 16 Credit and debit cards are counted together.
- 17 Credit and debit cards are counted together.
- 18 Figure for debit cards includes debit cards with overdraft facility.
- 19 Total number of credit cards includes charge cards.
- 20 2006 figures for POS terminals include credit card, domestic e-debit, Touch n' Go and MEPS cash, and are not comparable with previous years.
- 21 ATM figure 2006 is actually from end-2005.
- 22 Credit and debit cards are counted together. Data for POS terminals was obtained from previous WB work.
- 23 Figures for 2006 are from end-2003, taking CEMLA as a source.
- 24 Figure for POS terminals for 2006 is actually from end-2004.
- 25 All data for 2006 is actually end-2005.
- 26 Figure for POS terminals for 2006 is actually from end-2004.
- 27 Figure for debit cards for 2006 is an estimate. Figures for credit cards reflect number of credit card accounts.
- 28 Figures for 2006 for ATMs and POS are as of end-2005.
- 29 Debit cards and credit cards are counted together.

RETAIL PAYMENT SYSTEMS

Table III.1/c  
Number of transactions with various Retail Payment Instruments for year 2006

	2006									
	Cheques		Direct credits		Direct debits		Debit cards		Credit cards	
	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita
Afghanistan	11,805,000	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Albania <sup>1</sup>	994,000	0.3	49,000	0.0	nav	nav	12,000,000	3.8	nav	Cwcc
Algeria	5,150,000	0.2	610,000	0.0	nav	nav	nav	nav	nav	Nav
Angola	301,170	0.0	43,637	0.0	0	0.0	307,059	0.0	0	0.0
Argentina	89,424,000	2.3	6,593,000	0.2	19,452,000	0.5	nav	Nap	nav	Nav
Armenia <sup>2</sup>	8,931	0.0	2,401,080	0.8	5,318	0.0	3,029,563	1.0	nav	Cwcc
Australia	448,233,291	21.8	1,289,031,682	62.8	513,556,707	25.0	1,328,472,666	64.7	1,311,118,128	63.9
Austria	6,000,000	0.7	907,000,000	110.1	682,000,000	82.8	229,960,000	27.9	30,200,000	3.7
Azerbaijan	0	0.0	843,000	0.1	2,700	0.0	5,805,000	0.7	233,000	0.0
Bahamas	3,982,332	12.2	nav	nav	nav	nav	nav	nav	nav	Nav
BCEAO	2,915,457	0.0	18,440	0.0	246	0.0	nav	nav	0	0.0
Belarus <sup>3</sup>	0	0.0	39,425,100	4.1	0	0.0	62,000,000	6.4	nav	Cwcc
Belgium	13,400,000	1.3	841,000,000	80.9	231,320,000	22.2	710,360,000	68.3	87,020,000	8.4
Belize	2,230,988	7.5	nav	nav	nav	nav	nav	nap	nav	Nap
Bhutan	nav	nav	nav	nav	nav	nav	nav	nav	2,950	0.0
Bolivia <sup>4</sup>	1,504,700	0.2	nav	nav	nav	nav	1,225,000	0.1	1,530,000	0.2
Bosnia-Herzegovina	0	0.0	0	0.0	0	0.0	12,167,446	3.1	4,119,582	1.1
Botswana	806,000	0.4	236,000	0.1	51,000	0.0	194,000	0.1	31,000	0.0
Brazil <sup>5</sup>	1,707,000,000	9.0	1,197,000,000	6.3	1,014,000,000	5.4	1,600,000,000	8.5	2,000,000,000	10.6
Bulgaria <sup>6</sup>	0	0.0	50,104,457	6.5	1,196,718	0.2	92,665,193	12.0	nav	cwcc
Cambodia	260,327	0.0	0	0.0	0	0.0	nav	nav	nav	nav
Canada	1,325,000,000	40.2	940,000,000	28.5	662,000,000	20.1	3,293,000,000	99.8	2,164,000,000	65.6
Cape Verde	1,598,741	3.1	0	0.0	0	0.0	2,133,643	4.1	92,734	0.2
Chile	257,540,000	15.7	nav	nav	nav	nav	66,975,000	4.1	59,754,000	3.6
China	1,166,270,000	0.9	631,620,000	0.5	159,670,000	0.1	19,015,310,000	14.5	cwdc	nav
Colombia	78,700,000	1.7	27,500,000	0.6	nav	nav	78,400,000	1.7	70,200,000	1.5
Costa Rica	10,016,035	2.3	6,015,487	1.4	2,076,300	0.5	nav	nav	nav	nav
Croatia	6,016,987	1.4	147,763,504	33.3	81,565,391	18.4	126,192,104	28.4	77,457,921	17.5
Cyprus <sup>7</sup>	25,350,000	33.1	9,510,000	12.4	9,460,000	12.4	8,210,000	10.7	11,340,000	14.8
Czech Republic <sup>8</sup>	430,000	0.0	410,010,000	40.1	269,720,000	26.4	85,630,000	8.4	7,750,000	0.8

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	2006									
	Cheques		Direct credits		Direct debits		Debit cards		Credit cards	
	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita
DR of Congo	360,000	0.0	84,000	0.0	nav	nav	nav	nav	nav	nav
Denmark	19,400,000	3.6	266,290,000	49.1	175,330,000	32.3	722,310,000	133.1	49,390,000	9.1
Dominican Rep. <sup>9</sup>	140,866,000	14.7	473,895	0.0	0	0.0	9,314,258	1.0	32,059,588	3.3
ECCU	10,520,058	17.5	2,141,469	3.6	333,351	0.6	222,355	0.4	1,045,097	1.7
Egypt	9,322,000	0.1	0	0.0	0	0.0	nav	nav	nav	nav
El Salvador	26,287,000	3.8	nav	nav	nav	nav	10,563,000	1.5	7,471,000	1.1
Estonia	14,322	0.0	78,395,107	58.5	14,337,010	10.7	99,444,683	74.2	7,310,052	5.5
Fiji	3,284,000	3.8	nav	nav	nav	nav	nav	nav	nav	nav
Finland	600,000	0.1	732,000,000	139.3	79,000,000	15.0	807,000,000	153.6	159,000,000	30.3
France <sup>10</sup>	3,916,260,000	64.2	2,408,440,000	39.5	2,512,760,000	41.2	5,243,830,000	85.9	nav	cwcc
Georgia	0	0.0	nav	nav	0	0.0	7,894,843	1.8	261,950	0.1
Germany <sup>11</sup>	107,500,000	1.3	6,713,100,000	81.5	6662100000	80.8	2,372,100,000	28.8	nav	cwcc
Ghana	4,967,638	0.2	0	0.0	0	0.0	0	0.0	0	0.0
Greece <sup>12</sup>	27,830,000	2.5	29,280,000	2.6	16,350,000	1.5	5,430,000	0.5	66,240,000	6.0
Guatemala	29,900,000	2.3	nav	nav	nav	nav	9,200,000	0.7	1,500,000	0.1
Guyana <sup>13</sup>	3,200,000	4.3	140,377	0.2	0	0.0	115,836	0.2	nav	nav
Honduras	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Hong Kong <sup>14</sup>	131,700,000	18.8	21,700,000	3.1	35,200,000	5.0	31,500,000	4.5	nav	nav
Hungary	0	0.0	nav	nav	nav	nav	94,700,000	9.4	15,500,000	1.5
Iceland	732,000	2.4	nav	nav	nav	nav	59,479,000	198.9	43,593,000	145.8
India	1,367,280,000	1.2	77,670,000	0.1	75,200,000	0.1	60,170,000	0.1	169,530,000	0.2
Indonesia <sup>15</sup>	2,400,000	0.0	29,000,000	0.1	nav	nav	161,600,000	0.7	108,400,000	0.5
Iran <sup>16</sup>	nav	nav	nav	nav	nav	nav	300,000,000	4.3	0	0.0
Ireland <sup>17</sup>	66,000,000	16.1	75,000,000	18.3	60,000,000	14.6	99,000,000	24.1	83,000,000	20.2
Israel	775,695,000	110.2	88,791,000	12.6	141,006,000	20.0	514,693,000	73.1	nav	nav
Italy	453,000,000	7.7	1,070,000,000	18.3	815,000,000	13.9	771,000,000	13.2	475,000,000	8.1
Jamaica	23,404,028	8.8	nav	nav	nav	nav	32,734,273	12.3	7,054,301	2.6
Japan <sup>18</sup>	134,240,000	1.1	1,361,640,000	10.7	nav	nav	10,920,000	0.1	3,050,230,000	23.9
Jordan	10,931,900	2.0	nav	nav	nav	nav	nav	nav	nav	nav
Kazakhstan <sup>19</sup>	100,000	0.0	30,900,000	2.0	7,800,000	0.5	66,800,000	4.4	nav	cwcc
Kenya <sup>20</sup>	15,000,000	0.4	14,513,000	0.4	5,032,000	0.1	nav	nav	nav	nav
Kuwait	2,000,000	0.8	nav	nav	nav	nav	64,850,228	24.9	10,311,037	4.0
Kyrgyz Republic <sup>21</sup>	0	0.0	1,749,800	0.3	0	0.0	717,200	0.1	nav	cwcc
Latvia	33,000	0.0	107,000,000	46.8	3,702,000	1.6	51,919,000	22.7	5,338,000	2.3
Lebanon <sup>22</sup>	9,988,000	2.5	nav	nav	nav	nav	24,739,000	6.1	nav	cwcc

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	2006									
	Cheques		Direct credits		Direct debits		Debit cards		Credit cards	
	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita
Lesotho	586,982	0.3	nav	nav	nav	nav	nav	nav	nav	nav
Lithuania	310,000	0.1	82,050,000	24.2	6,070,000	1.8	64,630,000	19.0	3,920,000	1.2
Luxembourg <sup>23</sup>	360,000	0.8	51,130,000	110.7	10,690,000	23.1	25,010,000	54.1	15,770,000	34.1
Macao	1,827,700	3.9	nav	nav	nav	nav	nav	nav	nav	nav
Macedonia <sup>24</sup>	6,164,258	3.0	19,507,389	9.6	6,592,978	3.2	2,109,733	1.0	1,950,289	1.0
Madagascar	1,945,730	0.1	nav	nav	nav	nav	nav	nav	nav	nav
Malaysia <sup>25</sup>	201,200,000	7.8	18,700,000	0.7	0	0.0	2,700,000	0.1	208,800,000	8.1
Malta	12,180,000	30.1	3,770,000	9.3	600,000	1.5	3,480,000	8.6	1,850,000	4.6
Mauritius <sup>26</sup>	7,307,000	5.8	5,256,000	4.2	3,602,000	2.9	7,670,000	6.1	nav	cwcc
Mexico	536,000,000	5.1	324,000,000	3.1	35,000,000	0.3	278,000,000	2.7	265,000,000	2.5
Moldova <sup>27</sup>	0	0.0	414,516	0.1	nav	nav	8,293,331	2.2	284,754	0.1
Mongolia	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Morocco	22,236,725	0.7	nav	nav	nav	nav	4,669,041	0.2	nav	nav
Mozambique	6,223,187	0.3	nav	nav	nav	nav	22,131,211	1.1	1,203,333	0.1
Myanmar <sup>28</sup>	320,881,000	6.3	8,588,000	0.2	nav	nav	nav	nav	nav	nav
Namibia	5,489,961	2.7	nav	nav	nav	nav	nav	nav	nav	nav
Nepal	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Netherlands	0	0.0	1,370,000,000	83.7	1,139,000,000	69.6	1,451,000,000	88.6	70,000,000	4.3
Netherlands Ant	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
New Zealand <sup>29</sup>	171,700,000	41.6	326,100,000	79.0	94,900,000	23.0	857,000,000	207.7	nav	cwcc
Nicaragua	2,949,088	0.6	nav	nav	nav	nav	nav	nav	nav	nav
Norway	700,000	0.2	221,200,000	47.6	41,800,000	9.0	904,200,000	194.7	60,900,000	13.1
Oman <sup>30</sup>	1,873,446	0.7	nav	nav	nav	nav	nav	nav	nav	nav
Pakistan	287,530,000	1.8	nav	nav	nav	nav	45,936,000	0.3	16,841,000	0.1
Paraguay <sup>31</sup>	21,000,000	3.5	nav	nav	nav	nav	nav	nav	nav	nav
Peru	8,110,522	0.3	802,423	0.0	nav	nav	23,649,369	0.8	57,556,495	2.0
Philippines <sup>32</sup>	176,000,000	2.1	nav	nav	nav	nav	nav	nav	180,000,000	2.1
Poland	800,000	0.0	917,630,000	24.1	14,540,000	0.4	234,270,000	6.1	102,030,000	2.7
Portugal <sup>33</sup>	230,600,000	21.8	76,000,000	7.2	144,600,000	13.7	666,000,000	62.9	286,400,000	27.0
Qatar	2,758,419	3.3	nav	nav	nav	nav	nav	nav	nav	nav
Romania <sup>34</sup>	10,720,000	0.5	nav	nav	141,470,000	6.6	53,060,000	2.5	1,540,000	0.1
Russia <sup>35</sup>	600,000	0.0	nav	nav	0	0.0	204,700,000	1.4	8,500,000	0.1
Rwanda <sup>36</sup>	164,183	0.0	0	0.0	0	0.0	3,258	0.0	0	0.0
San Marino	518,000	18.1	197,000	6.9	584,000	20.4	786,000	27.5	485,000	17.0
Saudi Arabia <sup>37</sup>	6,191,433	0.3	16,629,414	0.7	493,249	0.0	83,131,750	3.5	0	0.0

OUTCOMES OF THE 2008 GLOBAL SURVEY ON PAYMENT AND SECURITIES SETTLEMENT SYSTEMS - APPENDIX

	2006									
	Cheques		Direct credits		Direct debits		Debit cards		Credit cards	
	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita	Number	Per capita
Serbia	9,600,000	1.3	317,400,000	42.7	nav	nav	39,300,000	5.3	10,000,000	1.3
Singapore <sup>38</sup>	85,700,985	19.5	24,119,622	5.5	53,677,703	12.2	121,480,000	27.7	nav	nav
Slovak Republic	100,000	0.0	205,000,000	38.1	41,000,000	7.6	39,000,000	7.2	4,600,000	0.9
Slovenia	921,000	0.5	53,676,152	26.9	68,374,000	34.2	55,182,000	27.6	65,987,000	33.0
Solomon Islands	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
South Africa	97,234,535	2.1	302,385,839	6.4	269,780,315	5.7	112,083,365	2.4	115,390,288	2.4
Spain <sup>39</sup>	104,455,886	2.4	304,652,397	7.0	899,614,852	20.7	807,000,000	18.5	820,000,000	18.8
Sri Lanka	44,343,247	2.2	4,128,431	0.2	36,626	0.0	516,000	0.0	16,392,000	0.8
Sudan	nav	nav	nav	nav	nav	nav	998,060	0.0	nav	nav
Swaziland	859,738	0.8	111,889	0.1	76,783	0.1	nav	nav	nav	nav
Sweden	900,000	0.1	511,000,000	56.5	160,000,000	17.7	877,000,000	97.0	184,000,000	20.3
Switzerland <sup>40</sup>	2,700,000	0.4	585,900,000	78.7	51,500,000	6.9	259,500,000	34.9	102,600,000	13.8
Taiwan <sup>41</sup>	149,200,000	6.6	22,656,000	1.0	15,727,000	0.7	nav	nav	483,131,000	21.2
Tajikistan	0	0.0	0	0.0	0	0.0	235,300	0.0	0	0.0
Tanzania	1,521,870	0.0	nav	nav	nav	nav	2,201,561	0.1	81,586	0.0
Thailand <sup>42</sup>	84,093,000	1.3	122,803,000	1.9	53,277,000	0.8	6,738,000	0.1	253,243,000	3.9
Trinidad - Tobago <sup>43</sup>	14,330,000	10.9	189,887	0.1	544	0.0	11,740,000	9.0	3,900,000	3.0
Turkey <sup>44</sup>	23,600,000	0.3	75,360,000	1.0	nav	nav	50,100,000	0.7	1,274,500,000	17.5
Uganda <sup>45</sup>	1,517,362	0.1	164,718	0.0	1,633	0.0	nav	nav	nav	nav
Ukraine <sup>46</sup>	0	0.0	257,400,000	5.5	nav	nav	459,000,000	9.9	nav	nav
UAE	23,000,000	5.0	nav	nav	nav	nav	nav	nav	nav	nav
United Kingdom	1,237,987,000	20.5	108,309,000	1.8	3,927,000,000	65.1	4,512,000,000	74.8	746,000,000	12.4
United States	30,557,000,000	101.9	6,145,000,000	20.5	8,664,000,000	28.9	26,038,000,000	86.8	22,357,000,000	74.5
Uruguay <sup>47</sup>	12,000,000	3.5	nav	nav	nav	nav	nav	nav	32,196,894	9.5
Venezuela	97,953,000	3.6	638,136	0.0	0	0.0	nav	nav	nav	nav
Yemen <sup>48</sup>	706,085	0.0	nav	nav	nav	nav	2,198,889	0.1	nav	cwcc
Zambia	2,290,267	0.2	515,531	0.0	188,420	0.0	256,149	0.0	nav	nav
Zimbabwe <sup>49</sup>	12,977,830	1.0	nav	nav	nav	nav	45,270,872	3.5	nav	nav

Note: see footnotes and comments after Table III.3.1d.

**RETAIL PAYMENT SYSTEMS**

**Table III.1/d**  
**Number of transactions with various Retail Payment Instruments for 2004 and 2002**

	2004					2002				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit Cards</i>	<i>Credit cards</i>	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit Cards</i>	<i>Credit cards</i>
Afghanistan	nav	0	nav	nav	nav	nav	0	nav	nav	nav
Albania	3,759	nav	nap	nap	nap	nav	nav	nap	nap	nap
Algeria	4,310,000	470,000	nav	nav	nav	4,730,000	480,000	nav	nav	nav
Angola	245,021	32,062	nav	55,381	nav	150,328	17,678	nav	nav	nav
Argentina	77,764,000	4,511,000	12,543,300	nap	nap	91,112,000	nav	nap	nap	nap
Armenia	15,222	1,584,929	323	1,763,090	neg	11,672	1,495,927	1,243	616,988	neg
Australia	527,650,337	1,102,478,020	450,917,692	1,087,686,469	1,164,690,970	600,385,796	877,705,277	350,861,384	912,229,206	983,510,746
Austria	5,900,000	892,000,000	615,800,000	181,310,000	nav	6,700,000	480,300,000	347,300,000	140,900,000	nav
Azerbaijan	0	539,000	nav	nap	nap	nav	20,000	nav	nap	nap
Bahamas	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
BCEAO	nap	nav	nav	nap	nav	nap	nav	nav	nap	nav
Belarus	0	35,930,000	nav	58,770,318	nav	nav	27,294,700	nav	9,638,489	nav
Belgium	19,140,000	787,960,000	211,350,000	597,310,000	74,030,000	28,910,000	807,460,000	168,790,000	506,790,000	70,490,000
Belize	nap	nav	nav	nav	Nav	nap	nav	nav	nav	nav
Bhutan	nav	nav	nav	nav	2,180	nav	nav	nav	nav	1,265
Bolivia	1,860,000	nav	nav	738,758	1,602,275	2,226,000	nav	nav	199,095	2,003,028
Bosnia-Herzegovina	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Botswana	473,000	85,000	146,000	203,000	41,000	514,000	49,000	114,000	66,000	6,000
Brazil	1,967,000,000	1,023,000,000	567,000,000	912,000,000	1,253,000,000	2,295,000,000	849,000,000	438,000,000	451,000,000	970,000,000
Bulgaria	nav	35,320,000	990,000	60,503,638	nav	nav	23,080,000	1,420,000	26,134,129	nav
Cambodia	165,543	nav	nav	nav	nav	115,360	nav	nav	nav	nav
Canada	1,392,000,000	796,000,000	590,000,000	2,819,000,000	1,762,000,000	1,515,000,000	656,000,000	520,000,000	2,404,000,000	1,493,000,000
Cape Verde	1,297,444	nav	nav	1,346,546	nav	1,252,643	nav	nav	1,129,841	nav
Chile	284,286,000	nav	nav	42,645,000	47,964,000.00	285,108,000	nav	nav	20,459,000	40,346,000
China	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Colombia	85,800,000	17,500,000	nap	59,300,000	52,700,000	104,600,000	8,200,000	nap	40,300,000	33,800,000
Costa Rica	10,901,727	5,430,226	13,632	nap	nap	11,299,590	4,084,742	2,005	nap	nap
Croatia	nav	nav	nap	nap	nap	nap.	nav	nap	nap	nap
Cyprus	24,770,000	7,390,000	8,730,000	6,630,000	10,370,000	23,790,000	3,770,000	5,940,000	4,650,000	8,360,000
Czech Republic	360,000	410,010,000	269,720,000	79,940,000	4,370,000	300,000	503,300,000	209,700,000	41,000,000	nav
DR of Congo	nav	nav	nap	nap	nap	nap	nav	nap	nap	nap

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	2004					2002				
	Cheques	Direct credits	Direct debits	Debit Cards	Credit cards	Cheques	Direct credits	Direct debits	Debit Cards	Credit cards
Denmark	30,000,000	245,130,000	157,930,000	611,310,000	36,790,000	41,600,000	227,160,000	145,930,000	492,000,000	14,000,000
Dominican Republic	105,864,000	103,440	nav	9,314,258	32,059,588	82,665,000	nav	nav	5,574,822	31,841,800
ECCU	8,438,479	1,830,071	159,239	268,961	624,486	nav	nav	nav	nav	nav
Egypt	9,591,000	nav	nav	nav	nav	10,025,000	nav	nav	nav	nav
El Salvador	19,842,000	nav	nav	9,153,000	3,756,000	nav	nav	nav	nav	nav
Estonia	28,218	62,978,025	10,335,143	54,036,155	6,134,114	23,239	48,517,495	6,591,760	nav	nav
Fiji	2,854,000	nav	nav	nav	nav	1,870,000	nav	nav	nav	nav
Finland	600,000	655,000,000	69,000,000	574,000,000	135,000,000	800,000	584,000,000	54,000,000	417,000,000	127,000,000
France	4,133,810,000	2,599,230,000	2,542,730,000	4,650,000,000	nav	4,349,470,000	2,564,220,000	2,183,810,000	4,095,590,000	nav
Georgia	nap	nav	nav	1,377,272	174,000	nav	nav	nav	231,460	42,000
Germany	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Ghana	4,675,947	nav	nav	nav	nav	4,351,941	nav	nav	nav	nav
Greece	28,160,000	17,000,000	13,100,000	2,910,000	61,710,000	17,060,000	9,780,000	10,890,000	2,020,000	45,300,000
Guatemala	29,600,000	nav	nav	6,800,000	1,500,000	nav	nav	nav	nav	1,200,000
Guyana	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Honduras	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Hong Kong	125,400,000	19,200,000	35,900,000	27,300,000	nav	129,600,000	16,600,000	37,200,000	23,500,000	nav
Hungary	nap	nav	nav	62,460,000	7,060,000	nav	nav	nav	36,670,000	3,340,000
Iceland	1,493,000	nav	nav	51,463,000	35,341,000	2,726,000	nav	nav	44,662,000	30,687,000
India	1,166,840,000	43,060,000	15,300,000	41,530,000	129,470,000	1,013,900,000	nav	nav	nav	nav
Indonesia	nap	nav	nav	113,800,000	76,400,000	nav	nav	nav	nav	nav
Iran	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Ireland	73,000,000	47,000,000	42,000,000	68,000,000	83,000,000	75,000,000	37,000,000	37,000,000	55,000,000	80,000,000
Israel	719,773,000	82,637,000	131,407,000	429,595,000	nav	739,772,000	79,095,000	126,905,000	373,385,000	nav
Italy	487,000,000	1,049,000,000	772,000,000	672,000,000	434,000,000	538,000,000	989,000,000	691,000,000	552,000,000	358,000,000
Jamaica	19,714,080	nav	nav	25,005,909	5,601,766	nav	nav	nav	nav	nav
Japan	159,810,000	1,330,530,000	nav	10,950,000	3,050,230,000	187,090,000	1,285,310,000	nav	8,250,000	2,297,090,000
Jordan	8,858,500	nav	nav	nav	nav	8,577,500	nav	nav	nav	nav
Kazakhstan	200,000	25,900,000	200,000	36,600,000	nav	300,000	13,000,000	200,000	21,000,000	nav
Kenya	nap	12,329,000	3,586,000	nav	nav	nav	12,177,000	2,311,000	nav	nav
Kuwait	1,800,000	nav	nav	42,491,903	nav	1,640,000	nav	nav	nav	nav
Kyrgyz Republic	nap	1,049,700	nav	557,500	nav	nav	388,900	nav	115,900	nav
Latvia	51,000	77,153,000	816,000	28,185,000	1,341,000	60,000	62,600,000	165,000	12,816,000	127,000
Lebanon	10,978,000	nav	nav	17,690,000	nav	10,766,000	nav	nav	10,094,000	nav
Lesotho	870,029	nav	nav	nav	nav	930,104	nav	nav	nav	nav
Lithuania	10,000	46,340,000	2,860,000	35,580,000	960,000	2,000	35,580,000	830,000	16,280,000	380,000

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	2004					2002				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit Cards</i>	<i>Credit cards</i>	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit Cards</i>	<i>Credit cards</i>
Luxembourg	380,000	13,040,000	5,300,000	20,620,000	14,100,000	170,000	13,290,000	4,240,000	16,910,000	12,940,000
Macao	1,638,349	nav	nav	nav	nav	1,496,433	nav	nav	nav	nav
Macedonia	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Madagascar	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Malaysia	200,200,000	3,700,000	neg	1,600,000	164,500,000	192,900,000	600,000	nav	1,000,000	127,000,000
Malta	12,970,000	3,260,000	480,000	2,920,000	1,480,000	10,970,000	2,530,000	300,000	2,130,000	870,000
Mauritius	6,234,000	4,990,000	3,684,000	4,460,000	nav	9,220,000	4,500,000	2,600,000	3,500,000	nav
Mexico	538,000,000	155,000,000	31,000,000	nav	nav	575,000,000	134,000,000	9,000,000	nav	nav
Moldova	nap	nav	nav	5,166,785	78,023	nav	nav	nav	1,568,280	nav
Mongolia	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Morocco	21,672,862	nav	nav	nav	nav	10,010,035	nav	nav	nav	nav
Mozambique	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Myanmar	368,877,000	7,116,000	nav	nav	nav	401,550,000	27,936,000	nav	nav	nav
Namibia	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Nepal	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Netherlands	nap	1,264,000,000	1,051,000,000	1,247,000,000	49,000,000	100,000	1,261,000,000	947,000,000	1,069,000,000	46,000,000
Netherlands Ant	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
New Zealand	192,100,000	309,600,000	94,900,000	694,500,000	180,600,000	221,400,000	289,800,000	80,000,000	582,700,000	nav
Nicaragua	2,749,148	nav	nav	nav	nav	nav	nav	nav	nav	nav
Norway	1,200,000	186,600,000	35,800,000	743,600,000	43,000,000	200,000	153,200,000	31,300,000	601,400,000	29,600,000
Oman	1,772,193	nav	nav	nav	nav	2,127,322	nav	nav	nav	nav
Pakistan	183,010,000	nav	nav	nav	nav	nav	nav	nav	nav	nav
Paraguay	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Peru	7,869,682	180,640	nav	18,743,847	35,937,975	8,257,360	nav	nav	nav	nav
Philippines	146,000,000	nav	nav	nav	152,000,000	129,000,000	nav	nav	nav	132,000,000
Poland	400,000	726,610,000	7,540,000	147,240,000	45,120,000	2,310,000	507,100,000	2,260,000	76,430,000	27,280,000
Portugal	230,600,000	76,000,000	144,600,000	666,000,000	286,400,000	258,800,000	62,000,000	121,530,000	600,500,000	247,900,000
Qatar	1,821,798	nav	nav	nav	nav	nav	nav	nav	nav	nav
Romania	10,720,000	nav	141,470,000	53,060,000	1,540,000	7,390,000	nav	86,130,000	24,310,000	330,000
Russia	700,000	nav	nav	86,600,000	2,800,000	1,000,000	nav	nav	41,500,000	200,000
Rwanda	146,833	0	0	704	0	135,264	0	0	6,051	0
San Marino	517,000	167,000	517,000	663,000	506,000	nav	nav	nav	nav	nav
Saudi Arabia	6,317,653	nav	214,627	52,177,384	nav	6,438,749	nav	3,898	33,203,974	nav
Serbia	37,470,000	225,470,000	nav	9,500,000	300,000	nav	nav	nav	nav	nav
Singapore	86,750,000	19,605,948	47,540,000	121,480,000	nav	90,730,000	15,668,908	30,310,000	106,330,000	nav
Slovak Republic	70,000	140,000,000	3,000,000	27,000,000	2,500,000	100,000	nav	nav	17,000,000	800,000

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	2004					2002				
	Cheques	Direct credits	Direct debits	Debit Cards	Credit cards	Cheques	Direct credits	Direct debits	Debit Cards	Credit cards
Slovenia	1,735,000	49,969,205	nav	44,145,000	60,715,000	4,532,000	51,837,885	nav	31,988,000	54,994,000
Solomon Islands	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
South Africa	127,496,161	248,974,016	221,380,258	37,553,142	57,826,909	187,709,618	189,297,900	157,464,575	nav	nav
Spain	112,714,605	256,219,930	783,257,067	693,000,000	578,000,000	122,143,536	210,358,136	667,362,647	612,000,000	401,000,000
Sri Lanka	37,689,923	2,407,528	3,927	355,000	9,759,000	35,487,380	1,606,598	2,086	nav	6,255,000
Sudan	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Swaziland	877147	7,526	16589	nav	nav	nav	nav	nav	nav	nav
Sweden	1,200,000	462,000,000	143,000,000	780,000,000	177,000,000	1,500,000	436,000,000	119,000,000	509,000,000	80,000,000
Switzerland	2,700,000	585,900,000	51,500,000	259,500,000	102,600,000	4,500,000	537,700,000	50,000,000	225,600,000	100,700,000
Taiwan	159,635,000	9,089,000	3,918,000	nav	304,117,000	162,791,000	4,730,000	1,163,000	nav	311,998,000
Tajikistan	nap	nav	nav	nav	nav	nav	nav	nav	nav	nav
Tanzania	1,336,389	nav	nav	nav	nav	1,289,071	nav	nav	nav	nav
Thailand	86,883,000	99,839,000	45,356,000	nav	201,486,000	79,116,000	72,875,000	40,192,000	nav	nav
Trinidad – Tobago	13,300,000	nav	nav	7,980,000	2,560,000	12,150,000	nav	nav	7,540,000	2,430,000
Turkey	25,300,000	58,700,000	nav	20,000,000	1,079,500,000	25,300,000	34,100,000	nav	8,600,000	594,200,000
Uganda	1,414,385	86,558	622	nav	nav	nav	nav	nav	nav	nav
Ukraine	nap	203,400,000	nav	238,000,000	nav	nav	147,600,000	nav	74,000,000	nav
UAE	18,000,000	nav	nav	nav	nav	16,000,000	nav	nav	nav	nav
United Kingdom	1,424,465,000	132,899,000	3,796,000,000	3,690,000,000	618,000,000	1,621,332,000	150,411,000	3,645,000,000	2,994,000,000	439,000,000
United States	35,040,000,000	5,150,000,000	5,757,000,000	19,680,000,000	19,126,000,000	38,821,000,000	4,451,000,000	3,461,000,000	13,390,000,000	17,531,000,000
Uruguay	11,947,000	nav	nav	nav	nav	13,584,000	nav	nav	nav	nav
Venezuela	74,881,000	nav	nav	nap	nap	79,103,000	nav	nav	nap	nap
Yemen	586,372	nav	nav	328,719	nav	464,618	nav	nav	nav	nav
Zambia	2,156,403	343,054	137,544	nav	nav	nav	nav	nav	nav	nav
Zimbabwe	16,043,411	nav	nav	nav	nav	17,322,712	nav	nav	27,668,191	nav

- 1 Only interbank transactions information is available.
- 2 Figures for debit cards include both debit and credit cards.
- 3 The 2006 figure for credit transfers is actually from end-2005. Figures for debit cards includes both debit and credit cards. Belarus CISPI Silver Book taken as source for credit transfers data.
- 4 The 2006 figures for credit, debit, and stored-value cards, are actually from end-2004. Used CEMLA as a source.
- 5 Only interbank transactions were included.
- 6 Figures for debit cards include both debit and credit cards. Only interbank transactions were included.
- 7 Figures for 2006 are actually from end-2005.
- 8 Figures of 2006 for direct credits and direct debits are actually from end-2004.
- 9 Figures of 2006 for debit cards and credit cards are actually from end-2004.
- 10 Figures for debit cards includes both debit and credit cards.
- 11 Figures for 2006 are actually from end-2005, using the CPSS as a source. Figures for debit cards include both debit, delayed debit and credit cards.
- 12 Payments by credit card also include payments by cards with a delayed debit function. The number of transactions of the latter was 1.88 million in 2006, 1.84 million in 2004 and 6.02 million in 2002.
- 13 Figures for 2006 are actually from end-2001 (last year available using CEMLA as a source). Figures for debit cards include both debit and credit cards.

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- 14 Some 93% is e-money, prepaid, etc.
- 15 Only interbank transactions are included (except for transactions with payment cards). Figures for direct credits include both direct credits and direct debits.
- 16 Cheques are the main instrument in the country.
- 17 The 2006 figure for credit cards is actually from end-2004.
- 18 For direct credits, only interbank transactions are included. Figure for cheques includes all transactions handled by all bill and cheque clearing systems. Figures for credit cards are Bank of Japan estimates.
- 19 Figures for debit cards includes both debit and credit cards.
- 20 The number of cheques settled is a WB estimate based on monthly figures available at the Central Bank of Kenya website.
- 21 Figures for debit cards includes both debit and credit cards.
- 22 Figures for debit cards includes both debit and credit cards.
- 23 2006 figures include interbank and intra-bank transactions (for credit transfers, direct debits and cheques); 2002 and 2004 figures include interbank transactions only (for credit transfers, direct debits and cheques).
- 24 Figure for credit cards includes payments made with credit cards with combined function.
- 25 Figures for e-money and prepaid products include Touch n' Go and MEPS cash only.
- 26 Figures for debit cards includes both debit and credit cards.
- 27 For direct credits, the WB estimates 80% of payments made in RTGS system since the latter has a functionality for retail payments.
- 28 Interbank transactions only.
- 29 Figures for debit cards reflect all EFTPOS transactions.
- 30 Includes interbank cheques only.
- 31 Figure for checks based on WB estimates from field work.
- 32 Figure for credit cards for 2006 is a WB estimate based on banking sources.
- 33 All figures for 2006 are actually from end-2004. Some payments with cards may be duplicated in credit/debit card figures.
- 34 All figures for 2006 are actually from end-2004.
- 35 Does not include intrabank transactions, where applicable.
- 36 Does not include intrabank transactions, where applicable.
- 37 Only interbank transactions were included. For direct credits, the WB estimates that 80% of payments in RTGS were actually retail transactions, since the latter system was designed to handle both for large-value as well as retail.
- 38 Some 86% is e-money, etc. Figure for 2006 for debit cards is actually from end-2004.
- 39 Interbank transactions only.
- 40 All figures reported as 2006 are actually from end-2004. Only interbank transactions are included.
- 41 Interbank transactions only.
- 42 For cheques, data includes interbank information only.
- 43 Cheque data for 2004 and 2002 are estimated on the basis of Central Bank interbank cheque clearings.
- 44 Figures for direct credits are a WB estimate: 80% of RTGS number of payments since retail transfers are processed through RTGS. For cheques, only interbank information is included.
- 45 Only interbank transactions are included.
- 46 Figures for direct credits are a WB estimate: 90% of RTGS transactions was used since retail credit transfers are also processed through RTGS.
- 47 The 2006 figures for checks are actually from end-2004 using CEMLA as a source.
- 48 Figures for debit cards includes both debit and credit cards.
- 49 Figures for debit cards includes both debit and credit cards.

RETAIL PAYMENT SYSTEMS

Table III.1/e  
Value of transactions with various retail payment instruments for year 2006 (in US\$)

	2006									
	Cheques		Direct credits		Direct debits		Payments by debit cards		Payments by credit cards	
	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value
Afghanistan	822,512,064	70	0	nap	0	nap	0	nap	0	nap
Albania <sup>1</sup>	38,837,920	39	nav	0	nav	nav	0	0	nav	nav
Algeria	88,429,063,361	17,171	1,907,713,499	3,127	nav	nav	nav	nav	nav	nav
Angola	5,359,345,092	17,795	nav	nav	nav	nav	4,402,139	14	nav	nav
Argentina <sup>2</sup>	138,390,677,419	1,548	10,566,451,613	1,603	2,125,129,032	109	nav	nav	nav	nav
Armenia	18,199,519	2,038	13,151,819,712	5,477	10,615,385	1,996	332,319,712	110	cdwc	cwdc
Australia	1,295,173,175,498	2,890	4,282,791,754,841	3,322	3,071,027,492,122	5,980	70,026,487,684	53	143,282,386,282	109
Austria	18,000,000,000	3,000	3,013,975,000,000	3,323	340,050,000,000	499	14,300,000,000	62	4,000,000,000	132
Azerbaijan	0	nap	1,348,888,889	1,600	477,778	177	428,813,333	74	70,901,111	304
Bahamas	8,710,376,000	2,187	122,404,341	nav	nav	nav	202,764	nav	112,400,000	nav
BCEAO	15,580,015,314	5,344	357,963,247	19,412	nav	nav	nav	nav	nav	nav
Belarus <sup>3</sup>	0	nap	10,277,114,613	261	0	nap	1,248,379	0	nav	cwdc
Belgium	74,837,500,000	5,585	18,451,075,000,000	21,939	67,400,000,000	291	37,362,500,000	53	11,550,000,000	133
Belize	1,845,131,013	827	nav	nav	nav	nav	nav	nav	nav	nav
Bhutan	0	0	nav	nav	0	nap	nav	nav	838,852	284
Bolivia	6,556,250,000	4,357	nav	nav	nav	nav	2,467,625	2	13,383,245	9
Bosnia - Herzegovina	0	nap	0	nav	0	nap	1,127,457,037	93	148,913,221	36
Botswana	1,856,236,800	2,303	523,114,754	2,217	105,409,836	2,067	34,590,164	178	4,426,230	143
Brazil <sup>4</sup>	444,090,909,091	260	1,370,909,090,909	1,145	79,545,454,545	78	31,363,636,364	20	68,636,363,636	34
Bulgaria <sup>5</sup>	0	nap	46,714,062,500	932	477,062,500	399	4,584,681,250	49	cwdc	cwdc
Cambodia	2,894,232,632	11,118	nav	nav	nav	nav	nav	nav	nav	nav
Canada	3,385,087,719,298	2,555	5,543,859,649,123	5,898	471,000,000,000	624	130,701,754,386	40	204,385,964,912	94
Cape Verde	2,560,367,463	1,601	0	nav	0	nap	152,718,999	72	14,519,909	157
Chile	639,498,397,134	2,483	nav	nav	nav	nav	2,377,899,302	36	4,097,680,558	69
China	26,128,120,300,752	22,403	2,046,566,250,000	3,240	62,248,750,000	390	8,821,937,500,000	464	cwdc	cwdc
Colombia	206,200,000,000	2,620	88,190,000,000	3,207	nav	nav	2,450,000,000	31	5,370,000,000	76
Costa Rica <sup>6</sup>	23,366,214,571	2,333	4,816,270,614	801	852,659,059	411	nav	nav	nav	nav
Croatia	571,082,869	95	252,054,109,432	1,706	30,868,575,880	378	10,227,661,083	81	4,482,482,748	58

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	2006									
	Cheques		Direct credits		Direct debits		Payments by debit cards		Payments by credit cards	
	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value
Cyprus <sup>7</sup>	42,697,820,000	1,684	137,034,140,000	14,409	2,416,980,000	255	821,300,000	100	1,074,600,000	95
Czech Republic <sup>8</sup>	1,811,061,947	4,212	2,666,597,345,133	6,504	190,711,061,947	707	4,153,539,823	49	407,964,602	53
D. R. of Congo	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Denmark	62,427,457,627	3,218	720,866,101,695	2,707	88,595,932,203	505	46,160,169,492	64	5,585,932,203	113
Dominican Republic <sup>9</sup>	97,521,287,425	692	5,207,245,509	10,988	nav	nav	270,449,102	29	1,806,167,665	56
ECCU	14,781,708,889	1,405	4,234,965,926	1,978	307,446,667	922	25,090,370	113	114,734,444	110
Egypt <sup>10</sup>	50,651,403,509	5,434	nav	nav	nav	nav	nav	nav	nav	Nav
El Salvador	39,281,000,000	1,494	nav	nav	nav	nav	495,936,000	47	700,546,000	94
Estonia	13,485,280	942	158,780,780,800	2,025	1,254,364,240	87	2,107,509,200	21	290,400,000	40
Fiji	2,844,837,059	866	nav	nav	nav	nav	nav	nav	nav	nav
Finland	35,000,000,000	58,333	4,047,500,000,000	5,529	51,250,000,000	649	28,125,000,000	35	10,750,000,000	68
France <sup>11</sup>	2,719,600,000,000	694	134,442,887,500,000	55,822	1,133,350,000,000	451	325,275,000,000	62	cwdc	cwdc
Georgia	0	nap	nav	nav	nav	nav	579,928,868	73	34,605,001	132
Germany <sup>12</sup>	641,000,000,000	5,963	38,679,000,000,000	5,762	4,187,000,000,000	628	196,200,000,000	83	cwdc	cwdc
Ghana	15,193,266,045	3,058	0	nav	0	nav	0	nav	0	nav
Greece <sup>13</sup>	519,287,500,000	18,659	1,021,687,500,000	34,894	8,687,500,000	531	962,500,000	177	8,362,500,000	126
Guatemala	57,979,394,737	1,939	nav	nav	nav	nav	222,552,632	24	59,921,053	40
Guyana <sup>14</sup>	682,222,777	213	96,898,102	690	2,637,363	nav	3,471,528	30	cwdc	cwdc
Honduras	17,159,962,963	nav	nav	nav	nav	nav	nav	nav	0	nav
Hong Kong	1,048,901,692,308	7,964	48,700,641,026	2,244	8,919,230,769	253	3,002,564,103	95	nav	nav
Hungary	0	nap	nav	nav	nav	nav	3,802,823,194	40	769,001,901	50
Iceland	2,994,829,060	4,091	nav	nav	nav	nav	5,958,319,088	100	3,408,675,214	78
India	2,658,372,185,430	1,944	5,470,176,379,691	70,428	5,616,114,790	75	1,803,973,510	30	9,130,463,576	54
Indonesia <sup>15</sup>	8,122,891,487	3,385	28,561,134,585	985	nav	nav	7,635,954,713	47	5,993,907,831	55
Iran		nav	nav	nav	nav	nav	26,169,732,524	87	0	nap
Ireland	336,250,000,000	5,095	120,000,000,000	1,600	95,000,000,000	1,583	8,750,000,000	88	16,250,000,000	196
Israel	196,992,666,667	254	1,208,144,444,444	13,607	47,723,111,111	338	27,232,000,000	53	nav	nav
Italy	1,488,750,000,000	3,286	7,777,500,000,000	7,269	1,337,500,000,000	1,641	88,750,000,000	115	61,250,000,000	129
Jamaica	68,249,391,172	2,916	nav	nav	nav	nav	1,962,176,560	60	579,315,068	82
Japan <sup>16</sup>	4,109,458,297,506	30,613	21,803,611,349,957	16,013	nav	nav	679,277,730	62	250,730,868,444	82
Jordan	37,888,000,000	3,466	nav	nav	nav	nav	nav	nav	nav	nav
Kazakhstan <sup>17</sup>	900,000,000	9,000	538,500,000,000	17,427	8,500,000,000	1,090	9,800,000,000	147	cwdc	cwdc
Kenya <sup>18</sup>	2,101,248,266	140	36,643,551	3	6,643,551	1	nav	nav	nav	nav

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	2006									
	Cheques		Direct credits		Direct debits		Payments by debit cards		Payments by credit cards	
	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value
Kuwait	30,000,000,000	15,000	nav	nav	nav	nav	20,765,623,333	320	1,960,403,333	190
Kyrgyz Republic <sup>19</sup>	0	nap	1,278,606,965	731	nav	nav	63,680,846	89	cwdc	cwdc
Latvia	34,248,750	1,038	602,135,566,250	5,627	164,485,000	44	1,300,568,750	25	355,027,500	67
Lebanon <sup>20</sup>	32,490,000,000	3,253	nav	nav	nav	nav	3,775,000,000	153	cwdc	cwdc
Lesotho	1,383,970,588	2,358	nav	nav	nav	nav	nav	nav	nav	nav
Lithuania	1,077,007,143	3,474	410,501,742,857	5,003	364,592,857	60	2,266,828,571	35	340,928,571	87
Luxembourg <sup>21</sup>	8,600,000,000	23,889	738,387,500,000	14,441	6,250,000,000	585	2,037,500,000	81	2,000,000,000	127
Macao	28,079,230,769	15,363	nav	nav	nav	nav	nav	nav	274,213,333	nav
Macedonia <sup>22</sup>	292,831,643	48	28,352,471,321	1,453	2,334,491,683	354	171,058,724	81	114,977,771	59
Madagascar	2,014,657,144	1,035	nav	nav	nav	nav	nav	nav	nav	nav
Malaysia <sup>23</sup>	389,729,729,730	1,937	12,378,378,378	662	nav	neg	108,108,108	40	12,864,864,865	62
Malta	18,668,000,000	1,533	19,662,266,667	5,215	154,566,667	258	241,566,667	69	235,933,333	128
Mauritius <sup>24</sup>	8,630,283,912	1,181	nav	nav	1,926,624,606	535	408,832,808	53	cwdc	cwdc
Mexico	975,821,100,917	1,821	3,509,234,495,413	10,831	4,549,449,541	130	13,100,733,945	47	19,327,431,193	73
Moldova <sup>25</sup>	0	nap	2,392,518,321	5,772	0	nav	437,269,679	53	20,557,710	72
Mongolia	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Morocco	69,776,647,955	3,138	81,317,165,909	nav	0	nav	299,981,263	64	nav	nav
Mozambique	45,993,060,927	7,391	0	nav	397,037,141	nav	886,252,283	40	249,515,645	207
Myanmar <sup>26</sup>	457,068,965,517	1,424	188,793,103,448	21,983	nav	nav	nav	nav	nav	nav
Namibia	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Nepal	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Netherlands	0	nap	7,092,298,750,000	5,177	326,842,500,000	287	80,270,000,000	55	9,497,125,000	136
Netherlands Antilles	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
New Zealand	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
Nicaragua	7,845,722,664	2,660	nav	nav	nav	nav	nav	nav	nav	nav
Norway	2,468,750,000	3,527	1,153,296,875,000	5,214	34,921,875,000	835	70,031,250,000	77	9,890,625,000	162
Oman <sup>27</sup>	6,981,152,500	3,726	nav	nav	nav	nav	nav	nav	nav	nav
Pakistan	1,525,704,809,287	5,306	nav	nav	nav	nav	4,333,333,333	94	978,441,128	58
Paraguay <sup>28</sup>	12,000,000,000	571	nav	nav	nav	nav	nav	nav	nav	nav
Peru	38,975,000,000	4,805	1,804,000,000	2,248	nav	nav	791,000,000	33	2,355,000,000	41
Philippines	389,863,547,758	2,215	nav	nav	nav	nav	nav	nav	4,483,430,799	25
Poland	55,806,452	70	766,106,451,613	835	3,272,258,065	225	8,077,083,871	34	4,547,612,903	45
Portugal <sup>29</sup>	451,750,000,000	1,959	976,875,000,000	12,854	30,250,000,000	209	26,250,000,000	39	14,000,000,000	49

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	2006									
	Cheques		Direct credits		Direct debits		Payments by debit cards		Payments by credit cards	
	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value
Qatar	40,459,722,222	14,668	nav	nav	nav	nav	nav	nav	nav	nav
Romania <sup>30</sup>	9,043,207,143	844	nav	nav	35,383,871,429	250	1,536,207,143	29	220,771,429	143
Russia <sup>31</sup>	3,220,588,235	5,368	nav	nav	nav	nav	6,738,970,588	33	981,617,647	115
Rwanda	708,644,191	4,316	0	nap	0	nap	72,503	22	1,830,000	nav
San Marino	2,383,750,000	4,602	891,250,000	4,524	191,250,000	327	128,750,000	164	73,750,000	152
Saudi Arabia <sup>32</sup>	101,758,918,919	16,435	373,486,486,486	22,459	9,375,276	19	8,367,567,568	101	0	nap
Serbia	409,395,973	43	461,442,953,020	1,454	nav	nav	1,979,865,772	50	552,013,423	55
Singapore	279,350,108,476	3,260	67,566,548,750	2,801	27,595,625,000	514	5,768,750,000	47	11,649,937,500	nav
Slovak Republic	126,262,626	1,263	1,239,775,185,185	6,048	9,668,653,199	236	3,771,313,131	97	333,265,993	72
Slovenia	104,858,639	114	427,230,366,492	7,959	36,292,146,597	531	2,112,947,644	38	2,681,554,974	41
Solomon Islands	nav	nav	nav	nav	nav	nav	nav	nav	nav	nav
South Africa	223,968,127,782	2,303	459,025,574,892	1,518	58,751,321,436	218	3,957,281,723	35	11,143,752,114	97
Spain <sup>33</sup>	856,768,137,500	8,202	899,195,712,500	2,952	401,170,262,500	446	46,437,500,000	58	59,212,500,000	72
Sri Lanka	36,795,052,936	830	1,164,051,973	282	3,580,366	98	9,624,639	19	528,854,668	32
Sudan	nav	nav	nav	nav	nav	nav	87,562,845	88	nav	nav
Swaziland	2,249,680,858	2,617	104,972,151	938	15,770,919	205	nav	nav	nav	nav
Sweden	4,054,054,054	4,505	1,053,918,918,919	2,062	46,486,486,486	291	43,783,783,784	50	10,810,810,811	59
Switzerland <sup>34</sup>	6,076,923,077	2,251	33,205,923,076,923	56,675	60,615,384,615	1,177	28,692,307,692	111	15,230,769,231	148
Taiwan <sup>35</sup>	734,738,461,538	4,925	22,676,923,077	1,001	6,892,307,692	438	nav	nav	42,461,538,462	88
Tajikistan	0	nap	nav	nav	nav	nav	22,484,848	96	0	nap
Tanzania	7,987,858,455	5,249	nav	nav	nav	nav	139,815,480	64	146,302,420	nav
Thailand <sup>36</sup>	794,738,786,280	9,451	111,820,580,475	911	32,664,907,652	613	316,622,691	47	19,868,073,879	78
Trinidad and Tobago <sup>37</sup>	30,437,555,556	2,124	447,507,937	2,357	nav	nav	437,301,587	37	718,460,317	184
Turkey <sup>38</sup>	131,649,300,699	5,578	1,052,447,552,448	13,966	nav	nav	1,060,419,580	21	69,075,594,406	54
Uganda <sup>39</sup>	5,121,696,337	3,375	212,117,958	1,288	42,545,136	nav	nav	nav	nav	nav
Ukraine <sup>40</sup>	0	nap	160,600,000,000	624	0	#DIV/0!	30,227,000,000	66	cwdc	cwdc
United Arab Emirates	187,297,297,297	8,143	Nav	nav	nav	nav	nav	nav	nav	nav
United Kingdom	2,348,374,000,000	1,897	119,482,000,000	1,103	1,690,000,000,000	430	723,052,000,000	160	292,814,000,000	393
United States	76,310,248,000,000	1,366	18,111,766,000,000	2,947	13,499,743,000,000	1,558	1,023,720,000,000	39	1,944,930,000,000	87
Uruguay	19,705,778,689	1,642	0	#DIV/0!	0	0	0	#DIV/0!	1,377,545,276	43
Venezuela	220,638,565,440	2,252	1,091,755,939	1,711	nav	nav	5,780,624,127	nav	6,186,306,474	nav
Yemen <sup>41</sup>	7,538,837,056	10,677	Nav	nav	nav	nav	156,837,563	71	cwdc	cwdc
Zambia	7,845,743,943	3,426	644,722,600	1,251	22,480,642	119	23,590,797	92	nav	nap

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	2006									
	Cheques		Direct credits		Direct debits		Payments by debit cards		Payments by credit cards	
	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value	Value Settled	Average Value
Zimbabwe <sup>42</sup>	19,388,309,699	1,494	nav	nav	nav	nav	2,371,658,679	52	19,764	nav

**Note: see footnotes and comments after Table III.3.1g**

**RETAIL PAYMENT SYSTEMS**

**Table III.1/f**  
**Value of transactions with various retail payment instruments for year 2004 (in US\$)**

	2004				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
Afghanistan	nav	0	0	0	0
Albania	208,171,206	nav	nav	0	Nav
Algeria	65,736,754,508	6,428,710,125	nav	nav	Nav
Angola	2,280,608,012	3,093,350	nav	2,465,799	Nav
Argentina	119,024,896,552	5,225,551,724	1,084,137,931	nav	nav
Armenia	23,550,141	6,558,980,319	8,509,841	185,137,769	nav
Australia	1,262,631,341,754	3,041,310,432,746	2,221,529,080,751	52,802,770,799	112,717,575,097
Austria	20,500,000,000	3,183,875,000,000	250,875,000,000	11,375,000,000	nav
Azerbaijan	0	622,104,620	0	nav	nav
Bahamas	7,309,111,000	nav	nav	nav	101,300,000
BCEAO	nav	0	nav	nav	0
Belarus	0	8,364,578,994	0	1,239,307	0
Belgium	101,412,500,000	18,451,075,000,000	60,100,000,000	37,362,500,000	8,500,000,000
Belize	nav	nav	nav	nav	nav
Bhutan		0	0	nav	529,801
Bolivia	7,122,000,000	nav	nav	2,498,861	107,065,960
Bosnia - Herzegovina	0	0	0	nav	nav
Botswana	1,549,343,700	210,212,766	116,170,213	13,191,489	3,191,489
Brazil	345,862,068,966	935,862,068,966	40,689,655,172	14,482,758,621	32,068,965,517
Bulgaria	0	71,506,293,750	372,368,750	3,154,918,750	nav
Cambodia	1,295,873,319	nav	nav	nav	nav
Canada	2,735,156,250,000	3,878,125,000,000	303,125,000,000	96,875,000,000	141,406,250,000
Cape Verde	1,908,774,775	0	0	98,442,568	nav
Chile	825,464,391,204	nav	nav	1,319,330,489	2,326,878,897
China	nav	nav	nav	nav	nav
Colombia	160,170,000,000	47,500,000,000	nav	1,540,000,000	3,260,000,000
Costa Rica	21,432,790,432	3,027,943,384	504,925,316	nav	nav
Croatia	nav	nav	nav	nav	nav
Cyprus	40,492,300,000	125,973,220,000	2,052,980,000	788,100,000	1,172,300,000
Czech Republic	1,133,073,930	2,344,945,525,292	167,707,003,891	3,357,198,444	249,416,342

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	2004				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
D. R. of Congo	nav	nav	nav	nav	nav
Denmark	87,001,000,000	547,337,000,000	75,522,166,667	35,353,000,000	4,490,833,333
Dominican Republic	66,348,026,128	nav	nav	214,560,570	1,432,921,615
ECCU	9,912,700,741	2,509,443,704	386,479,259	23,405,556	111,256,296
Egypt	45,842,580,645	nav	nav	nav	nav
El Salvador	28,098,000,000	nav	nav	358,026,000	388,393,000
Estonia	17,459,444	84,444,157,937	344,464,683	950,296,349	212,137,619
Fiji	1,946,210,588	nav	nav	nav	nav
Finland	62,500,000,000	3,582,500,000,000	45,000,000,000	21,875,000,000	8,625,000,000
France	2,605,262,500,000	134,442,887,500,000	978,075,000,000	274,500,000,000	
Georgia	0	nav	nav	116,677,215	44,521
Germany	696,000,000,000	35,405,000,000,000	4,239,000,000,000	186,400,000,000	nav
Ghana	12,462,574,684	0	0	0	nav
Greece	447,712,500,000	1,070,287,500,000	7,437,500,000	312,500,000	7,187,500,000
Guatemala	53,567,227,848	nav	nav	160,240,506	47,443,038
Guyana	nav	nav	nav	nav	nav
Honduras	13,979,241,758	nav	nav	nav	nav
Hong Kong	853,992,358,974	40,791,538,462	7,281,025,641	2,548,974,359	nav
Hungary	0	nav	nav	2,589,343,858	382,807,104
Iceland	4,156,082,621	nav	nav	5,626,381,766	2,417,820,513
India	2,308,806,843,267	914,120,309,051	644,812,362	1,183,443,709	5,670,198,675
Indonesia	nav	nav	nav	2,727,435,450	3,881,952,835
Iran	nav	nav	nav	nav	0
Ireland	261,250,000,000	71,250,000,000	42,500,000,000	5,000,000,000	11,250,000,000
Israel	174,814,888,889	682,797,777,778	39,525,555,556	22,300,666,667	nav
Italy	1,483,750,000,000	6,643,750,000,000	1,166,250,000,000	72,500,000,000	52,500,000,000
Jamaica	56,645,947,712	nav	nav	1,369,493,464	267,222,222
Japan	5,577,171,903,882	21,363,955,637,708	nav	656,192,237	269,500,924,214
Jordan	24,991,571,429	nav	nav	nav	nav
Kazakhstan	1,500,000,000	237,200,000,000	400,000,000	4,200,000,000	nav
Kenya	nav	25,909,091	2,904,040	nav	nav
Kuwait	25,166,666,667	nav	nav	13,938,530,000	1,276,303,333
Kyrgyz Republic	0	929,577,465	nav	38,780,751	nav
Latvia	32,032,500	490,770,170,000	60,056,250	704,647,500	111,401,250
Lebanon	32,716,000,000	nav	nav	2,888,000,000	nav

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	2004				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
Lesotho	1,787,384,615	nav	nav	nav	nav
Lithuania	4,132,143	254,647,153,571	1,157,989,286	966,985,714	73,853,571
Luxembourg	3,212,500,000	57,312,500,000	2,112,500,000	1,675,000,000	1,775,000,000
Macao	18,305,128,205	nav	nav	nav	nav
Macedonia	nav	nav	nav	nav	nav
Madagascar	nav	nav	nav	nav	nav
Malaysia	356,947,368,421	3,710,526,316	nav	52,631,579	9,184,210,526
Malta	21,438,366,667	7,604,433,333	118,133,333	204,166,667	192,700,000
Mauritius	6,796,218,182	nav	1,636,654,545	290,181,818	nav
Mexico	895,252,035,398	2,256,229,380,531	4,322,831,858	nav	nav
Moldova	0	nav	0	243,983,756	3,298,049
Mongolia	nav	nav	nav	nav	nav
Morocco	56,210,348,427	59,191,505,169	nav	nav	nav
Mozambique		0	nav	nav	nav
Myanmar	192,105,263,158	99,473,684,211	nav	nav	nav
Namibia	nav	nav	nav	nav	nav
Nepal	nav	nav	nav	nav	nav
Netherlands	0	5,425,046,250,000	274,018,750,000	70,908,750,000	6,570,000,000
Netherlands Antilles	nav	nav	nav	nav	nav
New Zealand	nav	nav	nav	nav	nav
Nicaragua	5,592,699,522	nav	nav	nav	nav
Norway	6,343,283,582	1,114,746,268,657	26,641,791,045	58,731,343,284	6,940,298,507
Oman	5,528,455,000	nav	nav	nav	nav
Pakistan	686,106,346,484	nav	nav	nav	nav
Paraguay	nav	nav	nav	nav	nav
Peru	29,792,000,000	363,000,000	nav	417,000,000	1,260,000,000
Philippines	232,142,857,143	nav	nav	nav	nav
Poland	194,594,595	540,800,000,000	1,813,513,514	4,714,240,541	1,935,386,486
Portugal	451,750,000,000	976,875,000,000	30,250,000,000	26,250,000,000	14,000,000,000
Qatar	17,137,222,222	nav	nav	nav	nav
Romania	7,673,024,242	nav	30,022,678,788	1,303,448,485	187,321,212
Russia	927,083,333	nav	nav	2,461,805,556	368,055,556
Rwanda	521,602,009	0	0	nav	nav
San Marino	1,867,500,000	708,750,000	132,500,000	112,500,000	57,500,000
Saudi Arabia	91,678,947,368	211,157,894,737	1,517,330	6,307,894,737	0

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	2004				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
Serbia	1,155,631,399	233,720,136,519	nav	407,849,829	20,477,816
Singapore	246,905,882,353	50,043,655,882	21,505,882,353	5,429,411,765	8,264,705,882
Slovak Republic	77,987,616	301,996,099,071	1,263,808,050	1,013,281,734	120,619,195
Slovenia	168,097,713	278,682,900,208	nav	1,627,338,877	2,333,861,746
Solomon Islands	nav	nav	nav	nav	nav
South Africa	226,906,671,066	342,933,741,569	43,761,634,653	1,219,667,808	6,061,156,980
Spain	737,301,837,500	768,555,250,000	326,695,812,500	38,212,500,000	44,250,000,000
Sri Lanka	29,300,513,834	591,432,806	1,294,466	9,881,423	329,051,383
Sudan	nav	nav	nav	nav	nav
Swaziland	1,631,147,347	8,939,572	4,305,969	nav	nav
Sweden	8,082,191,781	945,616,438,356	41,369,863,014	43,972,602,740	11,506,849,315
Switzerland	6,583,333,333	35,973,083,333,333	65,666,666,667	31,083,333,333	16,500,000,000
Taiwan	796,317,365,269	13,892,215,569	1,706,586,826	nav	37,544,910,180
Tajikistan	0	nav	nav	nav	0
Tanzania	6,609,749,380	nav	nav	nav	nav
Thailand	620,955,223,881	79,328,358,209	28,507,462,687	nav	13,333,333,333
Trinidad and Tobago	30,140,952,381	nav	nav	400,936,508	584,111,111
Turkey	92,200,209,790	398,601,398,601	nav	315,104,895	40,915,454,545
Uganda	4,303,123,967	112,337,135	10,488,124	nav	nav
Ukraine	0	87,800,000,000	0	11,986,000,000	nav
United Arab Emirates	116,486,486,486	nav	nav	nav	nav
United Kingdom	2,427,026,000,000	136,522,000,000	1,500,000,000,000	576,264,000,000	288,078,000,000
United States	41,731,479,000,000	14,126,044,000,000	11,813,812,000,000	728,860,000,000	1,606,890,000,000
Uruguay	17,754,619,377	nav	nav	nav	nav
Venezuela	102,573,362,238	nav	nav	2,919,684,873	2,651,086,554
Yemen	4,948,960,173	nav	nav	111,287,879	nav
Zambia	4,893,804,013	617,296,867	6,905,355	nav	0
Zimbabwe	14,599,404,186	nav	nav	3,551,206,424	nav

**Note:** see footnotes and comments after Table III.3.1g.

**RETAIL PAYMENT SYSTEMS**

**Table III.1/g**  
**Value of transactions with various retail payment instruments for year 2002 (in US\$)**

	2002				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
Afghanistan	nav	0	0	0	0
Albania	226,818,830	0	nav	0	nav
Algeria	48,945,043,915	4,348,557,089	nav	nav	nav
Angola	885,727,034	1,290,947	nav	nav	nav
Argentina	91,125,516,129	nav	nav	nav	nav
Armenia	28,636,205	3,540,500,523	5,242,414	62,314,266	nav
Australia	1,135,354,985,474	1,787,328,692,184	1,312,927,412,785	33,149,504,424	70,512,214,064
Austria	15,818,181,818	1,004,727,272,727	72,909,090,909	6,909,090,909	nav
Azerbaijan	0	7,961,325	0	nav	nav
Bahamas	6,016,890,000	Nav	nav	nav	87,000,000
BCEAO	nap	0	0	nav	0
Belarus	0	5,270,311,017	0	180,327	0
Belgium	90,281,818,182	11,914,445,454,546	41,972,727,273	22,836,363,636	6,636,363,636
Belize	nav	Nav	nav	nav	nav
Bhutan	0	0	0	nav	nav
Bolivia	9,022,000,000	Nav	nav	768,595	14,822,804
Bosnia - Herzegovina	0	0	0	nav	nav
Botswana	975,037,720	101,451,613	101,774,194	2,741,935	483,871
Brazil	553,448,275,862	867,586,206,897	26,551,724,138	6,896,551,724	22,413,793,103
Bulgaria	0	32,838,752,381	425,657,143	1,065,166,667	nav
Cambodia	858,600,241	Nav	nav	nav	nav
Canada	3,324,827,586,207	2,913,793,103,448	212,413,793,103	72,413,793,103	105,517,241,379
Cape Verde	1,443,199,659	0	0	63,156,997	nav
Chile	824,560,894,179	Nav	nav	463,057,047	1,470,460,154
China	nav	nav	nav	nav	nav
Colombia	164,520,000,000	28,230,000,000	nav	980,000,000	2,350,000,000
Costa Rica	23,679,949,733	1,426,308,460	94,847,137	nav	nav
Croatia	nav	nav	nav	nav	nav
Cyprus	28,935,683,333	42,342,416,667	974,533,333	372,583,333	616,400,000
Czech Republic	425,076,453	1,987,397,553,517	61,284,403,670	1,605,504,587	nav

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	2002				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
D. R. of Congo	nav	nav	nav	nav	nav
Denmark	89,669,113,924	377,468,354,430	51,967,594,937	21,645,569,620	1,645,569,620
Dominican Republic	112,701,505,376	nav	nav	205,913,978	2,045,161,290
ECCU	nav	nav	nav	nav	nav
Egypt	54,351,333,333	nav	nav	nav	nav
El Salvador	nav	nav	nav	nav	nav
Estonia	16,303,855	44,086,960,843	126,930,783	nav	nav
Fiji	1,012,528,636	nav	nav	nav	nav
Finland	70,000,000,000	1,920,909,090,909	23,636,363,636	12,818,181,818	6,000,000,000
France	2,159,536,363,636	62,891,845,454,546	683,072,727,273	172,727,272,727	nav
Georgia	0	nav	nav	11,503,052	0
Germany	729,000,000,000	26,647,000,000,000	3,687,000,000,000	125,400,000,000	nav
Ghana	10,577,104,895	0	0	0	0
Greece	243,890,909,091	746,545,454,545	2,672,727,273	145,454,545	2,645,454,545
Guatemala	nav	nav	nav	nav	nav
Guyana	nav	nav	nav	nav	nav
Honduras	12,700,042,683	nav	nav	nav	nav
Hong Kong	592,228,179,487	34,911,794,872	7,126,538,462	2,251,410,256	nav
Hungary	0	nav	0	1,223,400,543	149,240,016
Iceland	6,414,525,627	nav	nav	3,633,173,391	1,445,627,045
India	2,762,204,320,988	nav	nav	nav	nav
Indonesia	nav	nav	nav	nav	nav
Iran	nav	nav	nav	nav	0
Ireland	159,090,909,091	38,181,818,182	25,454,545,455	2,727,272,727	6,363,636,364
Israel	171,703,829,787	567,430,638,298	32,756,595,745	19,068,297,872	nav
Italy	1,087,272,727,273	4,247,272,727,273	730,000,000,000	40,909,090,909	30,909,090,909
Jamaica	nav	nav	nav	nav	nav
Japan	5,624,162,679,426	17,872,886,762,360	nav	350,877,193	196,810,207,337
Jordan	18,435,571,429	nav	nav	nav	nav
Kazakhstan	1,300,000,000	80,500,000,000	200,000,000	1,600,000,000	nav
Kenya	nav	24,155,019	1,829,733	nav	nav
Kuwait	17,633,333,333	nav	nav	nav	nav
Kyrgyz Republic	0	452,025,586	nav	8,245,203	nav
Latvia	27,923,636	220,988,948,182	7,389,091	280,684,545	8,563,636
Lebanon	28,403,000,000	nav	nav	1,564,000,000	nav

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	2002				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
Lesotho	930,476,190	nav	nav	nav	nav
Lithuania	5,875,676	121,017,197,297	429,105,405	359,367,568	19,332,432
Luxembourg	3,027,272,727	36,390,909,091	872,727,273	1,000,000,000	1,200,000,000
Macao	11,384,358,974	nav	nav	nav	nav
Macedonia	nav	nav	nav	nav	nav
Madagascar	nav	nav	nav	nav	nav
Malaysia	314,342,105,263	1,236,842,105	nav	26,315,789	6,657,894,737
Malta	10,204,500,000	4,470,400,000	45,575,000	105,550,000	78,175,000
Mauritius	6,662,000,000	nav	nav	178,000,000	nav
Mexico	998,559,484,536	737,855,773,196	796,804,124	nav	nav
Moldova	0	nav	0	62,046,596	nav
Mongolia	nav	nav	nav	nav	nav
Morocco	nav	0	nav	nav	nav
Mozambique	nav	0	nav	nav	nav
Myanmar	170,303,030,303	190,454,545,455	nav	nav	nav
Namibia	nav	nav	nav	nav	nav
Nepal	nav	nav	nav	nav	nav
Netherlands	7,272,727	3,057,894,545,455	170,524,545,455	45,979,090,909	47,939,909,091
Netherlands Antilles	nav	nav	nav	nav	nav
New Zealand	nav	nav	nav	nav	nav
Nicaragua	nav	nav	nav	nav	nav
Norway	7,075,000,000	584,800,000,000	18,650,000,000	43,062,500,000	4,787,500,000
Oman	5,318,305,000	nav	nav	nav	nav
Pakistan	nav	nav	nav	nav	nav
Paraguay	nav	nav	nav	nav	nav
Peru	33,101,000,000	0	nav	nav	nav
Philippines	251,937,984,496	nav	nav	nav	nav
Poland	5,523,414,634	1,152,787,804,878	929,268,293	2,262,439,024	1,060,243,902
Portugal	359,272,727,273	466,181,818,182	20,727,272,727	15,909,090,909	9,454,545,455
Qatar	nav	nav	nav	nav	nav
Romania	3,801,872,727	nav	13,436,345,455	361,475,758	14,260,606
Russia	4,932,907,348	nav	nav	1,000,000,000	28,753,994
Rwanda	474,612,958	0	0	nav	nav
San Marino	0	0	0	0	0
Saudi Arabia	82,237,894,737	192,210,526,316	103,985	3,876,315,789	0

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	2002				
	<i>Cheques</i>	<i>Direct credits</i>	<i>Direct debits</i>	<i>Debit cards</i>	<i>Credit cards</i>
Serbia	nav	nav	nav	nav	nav
Singapore	222,200,000,000	35,668,512,222	15,305,555,556	4,327,777,778	6,611,111,111
Slovak Republic	58,984,547	nav	nav	412,626,932	33,708,609
Slovenia	343,368,027	185,675,603,664	nav	872,972,523	1,593,709,409
Solomon Islands	nav	nav	nav	nav	nav
South Africa	163,924,215,887	147,328,023,740	20,074,940,292	0	nav
Spain	485,636,936,364	439,406,572,727	194,784,263,636	22,781,818,182	21,736,363,636
Sri Lanka	25,547,763,845	13,956,750,261	679,206	0	189,707,419
Sudan	nav	nav	nav	nav	0
Swaziland	nav	nav	nav	nav	nav
Sweden	1,443,298,969	639,381,443,299	25,773,195,876	30,618,556,701	7,010,309,278
Switzerland	8,187,500,000	28,803,687,500,000	45,500,000,000	23,812,500,000	12,062,500,000
Taiwan	924,421,965,318	4,046,242,775	1,098,265,896	nav	25,231,213,873
Tajikistan	0	nav	nav	nav	0
Tanzania	6,517,690,875	nav	nav	nav	nav
Thailand	437,595,348,837	47,209,302,326	25,116,279,070	nav	6,651,162,791
Trinidad and Tobago	23,736,290,323	nav	nav	232,790,323	387,419,355
Turkey	52,750,860,927	223,841,059,602	nav	81,986,755	14,546,092,715
Uganda	nav	nav	nav	nav	nav
Ukraine	0	50,200,000,000	0	3,764,000,000	nav
United Arab Emirates	70,270,270,270	nav	nav	nav	nav
United Kingdom	1,835,031,428,571	114,952,857,143	881,428,571,429	315,272,857,143	173,235,714,286
United States	40,868,831,000,000	11,155,628,000,000	10,621,596,000,000	479,950,000,000	1,340,350,000,000
Uruguay	18,184,933,962	nav	nav	nav	nav
Venezuela	95,351,421,189	nav	0	nav	nav
Yemen	3,062,072,893	nav	nav	0	nav
Zambia	nav	nav	nav	nav	0
Zimbabwe	2,545,454,545	nav	nav	0	nav

- 1 Only interbank transactions are included.
- 2 Data provided for direct debits for 2004 was multiplied by 2.4 to get annual figure.
- 3 Taken as source for credit transfers data.
- 4 Only interbank transactions are included (except for POS transactions).
- 5 Figures for debit cards include both debit and credit cards (the latter 1% of the total). Only interbank transactions were included.
- 6 Only interbank transactions are included.
- 7 Credit transfers data include the large-value transfer system. All figures for 2006 are actually from end-2005.
- 8 The 2006 figures for credit transfers and direct debits are actually from end-2004.
- 9 The 2006 figures for debit and credit cards, are actually from end-2004

- 10 Only interbank transactions are included.
- 11 Figures for debit cards includes both debit and credit cards. The 2006 figures are actually from end-2005, except for credit transfers for which the information is end-2004.
- 12 All data taken from CPSS country and comparative tables. The 2006 figures are actually from end-2005. Figures for debit cards include both debit, delayed debit and credit cards.
- 13 Payments by credit card also include payments by cards with a delayed debit function. The value of transactions of the latter was 0.35 EUR billion in 2006, 0.32 EUR billion in 2004 and 0.72 EUR billion in 2002.
- 14 Figures for 2006 are actually from end-2001 (last year available using CEMLA as a source). Figures for debit cards include both debit and credit cards.
- 15 Only interbank transactions are included (except for transactions with payment cards). Figures for direct credits include both direct credits and direct debits.
- 16 For direct credits, only interbank transactions are included. Figure for cheques includes all transactions handled by all bill and cheque clearing systems. Figures for credit cards are Bank of Japan estimates.
- 17 Figures for debit cards include both debit and credit cards.
- 18 The value of cheques settled is a WB estimate based on monthly figures available at the Central Bank of Kenya website.
- 19 Figures for debit cards includes both debit and credit cards.
- 20 Figures for debit cards includes both debit and credit cards.
- 21 Figures for 2002 and 2004 include interbank transactions only (except for transactions with payment cards).
- 22 Figure for credit cards includes payments made with credit cards with combined function.
- 23 Figures for e-money and prepaid products include.  
Touch n' Go and MEPS cash only.
- 24 Figures for debit cards includes both debit and credit cards.
- 25 For direct credits, the WB estimates 20% of value settled through RTGS system since the latter has a special functionality for retail payments.
- 26 Interbank transactions only.
- 27 Includes interbank transactions only.
- 28 Figure for checks based on WB estimates from field work.
- 29 All figures for 2006 are actually from end-2004. Some payments with cards may be duplicated in credit/debit card figures.
- 30 All figures for 2006 are actually from end-2004.
- 31 Does not include intrabank transactions, where applicable.
- 32 Only interbank transactions were included. For direct credits, the WB estimates that 10% of value of payments in RTGS actually relates to retail transactions, since the latter system was designed to handle both for large-value as well as retail.
- 33 Only interbank transactions are included (except for transactions with payment cards).
- 34 All figures reported as 2006 are actually from end-2004. Only interbank transactions are included.
- 35 transactions only.
- 36 For cheques, data includes interbank information only.
- 37 Cheque data for 2004 and 2002 are estimated on the basis of Central Bank interbank cheque clearings.
- 38 Figures for direct credits are a WB estimate: 10% of value settled through RTGS system since retail transfers are processed through RTGS.
- 39 Only interbank transactions are included.
- 40 Figures for direct credits are a WB estimate: 20% of value settled through RTGS since retail credit transfers are also processed through RTGS.
- 41 Figures for debit cards includes both debit and credit cards.
- 42 Figures for debit cards includes both debit and credit cards.

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Table III.2  
Cheque clearinghouse main features

	Cheque clearinghouse is operated by the Central Bank	Cheques are standardized	Processing of cheques is automated, but physical exchange is required	Processing of cheques is automated, and cheque truncation is used	Net balances are calculated and settled once a day
Afghanistan					
Albania	X	X			X
Algeria		X		X	X
Angola	X	X	X		X
Argentina		X		X	X
Armenia <sup>1</sup>					
Australia			X		X
Austria					
Azerbaijan					
Bahamas	X				X
BCEAO	X	X	X	X	X
Belarus					
Belgium	X	X		X	X
Belize	X				X
Bhutan	X			X	X
Bolivia		X	X		
Bosnia - Herzegovina					
Botswana		X	X		
Brazil		X	X		
Bulgaria					
Cambodia	X				X
Canada		X	X		X
Cape Verde	X	X	<sup>2</sup>	<sup>3</sup>	X
Chile		X	X		X
China	X	X	X	X	
Colombia	X	X	X		X
Costa Rica	X	X	X		
Croatia					
Cyprus	X	X	X		X
Czech Republic		X		X	
D. R. of Congo	X				X
Denmark		X		X	X
Dominican Republic	X		X		
ECCB	X				X
Egypt	X	X	X		X
El Salvador	X	X	X		
Estonia <sup>4</sup>					
Fiji		X	X		X
Finland					
France <sup>5</sup>		X		X	X
Georgia					
Germany	X <sup>6</sup>	X		X	
Ghana	X	X	X		X

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	Cheque clearinghouse is operated by the Central Bank	Cheques are standardized	Processing of cheques is automated, but physical exchange is required	Processing of cheques is automated, and cheque truncation is used	Net balances are calculated and settled once a day
Greece PS 1		X	X		X
Greece PS 2		X		X	X
Guatemala		X	X		
Guyana	X	X			X
Honduras		X	X		
Hong Kong		X		X	X
Hungary <sup>5</sup>					
Iceland		X		X	
India <sup>7</sup>	X <sup>8</sup>	X	X		X <sup>9</sup>
Indonesia	X	X	X		X
Iran					X
Ireland <sup>10</sup>		X	X		X
Israel	X	X	X		X
Italy	X	X	X	X	X
Jamaica		X	X		
Japan		X	X		X
Jordan	X	X	X		X
Kazakhstan					
Kenya	X	X	X		X
Kuwait	X				X
Kyrgyz Republic					
Latvia					
Lebanon	X	X	X		X
Lesotho	X	X			
Lithuania					
Luxembourg					
Macao	X				X
Macedonia		X			X
Madagascar	X	X			
Malaysia	X		X		X
Malta	X	X	X		
Mauritius	X	X	X		
Mexico		X		X	X
Moldova					
Mongolia					
Morocco		X		X	X
Mozambique	X	X	X	X	X
Myanmar	X	X			X
Namibia		X	X		X
Nepal	X				X
Netherlands					
Netherlands Antilles	X	X	X	X	
New Zealand				X	X
Nicaragua	X	X	X		X
Norway		X	X		
Oman	X	X	X		X
Pakistan		X	X		
Paraguay	X	X	X		X

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	Cheque clearinghouse is operated by the Central Bank	Cheques are standardized	Processing of cheques is automated, but physical exchange is required	Processing of cheques is automated, and cheque truncation is used	Net balances are calculated and settled once a day
Peru		X	X		X
Philippines		X	X		X
Poland					
Portugal	X <sup>11</sup>	X		X	X
Quatar	X	X	X		
Romania	X	X	X		X
Russia					
Rwanda	X	*			X
San Marino		X			
Saudi Arabia	X	X	X		
Serbia		X			X
Singapore		X		X	
Slovak Republic					
Slovenia					
Solomon Islands	X	X	X		X
South Africa		X	X		X
Spain		X		X	X
Sri Lanka		X		X	X
Sudan	X	X		X	X
Swaziland		X	X		
Sweden		X		X	X
Switzerland		X		X	X
Taiwan		X	X		X
Tajikistan					
Tanzania	X	X	X		X
Thailand	X	X	X		X
Trinidad and Tobago	X	X	X	X	X
Turkey			X	X	X
Uganda	X	X	X		
Ukraine					
United Arab Emirates	X	X	X		X
United Kingdom		X	X		
USA <sup>14</sup>	X <sup>15</sup>	X	X	X	
Uruguay	X <sup>16</sup>		X		
Venezuela	X	X	X		
Yemen	X	X			X
Zambia		X	X		
Zimbabwe	X	X	X		X

- 1 Other banks to process the cheques: the depositor bank presents the cheque directly to payer bank.
- 2 Under development.
- 3 Under development.
- 4 There is no Clearing House in Estonia.
- 5 There is no clearinghouse dedicated to cheques. All retail cashless payment instruments, notably cheques, are processed through the ACH.  
Cheques are truncated to be processed in the ACH with settlement in the RTGS once a day.  
In parallel of the processing through the ACH, a physical but non-accounting exchange is required for a very small proportion of cheques (about 2% of all cheques), which have specific features.
- 6 Cheques might also be cleared outside the Central Bank.
- 7 In Hungary ceques are not used for payments.

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- 8 of the 1066 CHs only 4 are operated by the central bank. The processing is automated at 59 centres. Cheque Truncation pilot is expected to go live in National Capital Region of Delhi.
- 9 Only in the four metros.
- 10 For cheque clearing the net balance are calculated once a day.
- 11 There is no centralized cheque clearing house in Ireland. The Irish retail payment system is based on a series of bi-lateral arrangements for the exchange and settlement of paper and electronic payment instruments between participating banks. The underlying interbank liabilities are settled on a multi-lateral net basis in central bank funds in the retail payment system members' settlement accounts at the Central Bank.
- 12 The central bank has contractually delegated the operation of the clearinghouse to a service provider company.
- 13 The clearing of cheque and credit transfers are done in a semi-automated manner. Information is brought to the Clearing House on Flash Disc, it is entered into the Central Bank system and net balances are calculated automatically.
- 14 The central bank offers check services but is not a check clearinghouse. The answers in III.3 refer to central bank check clearing services. There are hundreds of private-sector clearinghouses in the United States. We do not have detailed information on their settlement arrangements.
- 15 The central bank provides check services, but is not a clearinghouse. See introductory note.
- 16 It is an outsourcing process, BEVSA is the operator under responsibility of BCU.

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Table III.2 (continued)  
Cheque clearinghouse main features

	Net balances are calculated two or more times each day	Multilateral net balances are calculated	Final settlement of net positions takes place through an RTGS system	Final settlement takes place in Central Bank money, but not through an RTGS	Customer accounts are credited no later than T+2
Afghanistan					
Albania		X	X		X
Algeria		X	X		
Angola		X	X		X
Argentina		X	X		X
Armenia					
Australia		X	X		X
Austria					
Azerbaijan					
Bahamas			X		X
BCEAO		X	X		X
Belarus					
Belgium		X		X	X
Belize		X		X	X
Bhutan		X		X	X
Bolivia	X	X	X		
Bosnia - Herzegovina					
Botswana	X	X	X		X
Brazil	X	X	X		X
Bulgaria					
Cambodia		X		X	X
Canada		X	X		X
Cape Verde		X		X	X
Chile		X	X		X
China	X	X	X		X
Colombia		X	X		X
Costa Rica		X		X	X
Croatia					
Cyprus		X		X	
Czech Republic					X
D. R. of Congo		X		X	
Denmark		X		X	X
Dominican Republic	X	X		X	X
ECCB		X	X		X
Egypt		X		X	X
El Salvador	X	X		X	X
Estonia					
Fiji				X	
Finland					
France			X		
Georgia					
Germany				X	X <sup>1</sup>
Ghana		X	X		X

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	Net balances are calculated two or more times each day	Multilateral net balances are calculated	Final settlement of net positions takes place through an RTGS system	Final settlement takes place in Central Bank money, but not through an RTGS	Customer accounts are credited no later than T+2
Greece PS 1		X	X		
Greece PS 2		X	X		
Guatemala	X	X			X
Guyana	X	X		X	
Honduras	X	X		X	X
Hong Kong		X	X		X
Hungary					
Iceland			X		
India	X <sup>2</sup>	X	X <sup>3</sup>	X <sup>4</sup>	X
Indonesia		X	X		X
Iran		X	X		X
Ireland		X	X		X
Israel		X	X		X
Italy		X	X		
Jamaica	X	X		X	X
Japan		X	X		X
Jordan		X	X		X
Kazakhstan					
Kenya		X	X		
Kuwait			X		X
Kyrgyz Republic					
Latvia					
Lebanon		X		X	X
Lesotho	X	X	X		
Lithuania					
Luxembourg					
Macao		X		X	X
Macedonia		X	X		X
Madagascar	X			X	X
Malaysia			X		X <sup>5</sup>
Malta			X		
Mauritius	X		X		
Mexico		X	X		X
Moldova					
Mongolia					
Morocco		X	X		
Mozambique	X	X	X	X	X
Myanmar		X	X	X	
Namibia		X	X		
Nepal					
Netherlands					
Netherlands Antilles			X		
New Zealand			X		X
Nicaragua		X		X	X
Norway	X	X		X	X
Oman		X	X		X
Pakistan	X	X		X	X
Paraguay				X	X

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	Net balances are calculated two or more times each day	Multilateral net balances are calculated	Final settlement of net positions takes place through an RTGS system	Final settlement takes place in Central Bank money, but not through an RTGS	Customer accounts are credited no later than T+2
Peru		X	X		X
Philippines			X		X
Poland					
Portugal		X	X		X
Quatar			X		X
Romania		X	X		
Russia					
Rwanda		X		X	X <sup>6</sup>
San Marino					X
Saudi Arabia		X	X		X
Serbia		X	X		X
Singapore	X	X	X		X
Slovak Republic					
Slovenia					
Solomon Islands				X	X
South Africa		X	X		X
Spain		X	X		X
Sri Lanka		X	X		X
Sudan				X	X
Swaziland	X	X	X		X
Sweden			X		X
Switzerland			X		X
Taiwan		X	X		X
Tajikistan					
Tanzania		X	X		X
Thailand		X	X		X
Trinidad and Tobago	X	X	X		X
Turkey		X	X		X
Uganda	X	X	X		X
Ukraine					
United Arab Emirates		X	X		X
United Kingdom		X	X		X
USA				X	X <sup>7</sup>
Uruguay	X		X		X
Venezuela	X	X		X	X
Yemen		X		X	X
Zambia		X	X		
Zimbabwe		X	X		X

- 1 The exact conditions are part of the business policy of the bank.
- 2 For cheque clearing the net balance are calculated once a day.
- 3 Only in Mumbai.
- 4 Only in RBI centres.
- 5 For local cheques.
- 6 For up-country cheques accounts may go up to T+4.
- 7 Depository institutions are credited for deposits with the central bank no later than T+2. Depository institution customers are credited immediately for their deposits but may not have access to those funds until T+2 for local checks and T+5 for non-local checks. Some further exceptions apply.

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**Table III.3**  
**If a special procedure for large-value cheques has been implemented, please answer the following**

	As part of this procedure, large-value cheques can be settled with same-day value	As part of this procedure, large-value cheques are processed on a gross-basis	As part of this procedure, net balances are calculated and settled more than once a day	There is a settlement guarantee fund for large-value cheques processed under the special procedure (on a net basis)
Afghanistan				
Albania				
Algeria				
Angola				
Argentina				
Armenia				
Australia				
Austria				
Azerbaijan				
Bahamas	X			
BCEAO				
Belarus				
Belgium				
Belize	X			
Bhutan				
Bolivia				
Bosnia - Herzegovina				
Botswana				
Brazil		X		
Bulgaria				
Cambodia	X			
Canada <sup>1</sup>				
Cape Verde				
Chile				
China				
Colombia				
Costa Rica				
Croatia				
Cyprus	X	X		
Czech Republic				
D. R. of Congo				
Denmark				
Dominican Republic				
ECCB	X	X		
Egypt				
El Salvador				
Estonia				
Fiji				
Finland				
France				
Georgia				
Germany	X	X		
Ghana				

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	As part of this procedure, large-value cheques can be settled with same-day value	As part of this procedure, large-value cheques are processed on a gross-basis	As part of this procedure, net balances are calculated and settled more than once a day	There is a settlement guarantee fund for large-value cheques processed under the special procedure (on a net basis)
Greece PS 1				
Greece PS 2				
Guatemala		2		
Guyana	X			
Honduras				
Hong Kong				
Hungary				
Iceland				
India	X			
Indonesia				
Iran				
Ireland	X	X		
Israel				
Italy				
Jamaica				
Japan				
Jordan				
Kazakhstan				
Kenya <sup>3</sup>				
Kuwait				
Kyrgyz Republic				
Latvia				
Lebanon	X	X		
Lesotho				
Lithuania				
Luxembourg				
Macao				
Macedonia				
Madagascar				
Malaysia				
Malta	X	X		
Mauritius	X			
Mexico				
Moldova				
Mongolia				
Morocco				
Mozambique				
Myanmar	X			X
Namibia				
Nepal				
Netherlands				
Netherlands Antilles	X	X		
New Zealand				
Nicaragua				
Norway				
Oman	X	X		
Pakistan	X			X
Paraguay				

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	As part of this procedure, large-value cheques can be settled with same-day value	As part of this procedure, large-value cheques are processed on a gross-basis	As part of this procedure, net balances are calculated and settled more than once a day	There is a settlement guarantee fund for large-value cheques processed under the special procedure (on a net basis)
Peru				
Philippines				
Poland				
Portugal	X	X		
Qatar	X			
Romania				
Russia				
Rwanda <sup>4</sup>	X	X		
San Marino				
Saudi Arabia				
Serbia				
Singapore				
Slovak Republic				
Slovenia				
Solomon Islands	X			X
South Africa				
Spain		X		
Sri Lanka				
Sudan				
Swaziland				
Sweden				
Switzerland				
Taiwan	X	X		
Tajikistan				
Tanzania	X			X
Thailand				
Trinidad and Tobago				
Turkey				
Uganda				
Ukraine				
United Arab Emirates				
United Kingdom				
USA				
Uruguay				
Venezuela				
Yemen				
Zambia				
Zimbabwe				

- 1 Individual cheques that range between \$50 thousand and \$25 million (cap) are defined as large-value cheques in the large-value cheque clearing stream of the CPA's Automated Clearing Settlement System, which is the national retail payment clearing and settlement system. The average large-value cheque in 2006 is about \$ 250 thousand (CAD).
- 2 The large-value cheque procedure is pending of the Junta Monetaria's approval.
- 3 Large-value cheques are settled on T+1 basis.
- 4 No formal arrangements are in place, however, occasionally on the bank's initiative, large value cheques may be cleared and settled at T+0.

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Table III.4  
Cheque clearinghouse risk controls

	No specific risk control/management is in place	If a participant is unable to settle, an unwinding procedure is initiated	Participants get information on their preliminary positions in the clearinghouse during the day	Limits are in place to limit significant exposures	There is a specific guarantee fund in place for the system	Risk management mechanisms ensure completion of the operating day in case of inability to settle by the largest settlement obligations	The central bank or the operator ultimately provides liquidity to the system
Afghanistan							
Albania			X	X		X	X
Algeria		X	X				
Angola							X
Argentina		X	X		X		
Armenia							
Australia	X	X					X
Austria							
Azerbaijan							
Bahamas			X				X
BCEAO		X	X	X		X	
Belarus							
Belgium		X	X				
Belize	X		X				X <sup>1</sup>
Bhutan	X		X				
Bolivia			X	X	X		X
Bosnia - Herzegovina							
Botswana		X	X	X		X	X
Brazil		X	X				
Bulgaria							
Cambodia		X	X	X			X
Canada		X				X	
Cape Verde		X					X
Chile			X			X	X
China							
Colombia <sup>2</sup>		X	X				
Costa Rica		X					
Croatia							
Cyprus	X		X				
Czech Republic							
D. R. of Congo	X		X				X
Denmark	X						
Dominican Republic		X			X		
ECCB							X
Egypt	X				X	X	X
El Salvador		X	X	X		X	
Estonia							
Fiji	X	X					X
Finland							
France							
Georgia							

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	No specific risk control/management is in place	If a participant is unable to settle, an unwinding procedure is initiated	Participants get information on their preliminary positions in the clearinghouse during the day	Limits are in place to limit significant exposures	There is a specific guarantee fund in place for the system	Risk management mechanisms ensure completion of the operating day in case of inability to settle by the largest settlement obligations	The central bank or the operator ultimately provides liquidity to the system
Germany	X <sup>3</sup>						
Ghana			X				X
Greece PS 1	X						
Greece PS 2				X			
Guatemala		X	X				
Guyana	X	X	X				X
Honduras		X	X				X
Hong Kong		X	X			X	X
Hungary							
Iceland			X	X	X	X	X
India		X					
Indonesia			X		X	X	
Iran	X						X
Ireland <sup>4</sup>							
Israel	X		X <sup>5</sup>		X	X	
Italy							
Jamaica							X
Japan		X					
Jordan			X		X		
Kazakhstan							
Kenya		X	X				
Kuwait					X		X
Kyrgyz Republic							
Latvia							
Lebanon	X	X					
Lesotho						X	
Lithuania							
Luxembourg							
Macao		X				X	X
Macedonia		X					
Madagascar	X						
Malaysia		X <sup>6</sup>					X
Malta	X						X
Mauritius			X			X	X
Mexico		X	X				
Mongolia							
Moldova							
Morocco			X				X
Mozambique							X
Nepal			X				X
Myanmar		X	X	X		X	X
Namibia	X		X			X	X
Netherlands							
Netherlands Antilles			X	X			
New Zealand		X					
Nicaragua	X	X	X	X			X

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	No specific risk control/management is in place	If a participant is unable to settle, an unwinding procedure is initiated	Participants get information on their preliminary positions in the clearinghouse during the day	Limits are in place to limit significant exposures	There is a specific guarantee fund in place for the system	Risk management mechanisms ensure completion of the operating day in case of inability to settle by the largest settlement obligations	The central bank or the operator ultimately provides liquidity to the system
Norway		X				X	X
Oman	X	X					
Pakistan			X	X	X	X	X
Paraguay	X						
Peru		X	X				X
Philippines		X				X	
Poland							
Portugal		X	X				
Qatar			X		X	X	
Romania				X			X
Russia							
Rwanda	X		X	X			X
San Marino							
Saudi Arabia			X				
Serbia			X	X	X		
Singapore		X					
Slovak Republic							
Slovenia							
Solomon Islands	X	X	X		X		X
South Africa			X	X			
Spain			X		X		
Sri Lanka	X	X	X				
Sudan		X	X		X		
Swaziland			X	X		X	
Sweden			X			X	
Switzerland	X <sup>7</sup>						
Taiwan		X					
Tajikistan							
Tanzania	X		X	X			
Thailand		X	X				
Trinidad and Tobago		X					
Turkey		X					X
Uganda			X		X	X	
Ukraine							
United Arab Emirates		X	X	X	X	X	X
United Kingdom						X	
USA							
Uruguay			X				X
Venezuela		X	X				X
Yemen				X			X
Zambia			X			X	
Zimbabwe		X					X

1 As lender of last resort.

2 In reference to g), in case a participant does not have enough balances in its account by the time the first session of the clearing house reports the net results (preliminary results based on checks submitted), the CB gives an hour to the participant bank to gather interbank credits in the money market or applied for a CB overnight repo or CB lender of last resort loans to cover the insufficient balance.

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- 3 Not necessary due to gross settlement.
- 4 See note under III.2 above. Discussions are currently in progress aimed at putting in place a mechanism to ensure completion of settlement in the event of default by the cheque clearing system's single biggest participant.
- 5 The banks receive information on cheque clearing at T-1.
- 6 The system is enabled to exclude participants that are unable to settle its debit position.
- 7 Exchange of bilateral aggregated gross positions through the RTGS system.

RETAIL PAYMENT SYSTEMS

Table III.5  
ACH for direct credits and/or direct debits main features

	An ACH for direct credits and/or direct debits is not available	The ACH is operated by the Central Bank	The ACH process both direct credits and direct debits	Non-bank institutions can be direct participants	Net balances are calculated and settled at least once a day	Final settlement takes place through an RTGS	Final settlement in Central Bank money, but not through an RTGS
Afghanistan		X					X
Albania		X	X		X	X	
Algeria			X	X	X	X	
Angola	X						
Argentina			X	X	X	X	
Armenia							
Australia			X	X	X	X	
Austria		X	X		X	X	
Azerbaijan		X		X	X	X	
Bahamas	X						
BCEAO		X	X		X	X	
Belarus		X			X	X	X
Belgium		X	X	X <sup>1</sup>	X		X
Belize							
Bhutan							
Bolivia			X		X	X	
Bosnia - Herzegovina							
Botswana			X		X	X	
Brazil CIP					X	X	
Brazil TecBan			X		X	X	
Bulgaria			X		X	X	
Cambodia							
Canada			X	X	X	X <sup>2</sup>	
Cape Verde <sup>3</sup>							
Chile							
China							
Colombia CB's ACH: CENIT		X	X	X	X	X	
Colombia private ACH			X		X	X	
Costa Rica		X	X	X			X
Croatia					X	X	
Cyprus <sup>4</sup>	X				X		X
Czech Republic <sup>5</sup>							
D. R. of Congo	X						
Denmark			X		X		X
Dominican Republic			X		X		X
ECCB	X						
Egypt <sup>6</sup>		X	X <sup>7</sup>		X		X
El Salvador							
Estonia		X	X <sup>8</sup>	X	X		X
Fiji							
Finland <sup>9</sup>							
France <sup>10</sup>			X		X	X	
Georgia							

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	An ACH for direct credits and/or direct debits is not available	The ACH is operated by the Central Bank	The ACH process both direct credits and direct debits	Non-bank institutions can be direct participants	Net balances are calculated and settled at least once a day	Final settlement takes place through an RTGS	Final settlement in Central Bank money, but not through an RTGS
Germany		X <sup>11</sup>					
Ghana							
Greece			X		X	X	
Guatemala	X <sup>12</sup>						
Guyana							
Honduras <sup>13</sup>			X		X		X
Hong Kong			X		X	X	
Hungary <sup>14</sup>			X	X			X
Iceland			X		X	X	
India		X	X		X	X <sup>15</sup>	X <sup>16</sup>
Indonesia		X			X	X	
Iran	X						
Ireland <sup>17</sup>					X	X	
Israel			X	X	X	X	X
Italy		X	X	X	X	X	
Jamaica			X		X		X
Japan					X	X	
Jordan			X	X			
Kazakhstan		X	X	X	X	X	
Kenya		X	X		X	X	
Kuwait							
Kyrgyz Republic	X	X	X		X	X	
Latvia		X			X	X	
Lebanon							
Lesotho	X						
Lithuania		X	X	X	X	X	
Luxembourg <sup>18</sup>							
Macao							
Macedonia					X	X	
Madagascar							
Malaysia			X		X	X	
Malta	X						
Mauritius		X			X	X	
Mexico			X	X	X	X	
Moldova		X	X	X	X	X	
Mongolia		X	X		X		X
Morocco			X	X	X	X	
Mozambique		X		X	X		X
Myanmar							
Nepal							
Namibia			X		X	X	
Netherlands					X	X	
Netherlands Antilles		X	X			X	
New Zealand			X		X	X	
Nicaragua							
Norway			X		X		X
Oman		X	X	X	X	X	
Pakistan							

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	An ACH for direct credits and/or direct debits is not available	The ACH is operated by the Central Bank	The ACH process both direct credits and direct debits	Non-bank institutions can be direct participants	Net balances are calculated and settled at least once a day	Final settlement takes place through an RTGS	Final settlement in Central Bank money, but not through an RTGS
Paraguay	X		X	X	X		
Peru					X	X	
Philippines					X	X	
Poland			X		X	X	
Portugal		X <sup>19</sup>	X	X	X	X	
Qatar							
Romania			X	X	X	X	
Russia <sup>20</sup>			X		X		
Rwanda <sup>21</sup>							
San Marino	X						
Saudi Arabia							
Serbia		X	X	X	X	X	
Singapore			X		X	X	
Slovak Republic							
Slovenia Giro Clearing Syst.		X			X	X	
Slovenia Processing Centre				X			
Solomon Islands	X	X	X	X	X		X
South Africa			X		X	X	
Spain			X		X	X	
Sri Lanka			X		X	X	
Sudan							
Swaziland			X		X	X	
Sweden			X	X	X	X	
Switzerland <sup>22</sup>				X	X	X	
Taiwan			X		X	X	
Tajikistan							
Tanzania		X	X	X	X	X	
Thailand			X		X	X	
Trinidad and Tobago			X		X	X	
Turkey							
Uganda		X	X		X	X	
Ukraine							
United Arab Emirates							
United Kingdom			X		X	X	
USA		X <sup>23</sup>	X	X			X
Uruguay	X <sup>24</sup>			<sup>25</sup>	X	X	
Venezuela		X	X		X		X
Yemen							
Zambia			X			X	
Zimbabwe						X	

- 1 Only Belgian Post can be and is non-bank member.
- 2 For legal reasons, settlement of net position takes place on LVTS participant's ACSS settlement sub-accounts at the Bank of Canada, which are funded and de-funded through LVTS payment transfers to and from the participants' LVTS settlement accounts at the Bank of Canada.
- 3 So far, direct debits have not been implemented in Cape Verde. However, interbank transfers are processed through the non automated Clearing House in which, other than the commercial banks, the Treasury is a direct participant.
- 4 ACH for Retail Credit Transfers only.
- 5 There is only one unique payments system in the Czech Republic working on RTGS basis for all types of payments, operated by the central bank.

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- 6 2006, but still not widely used.
- 7 Only direct debit is allowed.
- 8 The direct debits are settled in the form direct credits.
- 9 There is no ACH in Finland, direct credits and debits are available for customers, but processed in decentralized systems.
- 10 Credit transfers, direct debits, cheques, and more generally any cashless payment instrument (excepted credit transfers whose amount exceeds €800,000), are processed through the unique French ACH.
- 11 The Bundesbank operates one of the ACH. There are a number of other service providers. Very popular is the exchange between bigger banks very often according to bilateral settlement.
- 12 Is in the process of implementation.
- 13 The Hungarian ACH is a gross system, so no net balances are calculated. Gross balances settled at 7:00, before the RTGS opening.
- 14 The Hungarian ACH is a gross system, so no net balances are calculated. Gross balances settled at 7:00, before the RTGS opening.
- 15 For Mumbai only.
- 16 At RBI centres.
- 17 There is no ACH in Ireland. The Irish retail payment system is based on a series of bi-lateral arrangements for the exchange and settlement of paper and electronic payment instruments between participating banks. The underlying interbank liabilities are settled on a multi-lateral net basis in central bank funds in the retail payment system members' settlement accounts at the Central Bank.
- 18 ACH for direct credits has been discontinued at the end of 2006 and traffic was moved to a European platform.
- 19 The central bank has contractually delegated the operation of the ACH to a service provider company.
- 20 Concerning subsections III.5 and III.6: Automated Clearinghouse - non-banking organizations which are carrying out clearing and payment card's settlements and processing companies carrying out payment cards clearing.
- 21 No Automated Clearing House is in place. Direct debits and standing orders are operated on a small scale by some banks; However, in case they are inter-bank, they are handled in the usual clearing house sessions.
- 22 For e and f, payments are settled in the RTGS system as bilateral aggregated gross positions.
- 23 The central bank is one of two operators in the national ACH network. The other operator is a private-sector entity.
- 24 It is being developed.
- 25 It is highly probable.

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Table III.6  
ACH risk controls

	No specific risk control/ management mechanism is in place	Participants get information on their preliminary positions in the clearinghouse during the day	Limits are in place to limit significant exposures	There is a specific guarantee fund in place for the system	Risk management mechanisms ensure completion of the operating day in case of the inability to settle	Central bank or Operator ultimately provides liquidity to the system
Afghanistan						
Albania		X	X		X	X
Algeria	X	X				
Angola						
Argentina	X	X		X		
Armenia						
Australia	X					X
Austria		X				
Azerbaijan		X	X		X	
Bahamas		X				
BCEAO		X	X		X	
Belarus		X			X	
Belgium	X	X				
Belize						
Bhutan						
Bolivia		X	X			X
Bosnia -Herzegovina						
Botswana		X	X	X	X	X
Brazil CIP	X	X		X		
Brazil TecBan	X	X		X	X	
Bulgaria		X		X		
Cambodia						
Canada	X <sup>1</sup>				X <sup>2</sup>	
Cape Verde						
Chile						
China						
Colombia CB's ACH: CENIT	X	X				
Colombia private ACH	X	X				
Costa Rica	X					
Croatia		X	X	X		X
Cyprus	X	X				
Czech Republic						
D. R. of Congo						
Denmark	X					
Dominican Republic		X	X		X	
ECCB						
Egypt		X				X
El Salvador						
Estonia		X	X	X	X	
Fiji						
Finland						
France	X	X				

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	No specific risk control/ management mechanism is in place	Participants get information on their preliminary positions in the clearinghouse during the day	Limits are in place to limit significant exposures	There is a specific guarantee fund in place for the system	Risk management mechanisms ensure completion of the operating day in case of the inability to settle	Central bank or Operator ultimately provides liquidity to the system
Georgia						
Germany						
Ghana						
Greece			X			
Guatemala						
Guyana						
Honduras	X	X				X
Hong Kong		X	X		X	X
India	X					
Indonesia		X		X	X	
Hungary <sup>3</sup>						
Iceland		X	X	X	X	X
Iran						
Ireland <sup>4</sup>						
Israel		X		X		
Italy	X				X	X
Jamaica						X
Japan		X	X		X	
Jordan		X				
Kazakhstan	X	X	X		X	X
Kenya	X	X				
Kuwait						
Kyrgyz Republic		X	X		X	
Latvia					X	
Lebanon						
Lesotho						
Lithuania		X				
Luxembourg						
Macao						
Macedonia	X	X				
Madagascar						
Malaysia					X <sup>5</sup>	X
Malta						
Mauritius		X			X	X
Mexico	X	X				
Moldova		X	X		X	
Mongolia				X	X	X
Morocco		X				X
Mozambique					X	
Myanmar						
Namibia		X				X
Nepal						
Netherlands	X					
Netherlands Antilles		X	X			
New Zealand	X					
Nicaragua	X					
Norway	X	X			X	

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	No specific risk control/ management mechanism is in place	Participants get information on their preliminary positions in the clearinghouse during the day	Limits are in place to limit significant exposures	There is a specific guarantee fund in place for the system	Risk management mechanisms ensure completion of the operating day in case of the inability to settle	Central bank or Operator ultimately provides liquidity to the system
Oman	X	X	X			
Pakistan						
Paraguay						
Peru	X	X				
Philippines	X				X	
Poland		X			X	
Portugal	X	X				
Qatar						
Romania		X	X		X	
Russia <sup>6</sup>				X	X	X
Rwanda						
San Marino						
Saudi Arabia						
Serbia		X	X		X	X
Singapore	X					
Slovak Republic						
Slovenia Giro Clearing System		X		X	X	
Slovenia Processing Centre						
Solomon Islands		X				X
South Africa		X	X			
Spain		X		X		
Sri Lanka	X	X				
Sudan						
Swaziland						
Sweden		X			X	
Switzerland	X					
Taiwan	X					
Tajikistan						
Tanzania	X	X	X			
Thailand <sup>7</sup>		X			X	
Trinidad and Tobago	X					
Turkey						
Uganda		X		X	X	
Ukraine						
United Arab Emirates						
United Kingdom					X	
USA <sup>8</sup>		X				X
Uruguay						
Venezuela	X	X				X
Yemen						
Zambia		X			X	
Zimbabwe						

- 1 Some but not all payments settled in the ACSS (which include ACH-type debits and credits) are subject to unwind.
- 2 There are loss allocation rules that require surviving participants to contribute to a pool that covers the post-unwind re-calculated net debit position of the failed participant.
- 3 The Hungarian ACH is a gross system, so credit risk is eliminated.
- 4 See note under III.5 above. Discussions are currently in progress aimed at putting in place a mechanism to ensure completion of settlement in the event of default by the retail electronic clearing system's single biggest participant.

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- 5 Member banks are binded with our service level agreement which also covers the operating manual and operating rules.
- 6 Concerning subsections III.5 and III.6: Automated Clearinghouse - non-banking organizations which are carrying out clearing and payment card's settlements and processing companies carrying out payment cards clearing.
- 7 Currently, the ACH is operated by the Bank of Thailand. However, from 15 October 2007, it will be migrated to the private company named National ITMX co., ltd.
- 8 Answers below apply only to the central bank's ACH services. Information on the private-sector ACH operator is not available.

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Table III.7  
Payment card systems main features

	Local brands dominate the card market	International brands dominate the marketplace	There is more than one payment card switch	There is more than one card processing centre/clearinghouse	Final settlement takes place through an RTGS	Final settlement in Central Bank money, but not through RTGS
Afghanistan						
Albania		X			X	
Algeria					X	
Angola	X		X		X	
Argentina		X		X		
Armenia		X <sup>1</sup>		X		X
Australia	X	X	X	X	X	
Austria		X		X	X	
Azerbaijan		X		X	X	
Bahamas		X		X		
BCEAO	X		X		X	
Belarus		X			X	
Belgium <sup>2</sup>	X <sup>3</sup>	X <sup>4</sup>				X
Belize		X				
Bhutan	X					
Bolivia		X	X	X		
Bosnia - Herzegovina		X		X	X	
Botswana		X			X	
Brazil		X		X	X	
Bulgaria	X				X	
Cambodia		X		X		
Canada	X	X	X	X	X <sup>5</sup>	
Cape Verde	X	X				X
Chile	X	X				
China	X					X
Colombia		X	X	X		
Costa Rica		X		X		
Croatia		X				
Cyprus		X				
Czech Republic		X		X		
D. R. of Congo		X				
Denmark	X		X			X
Dominican Republic		X	X	X		X
ECCB		X	X	X		
Egypt <sup>6</sup>	X <sup>7</sup>	X	X	X		X
El Salvador		X				
Estonia		X				X
Fiji		X				X
Finland	X	X			X <sup>8</sup>	
France	X				X	
Georgia		X		X	X	
Germany	X		X	X		
Ghana	X		X		X	

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	Local brands dominate the card market	International brands dominate the marketplace	There is more than one payment card switch	There is more than one card processing centre/clearinghouse	Final settlement takes place through an RTGS	Final settlement in Central Bank money, but not through RTGS
Greece		X	X			
Guatemala		X		X		
Guyana	X					
Honduras		X		X		
Hong Kong		X	X	X	X	
Hungary		X				
Iceland		X			X	
India		X	X	X		X <sup>9</sup>
Indonesia		X	X	X		
Iran	X				X	
Ireland	X <sup>10</sup>	X <sup>11</sup>				
Israel		X		X <sup>12</sup>	X <sup>13</sup>	
Italy	X		X	X	X <sup>14</sup>	
Jamaica		X	X			
Japan		X	X	X	X	
Jordan			X	X		
Kazakhstan		X	X	X	X	
Kenya	X	X				
Kuwait		X				
Kyrgyz Republic	X			X	X <sup>15</sup>	
Latvia		X	X	X	X	
Lebanon		X	X	X		X
Lesotho						
Lithuania		X		X	X	
Luxembourg <sup>13</sup>			X			
Macao						
Macedonia		X	X			
Madagascar	X					
Malaysia		X	X	X	X	
Malta	X	X	X	X	X	
Mauritius		X			X	
Mexico		X	X	X	X <sup>16</sup>	
Moldova		X	X	X		
Mongolia		X	X	X		
Morocco		X			X	
Mozambique		X	X	X		X
Myanmar						
Namibia		X				
Nepal		X				
Netherlands	X				X	
Netherlands Antilles		X	X		X	
New Zealand		X	X		X	
Nicaragua		X	X	X		X
Norway	X					X
Oman		X	X		X	
Pakistan		X	X	X		X
Paraguay		X	X	X		
Peru				X		

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	Local brands dominate the card market	International brands dominate the marketplace	There is more than one payment card switch	There is more than one card processing centre/clearinghouse	Final settlement takes place through an RTGS	Final settlement in Central Bank money, but not through RTGS
Philippines		X	X	X	X	
Poland		X		X	X	
Portugal		X	X		X	
Qatar		X				
Romania		X		X	X	
Russia		X	X	X		
Rwanda <sup>17</sup>	X					X
San Marino		X				
Saudi Arabia	X				X	
Serbia			X	X	X	
Singapore	X	X	X	X		
Slovak Republic		X			X	
Slovenia	X			X	X	
Solomon Islands	X		X			
South Africa		X	X	X	X	
Spain	X		X	X	X <sup>18</sup>	
Sri Lanka		X				
Sudan	X		X			X
Swaziland						
Sweden		X			X	
Switzerland		X	X	X		
Taiwan		X		X		X
Tajikistan		X				
Tanzania	X		X	X	X	
Thailand		X	X	X		
Trinidad and Tobago	X	X		X		
Turkey		X			X	
Uganda	X				X	
Ukraine		X	X	X		
United Arab Emirates	X				X	
United Kingdom		X				
USA		X	X	X		
Uruguay		X	X	X		X
Venezuela		X	X	X		
Yemen	X		X	X		
Zambia		X	X	X		
Zimbabwe	X		X	X	X	

- 1 The volume and value of payment cards with local and international brands are almost the same.
- 2 Card payments are settled through the CEC.
- 3 For debit cards.
- 4 For debit cards.
- 5 Indirectly through LVTS, directly through ACSS, for local debit card payments in central bank money.
- 6 There are 2 cards operators in the Egyptian market. The first is the Egyptian Banks Company EBC (123) network provider constituted of 33 banks and the post office. The other one is related to the National Bank of Egypt.
- 7 "123" is the brand for EBC Switch.
- 8 Refers to Debit cards system. For credit cards system please read answers to point e) and f) as: no, no.
- 9 Only the transactions routed through the National Financial Switch are settled in central bank money.
- 10 Local brand (known as LASER) would dominate in the debit card market.
- 11 International brands would dominate in the credit card market.
- 12 The credit card companies are doing the clearing process, and the final settlement is done via ACH.
- 13 Through ACH

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- 14 Only for local brand.
- 15 Card payment systems Alai Card, Elcard, Demir 24.
- 16 e and f answers are valid for all card processing centers.
- 17 Settlement occurs in a commercial bank, the commercial bank uses an RTGS.
- 18 One bank acquires VISA international as the national switch does the same for MasterCard. Their values and volumes are on a steady increase.
- 19 For the 3 card schemes existing in Spain.

RETAIL PAYMENT SYSTEMS

**Table III.8**  
**Payment card systems: ATMs and POS**  
**(see questionnaire for explanation of rankings)**

	Interoperability of ATM	Interoperability of POS	Payment cards are used extensively (not only for cash withdrawals at ATMs)
Afghanistan			
Albania	3	3	2
Algeria	1	1	3
Angola	1	1	3
Argentina	1	2	3
Armenia	2	2	3
Australia	1	1	1
Austria	1	1	1
Azerbaijan <sup>1</sup>			
Bahamas	3	3	3
BCEAO	3	3	3
Belarus	2	2	2
Belgium	2	1	1
Belize	2	2	
Bhutan	3	3	2
Bolivia	2	1	3
Bosnia - Herzegovina	2	2	2
Botswana	2	1	2
Brazil	3	3	1
Bulgaria	1	1	2
Cambodia			2
Canada	1	1	1
Cape Verde	1	1	2
Chile	x	x	x
China	3	3	2
Colombia	1	1	1
Costa Rica	3	2	1
Croatia	1	1	1
Cyprus	2	1	2
Czech Republic	1	1	2
D. R. of Congo			
Denmark	1	1	1
Dominican Republic	1	2	1
ECCB	2	2	2
Egypt	2	2	3
El Salvador	1	1	1
Estonia	1	1	1
Fiji	3	3	3
Finland	1	1	1
France	1	1	1
Georgia	1	2	3
Germany	1	1	2
Ghana	2	3	3
Greece	2	1	2

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	Interoperability of ATM	Interoperability of POS	Payment cards are used extensively (not only for cash withdrawals at ATMs)
Guatemala	1	2	3
Guyana	3	3	3
Honduras	2	1	2
Hong Kong	2	2	2
Hungary	1	1	2
Iceland	1	1	1
India	2	1	1
Indonesia	1	3	2
Iran	1	1	3
Ireland	1	1	1
Israel	1	1	1
Italy	1	1	2
Jamaica	1	1	1
Japan	1	2	3
Jordan	2	2	2
Kazakhstan	1	1	2
Kenya	2	2	3
Kuwait	1	2	3
Kyrgyz Republic	2	2	3
Latvia	1	2	1
Lebanon	1	1	2
Lesotho	2		3
Lithuania	1	1	1
Luxembourg	1	1	1
Macao			
Macedonia	2	2	2
Madagascar	3	3	3
Malaysia	2	2	2
Malta	2	3	1
Mauritius	1	1	1
Mexico	1	1	2
Moldova	2	2	3
Mongolia	3	3	3
Morocco	1	1	3
Mozambique			
Myanmar			
Namibia	1	1	2
Nepal	1	3	2
Netherlands	2	1	3
Netherlands Antilles	1	1	1
New Zealand	1	1	1
Nicaragua			
Norway	1	1	1
Oman	1	3	2
Pakistan	1	3	1
Paraguay	1	1	1
Peru	3		3
Philippines	1	2	3
Poland	2	1	2
Portugal	1	1	1

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	Interoperability of ATM	Interoperability of POS	Payment cards are used extensively (not only for cash withdrawals at ATMs)
Qatar			x
Romania	1	1	3
Russia	2	3	3
Rwanda <sup>2</sup>	1	1	2
San Marino	1	1	1
Saudi Arabia	1	1	1
Serbia	1	1	
Singapore	3	2	1
Slovak Republic	1	1	2
Slovenia	1	1	1
Solomon Islands	1	3	3
South Africa	1	1	1
Spain	1	1	1
Sri Lanka	3	1	1
Sudan	2	2	3
Swaziland			
Sweden	1	1	1
Switzerland	1	1	1
Taiwan	1	1	1
Tajikistan	2	2	3
Tanzania	2	3	3
Thailand	1	2	3
Trinidad and Tobago	2	1	1
Turkey	2	1	3
Uganda	2	1	1
Ukraine	2	2	3
United Arab Emirates	x		x
United Kingdom	1	1	1
USA	1	1	1
Uruguay	1	1	3
Venezuela	1	2	1
Yemen	1	2	3
Zambia	3	3	3
Zimbabwe	2	2	3

- 1 Situation in our country is below: payment cards are mostly used for withdrawal money from ATMs. There are two CPC. ATMs are owned by banks serving in the same CPC are interoperable. But interoperability of ATMs between different CPC is absent. All POS terminals are interoperable.
- 2 Payment cards are also used on POS terminals and some economic agents do accept international cards-both credit and debit.

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**Table III.9**  
**Comments and clarifications in relation to question III.8**

	Comments
Angola	The challenges of the retail payment systems is to promote the use o POS
BCEAO	The implementation of a Regional Processing Center will promote the use of electronic payments in order to reduce paper based documents as well as transactions processing costs
Botswana	All VISA are interoperable. Non Bank Financial Institutions' ATM/POS are not interoperable at this point
Brazil	Concerning ATM, there are two networks with open access ATM (TecBan and RVA) where the associated banks cash withdraw cards can be used seamlessly, nevertheless all biggest banks give incentives to their clients to use their proprietary ATM network, which is not interoperable. Recently, there have been some bilateral agreements on opening the access to ATM.
Egypt	Most bank card operations are cleared via the EBC switch. A total of 33 banks and Egypt Post are members of the EBC, which provides switching for cards issued in Egypt and used locally and is also a gateway for international processing. At present, all transactions with cards using the major brands like Visa and MasterCard must travel abroad for approval purposes. The EBC then calculates inter-bank obligations for local cards used in Egypt. The cut-off time is 5:00 p.m. At that moment, the EBC calculates multilateral net positions and sends them to the CBE for settlement. Settlement occurs in the following morning.
Ghana	Almost all POS accept the domestic debit cards, as the acceptance of credit cards concerns mainly on petrol-stations, travel-agencies, hotels, restaurants etc. ATM and POS transactions are at the rate of ca. 1:1
Greece	Regarding item III.8 a., all ATMs of the credit institutions which participate in the national ATM switching network are interoperable.
Guatemala	The Central Bank lacks on information related to the payment cards systems and procedures
Guyana	There is no payment card switch. Payment cards are primarily use for cash withdrawals at ATMs
Honduras	7/b.) 97% of the cards are bearing Visa or MasterCard brands 7/d.) domestic clearing are made by Visa or MasterCard; + minority of the transactions are cleared by a local clearing house (Giro bankcard Co.) 8/c.) 52% of the transactions are cash withdrawals
India	The debit cards are mostly used for cash withdrawals.
Iran	Since all the cards are "Debit Cards" they are not nomally used as payment instruments
Israel	Once the RTGS system is implemented the settlement if the Cheque Clearing House and the Automated Clearing House will be switched to the RTGS system. Cheque settlement will only take place once per day, but ACH settlement will occur several times during the day. The Reform process includes provisions for additional risk control measures including guarantee funds to ensure that settlement does take place.
Italy	The interoperability is always full within the same brand for ATM and POS, irrespectively of the issuing and acquiring institution. Moreover, the large majority of ATM and POS have multi-branded functionality
Kazakhstan	In Kazakhstan, 90% of all payments, conducted by Kazakhstan payment cards are cash withdrawal transactions
Kenya	ATMs in Kenya are generally owned by big banks which prefer operating their own ATM networks but link into non-bank based ATMs to increase outreach. Visa Branded cards can be used on almost all ATMs
Kyrgyz Republic	Only ATM and POS of international payment systems (VISA, MasterCard) can provide interoperability It is expected that by the end of 2007 the interoperability between national and local card systems as well as international VISA would be provide
Latvia	Almost all issued cards are international.
Mozambique	Not full interoperable
Netherlands	All three are very well developed.
Poland	About 40% of total card transactions are cashless transactions, 60% are

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	Comments
	cash withdrawals at ATMs.
Russia	Concerning points a and b: The majority of cards issued by Russian credit organizations are products of international payment systems. Cards of the given payment systems could be used in the overwhelming majority of ATMs and terminals in the country. There are local payment systems also, but the scope of use of their card products in ATMs and terminals network is limited.
South Africa	All are interoperable
Sudan	The interoperability of ATM Systems and POS Terminals is the highest for local brand Cards, the International brand Cards are Not operating in the country yet
Trinidad and Tobago	POS terminals accommodate both debit and credit cards. One mutual fund company and one Credit Union issue debit cards which are used at their terminals only
Uganda	The majority of cards are ATM cards mostly used for cash withdrawal. There are a few EFTPOS networks implemented by individual banks for the exclusive use of their customers. These EFTPOS systems are operated on the internal ATM switches of individual banks. Plans are underway to implement the EFTPOS system on the national payment switch, which should then broaden access of EFTPOS services to a much larger customer base
Yemen	ATMs and POS terminals are not yet interoperable. Payment cards are not used extensively as payment instruments
Zimbabwe	The rankings indicate the extent of existence of interoperability of cards. However, the ranking could have been based on some other criteria

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Table III.10  
Accessibility of non-cash payment instruments and services for individuals through:  
(see questionnaire for explanation of rankings)

	Commercial banks	Non-bank financial institutions	Postal system	Other
Afghanistan	2			
Albania	1		2	
Algeria	1	3	1	
Angola	1			
Argentina	1	2	3	
Armenia	1	3	2	
Australia	1	1	2	
Austria	1			
Azerbaijan	1	3	2	
Bahamas	1	2	3	
BCEAO	3	2	2	
Belarus	1		3	
Belgium	1	1	1	
Belize	1	3	3	
Bhutan	1	2	2	
Bolivia	2	2	2	
Bosnia – Herzegovina	2	1	1	
Botswana	1	3	2	
Brazil	1	2	3	
Bulgaria	1	1	1	
Cambodia	1			
Canada	1	1	2	3 <sup>1</sup>
Cape Verde	2		2	
Chile	1	2		
China	3	1	2	
Colombia	2	2		
Costa Rica	1	2	3	
Croatia	1	2	2	
Cyprus	1	1		1 <sup>2</sup>
Czech Republic	1	1		
D. R. of Congo	3	3	3	
Denmark	1	1		
Dominican Republic	1	3	3	
ECCB	1	3	2	
Egypt	2	3	3	1
El Salvador	1	3		
Estonia	1	1	2	
Fiji		3	3	
Finland	1	1	1	
France		1	1	
Georgia	1	2	3	
Germany	1			3 <sup>2</sup>
Ghana	1	3	3	

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	Commercial banks	Non-bank financial institutions	Postal system	Other
Greece	1	2	3	
Guatemala	1	2	3	
Guyana	1	3	3	
Honduras	2	3		
Hong Kong	1	1	3	
Hungary	1	1	1	
Iceland	1	1		
India	1	3	2	
Indonesia	1	3	2	
Iran	1	1		
Ireland	1	1	2	2
Israel	1		1	
Italy	2	2	2	
Jamaica	2	1	1	
Japan	1	2	3	
Jordan	1			
Kazakhstan	1	3	2	
Kenya	2	3	1	3
Kuwait	1	2	3	
Kyrgyz Republic	1	3	2	3
Latvia	1		1	
Lebanon	1	2		
Lesotho	2	3	3	
Lithuania	1	3	1	
Luxembourg	1	3	1	
Macao	1	2	3	
Macedonia	1	3	1	
Madagascar	3	3	3	
Malaysia	1	2	3	
Malta	1		2	
Mauritius	1	3	3	
Mexico	2	3	3	
Moldova	1			
Mongolia	1	2	3	
Morocco	1	3	1	
Mozambique	3	3		
Myanmar				
Namibia	2	3	1	
Nepal	1	2	3	
Netherlands	1	2	3	
Netherlands Antilles	1	3	3	
New Zealand	1	1	3	
Nicaragua	1	2	3	
Norway	1	1	1	
Oman	1	2		
Pakistan	1			
Paraguay	1	1	3	
Peru	1			
Philippines	1	3	4	2
Poland	1	2	1	

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	Commercial banks	Non-bank financial institutions	Postal system	Other
Portugal	1	1	2	
Qatar	1	2		
Romania	1	2	2	
Russia	1	3	1	3
Rwanda	1	2	3	
San Marino	1	1	2	
Saudi Arabia	1			
Serbia	1	3	1	
Singapore	1	1	3	
Slovak Republic	1	2	1	
Slovenia	1	2	3	
Solomon Islands	2	3	1	
South Africa	1	3	2	
Spain	1	1		
Sri Lanka	1	3	2	
Sudan	1	3	3	
Swaziland	2			
Sweden	1			
Switzerland	1	1	1	1 <sup>3</sup>
Taiwan	1	3	2	
Tajikistan	1	1	3	
Tanzania	2	3	2	
Thailand	1	3	3	
Trinidad and Tobago	1	3	2	2 <sup>4</sup>
Turkey	1	3	1	
Uganda	2	3	3	
Ukraine	1			
United Arab Emirates	3	3	3	
United Kingdom	1	1	1	
USA	1	1	3	
Uruguay	1	1	3	
Venezuela	1	3	3	
Yemen	1	2	3	
Zambia	2	3	3	
Zimbabwe	2	3	3	

- 1 Money transfer, traveler's cheques
- 2 Money Transfer Bureaux.
- 3 3-party post paid payment service provider (eg ClickandBuy, Telkom T-Pay) and e-money institutions (like Crandy, PayPal – Luxembourg).
- 4 Retailers.
- 5 Phone cards, Discount cards.

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Table III.11  
Comments or clarifications in relation to question III.10

	Comments
Angola	There is a legal provision for post office and non bank institution to provide non-cash payment instrument but at moment there is none
Armenia	Q III.10.b- Only universal credit organizations may offer the issuance and service of credit cards, but only for the provided loan
Belize	Commercial banks are heavily marketing non-cash payment instruments and services. Customers are able to access debit/credit cards, electronic payroll, and on-line bill payment services. Electronic payroll and on-line bill payments are intrabank only. However, banks do offer to provide interbank payroll services, whereby information and settlements are executed manually
Colombia	"Accessibility" is difficult to assess. From a formal point of view, access is open to any accountholder. Moreover, almost all saving accounts holders are required to take a debit card as the mandatory payment instrument to order transactions on its account. But in practice, bancarization is relatively low and banks impose some restrictions on access by low income or low credit quality customers.
Cyprus	The postal system does not provide payment services
Egypt	Some commercial establishments like malls, supermarkets and home appliance stores, in cooperation, with banks offer their clients fidelity cards. In addition, in the telecommunications industry several kinds of prepaid cards are offered in the market, Vodafone issued recently a cash transfer facility through prepaid cards via phone numbers.
Germany	The offers for payments in Germany are mainly concentrated on banks owing to the fact that the "giro business" is considered as banking business.
India	The debit cards are mostly used for cash withdrawals.
Italy	The rank is based on the consideration that only 75% of the Italian families have a banking or postal current account
Kenya	Accessibility is dependent on the availability of ATM terminals/distribution network in the country
Latvia	According to Latvian law, only banks, licensed electronic money institutions and post are allowed to offer payment services.
Lebanon	Local cards can be also provided directly from the issuing companies
Luxembourg	Provision of non-cash payment instruments is limited to the banking sector and the postal system
Oman	There are only two sets of institutions providing accessibility to non-cash payment instruments.
Paraguay	Credit and Debit Cards payment in merchant. 2 Check Payment in merchant. 3
Russia	Concerning point c the population accessibility to money transfer service through postal system – 1, accessibility to payment tools – 3.
South Africa	b) Do not provide payment instruments
Sudan	The Non-cash payment has been recently used since 2006 after the implementation of National Switch & the Image-based Electronic Clearing Systems., Now the usage of Non-cash instruments in the country is growing rapidly backed by the rapid growth of communication services.
Swaziland	There are no co-operative and postal banks. Non-banking financial institutions only grant loans and accept money savings from salary deductions.
Trinidad and Tobago	Debit and credit cards are provided by all but 1 bank which is foreign-owned. One bank provides debit but no credit cards. Some banks also provide pre-paid gift cards. Pnc mutual fund company and one credit union issue debit cards
Uganda	Access to non-cash payment services in the country is still significantly constrained by low bank account numbers relative to the population. There are only about 2 million bank and NBFIs accounts for a population of 28 million

**FOREIGN EXCHANGE SETTLEMENT SYSTEMS**

**Table IV.1  
General Issues**

	One foreign currency accounts for 90 percent or more of total FX transactions	The Central Bank offers current account services to banks and/or other institutions in at least one major foreign currency	There are restrictions on FX dealings, and the FX market is not very active
Afghanistan		X	X
Albania		X	X
Algeria	X	X	
Angola	X	X	X
Argentina	X	X	
Armenia		X	X
Australia			
Austria			
Azerbaijan	X	X	
Bahamas	X		X
BCEAO			
Belarus			
Belgium	X		
Belize			X
Bhutan	X		
Bolivia	X	X	
Bosnia –Herzegovina			
Botswana		X	
Brazil	X		X
Bulgaria			X
Cambodia		X	
Canada	X <sup>1</sup>		
Cape Verde			
Chile	X	X	
China			X
Colombia	X	X	
Costa Rica	X	X	
Croatia	X		
Cyprus		X	
Czech Republic		X	
D. R. of Congo	X		X
Denmark		X	
Dominican Republic			
ECCB	X		
Egypt		X <sup>2</sup>	
El Salvador <sup>3</sup>			
Estonia	X <sup>4</sup>	X <sup>5</sup>	
Fiji			X
Finland		X	
France			
Georgia			
Germany		X <sup>6</sup>	
Ghana		X	
Greece			

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	One foreign currency accounts for 90 percent or more of total FX transactions	The Central Bank offers current account services to banks and/or other institutions in at least one major foreign currency	There are restrictions on FX dealings, and the FX market is not very active
Guatemala	X	X	
Guyana	X		
Honduras	X	X	X
Hong Kong	X		
Hungary <sup>7</sup>		X	
Iceland	X <sup>8</sup>		
India	X		<sup>9</sup>
Indonesia		X	
Iran		X	
Ireland			
Israel	X	X	
Italy			
Jamaica	X		
Japan			
Jordan		X	
Kazakhstan		X	
Kenya	X	X	
Kuwait	X	X	
Kyrgyz Republic	X		
Latvia		X	
Lebanon	X	X	
Lesotho			
Lithuania		X	
Luxembourg			
Macao	X		
Macedonia			
Madagascar			
Malaysia			
Malta			
Mauritius		X	
Mexico	X	X	
Moldova			
Mongolia		X	X
Morocco			
Mozambique		X	X
Myanmar		X	X
Namibia			
Nepal		X	
Netherlands			
Netherlands Antilles		X	
New Zealand	X <sup>10</sup>		
Nicaragua	X	X	X
Norway			
Oman	X		
Pakistan	X		
Paraguay			
Peru	X	X	
Philippines	X		

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	One foreign currency accounts for 90 percent or more of total FX transactions	The Central Bank offers current account services to banks and/or other institutions in at least one major foreign currency	There are restrictions on FX dealings, and the FX market is not very active
Poland			
Portugal			
Qatar			
Romania		X	
Russia	X		
Rwanda <sup>11</sup>	X	X	
San Marino		X	
Saudi Arabia			
Serbia	X	X	
Singapore	X		
Slovak Republic			
Slovenia	X		
Solomon Islands		X	X
South Africa			
Spain		X	
Sri Lanka			
Sudan	X	X	
Swaziland			
Sweden			
Switzerland			
Taiwan	X		
Tajikistan	X	X	
Tanzania	X	X	
Thailand			X
Trinidad and Tobago	X		
Turkey	X		
Uganda	X		
Ukraine			
United Arab Emirates		X	
United Kingdom		X	
USA			
Uruguay	X	X	
Venezuela <sup>12</sup>	X		X
Yemen	X	X	
Zambia	X		
Zimbabwe	X	X	X

- 1 One foreign currency (USD) accounts for 90 (89) percent or more of total FX transactions involving CAD as the counter currency
- 2 Settlement on shadow accounts while the actual fund is kept at correspondent.
- 3 Due to the fact that El Salvador has dollar as legal tender currency, it does not exist a centralized FX market.
- 4 But only in last year.
- 5 Only for settlement purposes of TARGET.
- 6 Not widely used.
- 7 Please note that we have information only on the transactions reported by the resident credit institutions on Hungarian FX OTC market, we do not possess data on HUF trades offshore FX markets by foreign institutions. We can answer these questions only on the available dataset.
- 8 I.e. in the foreign exchange interbank market (EUROS).
- 9 Though FX market is very active and liquid, there are certain restrictions in respect of some capital flow, though the current account transactions are not restricted.
- 10 Where total FX transactions include spot, outright forward and swap transactions.
- 11 Restrictions are there but very light and the market is quiet active.
- 12 The following restrictions apply: (1) Approval by the Central Bank of Venezuela (CBV) of an allocation of foreign exchange to be managed by the Foreign Exchange Administration Commission in the context of the current foreign

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exchange administration scheme; (2) accomplishment of requirements to grant the authorizations for buying foreign exchange, including, user census, national taxes compliance certifications and payment of duties with government offices; (3) authorization is required and establishment of thresholds to buy foreign exchange regarding educational expenses abroad, remittances abroad, medical expenses, settlement of pensions and traveling abroad, among others invisibles; and (4) Controlling the exportation of goods, services or technologies, with notification requirements previous to the exportation, registering and duty of selling the foreign exchange to the CBV.

**FOREIGN EXCHANGE SETTLEMENT SYSTEMS**

**Table IV.2**  
**Statistics for the main foreign currency traded in the interbank/wholesale market**

	Total traded amounts (in US\$ million)			OTC market (in US\$ million)			Exchange-traded (in US\$ million)		
	2006	2004	2002	2006	2004	2002	2006	2004	2002
Albania				13,000	10,000	300			
Argentina	75,592	51,747	33,924				75,592	51,747	33,924
Armenia	4,584	2,922	310	4,200	2,900	310	384	22	
Australia				45,000,000	30,250,000	23,250,000			
Azerbaijan	10,380	5,565		7,210	3,917		3,170	1,648	
Bolivia	282								
Brazil	520,580	380,338	373,861	452,708	380,338	373,861	67,872		
Bulgaria				2,749	3,543	4,466			
Canada				14,250,000	12,750,000	10,000,000			
Chile				382,719	324,647	205,409			
Colombia				160,200	107,700	82,800			
Costa Rica							3,828	2,502	1,846
Croatia	3,573	2,297	760						
Cyprus				2,049	183	380			
Czech Republic				2,100	1,222	725			
D. R. of Congo				720					
Egypt	33,863								
Estonia	18,666	18,515	11,168	186,663	18,515	11,168			
Finland		1,550	1,386		1,550	1,386			
France*				nav	15,750,000	12,000,000			
Georgia	697	278	103				697	278	103
Germany	24,750,000	29,500,000	22,000,000						
Guatemala				81			15,200		
Hong Kong					6,532,500				
Hungary	3,856	2,962	1,512						
Iceland				62,991	13,504	9,095			
Indonesia				766,000	736,000	428,000			
Italy					3,750	3,000		5,000	4,250
Japan				12,592,750	11,765,250	9,465,250			
Jordan				347	743	685			
Kenya				13,000	10,000	6,000			
Kuwait							18,823	9,527	5,354
Kyrgyz Republic				351	133	89			
Latvia				1,046,062	835,869	193,697			
Lithuania	156,125	127,750	65,182						
Macedonia				592	440	90			
Malaysia				427	271	123			
Mauritius				18	66	18	1,230		
Mexico				5,900,757	4,978,535	5,006,496	60,273	14,005	521
Moldova	834	1,186	477	834	1,186	477			
New Zealand				3,000,000	1,724,000	870,000			
Norway				2,187			12,800		
Pakistan	92,480	52,640	42,310						

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	Total traded amounts (in US\$ million)			OTC market (in US\$ million)			Exchange-traded (in US\$ million)		
	2006	2004	2002	2006	2004	2002	2006	2004	2002
Peru				22,717	21,500	19,001			
Philippines							114,000	39,000	30,000
Russia	9,925,000	5,818,000	1,670,000	8,985,000	5,471,000	1,607,000	940,000	347,000	63,000
San Marino							824	522	
Serbia									
Slovenia				64,125	16,625	10,455			
Spain				3,136,000	2,508,000	1,819,000			
Sri Lanka				10,791	4,284	118,000			
Sweden				2,901,622	1,900,548				
Taiwan				2,298,119	1,740,408	891,955			
Tajikistan							162	119	1,410
Tanzania							712	979	846
Thailand				2,199,450	846,730				
Trinidad & Tobago				113					
Turkey	4,324,400	626,200	nav	4,324,400	626,200	nav	nap	nap	nap
Uganda				120	80				
Ukraine				37,802	28,495	14,438			
United Kingdom				18,600,000	11,300,000				
United States				62,351,750	43,760,750	25,027,750			
Zambia	3,917	3,606	3,133						
Zimbabwe	419						419		

**Notes:**

Countries that did not provide any figures are not presented in this table.

\* Data reported in this table as 2002 is actually from 2001.

- 1 All figures were converted in US dollars using year average exchange rates. Source for Exchange Rates: World Bank DDP.
- 2 Since it is not possible to determine with precision from survey information whether gaps in the information provided by many countries are due to the unavailability of data or simply because FX currencies are not traded in either OTC markets or exchanges, the corresponding cells were left blank. For these same reasons, no attempt was made to add figures from OTC markets and exchanges in order to obtain total traded amounts, except when the latter were provided directly by the central banks concerned.

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**Table IV.3**

**If an organized foreign currency market exists in the country, please answer the questions below**

	One foreign currency accounts for 90 percent or more of total FX transactions	Settlement of foreign currency deals at the exchange are settled by the exchange	Settlement of FX deals occurs on a Payment basis solely through settlement accounts at the Central Bank	Settlement of FX deals occurs on a Payment versus Payment basis through a combination Central Bank (domestic leg) and foreign correspondent banks	Settlement of FX deals occurs on a Payment versus Payment solely through foreign correspondent banks	No Payment versus Payment procedure in place
Afghanistan			X			
Albania						
Algeria	X	X			X	
Angola	X					X
Argentina	X	X		X		
Armenia			X			
Australia						
Austria					X	
Azerbaijan	X			X		
Bahamas	X		X			
BCEAO						
Belarus				X		
Belgium						
Belize						
Bhutan				X	X	
Bolivia						
Bosnia – Herzegovina						
Botswana		X	X	X	X	
Brazil	X			X		
Bulgaria						
Cambodia						
Canada						
Cape Verde						
Chile	X			X		
China	X					
Colombia	X			X <sup>1</sup>		
Costa Rica	X			X		
Croatia						
Cyprus						
Czech Republic						
D. R. of Congo	X	X			X	
Denmark						
Dominican Republic						
ECCB						
Egypt				X <sup>2</sup>		
El Salvador <sup>3</sup>						
Estonia			X <sup>4</sup>	X		
Fiji						
Finland						
France						

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	One foreign currency accounts for 90 percent or more of total FX transactions	Settlement of foreign currency deals at the exchange are settled by the exchange	Settlement of FX deals occurs on a Payment basis solely through settlement accounts at the Central Bank	Settlement of FX deals occurs on a Payment versus Payment basis through a combination Central Bank (domestic leg) and foreign correspondent banks	Settlement of FX deals occurs on a Payment versus Payment solely through foreign correspondent banks	No Payment versus Payment procedure in place
Georgia				X		
Germany <sup>5</sup>						
Ghana				X		
Greece	X			X		
Guatemala	X	X		X		
Guyana						
Honduras						
Hong Kong						
Hungary <sup>6</sup>						
Iceland	X			X		
India	X			<sup>7</sup>	X	X <sup>8</sup>
Indonesia						X
Iran			X	X		
Ireland						
Israel	X	X <sup>9</sup>				X
Italy						X
Jamaica	X				X	X
Japan						
Jordan						
Kazakhstan						X
Kenya	X			X	X	
Kuwait	X	X		X	X	
Kyrgyz Republic	X					X
Latvia				X		
Lebanon						
Lesotho						
Lithuania						
Luxembourg						
Macao	X					X
Macedonia						
Madagascar				X		
Malaysia				X		
Malta						
Mauritius				X		
Mexico	X	X				X
Moldova						
Mongolia				X		
Morocco						
Mozambique			X			X
Myanmar						
Namibia						
Nepal	X	X	X			
Netherlands						
Netherlands Antilles						
New Zealand						
Nicaragua						

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	One foreign currency accounts for 90 percent or more of total FX transactions	Settlement of foreign currency deals at the exchange are settled by the exchange	Settlement of FX deals occurs on a Payment basis solely through settlement accounts at the Central Bank	Settlement of FX deals occurs on a Payment versus Payment basis through a combination Central Bank (domestic leg) and foreign correspondent banks	Settlement of FX deals occurs on a Payment versus Payment solely through foreign correspondent banks	No Payment versus Payment procedure in place
Norway			X			
Oman	X					X
Pakistan	X	X		X		
Paraguay						
Peru	X	X	X			
Philippines	X	X		X		
Poland						
Portugal						X
Qatar						
Romania		X				
Russia	X					
Rwanda	X					X
San Marino						
Saudi Arabia						
Serbia	X				X	
Singapore	X		X	X		
Slovak Republic						
Slovenia						
Solomon Islands						
South Africa				X		
Spain						
Sri Lanka				X	X	
Sudan			X		X	
Swaziland			X	X	X	
Sweden				X <sup>10</sup>		
Switzerland <sup>11</sup>						
Taiwan						
Tajikistan	X			X		
Tanzania	X			X		
Thailand						
Trinidad and Tobago						
Turkey						
Uganda	X					X
Ukraine						
United Arab Emirates						
United Kingdom						
USA						
Uruguay	X	X	X	X		
Venezuela						
Yemen	X			X		
Zambia	X			X		
Zimbabwe	X			X		

1 Expected to start operations by mid 2007.

2 Payment versus payment is not truly guaranteed, FX leg is performed with Correspondent banks outside having Central Bank as a mediator in a deal that takes 2 days roughly, While domestic leg is performed at Central Bank money on a T+2 basis. Central Bank is engaged in the cycle to ensure delivery of both legs, however they are not tightly linked.

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- 3 General Note: Due to the fact that El Salvador has dollar as legal tender currency, it does not exist a centralized FX market.
- 4 On limited scale.
- 5 In Germany besides the settlement of foreign currency in CLS Bank no organized foreign currency market exists. FX trades which are settled outside CLS Bank are settled via correspondent banking and bilateral netting respectively.
- 6 Stock-exchange trades are settled by the Hungarian CSD/SSS. There are no spot transactions, only derivative transactions (futures and options). If delivery happens settlement procedure follows Payment after Payment method via currency accounts at the CSD/SSS, if delivery is not needed settlement procedure follows single cash settlement method.
- 7 USD-INR forex segment operated by CCIL does not settle on a PVP basis. There is a time gap. To reduce this risk CCIL acts as a central counterparty and use risk mitigation measures.
- 8 USD-INR forex segment operated by CCIL does not settle on a PVP basis. There is a time gap. To reduce this risk CCIL acts as a central counterparty and use risk mitigation measures.
- 9 Derivates.
- 10 CLS Bank.
- 11 There is no foreign currency market in Switzerland.

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Table IV.4  
OTC markets

	There is an organized mechanism or procedure for FX traded to be settled on a Payment versus Payment basis	The time lag between the confirmation of settlement of the foreign currency leg and of the domestic currency leg does not exceed 2 hours	The time lag between the confirmation of settlement of the foreign currency leg and the domestic currency leg exceeds 2 hours but less than 24 hours	The time lag between the confirmation of settlement of the foreign currency leg and the domestic currency leg exceeds 24 hours	No significant information is available on the risks in the foreign currency market
Afghanistan					
Albania	X		X		
Algeria			X		X
Angola					
Argentina	X				
Armenia					X
Australia	X			X	
Austria	X <sup>1</sup>		X <sup>2</sup>		
Azerbaijan	X	X			
Bahamas					
BCEAO					
Belarus					X
Belgium			X		X
Belize					
Bhutan				X	X
Bolivia					
Bosnia - Herzegovina					
Botswana	X		X		
Brazil	X	X			
Bulgaria		X			
Cambodia					
Canada <sup>3</sup>	X	X	X <sup>4</sup>		
Cape Verde					
Chile	X		X		
China	X				
Colombia	X	X			
Costa Rica	X		X		
Croatia					X
Cyprus					X
Czech Republic			X		
D. R. of Congo	X			X	X
Denmark	X				X
Dominican Republic					
ECCB					
Egypt				X	X
El Salvador <sup>5</sup>					
Estonia	X		X		
Fiji					
Finland	X		X		
France <sup>6</sup>	X	X	X	X	

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	There is an organized mechanism or procedure for FX traded to be settled on a Payment versus Payment basis	The time lag between the confirmation of settlement of the foreign currency leg and of the domestic currency leg does not exceed 2 hours	The time lag between the confirmation of settlement of the foreign currency leg and the domestic currency leg exceeds 2 hours but less than 24 hours	The time lag between the confirmation of settlement of the foreign currency leg and the domestic currency leg exceeds 24 hours	No significant information is available on the risks in the foreign currency market
Georgia					
Germany	X <sup>7</sup>	X <sup>8</sup>		X <sup>9</sup>	
Ghana					
Greece			X		X
Guatemala	X				
Guyana	X				
Honduras					
Hong Kong	X		X		
Hungary				X <sup>10</sup>	
Iceland					
India	X <sup>11</sup>	X <sup>12</sup>	X		
Indonesia				X	
Iran	X		X		
Ireland					
Israel					
Italy			X		
Jamaica	X	X			
Japan	X		X		
Jordan	X	X			
Kazakhstan			X		
Kenya			X		
Kuwait	X		X		X
Kyrgyz Republic			X	X	
Latvia		X	X		
Lebanon	X		X		
Lesotho					
Lithuania			X		X
Luxembourg					
Macao			X		
Macedonia		X			
Madagascar			X		
Malaysia	X		X		
Malta					
Mauritius			X		
Mexico		X			
Moldova			X		
Mongolia			X		
Morocco					
Mozambique					
Myanmar					
Namibia	X		X		
Nepal					
Netherlands	X <sup>13</sup>		X <sup>14</sup>		
Netherlands Antilles					
New Zealand	X <sup>15</sup>				

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	There is an organized mechanism or procedure for FX traded to be settled on a Payment versus Payment basis	The time lag between the confirmation of settlement of the foreign currency leg and of the domestic currency leg does not exceed 2 hours	The time lag between the confirmation of settlement of the foreign currency leg and the domestic currency leg exceeds 2 hours but less than 24 hours	The time lag between the confirmation of settlement of the foreign currency leg and the domestic currency leg exceeds 24 hours	No significant information is available on the risks in the foreign currency market
Nicaragua					
Norway	X				
Oman			X		
Pakistan			X		
Paraguay					
Peru		X			
Philippines	X	X			
Poland					
Portugal					
Qatar					
Romania					X
Russia			X		X
Rwanda			X		X
San Marino					X
Saudi Arabia					
Serbia	X	X			
Singapore			X		
Slovak Republic					
Slovenia					
Solomon Islands					
South Africa	X		X		
Spain	X <sup>16</sup>		X <sup>17</sup>		
Sri Lanka		X			
Sudan	X		X		
Swaziland	X	X	X		
Sweden	X				
Switzerland	X <sup>18</sup>		X	X	
Taiwan			X		
Tajikistan					
Tanzania	X	X	X		X
Thailand			X		
Trinidad and Tobago			X		X
Turkey			X		
Uganda			X		
Ukraine					
United Arab Emirates					
United Kingdom	X		X		
USA <sup>17</sup>	X				
Uruguay	X	X			
Venezuela					
Yemen	X			X	
Zambia					
Zimbabwe					

- 1 CLS Bank  
2 Non CLS Bank.

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- 3 This is a difficult section to answer. All spot and most derivatives transactions involving CAD trade OTC. Part is settled via CLS Bank (38 per cent) the rest – mainly same-day value trades – settle through correspondents or other non-PVP means.
- 4 Depending on the trade location and time, maximum confirmation times can be as long as 2 days. This is typically for non-USD trades against CAD outside of CLS Bank.
- 5 General Note: Due to the fact that El Salvador has dollar as legal tender currency, it does not exist a centralized FX market.
- 6 It is not relevant to speak of foreign and domestic currency legs in the context of the French FX market. According to some French banks interviewed by the Banque de France, CLS Bank is the main channel used for settling FX transactions. CLS Bank enables to eliminate FX settlement risk thanks to a PVP mechanism. In this case, there is no time lag between the settlements of the two legs of a trade.  
As regards the exposure time lag to settlement risk, our answers (b., c. and d.) are based on concepts defined in the CPSS reports on FX settlement risk (please refer to these reports on the BIS website). More precisely, an institution's settlement exposure to a trade is measured considering the so-called irrevocable period (I) (which starts at the time when the institution can no longer unilaterally cancel its instruction to pay the currency being sold and ends when it receives, with finality, the currency it is buying) and uncertain period (U) (which is due to that many institutions do not check their receipts until some time after the final receipt). Depending on the period (I or I+U) considered, the settlement method used and the currencies involved, the exposure duration can be less than 2 hours, between 2 and 24 hours or more than 24 hours.
- 7 CLS Bank.
- 8 CLS Bank.
- 9 Such long time lag might occur in case of foreign currency settled outside CLS Bank.
- 10 Please note that according to our survey on FX settlement risk in 2006 this length on average was 26 hours, the figures were between 0 and 118 hours and the standard deviation was 16 hours. The average is not value-weighted. The measurement of the length followed the BIS definition. The length is highly dependent on the fact whether the domestic currency is sold or bought.
- 11 Guaranteed settlement of trades takes place through CCP arrangement. There is a time gap of maximum 2 hrs involved for the CCP to settle the two legs of the transactions.
- 12 \*\* for the \$ / INR segment.
- 13 CLS Bank.
- 14 CLS Bank.
- 15 Major participants in NZ foreign exchange market use CLS Bank to settle the majority of FX trades.
- 16 CLS Bank is used by few banks to settle their foreign exchange transactions.
- 17 When CLS Bank is not used.
- 18 CLS Bank.
- 19 Based on an April 2006 survey, the majority of FX trades settle through CLS Bank on a PVP basis. Most other trades settle via traditional correspondent banking arrangements. Depending on the particular currencies and correspondent banking arrangements, the lags can range from minutes to beyond 24 hours.

**CROSS-BORDER PAYMENTS AND REMITTANCES**

**Table V.1**  
**Rank the most relevant institution in the area of remittances in your country**  
**(see the questionnaire for details on ranking)**

	Commercial banks	International money transfer operators	Local money transfer operators	Non-bank financial institutions	Postal service	Other
Afghanistan	4	3	3			
Albania	2	1	3	4		5
Algeria	1	1			1	
Angola	1	3				
Argentina						
Armenia	2	1	6	4	5	
Australia	1	4	6	6	6	6
Austria						
Azerbaijan	2	1	4		3	
Bahamas	1	2	6	5	4	
BCEAO	2	1	4	5	3	6
Belarus	1					
Belgium						
Belize	2	1			6	
Bhutan	1	2	5	3	2	
Bolivia	4	1	3	2		
Bosnia - Herzegovina						
Botswana	4	1	2	5	3	6
Brazil	1	6	6	6	3	
Bulgaria	1	1	2	4	4	
Cambodia	1	2	4		6	
Canada						
Cape Verde	1	2			3	
Chile	2	1				
China	1	5	4	1	1	6
Colombia	1	1				
Costa Rica	1	2	4	3		
Croatia	1	3			2	
Cyprus	1	2		3		
Czech Republic	1	2	6	5	5	3
D. R. of Congo	2	1	3	4	5	6
Denmark	1	2	3	4		5
Dominican Republic						
ECCB	3	1		4	2	
Egypt	3	5	4	5	4	5
El Salvador	1	2	5	4	6	3
Estonia						
Fiji	1	1	5	6	2	
Finland	1	2	5	4	3	6
France	1	2			3	
Georgia	1	1	2	6	4	
Germany	1	2	2			
Ghana	1	1	5	6	3	6

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	Commercial banks	International money transfer operators	Local money transfer operators	Non-bank financial institutions	Postal service	Other
Greece	3	1	4	5	2	
Guatemala	1	1	4	3	5	6
Guyana	2	1	6	5	3	
Honduras	1	2	4	3	5	6
Hong Kong	1	2	4	3	5	6
Hungary <sup>1</sup>	1			3	2	
Iceland	1					
India <sup>2</sup>	4	<sup>3</sup>	1	3	2	
Indonesia	3	1	4	5	2	6
Iran	1	6	1	6	6	6
Ireland						
Israel						
Italy	2	1	4	5	3	6
Jamaica	2	1		3	4	
Japan	1	3			2	
Jordan	1	2	4			
Kazakhstan	1	2			3	
Kenya	1	2	4 <sup>4</sup>	5	6	
Kuwait	1	6	1	6	6	6
Kyrgyz Republic	1	2	6		4	
Latvia						
Lebanon	1	2	4	3		
Lesotho	1	6	6	6	1	
Lithuania	1	3			2	
Luxembourg		1				
Macao	1	2				
Macedonia	2	1				
Madagascar						
Malaysia	1	3	2	5	4	6
Malta	1	2			3	
Mauritius	1	4	6	6	6	
Mexico	1	2	6	3	4	5
Moldova	2	1			4	3
Mongolia	1	1	6	6	6	
Morocco	3	1	5	6	2	
Mozambique						
Myanmar						
Namibia	1	6	6	6	6	
Nepal	3	2	1	4	5	6
Netherlands						
Netherlands Antilles	1	1	6	6	3	
New Zealand						
Nicaragua						
Norway	1	2	4	3	6	5
Oman	1	2	3	4	5	6
Pakistan	1	2	3	3		
Paraguay						
Peru	2		1		4	3
Philippines	1	2	3	4	5	

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	Commercial banks	International money transfer operators	Local money transfer operators	Non-bank financial institutions	Postal service	Other
Poland						
Portugal	1	4			4	
Qatar	1	3	4			2
Romania	1	1				
Russia	2	3	3		1	
Rwanda	2	1	3	2	1	
San Marino	1	6	6	6	6	6
Saudi Arabia	1					
Serbia	1	2	6	6	6	6
Singapore	2	3	1		4	
Slovak Republic	1	2			3	
Slovenia	6					5
Solomon Islands	1	2	3	4	5	6
South Africa	2	3	2		2	2
Spain	4	1	2	5	3 <sup>5</sup>	
Sri Lanka	1	2			6	
Sudan	1	3	2	6	4	5
Swaziland	1	5	6	6	2	6
Sweden	1	2				
Switzerland <sup>6</sup>						
Taiwan	1			3	2	
Tajikistan	X			X		
Tanzania	1	2	5	3	4	6
Thailand	1	3			2	
Trinidad and Tobago	2	1	5	6	4	3
Turkey	1				2	
Uganda	1	3	5	4	5	
Ukraine	1	2		4	3	
United Arab Emirates	1		2			
United Kingdom	1	2	3	4	5	
USA	3	1	2	4	5	6
Uruguay	3	1	2	4	5	6
Venezuela	1	2	3	4	5	6
Yemen	2	3	5		4	1
Zambia	1	2			1	
Zimbabwe	2	1	6	6	2	3

- 1 Please note that Hungarian Post Office and some local operators (these operators are required to apply for license from the Hungarian Financial Services Authority and acting as agents) sell Western Union's remittance product as agents.
- 2 On the basis of the remittances received during 2000.
- 3 Overseas Principals like Western Union, Moneygram etc. have liaison offices in India for purposes of business development, marketing etc. These do not directly undertake any money transfer services in India. However, they undertake MTSS through a network of Principals/Sub-agents in India.
- 4 M-Pesa & Sokote.
- 5 The market share of Postal service in the remittances market is quite high due to its condition as agent of international money transfer operators.
- 6 SNB does not have available the statistical information requested in this chapter.

**CROSS-BORDER PAYMENTS AND REMITTANCES**

**Table V.2**  
**Rank the most relevant institution in the area of remittances in your country**  
**(see the questionnaire for details on ranking)**

	Cash	Current Account Transfers	Payment cards linked to a current account	Prepaid cards	Mobile payments	Other
Afghanistan		4				5
Albania	1	3	6	6	6	
Algeria	2	1				
Angola		1	3			
Argentina						
Armenia	1	6				
Australia		1				
Austria						
Azerbaijan	1	2		3		
Bahamas	2	1	5	6	6	
BCEAO	1	2	4	3	6	5
Belarus	1	2	3			
Belgium						
Belize	1	6				
Bhutan	1	1	2	2		
Bolivia		1	4			
Bosnia – Herzegovina						
Botswana	1	2	4	3	5	6
Brazil		1	4			
Bulgaria	1	2	2	2	4	
Cambodia	1	2				
Canada						
Cape Verde	2	1	5			
Chile	2	1				
China	6	5	1	1	1	1
Colombia	1	2	3			
Costa Rica	3	1	2			
Croatia	2	1	3	4	5	6
Cyprus	3	1	2		5	4
Czech Republic	2	1	5	6	6	
D. R. of Congo	1	2				
Denmark	3	1	2			
Dominican Republic						
ECCB	1	2	3	4		
Egypt	1	5	6	2	6	
El Salvador	2	1	3	5		4
Estonia	4	2	1		6	3
Fiji	1	2	6	6	6	
Finland	3	1	2	5	4	6
France	2	1	5	5	5	
Georgia	1	4	4	6	6	
Germany	2	1	6	6	6	6
Ghana	2					
Greece	1	2	3			

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	Cash	Current Account Transfers	Payment cards linked to a current account	Prepaid cards	Mobile payments	Other
Guatemala	2	1	2	4	6	5
Guyana	1	1	6	6	6	
Honduras	1	2	3	4	5	6
Hong Kong	3	1	2	4	6	5
Hungary	2	1				
Iceland	3	2	1			
India	1	2				
Indonesia	2	1	3	4	5	6
Iran	2	1	6	6	6	6
Ireland						
Israel						
Italy	1	2	4	3	5	6
Jamaica	1	2				
Japan	2	1	3		4	
Jordan	3	2	5	6	6	
Kazakhstan	1	1	2		3	
Kenya	1	2	4	5	3	
Kuwait	2	1	3	2	6	6
Kyrgyz Republic	1	2	6			
Latvia						
Lebanon	1	2	3	4		
Lesotho	1	1	6	6	6	
Lithuania	1	2				
Luxembourg		1				
Macao	2	1	3	4		
Macedonia	1	2	6			
Madagascar						
Malaysia	1	2	4	5	6	3
Malta		1	2	3	4	
Mauritius	6	1	3	5	6	
Mexico	1	3	6	6	6	2
Moldova	1	2	3			
Mongolia	1	1	6	6	6	
Morocco	1	3		4	6	
Mozambique						
Myanmar						
Namibia						
Nepal	2	1	6	3	4	5
Netherlands	1	1	1			
Netherlands Antilles	1	3	5			
New Zealand						
Nicaragua						
Norway	3	1	2	5	6	4
Oman						
Pakistan	3	1	6	6	6	
Paraguay						
Peru						X
Philippines	2	1	5	3	4	
Poland						

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	Cash	Current Account Transfers	Payment cards linked to a current account	Prepaid cards	Mobile payments	Other
Portugal		1	5			
Qatar	2	1				
Romania	1	2				
Russia	1		6	6		
Rwanda	1		6	6	6	
San Marino	6	1	6	6	6	6
Saudi Arabia	3	1	2			
Serbia	2	1	3	4	6	6
Singapore	1	2	5	3	4	
Slovak Republic	5	1	2	3	4	6
Slovenia	6	5				
Solomon Islands	2	1	3	4	6	
South Africa	1	5	6	6	2	
Spain	1	2	3	5	4	
Sri Lanka	6	6				1
Sudan	2	1	6	5	4	3
Swaziland	3	1	2	6	6	
Sweden	3	1	2			
Switzerland						
Taiwan	2	1	3			
Tajikistan	X					
Tanzania	2	1	3	4	6	5
Thailand	2	1				
Trinidad and Tobago	2	1	4	5	6	3
Turkey		1				
Uganda	4	1	5			
Ukraine	1	2				
United Arab Emirates	1	2				
United Kingdom	3	1	2			
USA	1	2	3	4	5	6
Uruguay	1	2	3	4	5	6
Venezuela	3	2	1	4	5	6
Yemen	2	1	5	3	6	4
Zambia	1					
Zimbabwe	1	3	6	6	6	3

**CROSS-BORDER PAYMENTS AND REMITTANCES**

**Table V.3  
Regulation of RSPs**

	All RSPs must be registered with a competent authority	All RSPs must be licensed by a competent authority	RSP services are subject to specific safety and efficiency requirements	RSPs need only to comply with AML regulations	RSPs need only to comply law/regulations of general applicability
Afghanistan		X	X		
Albania	X	X	X		
Algeria		X		X	
Angola	X	X	X		
Argentina					
Armenia		X		X <sup>1</sup>	
Australia	X			X	
Austria	X	X	X		X
Azerbaijan					X
Bahamas		X	X		
BCEAO	X	X	X	X	
Belarus	X	X		X	
Belgium	X	X		X	
Belize		X	X		
Bhutan	X				
Bolivia					
Bosnia – Herzegovina					
Botswana		X	X	X	
Brazil	X	X			
Bulgaria				X	
Cambodia	X	X	X	X	
Canada					X
Cape Verde	X	X	X	X	
Chile				X	X
China	X	X	X	X	
China					
Colombia	X	X	X	X	
Costa Rica					X
Croatia				X	X
Cyprus		X	X		
Czech Republic <sup>2</sup>			X		
D. R. of Congo	X	X		X	
Denmark				X	
Dominican Republic					
ECCB	X	X	X		
Egypt		X			
El Salvador	X	X		X	
Estonia				X	
Fiji	X	X	X		
Finland	X			X	
France		X	X	X	
Georgia				X	X
Germany		X			

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	All RSPs must be registered with a competent authority	All RSPs must be licensed by a competent authority	RSP services are subject to specific safety and efficiency requirements	RSPs need only to comply with AML regulations	RSPs need only to comply law/regulations of general applicability
Ghana		X	X		
Greece	X	X	X		
Guatemala	X			X	X
Guyana				X	
Honduras					X
Hong Kong					X
Hungary		X	X		
Iceland	X				X <sup>3</sup>
India	<sup>4</sup>		<sup>5</sup>	X <sup>6</sup>	
Indonesia	X	X	X		
Iran	X	X	X	X	
Ireland	X	X	X		
Israel					
Italy		X		X	
Jamaica		X <sup>7</sup>		X	
Japan		X			
Jordan		X	X	X	
Kazakhstan		X			
Kenya				X	
Kuwait				X <sup>8</sup>	
Kyrgyz Republic			X		X
Latvia					
Lebanon	X	X	X		
Lesotho					
Lithuania				X	
Luxembourg				X	
Macao	X	X	X	X	
Macedonia		X		X	
Madagascar					
Malaysia		X <sup>9</sup>	X		
Malta	X	X	X	X	
Mauritius	X	X	X	X	
Mexico	X	X	X	X	
Moldova <sup>10</sup>					
Mongolia					X
Morocco		X	X	X	
Mozambique					
Myanmar	X	X	X	X	
Namibia		X	X		
Nepal	X	X	X		X
Netherlands	X	X			
Netherlands Antilles	X	X	X	X	
New Zealand					X
Nicaragua					
Norway	X	X	X	X	X
Oman	X	X	X	X	
Pakistan					
Paraguay					

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	All RSPs must be registered with a competent authority	All RSPs must be licensed by a competent authority	RSP services are subject to specific safety and efficiency requirements	RSPs need only to comply with AML regulations	RSPs need only to comply law/regulations of general applicability
Peru	X	X	X	X	
Philippines	X			X	X
Poland					
Portugal	X	X	X		
Qatar	X	X		X	
Romania					X
Russia <sup>11</sup>		X	X	X	
Rwanda					X
San Marino	X	X			
Saudi Arabia	X	X	X		
Serbia				X	
Singapore		X	X	X	
Slovak Republic					X
Slovenia					
Solomon Islands	X			X	X
South Africa					X
Spain	X	X	X		
Sri Lanka	X	X			
Sudan	X	X	X	X	
Swaziland					X
Sweden		X		X	
Switzerland				X	
Taiwan	X	X			
Tajikistan			X		
Tanzania	X	X	X	X	
Thailand	X	X	X		
Trinidad and Tobago				X	X
Turkey		X			
Uganda	X		X	X	
Ukraine		X		X	
United Arab Emirates	X	X	X	X	
United Kingdom	X	X		X	
USA			X <sup>12</sup>	X	
Uruguay					X
Venezuela		X			X
Yemen	X	X	X	X	
Zambia	X				
Zimbabwe	X	X	X		

- 1 All ESPs need to comply also with anti-money laundering regulations.
- 2 Respond uniformly for all RSPs.
- 3 All RSPs are operating within the financial institutions in Iceland.
- 4 RBI gives specific permission to an Indian Agent to undertake inward money transfer services with tie-up arrangement with an Overseas Principal.
- 5 Regarding safety requirement, collateral equivalent to 3 days' average drawings or USD 50,000 whichever is higher, may be kept by the overseas principal with the designated bank in India. However, no efficiency requirements for their services have been prescribed.
- 6 Though AML Guidelines have not been issued by RBI specifically covering MTS activities, all the Indian Agents are covered under existing general AML Guidelines issued by RBI.
- 7 Operating Guidelines issued.
- 8 Commercial banks are expected to subject their products to AML requirements.
- 9 All RSPs have to be approved by BNM and comply with the remittance requirements and AML regulation.

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- 10 Currently, there is no any specific normative act in the legislation of the Republic of Moldova which regulates the activity of the remittance service providers (RSPs) as separate entities. In the Republic of Moldova the remittance services are provided by commercial banks and the national postal operator.  
The commercial banks have the right to perform this kind of services on the bases of the license issued by the National Bank of Moldova under the provisions of the Law on financial institutions No.550-XIII of 21 July 1995. The national postal operator performs transfers using money orders on the basis of provisions of the Law on post office No.463-XIII of 18 May 1995. While providing remittance services, commercial banks and national postal operator have to comply with the provisions of the AML legislation and the FX regulations regarding the performance of payments and transfers by resident and nonresident issued by the National Bank of Moldova.
- 11 Concerning subsection V.4: as RSPs only credit organizations and post offices are considered. Activity of post office is not licensed and adjusted by the postal legislation.
- 12 In many states, RSPs are subject to safety and efficiency requirements based on state law. All RSPs are subject to federal AML regulations.

**CROSS-BORDER PAYMENTS AND REMITTANCES**

**Table V.4  
Use of the International SWIFT network**

	90 % or more of commercial banks in your country are connected to SWIFT	Less than 90 % but more than 50 % of commercial banks are connected to SWIFT	Banks or others can use SWIFT through the Central Bank's own connection to SWIFT	Banks and others can use a SWIFT Service Bureau operated by the Central Bank or another institution
Afghanistan	X		X	
Albania	X			
Algeria	X			X
Angola	X			
Argentina		X		
Armenia	X			
Australia	X			
Austria	X			X
Azerbaijan	X			
Bahamas	X			
BCEAO	X			X
Belarus	X		X	
Belgium	X			X
Belize		X		X
Bhutan	X			X
Bolivia	X			
Bosnia - Herzegovina				
Botswana	X			
Brazil		X		X
Bulgaria	X			X
Cambodia	X			
Canada	X			
Cape Verde	X			
Chile	X			
China		X		
Colombia	X			
Costa Rica		X	X	
Croatia	X			
Cyprus	X			
Czech Republic	X			
D. R. of Congo	X			
Denmark				X
Dominican Republic				
ECCB	X			
Egypt	X			
El Salvador		X	X	X
Estonia	X			
Fiji	X			
Finland	X			
France	X			X
Georgia	X		X	X
Germany <sup>1</sup>			X	

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	90 % or more of commercial banks in your country are connected to SWIFT	Less than 90 % but more than 50 % of commercial banks are connected to SWIFT	Banks or others can use SWIFT through the Central Bank's own connection to SWIFT	Banks and others can use a SWIFT Service Bureau operated by the Central Bank or another institution
Ghana	X			X
Greece		X		X
Guatemala		X	X	
Guyana		X		
Honduras		X		
Hong Kong	X			
Hungary	X			X
Iceland	X			
India	X			
Indonesia		X		X
Iran	X			
Ireland	X			X
Israel	X			X
Italy	X			X <sup>2</sup>
Jamaica		X		
Japan		X		
Jordan	X			
Kazakhstan	X			X
Kenya	X			X
Kuwait	X			
Kyrgyz Republic	X			X <sup>3</sup>
Latvia	X			
Lebanon	X		X	X
Lesotho	X			
Lithuania	X			
Luxembourg	X			
Macao		X		
Macedonia	X			
Madagascar				
Malaysia	X			
Malta	X			
Mauritius	X			
Mexico	X			
Moldova	X			
Mongolia				X
Morocco	X			X
Mozambique	X			
Myanmar	X	X		X
Namibia	X			X
Nepal	X			
Netherlands	X			
Netherlands Antilles		X	X	
New Zealand	X			
Nicaragua		X		
Norway <sup>4</sup>		X		
Oman	X			X
Pakistan				

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	90 % or more of commercial banks in your country are connected to SWIFT	Less than 90 % but more than 50 % of commercial banks are connected to SWIFT	Banks or others can use SWIFT through the Central Bank's own connection to SWIFT	Banks and others can use a SWIFT Service Bureau operated by the Central Bank or another institution
Paraguay				
Peru	X			
Philippines	X			
Poland				
Portugal	X			
Qatar	X			
Romania	X			
Russia <sup>5</sup>				
Rwanda	X		X	
San Marino		X	X	X
Saudi Arabia	X			
Serbia	X			X
Singapore		X		
Slovak Republic	X			
Slovenia	X			
Solomon Islands	X			X
South Africa	X			X
Spain	X			
Sri Lanka	X			X
Sudan	X			X
Swaziland	X			
Sweden	X			
Switzerland	X			
Taiwan	X			
Tajikistan	X		X	
Tanzania	X		X	
Thailand	X			
Trinidad and Tobago	X			X
Turkey	X			
Uganda	X			X
Ukraine		X		
United Arab Emirates	X			
United Kingdom	X			X
USA				
Uruguay	X			X
Venezuela	X			
Yemen	X			
Zambia	X			
Zimbabwe	X			X

- 1 Owing to the decentralized structure of the German banking industry, difficult to assess.
- 2 By another institution.
- 3 Through the Shared Access Node to SWIFT.
- 4 There are 149 banks in Norway, most of them small, local banks. The 23 largest banks are all using SWIFT. In terms of market share, these banks count for 87 %.
- 5 Concerning subsection V.5: According to Russian National Association SWIFT data, quantity of participants of SWIFT is 477 and quantity of credit organizations is 1135 (figures to 01/02/2008).

**SECURITIES SETTLEMENT SYSTEMS**

**Table VI.1  
General issues**

	The securities market is at a nascent stage, (only a few or none primary issuances, and few or none secondary market trades)	One or more stock exchanges are currently operating in the country	The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD)	There is a single CSD for all types of securities in the country	There are two or more CSDs, each handling only certain types of securities	There are two or more CSDs, each handling all types of securities
Afghanistan						
Albania	X			X		
Algeria	X	X	X		X	
Angola	X			X		
Argentina		X	X			
Armenia		X	X		X	
Australia - Equities		X	X		X	
Australia - DSS		X	X		X	
Austria		X	X	X		
Azerbaijan	X	X	X		X	
Bahamas	X	X			X	
BCEAO		X	X		X	
Belarus		X	X		X	
Belgium		X	X		X	X
Belize	X					
Bhutan	X					
Bolivia		X		X		
Bosnia - Herzegovina		X	X			X
Botswana <sup>1</sup>		X	X			
Brazil		X	X		X	
Bulgaria		X			X	
Cambodia						
Canada		X	X	X		
Cape Verde	X	X	X	X		
Chile		X	X	X		
China		X			X	
Colombia		X	X		X	
Costa Rica			X	X		
Croatia		X	X	X		
Cyprus		X	X	X		
Czech Republic		X	X		X	
DR of Congo	X					
Denmark		X	X	X		
Dominican Republic	X	X		X		
ECCB	X	X		X		
Egypt		X	X		X	
El Salvador		X	X	X		
Estonia		X	X	X		
Fiji	X	X			X	
Finland		X	X	X		
France		X	X	X		

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	The securities market is at a nascent stage, (only a few or none primary issuances, and few or none secondary market trades)	One or more stock exchanges are currently operating in the country	The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD)	There is a single CSD for all types of securities in the country	There are two or more CSDs, each handling only certain types of securities	There are two or more CSDs, each handling all types of securities
Georgia		X	X	X	X	
Germany		X	X	X		
Ghana	X	X		X		
Greece		X	X		X	
Guatemala	X	X			X	X
Guyana	X	X				
Honduras	X	X				
Hong Kong		X	X			
Hungary		X	X	X		
Iceland		X		X		
India		X	X		X	X
Indonesia		X	X		X	X
Iran	X	X				
Ireland		X	X		X <sup>2</sup>	
Israel		X	X	X		
Italy		X	X	X		
Jamaica		X				
Japan		X	X		X	
Jordan		X	X		X	
Kazakhstan		X	X	X		
Kenya		X	X		X	
Kuwait		X			X	
Kyrgyz Republic	X	X	X		X	
Latvia		X	X	X		
Lebanon	X	X	X		X	
Lesotho	X					
Lithuania		X	X	X		
Luxembourg		X	X	X		
Macao						
Macedonia		X	X		X	
Madagascar						
Malaysia		X				X
Malta		X	X	X		
Mauritius		X	X			
Mexico		X	X	X		
Moldova	X	X	X		X	
Mongolia	X	X	X			X
Morocco		X	X	X		
Mozambique	X	X	X		X	
Myanmar	X					
Namibia	X	X	X	X		
Nepal	X	X		X		
Netherlands		X	X		X	
Netherlands Antilles	X					
New Zealand		X	X	X		
Nicaragua						
Norway		X	X	X		

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	The securities market is at a nascent stage, (only a few or none primary issuances, and few or none secondary market trades)	One or more stock exchanges are currently operating in the country	The great majority of negotiable securities in the country are immobilized or dematerialized in one or more securities depositories (CSD)	There is a single CSD for all types of securities in the country	There are two or more CSDs, each handling only certain types of securities	There are two or more CSDs, each handling all types of securities
Oman	X	X	X		X	
Pakistan	X <sup>3</sup>	X	X		X	
Paraguay						
Peru		X	X		X	
Philippines		X	X	X		
Poland		X	X		X	
Portugal		X	X		X	
Qatar	X	X	X		X	
Romania		X	X		X	
Russia		X	X			
Rwanda <sup>4</sup>	X					
San Marino						
Saudi Arabia		X	X		X	
Serbia		X	X	X		
Singapore		X	X		X	
Slovak Republic		X	X		X	
Slovenia		X	X	X		
Solomon Islands	X					
South Africa		X	X	X		
Spain		X	X			X
Sri Lanka		X	X		X	
Sudan	X	X				
Swaziland						
Sweden		X	X	X		
Switzerland		X	X	X		
Taiwan		X	X		X	
Tajikistan	X		X			
Tanzania		X				
Thailand		X	X	X		
Trinidad & Tobago		X	X		X	
Turkey		X	X		X	
Uganda <sup>5</sup>		X				
Ukraine					X	
United Arab Emirates		X			X	X
United Kingdom		X	X	X		
USA		X	X		X	
Uruguay	X	X	X <sup>6</sup>		X	
Venezuela		X	X		X	
Yemen						
Zambia		X	X	X		
Zimbabwe		X	X			

- 1 A CSD is currently being implemented at the Botswana Stock Exchange (BSE). The CSD is owned by a separate company and managed by the BSE on behalf of the Ministry of Finance and Development Planning (MFDP). The CSD is planned to undertake live operations during the early part of 2008, and supporting legislation is in place with Rules Regulations and Procedures. All Government securities are held in a dematerialized form at the Bank of Botswana in a repository that is a module on the Core Banking System.
- 2 There is currently no Irish CSD. Trades in Irish government bonds are cleared and settled in Euroclear Bank, while trades in Irish equities and certain other securities are cleared and settled in Euroclear UK and Ireland;

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- however, the National Treasury Management Agency operates a system for clearing and settlement of a small number of transactions in Exchequer Notes issued by the Agency. In addition, the Central Bank and Financial Services Authority of Ireland operates the register for Irish Government bonds and for certain other Euro-denominated securities.
- 3 Fixed Income market has regular issuance in Government Securities and well established secondary market but corporate securities market is at a nascent stage.
  - 4 There is no securities market in place as yet though it's in the process of being set-up. For a start there should be manual book entry probably with immobilized securities and this can be automated later.
  - 5 There is a Government CSD housed at the Central Bank. All Government Treasury Bills and Bonds immobilized and dematerialized in the Bank of Uganda CSD. Plans are underway to implement a private sector CSD.
  - 6 More than 90% are government issues.

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Table VI.2  
Central Bank-operated securities registry or CSD – General Issues

	CSD 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 1 DVP is used	Model 2 DVP is used	Model 3 DVP is used	A guarantee fund or other risk mngt mechanism ensure that the settlement will take place in the event the participant with the largest debit obligation is unable to settle its position
Afghanistan							
Albania							
Algeria	X	X	X		X		
Angola	X		X	X			
Argentina			X				
Armenia <sup>1</sup>	X	X	X	X		X	X <sup>2</sup>
Australia - Equities							
Australia - Debt Settlement Sys							
Austria							
Azerbaijan							
Bahamas	X	X		X			
BCEAO							
Belarus	X		X			X	X
Belgium	X	X	X	X			
Belize							
Bhutan							
Bolivia							
Bosnia - Herzegovina							
Botswana							
Brazil	X	X	X	X			
Bulgaria	X	X	X				
Cambodia							
Canada							
Cape Verde	X	X					
Chile							
China							
Colombia	X			X			
Costa Rica	X		X			X	X
Croatia							
Cyprus							
Czech Republic	X	X	X				
DR of Congo							
Denmark							
Dominican Republic							
ECCB							
Egypt	X	X		X			
El Salvador							
Estonia							
Fiji	X	X					
Finland							
France							

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	CSD 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 1 DVP is used	Model 2 DVP is used	Model 3 DVP is used	A guarantee fund or other risk mngt mechanism ensure that the settlement will take place in the event the participant with the largest debit obligation is unable to settle its position
Georgia							
Germany							
Ghana	X	X					
Greece	X	X	X	X		X	
Guatemala			X	X			
Guyana							
Honduras							
Hong Kong	X	X	X	X		X	
Hungary							
Iceland							
India	X	X	X			X	X <sup>3</sup>
Indonesia	X	X	X	X			
Iran							
Ireland <sup>4</sup>							
Israel							
Italy							
Jamaica							
Japan	X	X	X	X			
Jordan	X	X		X			
Kazakhstan							
Kenya	X	X		X			
Kuwait	X		X				
Kyrgyz Republic	X		X		X		X
Latvia							
Lebanon							
Lesotho							
Lithuania							
Luxembourg							
Macao							
Macedonia	X		X	X			
Madagascar							
Malaysia	X		X	X			
Malta							
Mauritius	X	X		X			
Mexico							
Moldova	X	X	X	X			
Mongolia							
Morocco							
Mozambique	X						
Myanmar							
Namibia	X						
Nepal	X	X					
Netherlands							
Netherlands Antilles	X	X					
New Zealand	X	X	X	X			
Nicaragua							

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	CSD 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 1 DVP is used	Model 2 DVP is used	Model 3 DVP is used	A guarantee fund or other risk mngt mechanism ensure that the settlement will take place in the event the participant with the largest debit obligation is unable to settle its position
Norway							
Oman	X						
Pakistan	X	X		X			
Paraguay							
Peru	X	X	X		X		
Philippines							
Poland	X		X	X			
Portugal	X		X	X			
Qatar	X	X					
Romania	X		X	X	X		X
Russia							
Rwanda							
San Marino							
Saudi Arabia					X		X
Serbia							
Singapore	X	X	X	X			
Slovak Republic	X	X		X			
Slovenia							
Solomon Islands			X				
South Africa							
Spain							
Sri Lanka	X		X	X			
Sudan							
Swaziland							
Sweden							
Switzerland							
Taiwan	X		X	X		X	X
Tajikistan	X						
Tanzania	X	X					
Thailand							
Trinidad and Tobago	X	X	X	X			
Turkey	X	X	X	X			
Uganda	X		X	X			
Ukraine	X	X	X	X			
United Arab Emirates							
United Kingdom							
USA	X	X	<sup>5</sup>	X			
Uruguay	X	X	X	X			
Venezuela	X	X	X	X			
Yemen							
Zambia	X						
Zimbabwe	X	X	X	X			

- 1 For Government Securities.
- 2 There is no guarantee fund, but there is a predisposition mechanism for exchange trades.
- 3 The Clearing Corporation of India Limited, CCP has put in place the risk management mechanism.
- 4 See note under VI.1 above.

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- 5 The Fedwire Securities Service has its own mechanism to settle the cash leg of a DVP securities transfer, and such transfers occur in real-time against accounts held at the central bank. Although the Fedwire Securities Service does not rely on the RTGS system, the cash accounts for DVP securities settlement are the same accounts used by the RTGS system.

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**Table VI.3  
Central Bank-operated CSD – Participation and Custody Arrangements**

	Only commercial banks are direct participants in the CSD	Beneficial owners are identified at the individual level 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
Afghanistan			
Albania			
Algeria	X		X
Angola	X	X	X
Argentina	X		X
Armenia <sup>1</sup>			X
Australia - Equities			
Australia -Debt Settlement Sys			
Austria			
Azerbaijan			
Bahamas		X	
BCEAO			
Belarus	X		X
Belgium			X
Belize	X		
Bhutan	X		
Bolivia			
Bosnia - Herzegovina			
Botswana			
Brazil			X
Bulgaria			X
Cambodia			
Canada			
Cape Verde	X	X	
Chile			
China			
Colombia <sup>2</sup>		X	
Costa Rica		X	
Croatia			
Cyprus			
Czech Republic	X	X	
DR of Congo			
Denmark			
Dominican Republic			
ECCB			
Egypt	X		X
El Salvador			
Estonia			
Fiji		X	
Finland			
France			
Georgia			

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	Only commercial banks are direct participants in the CSD	Beneficial owners are identified at the individual level 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
Germany			
Ghana		X	
Greece			X
Guatemala	X		
Guyana			
Honduras			
Hong Kong			X
Hungary			
Iceland			
India	<sup>3</sup>		X
Indonesia			X
Iran			
Ireland			
Israel			
Italy			
Jamaica			
Japan			X
Jordan	X		X
Kazakhstan			
Kenya		X	
Kuwait			X
Kyrgyz Republic	X		X
Latvia			
Lebanon			
Lesotho			
Lithuania			
Luxembourg			
Macao			
Macedonia	X		
Madagascar			
Malaysia			X
Malta			
Mauritius	X	X	
Mexico			
Moldova	X		X
Mongolia			
Morocco			
Mozambique	X	X	
Myanmar			
Namibia		X	X
Nepal		X	
Netherlands			
Netherlands Antilles			
New Zealand <sup>3</sup>			
Nicaragua			
Norway			
Oman		X	

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	Only commercial banks are direct participants in the CSD	Beneficial owners are identified at the individual level 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
Pakistan			X
Paraguay			
Peru		X	
Philippines			
Poland			X
Portugal			X
Qatar	X		X
Romania			X
Russia			
Rwanda			
San Marino			
Saudi Arabia	X		
Serbia			
Singapore	X		X
Slovak Republic		X	
Slovenia			
Solomon Islands	X	X	
South Africa			
Spain			
Sri Lanka		X	
Sudan			
Swaziland			
Sweden			
Switzerland			
Taiwan	X		X
Tajikistan	X		
Tanzania		X	
Thailand			
Trinidad and Tobago		X	
Turkey	X		
Uganda	X	X	
Ukraine			X
United Arab Emirates			
United Kingdom			
USA	X <sup>5</sup>		X
Uruguay	X		X
Venezuela			X
Yemen			
Zambia		X	
Zimbabwe			X

- 1 For government Securities.
- 2 Also brokers, other deposit taking institutions, trusts, pension funds, institutional investors and selected public institutions are granted access to the CSD as direct participants.
- 3 Apart from commercial banks Primary Dealers are also direct participants.
- 4 Members of the system are deemed to be the beneficial owner of securities in the CSD. Those members must themselves keep records on whose behalf they hold securities.
- 5 Direct participants in the Fedwire Securities Service are generally depository institutions. There are, however, certain other entities that may be granted access, though the number of these entities that have direct access is relatively small. Entities eligible to maintain a securities account with a Reserve Bank include the following:

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depository institutions; U.S. agencies and branches of foreign banks; member banks of the Federal Reserve System; the Treasury and entities specifically authorized by federal statute to use the Reserve Banks as fiscal agents or depositories; entities designated by the Secretary of the Treasury (some state treasurers have been designated); Edge or agreement corporations; and foreign central banks, foreign monetary authorities, foreign governments, and certain international organizations.

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**Table VI.4  
Central Bank-operated CSD - Resilience and Business Continuity**

	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	The CSD operator has documented a formal business continuity plan	Business continuity arrangements include procedures for crisis management and information dissemination	Business continuity arrangements regularly tested
Afghanistan							
Albania	X		X				
Algeria	X	X		X	X	X	X
Angola	X	X	X		X	X	
Argentina							
Armenia <sup>1</sup>	X	X	X	X	X		X
Australia - Equities							
Australia – DSS							
Austria							
Azerbaijan							
Bahamas	X	X	X		X		X
BCEAO							
Belarus	X						
Belgium	X	X		X	X	X	X
Belize							
Bhutan							
Bolivia							
Bosnia-Herzegovina							
Botswana							
Brazil	X	X		X	X		X
Bulgaria	X	X	X			X	X
Cambodia							
Canada							
Cape Verde							
Chile							
China							
Colombia	X	X	X	X	X	X	X
Costa Rica	X					X	X
Croatia							
Cyprus							
Czech Republic	X	X		X	X	X	X
DR of Congo							
Denmark							
Dominican Republic							
ECCB							
Egypt	X	X			X		
El Salvador							
Estonia							
Fiji	X	X	X		X	X	
Finland							

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	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	The CSD operator has documented a formal business continuity plan	Business continuity arrangements include procedures for crisis management and information dissemination	Business continuity arrangements regularly tested
France							
Georgia							
Germany							
Ghana	X		X	X		X	
Greece	X	X	X	X	X	X	X
Guatemala	X	X	X		X		X
Guyana							
Honduras							
Hong Kong	X	X	X	X	X	X	X
Hungary							
Iceland							
India	X	X	X	X	X	X	X
Indonesia	X	X	X	X	X	X	X
Iran							
Ireland							
Israel							
Italy							
Jamaica							
Japan	X	X	X	X	X	X	X
Jordan	X	X	X	X	X	X	X
Kazakhstan							
Kenya	X	X	X	X	X	X	X
Kuwait	X	X		X	X	X	X
Kyrgyz Republic	X	X	X				
Latvia							
Lebanon	X	X	X	X			
Lesotho							
Lithuania							
Luxembourg							
Mongolia							
Morocco							
Mozambique	X	X	X	X	X	X	X
Myanmar							
Namibia	X	X	X				
Nepal	X		X		X		X
Netherlands							
Netherlands Antilles							
New Zealand	X	X	X	X	X		X
Nicaragua							
Norway							
Oman	X	X	X	X		X	
Pakistan	X	X	X	X	X	X	X
Paraguay							
Peru	X	X	X				
Philippines							

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	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	The CSD operator has documented a formal business continuity plan	Business continuity arrangements include procedures for crisis management and information dissemination	Business continuity arrangements regularly tested
Poland	X	X		X	X	X	X
Portugal	X	X	X	X	X	X	X
Qatar	X	X	X			X	
Romania	X	X	X	X	X	X	X
Russia							
Rwanda							
San Marino							
Saudi Arabia	X	X		X	X	X	X
Spain							
Singapore	X	X	X	X	X	X	X
Slovak Republic	X	X	X	X	X	X	X
Slovenia							
Solomon Islands	X	X	X				
South Africa							
Spain							
Tanzania	X	X	X	X	X	X	X
Thailand							
Trinidad and Tobago	X	X		X	X	X	
Turkey	X	X	X	X	X	X	X
Uganda	X	X	X		X	X	X
Ukraine		X	X			X	
UAE							
United Kingdom							
USA	X	X	X	X	X	X	X
Uruguay	X	X <sup>3</sup>	X				
Venezuela	X	X	X		X	X	X
Yemen							
Zambia	X	X	X	X	X	X	X
Zimbabwe	X	X	X	X	X	X	X

- 1 For Government Securities.
- 2 Central Bank-operated securities registry.
- 3 Only tapes.

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**Table VI.5**  
**CSD and SSS operated by the Stock Exchange or other private sector entity**  
**General Features**

	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	Model 2 DVP is used	Model 3 DVP is used
Afghanistan					
Albania					
Algeria	X	X			X
Angola					
Argentina					
Armenia <sup>1</sup>	X	X			X
Australia - Equities	X	X			X
Australia - Debt Settlement Sys	X	X	X		
Austria	X	X	X		
Azerbaijan	X	X	X		X
Bahamas					
BCEAO					
Belarus					
Belgium	X	X	X	X	
Belize					
Bhutan					
Bolivia	X	X	X		
Bosnia - Herzegovina	X				
Botswana					
Brazil	X	X	X		X
Bulgaria		X		X	
Cambodia					
Canada <sup>2</sup>	X	X		X	X
Cape Verde		X			X
Chile	X	X	X	X	X
China	X	X		X	
Colombia	X	X			X
Costa Rica					
Croatia	X	X	X		X
Cyprus	X	X	X	X	
Czech Republic	X <sup>3</sup>	X	X	X	
DR of Congo					
Denmark	X	X	X		X
Dominican Republic					
ECCB	X	X		X	
Egypt	X	X <sup>4</sup>		X	
El Salvador	X	X			
Estonia	X	X			X
Fiji					
Finland	X	X	X		
France	X	X	X	X	

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	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	Model 2 DVP is used	Model 3 DVP is used
Georgia	X				
Germany	X	X	X		X
Ghana					
Greece	X	X		X	
Guatemala	X	X		X	
Guyana					
Honduras					
Hong Kong	X	X		X	
Hungary	X	X	X		X
Iceland	X	X		X	
India	X	X			
Indonesia	X	X	X	X	
Iran	X				
Ireland					
Israel					
Italy	X	X	X		X
Jamaica	X	X	X		
Japan	X	X	X		
Jordan	X	X		X	
Kazakhstan	X	X	X		
Kenya	X	X		X	
Kuwait		X	X		
Kyrgyz Republic	X	X	X		
Latvia	X	X	X		X
Lebanon	X	X			X
Lesotho					
Lithuania	X	X	X		X
Luxembourg	X	X	X		
Macao					
Macedonia	X	X		X	
Madagascar					
Malaysia	X			X	
Malta	X	X	X	X	
Mauritius	X	X	X		
Mexico	X	X	X		
Moldova					
Mongolia	X	X			X
Morocco	X	X		X	
Mozambique					
Myanmar					
Namibia					
Nepal					
Netherlands	X	X	X	X	
Netherlands Antilles					
New Zealand	X	X	X		
Nicaragua					
Norway	X	X			X
Oman					

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	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	Model 2 DVP is used	Model 3 DVP is used
Pakistan	X	X	X		
Paraguay					
Peru	X	X	X		
Philippines	X	X	X		X
Poland	X	X	X	X	
Portugal	X	X	X		X
Qatar					
Romania	X	X	X	X	
Russia	X	X	X		
Rwanda					
San Marino					
Saudi Arabia	X	X		X	
Serbia					
Singapore	X	X	X	X	
Slovak Republic	X	X	X	X	
Slovenia	X	X	X	X	
Solomon Islands					
South Africa	X	X			X
Spain	X	X	X	X	
Sri Lanka	X				
Sudan					
Swaziland					
Sweden	X	X	X		
Switzerland	X	X	X		
Taiwan	X	X	X		X
Tajikistan					
Tanzania	X	X	X		
Thailand	X	X	X		X
Trinidad and Tobago	X	X			X
Turkey	X	X			X
Uganda					
Ukraine					
United Arab Emirates					
United Kingdom	X	X	X		
USA	X	X		X	
Uruguay					
Venezuela	X				
Yemen					
Zambia	X	X			
Zimbabwe <sup>5</sup>					

- 1 For Commercial Securities.
- 2 Canadian Depository for Securities CDSX is a dual service system – cash position netting for all securities settlements and either trade-for-trade or continuous netting for the securities leg.
- 3 Univyc uses combination of both models (1 and 2). All securities transfer instructions are settled on a gross basis. The funds transfer instructions are settled on a net basis only in case of automatic trades (auction and continual). The funds transfer instructions for trades concluded in SPAD system and block trades are settled on a trade-by-trade (gross) basis.
- 4 The Clearing and Settlement System in Egypt is based upon Delivery versus Payment, whereby MCDR acts as the Clearing House between the buying and selling member firms, regarding their paper and funds settlement

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as follows: T+0 for securities traded by the Intra-day Trading System T+1 for government bonds that are traded through Primary Dealers System T+2 for all other securities.

- 5 Stockbrokers, who are members of the stock exchange act as central counterparties.

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Table VI.5  
CSD and SSS operated by the Stock Exchange or other private sector entity (continued)

	CSD has a real-time interface with the RTGS	There is no interface with the RTGS, but central bank money is used for settlement	A guarantee fund or other risk management mechanism ensure settlement will take place in the event the participant with the largest debit obligation is unable to settle its position	A securities lending mechanism has been implemented	The Stock exchange acts as central counterparty
Afghanistan					
Albania					
Algeria	X				
Angola					
Argentina					
Armenia			X		
Australia - Equities	X	X	X	X	
Australia - Debt SS	X			X	
Austria	X				
Azerbaijan		X		X	X
Bahamas					
BCEAO	X				
Belarus					X
Belgium		X	X	X	
Belize					
Bhutan					
Bolivia	X				
Bosnia - Herzegovina		X			
Botswana					
Brazil	X	X	X		
Bulgaria					
Cambodia					
Canada		X	X		<sup>1</sup>
Cape Verde		X	X		
Chile		X	X		
China					X
Colombia					
Costa Rica					
Croatia	X		X		
Cyprus			X		
Czech Republic			X <sup>1</sup>	X <sup>2</sup>	X <sup>3</sup>
DR of Congo					
Denmark	X		X		
Dominican Republic					
ECCB		X			X
Egypt		X	X	X	
El Salvador					X
Estonia	X		X	X	X
Fiji					
Finland	X			X	
France		X	X		
Georgia					

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	CSD has a real-time interface with the RTGS	There is no interface with the RTGS, but central bank money is used for settlement	A guarantee fund or other risk management mechanism ensure settlement will take place in the event the participant with the largest debit obligation is unable to settle its position	A securities lending mechanism has been implemented	The Stock exchange acts as central counterparty
Germany	X			X	X
Ghana					
Greece		X	X		X
Guatemala					X
Guyana					
Honduras					
Hong Kong	X		X	X	X <sup>4</sup>
Hungary	X		X	X <sup>5</sup>	
Iceland		X			
India			X	X	X
Indonesia	X	X	X	X	X
Iran					
Ireland					
Israel	X				
Italy	X		X	X	
Jamaica		X			
Japan	X				
Jordan			X		
Kazakhstan	X			X	X
Kenya			X		X
Kuwait			X		
Kyrgyz Republic		X		X	
Latvia	X		X		
Lebanon		X			
Lesotho					
Lithuania	X				
Luxembourg	X			X	
Macao					
Macedonia	X		X	X	
Madagascar					
Malaysia			X	X	X
Malta	X				
Mauritius					
Mexico	X			X	X
Moldova					
Mongolia					X
Morocco		X	X	X	X
Mozambique		X			
Myanmar					
Namibia					
Nepal				X	
Netherlands	X		X		
Netherlands Antilles					
New Zealand	X				
Nicaragua					
Norway		X		X	
Oman					

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	CSD has a real-time interface with the RTGS	There is no interface with the RTGS, but central bank money is used for settlement	A guarantee fund or other risk management mechanism ensure settlement will take place in the event the participant with the largest debit obligation is unable to settle its position	A securities lending mechanism has been implemented	The Stock exchange acts as central counterparty
Pakistan			X	X	X
Paraguay					
Peru	X				
Philippines	X		X		X
Poland	X		X	X	
Portugal	X	X		X	
Qatar					
Romania	X <sup>6</sup>		X		
Russia					
Rwanda					
San Marino					
Saudi Arabia					
Serbia					
Singapore	X		X	X	X
Slovak Republic		X	X		
Slovenia	X		X		
Solomon Islands					
South Africa	X		X	X	
Spain	X		X	X	
Sri Lanka					
Sudan					
Swaziland					
Sweden	X				
Switzerland	X			X	
Taiwan	X		X	X	X
Tajikistan					
Tanzania		X			
Thailand	X		X	X	
Trinidad and Tobago		X	X		
Turkey	X				
Uganda					
Ukraine					
United Arab Emirates					
United Kingdom	X			X	
USA	X <sup>7</sup>		X	X	<sup>8</sup>
Uruguay					
Venezuela					
Yemen					
Zambia					
Zimbabwe					X

- 1 Guarantee Fund is established for automatic trades and SPAD trades. Block trades are not guaranteed.
- 2 Securities lending is implemented only for loan reservation, i.e. based on request of Univac's participant. Automatic loans are not in operation.
- 3 Only for automatic trades.
- 4 The Hong Kong Securities Clearing Company Limited (HKSCC) acts as central counterparty. Hong Kong Exchanges and Clearing Limited (HKEx) is the holding company of the Stock exchange and HKSCC.
- 5 However, in practice not used.
- 6 At the moment, it is an on-line interface with RTGS. The STP interface will be implemented as soon as possible.

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- 7 The CSD settles the cash leg of DVP securities transfers on an end-of-day net basis through its account with a Federal Reserve Bank, using the Federal Reserve's National Settlement Service (a multilateral net settlement system). Although the CSD is a direct participant in the RTGS and uses this link for certain risk-management related payments by participants throughout the day, the RTGS system is not used for the CSD's daily settlement.
- 8 NSCC, a separate entity, acts as the CCP for US stock exchanges.

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**Table VI.6**  
**CSD and SSS operated by the Stock Exchange or other private sector entity**  
**Participation and Custody Arrangements**

	Only brokers-dealers are direct participants in the CSD	Other financial institutions (i.e. commercial banks) can be direct participants	Beneficial owners are identified at the individual level 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
Afghanistan				
Albania				
Algeria	X			X
Angola				
Argentina				
Armenia <sup>1</sup>			X	
Australia - Equities		X	X	
Australia - Debt Settl Sys		X	X	
Austria		X		
Azerbaijan	X		X	
Bahamas			X	
BCEAO		X	X	
Belarus				
Belgium		X		X
Belize				
Bhutan				
Bolivia	X		X	
Bosnia - Herzegovina	X	X		
Botswana				
Brazil		X	X	X
Bulgaria		X	X	
Cambodia				
Canada		X		X
Cape Verde		X		X
Chile		X		
China		X	X	
Colombia		X	X	
Costa Rica				
Croatia		X	X	
Cyprus		X	X	
Czech Republic		X	X <sup>2</sup>	
DR of Congo				
Denmark		X	X	
Dominican Republic				
ECCB	X			X
Egypt		X	X	
El Salvador		X	X	
Estonia		X	X	
Fiji				
Finland		X	X	
France		X		X <sup>3</sup>

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	Only brokers-dealers are direct participants in the CSD	Other financial institutions (i.e. commercial banks) can be direct participants	Beneficial owners are identified at the individual level 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
Georgia	X			
Germany		X		X
Ghana				
Greece		X	X	
Guatemala	X		X	
Guyana				
Honduras				
Hong Kong		X	X	X
Hungary		X <sup>4</sup>		X
Iceland		X	X	
India	X		X	X
Indonesia	X	X	X	
Iran	X			
Ireland				
Israel				
Italy		X		X
Jamaica <sup>5</sup>				
Japan		X		X
Jordan			X	
Kazakhstan		X	X	
Kenya		X	X	
Kuwait	X		X	
Kyrgyz Republic	X	X	X	
Latvia		X		X
Lebanon		X	X	
Lesotho				
Lithuania		X		X
Luxembourg		X		
Macao				
Macedonia		X	X	
Madagascar				
Malaysia	X		X	
Malta			X	
Mauritius	X		X	
Mexico		X		X
Moldova				
Mongolia	X		X	
Morocco		X		X
Mozambique		X		
Myanmar				
Namibia				
Nepal		X	X	
Netherlands		X		X
Netherlands Antilles				
New Zealand		X		X
Nicaragua				
Norway		X		

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	Only brokers-dealers are direct participants in the CSD	Other financial institutions (i.e. commercial banks) can be direct participants	Beneficial owners are identified at the individual level 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
Oman				
Pakistan		X	X	
Paraguay				
Peru		X	X	
Philippines		X		X
Poland		X		X
Portugal		X		X
Qatar				
Romania	X <sup>6</sup>	X	X	X <sup>7</sup>
Russia		X		X
Rwanda				
San Marino				
Saudi Arabia	X		X	
Serbia				
Singapore		X	X	
Slovak Republic		X		X
Slovenia		X	X	
Solomon Islands				
South Africa		X		X
Spain		X		X
Sri Lanka	X	X	X	
Sudan				
Swaziland				
Sweden		X	X	
Switzerland		X		X
Taiwan		X	X	
Tajikistan				
Tanzania	X			X
Thailand		X		X
Trinidad and Tobago	X		X	
Turkey		X	X	X
Uganda				
Ukraine				
United Arab Emirates				
United Kingdom		X	X	
USA		X		X
Uruguay				
Venezuela	X		X	
Yemen				
Zambia		X	X	
Zimbabwe				

- 1 For Commercial Securities.
- 2 Beneficial owners can be identified via Univac's participants either at the individual level (segregate accounts) or via omnibus accounts in Univac's segregate registration.
- 3 There are no sub-accounts for each individual holding securities in the CSD, but the CSD can inform the issuer of the name of the beneficial owner.

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- 4 There is a direct settlement account relationship with KELER in case of commercial banks, but exclusively securities settlement takes place in the books of the SSS, the cash leg of securities transactions is settled in the RTGS.
- 5 The Jamaica Stock Exchange trades equities only.
- 6 Brokers-dealers are direct participants in the CSD.
- 7 The nominee accounts are used only for the custodian banks, but the concept will be extended for all the CSD participants.

**SECURITIES SETTLEMENT SYSTEMS**

**Table VI.7**  
**CSD and SSS operated by the Stock Exchange or other private sector entity**  
**Resilience and Business Continuity**

	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	The CSD operator has documented a formal business continuity plan	Arrangements include procedures for crisis management and information dissemination	Arrangements regularly tested
Afghanistan							
Albania							
Algeria	X	X	X	X	X	X	X
Angola							
Argentina							
Armenia	X	X	X				
Australia - Equities	X	X	X	X	X	X	X
Australia - DSS	X	X	X	X	X	X	X
Austria	X	X	X	X	X	X	X
Azerbaijan	X		X		X	X	X
Bahamas							
BCEAO	X	X	X	X	X	X	
Belarus							
Belgium		X		X	X	X	X
Belize							
Bhutan							
Bolivia	X	X		X	X		
Bosnia - Herzegovina	X	X	X	X	X	X	X
Botswana							
Brazil	X	X	X	X	X		X
Bulgaria	X		X		X	X	
Cambodia							
Canada	X	X	X	X	X	X	X
Cape Verde	X		X				
Chile							
China	X	X	X	X			X
Colombia	X	X	X	X	X	X	X
Costa Rica							
Croatia	X	X		X	X		X
Cyprus	X	X	X	X			
Czech Republic	X	X		X	X	X	X
DR of Congo							
Denmark	X	X	X	X	X	X	X
Dominican Republic	X	X	X		X		
ECCB	X	X	X		X	X	
Egypt	X	X	X	X	X	X	X
El Salvador	X	X	X	X	X	X	X
Estonia	X	X			X	X	X
Fiji							
Finland	X	X	X	X	X	X	X

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	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	The CSD operator has documented a formal business continuity plan	Arrangements include procedures for crisis management and information dissemination	Arrangements regularly tested
France	X	X	X	X	X	X	X
Georgia							
Germany	X	X	X	X	X	X	X
Ghana							
Greece	X	X	X		X		
Guatemala	X	X	X				
Guyana							
Honduras							
Hong Kong	X	X	X	X	X	X	X
Hungary	X	X		X	X	X	X
Iceland	X	X	X	X	X	X	
India	X	X	X	X	X	X	X
Indonesia	X	X	X	X	X	X	X
Iran	X		X				
Ireland							
Israel							
Italy	X	X		X	X	X	X
Jamaica <sup>1</sup>							
Japan	X	X	X	X	X	X	X
Jordan	X	X	X		X	X	X
Kazakhstan	X	X	X		X	X	X
Kenya	X	X	X	X	X	X	X
Kuwait	X	X	X	X	X		X
Kyrgyz Republic	X		X		X		
Latvia	X	X	X	X	X	X	X
Lebanon <sup>2</sup>	X	X	X				
Lesotho							
Lithuania	X	X		X			
Luxembourg	X	X		X	X	X	X
Macao							
Macedonia	X	X	X	X	X	X	X
Madagascar							
Malaysia	X	X	X	X	X	X	X
Malta	X	X	X				
Mauritius	X	X	X	X	X	X	X
Mexico	X	X		X			
Moldova							
Mongolia	X	X	X				X
Morocco							
Mozambique							
Myanmar							
Namibia							
Nepal	X		X				
Netherlands	X			X	X	X	X
Netherlands Antilles							

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	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	The CSD operator has documented a formal business continuity plan	Arrangements include procedures for crisis management and information dissemination	Arrangements regularly tested
New Zealand							
Nicaragua							
Norway	X	X	X	X	X	X	X
Oman							
Pakistan	X				X		
Paraguay							
Peru	X	X	X	X	X	X	X
Philippines	X	X	X	X	X	X	X
Poland	X	X		X	X		X
Portugal	X	X	X <sup>3</sup>	X	X <sup>4</sup>	X <sup>5</sup>	X <sup>6</sup>
Qatar							
Romania	X	X	X	X	X	X	X
Russia	X						
Rwanda							
San Marino							
Saudi Arabia	X	X	X	X	X	X	X
Serbia							
Singapore	X	X		X	X	X	X
Slovak Republic	X	X		X	X	X	X
Slovenia	X	X	X	X	X	X	X
Solomon Islands							
South Africa	X			X	X	X	X
Spain	X	X	X	X	X	X	X
Sri Lanka	X	X	X	X	X	X	X
Sudan							
Swaziland							
Sweden	X	X		X	X	X	X
Switzerland	X	X		X	X	X	X
Taiwan	X	X	X	X	X	X	X
Tajikistan							
Tanzania	X	X	X				
Thailand	X	X		X	X	X	X
Trinidad & Tobago <sup>7</sup>	X	X	X				
Turkey	X	X	X	X	X	X	X
Uganda							
Ukraine							
United Arab Emirates							
United Kingdom	X	X	X	X	X	X	X
USA	X	X	X	X	X	X	X
Uruguay							
Venezuela	X		X				
Yemen							
Zambia	X	X		X	X	X	X
Zimbabwe							

1 There is no formal CSD for fixed income securities.

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- 2 Midclear and the Central Bank are in process of establishing a business continuity/ disaster recovery processing site.
- 3 End 2007.
- 4 It has a Disaster Recovery Plan – DRP - that is being complemented in order to have a complete BCP, in development, to be finished end 2007.
- 5 For the DRP.
- 6 Only Disaster Recovery Plan, since the BCP is being developed.
- 7 BCP is currently being progressed at this time.

SECURITIES SETTLEMENT SYSTEMS

Table VI.8  
Regulatory and Oversight

	A specific public sector agency regulates securities markets	Securities market law applies to all securities traded in the country	Securities market law applies to securities issued by private firms only	Securities regulator is empowered to license and supervise all stock exchanges	Securities regulator is empowered to license and supervise all private CSDs	Securities regulator shares oversight responsibility with the Central Bank	The stock exchange has been granted the status of SRO	Private CSDs have been granted the status of SRO
Afghanistan								
Albania	X							
Algeria	X	X		X		X		
Angola	X							
Argentina	X	X		X	X	X	X	X
Armenia	X		X	X	X	X	X	X
Australia - Equities	X	X		X	X	X	X	X
Australia - DSS	X	X		X	X	X	X	X
Austria	X			X		X		
Azerbaijan	X	X		X	X			
Bahamas	X		X	X	X		X	
BCEAO	X		X	X	X	X		
Belarus	X		X	X	X	X		
Belgium	X	X	X	X	X	X	X	
Belize								
Bhutan								
Bolivia	X	X		X	X			
Bosnia - Herzegovina				X	X			
Botswana		X		X		X		
Brazil	X	X		X	X	X	X	X
Bulgaria			X	X		X		
Cambodia								
Canada	X	<sup>1</sup>	X	X	X	X		
Cape Verde	X	X				X		
Chile	X	X		X	X			
China	X	X		X		X		
Colombia <sup>2</sup>	X	X	X	X	X		X	
Costa Rica	X	X		X		X		
Croatia	X	X		X	X			
Cyprus	X	X		X				
Czech Republic	X	X		X	X	<sup>3</sup>		
DR of Congo								
Denmark	X	X		X	X	X		
Dominican Republic	X	X				X		
ECCB	X		X	X	X		X	X
Egypt	X	X		X				
El Salvador	X	X		X	X			
Estonia	X	X		X	X	X		
Fiji	X	X		X	X			
Finland		X		X	X		X	X
France	X	X		X	X	X		

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	A specific public sector agency regulates securities markets	Securities market law applies to all securities traded in the country	Securities market law applies to securities issued by private firms only	Securities regulator is empowered to license and supervise all stock exchanges	Securities regulator is empowered to license and supervise all private CSDs	Securities regulator shares oversight responsibility with the Central Bank	The stock exchange has been granted the status of SRO	Private CSDs have been granted the status of SRO
Georgia	X		X	X	X			
Germany	X	X		X	X	X		
Ghana	X	X		X		X		
Greece	X		X	X	X	X		
Guatemala	X	X	X	X				X
Guyana	X							
Honduras	X	X	X	X				
Hong Kong	X	X		X	X			
Hungary	X	X		<sup>4</sup>		<sup>5</sup>		
Iceland	X	X		X	X	X		
India	X	X	X	X	X	X	X <sup>6</sup>	
Indonesia	X	X	X	X	X	X	X	X
Iran	X	X		X				
Ireland	X	X		X	X	X <sup>7</sup>		
Israel	X	X						
Italy	X	X		X		X		
Jamaica	X	X	X	X	X		X	
Japan	X	X		X	X		X	
Jordan			X		X			
Kazakhstan	X	X		X	X	X		
Kenya	X		X	X	X	X	X	
Kuwait		X					X	
Kyrgyz Republic	X		X	X	X	X		
Latvia	X	X		X	X	X		
Lebanon <sup>8</sup>								
Lesotho								
Lithuania	X	X		X	X			
Luxembourg	X			X	X			
Macao								
Macedonia	X	X		X	X		X	X
Madagascar								
Malaysia	X		X	X	X	X		
Malta	X	X		X	X			
Mauritius	X	X	X	X	X			
Mexico	X	X		X	X	X		
Moldova	X		X	X		X		
Mongolia	X	X		X	X		X	X
Morocco		X		X	X	X		
Mozambique		X						
Myanmar								
Namibia								
Nepal		X					X	
Netherlands	X	X		X	X	X		
Netherlands Antilles	X			X				
New Zealand	X	X		X				
Nicaragua								

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	A specific public sector agency regulates securities markets	Securities market law applies to all securities traded in the country	Securities market law applies to securities issued by private firms only	Securities regulator is empowered to license and supervise all stock exchanges	Securities regulator is empowered to license and supervise all private CSDs	Securities regulator shares oversight responsibility with the Central Bank	The stock exchange has been granted the status of SRO	Private CSDs have been granted the status of SRO
Norway	X	X		X	X	X		
Oman	X		X	X	X	X		
Pakistan	X		X	X			X	X
Paraguay								
Peru	X			X	X	X	X	X
Philippines	X	X		X	X	X	X	
Poland	X	X		X	X		X	X
Portugal	X	X		X	X	X	X	X
Qatar	X			X			X	
Romania	X	X	X	X	X	X	X	X <sup>9</sup>
Russia	X	X		X	X			
Rwanda								
San Marino								
Saudi Arabia	X		X	X	X	X		
Serbia	X	X		X		X		
Singapore	X		X	X	X		X	
Slovak Republic		X		X	X	X		
Slovenia	X	X		X	X	X		
Solomon Islands		X	X	X				
South Africa	X	X		X	X		X	X
Spain	X	X		X	X			
Sri Lanka	X			X	X		X	
Sudan								
Swaziland								
Sweden	X	X		X	X	X		
Switzerland	X	X		X	X	X	X	
Taiwan	X		X	X	X	X	X	X
Tajikistan	X	X						
Tanzania	X	X		X		X		
Thailand	X		X	X	X	X	X	X
Trinidad and Tobago	X			X	X	X	X	X
Turkey	X		X	X	X	X		
Uganda								
Ukraine	X	X		X	X	X	X	X
United Arab Emirates								
United Kingdom	X	X		X	X	X		
USA	X		X	X	X	X <sup>10</sup>	X	X
Uruguay	X <sup>11</sup>	X		X				X
Venezuela	X		X	X	X		X	X
Yemen								
Zambia	X		X	X	X		X	
Zimbabwe		X				X		

- 1 Federal and provincial government securities are exempted from only some of the aspects of securities laws.
- 2 A Self-Regulatory Organization was recently created for the whole securities market named AMV.
- 3 The Central bank itself is a securities regulator.

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- 4 Regulation falls within the competence of the Ministry of Finance (securities regulator), while responsibility for licensing and the supervision is borne primarily by the HFSA (supervisory authority). The latter is entitled to license and supervise all stock exchanges.
- 5 The oversight responsibility is borne exclusively by the central bank of Hungary.
- 6 Government Securities: the central banks has the oversight role. Equity Market: the Securities and Exchange Board of India is the authority.
- 7 The CBFSAI has overall responsibility for the regulation and oversight of securities settlement systems, for the supervision of stock exchanges and for the authorization and supervision of their member firms. The Central Bank has responsibility for oversight of securities settlement systems, while the Financial Regulator, as part of its role in supervising stock exchanges and authorizing and supervising their member firms, has responsibility what might be termed the participants in securities settlement systems.
- 8 The Ministry of Finance regulates the Stock Exchange.
- 9 The Bucharest Stock Exchange and the Romanian Central Depository establish and enforce rules of market conduct for members who engage in securities operations and have direct trading access. They also establish trading rules, rules for depository, registry, clearing and settlement services, disciplinary rules and conduct disciplinary proceedings which include fines, suspension, or termination of membership. Before these rules enter into force, should be approved by the Romanian National Securities Commission in case of Bucharest Stock Exchange rules and by Romanian National Securities Commission and National Bank of Romania in case of Central Depository rules, as supervisory authorities.
- 10 Only for the CSD operated by the private-sector.
- 11 Within BCU.

**PAYMENT SYSTEM OVERSIGHT AND COOPERATION**

**Table VII.1  
General issues**

	Central Bank's payment system oversight function established and performed regularly and in an on-going basis	Specific unit or department within the Central Bank responsible for payment system oversight	Payment system oversight segregated from payment system operational tasks through organizational means or independent reporting lines
Afghanistan			
Albania	X	X	X
Algeria	X	X	X
Angola		X	
Argentina	X	X	X
Armenia	X	X <sup>1</sup>	X
Australia	X	X	X
Austria	X	X	X
Azerbaijan	X	X	X
Bahamas			
BCEAO	X	X	X
Belarus	X	X	X
Belgium	X	X	X
Belize			
Bhutan		X	
Bolivia			X
Bosnia - Herzegovina			X
Botswana	X	X	X
Brazil	X	X	
Bulgaria	X	X	X
Cambodia			
Canada	X	X	X
Cape Verde	X	X	
Chile	X	X	X
China	X	X	
Colombia	X		
Costa Rica		X	
Croatia	X		
Cyprus	X	X	X
Czech Republic	X	X	X
DR of Congo	X		
Denmark	X	X	X
Dominican Republic		X	
ECCB	X	X	
Egypt <sup>2</sup>			
El Salvador <sup>3</sup>			X
Estonia	X	X	X
Fiji	X		
Finland	X	X	X
France	X	X	X
Georgia			
Germany	X	X	X
Ghana	X		

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	Central Bank's payment system oversight function established and performed regularly and in an on-going basis	Specific unit or department within the Central Bank responsible for payment system oversight	Payment system oversight segregated from payment system operational tasks through organizational means or independent reporting lines
Greece	X	X	X
Guatemala		X	X
Guyana	X	X	
Honduras			
Hong Kong	X	X	X
Hungary	X	X	X
Iceland	<sup>4</sup>	X	X
India <sup>5</sup>	X	X	
Indonesia	X	X	X
Iran	X	X	X
Ireland	X	X	X
Israel			
Italy	X	X	X
Jamaica	X	X	X
Japan	X	X	
Jordan			
Kazakhstan	X	X	X
Kenya	X	X	X
Kuwait		X	
Kyrgyz Republic	X	X	X
Latvia	X	X	X
Lebanon		X	
Lesotho		X	X
Lithuania	X	X	X
Luxembourg	X	X	X
Macao	X		
Macedonia		X	X
Madagascar			
Malaysia	X	X	X
Malta	X	X	
Mauritius	X	X	X
Mexico	X		X
Moldova	X	X	X <sup>6</sup>
Mongolia		X	
Morocco		X	X
Mozambique	X	X	X
Myanmar	X	X	
Namibia	X	X	X
Nepal		X	
Netherlands	X	X	X
Netherland Antilles	X		X
New Zealand	X		X
Nicaragua			
Norway	X	X	X
Oman	X	X	X
Pakistan	X	X	X
Paraguay			
Peru	X	X	X

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	Central Bank's payment system oversight function established and performed regularly and in an on-going basis	Specific unit or department within the Central Bank responsible for payment system oversight	Payment system oversight segregated from payment system operational tasks through organizational means or independent reporting lines
Philippines	X	X	X
Poland	X	X	X
Portugal	X	X	X
Qatar	X	X	X
Romania	X	X	X
Russia	X	X	X
Rwanda		X	
San Marino	X	X	X
Saudi Arabia	X	X	X
Serbia	X	X	X
Singapore	X	X	X
Slovak Republic	X	X	X
Slovenia	X	X	X
Solomon Islands	X	X	X
South Africa	X	X	X
Spain	X	X	X
Sri Lanka	X	X	X
Sudan	X	X	X
Swaziland			
Sweden	X	X	X
Switzerland	X	X	X
Taiwan	X	X	
Tajikistan	X	X	
Tanzania	X	X	X
Thailand	X	X	X
Trinidad and Tobago		X	X
Turkey			
Uganda	X	X	X
Ukraine	X		
United Arab Emirates	X	X	X
United Kingdom	X	X	X
USA	X	X	X
Uruguay		X <sup>7</sup>	
Venezuela	X	X	
Yemen			
Zambia		X	X
Zimbabwe	X	X	X

- 1 Not the separate unit yet, but planned in near future. Now the oversight task is performed within Payment System Development division, which is also responsible for the methodology in the area of payments and settlements.
- 2 (The oversight function is under establishment within the CBE Payment Systems Department, Answers to following questions are expressions on the expected future work of the department but do not represent the current status).
- 3 The BCR is currently designing its oversight strategy; however, there are some ongoing activities. The following, answer the on-going and expected activities.
- 4 A formal assessment methodology is currently in preparation to be used in regular assessments.
- 5 The Payment System oversight would be formalized on enactment of the Payment and Settlement Systems Bill.
- 6 there is segregation on the level of units (one for operations, other for oversight) inside the same payment system department).
- 7 In progress.

PAYMENT SYSTEM OVERSIGHT AND COOPERATION

Table VII.2  
Objectives of Payment System Oversight

	Central Bank has set down its objectives in carrying out the payment system oversight function in a regulation or policy document	Objectives only include the safety and efficiency of relevant payment systems	Objectives include pursuit of a higher level of competitiveness among system participants, avoid collusive practices, consumer protection, and other specific issues
Afghanistan			
Albania		X	
Algeria	X	X	X
Angola	X		X
Argentina		X	
Armenia	X		X
Australia	X		X
Austria	X	X	
Azerbaijan	X	X	
Bahamas	X		
BCEAO	X	X	
Belarus	X	X	X
Belgium	X	X	
Belize			
Bhutan	X		
Bolivia		X	
Bosnia - Herzegovina		X	
Botswana	X	X	X
Brazil	X		X
Bulgaria	X	X	
Cambodia			
Canada	X	X	
Cape Verde	X		X
Chile	X	X	
China	X	X	
Colombia		X	
Costa Rica		X	
Croatia		X	
Cyprus	X	X	
Czech Republic		X	
DR of Congo		X	
Denmark	X	X	
Dominican Republic	X	X	
ECCB	X		X
Egypt	X		X
El Salvador <sup>1</sup>		X	
Estonia	X		X
Fiji		X	
Finland	X		X
France	X	X	
Georgia			
Germany	X	X	

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	Central Bank has set down its objectives in carrying out the payment system oversight function in a regulation or policy document	Objectives only include the safety and efficiency of relevant payment systems	Objectives include pursuit of a higher level of competitiveness among system participants, avoid collusive practices, consumer protection, and other specific issues
Ghana			X
Greece	X	X	
Guatemala		X	
Guyana	X	X	
Honduras			
Hong Kong	X	X	
Hungary	X	X	
Iceland	X	X	X
India	X	X <sup>2</sup>	<sup>3</sup>
Indonesia	X		X
Iran		X	X
Ireland	X	X	
Israel			
Italy	X		
Jamaica	X		X
Japan	X	X	
Jordan		X	
Kazakhstan	X		X
Kenya	X	X	X
Kuwait		X	
Kyrgyz Republic	X	X	X
Latvia <sup>4</sup>	X		X
Lebanon		X	
Lesotho	X	X	
Lithuania	X	X	
Luxembourg	X		
Macao		X	
Macedonia	X	X	
Madagascar			
Malaysia	X		X
Malta	X	X	
Mauritius			
Mexico			X
Moldova	X	X	
Mongolia	X	X	
Morocco	X	X	
Mozambique		X	
Myanmar	X	X	X
Namibia	X	X	
Nepal	X	X	
Netherlands	X	X	
Netherland Antilles	X		X
New Zealand	X	X	
Nicaragua		X	
Norway	X	X	
Oman	X	X	
Pakistan	X		X

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	Central Bank has set down its objectives in carrying out the payment system oversight function in a regulation or policy document	Objectives only include the safety and efficiency of relevant payment systems	Objectives include pursuit of a higher level of competitiveness among system participants, avoid collusive practices, consumer protection, and other specific issues
Paraguay			
Peru			X <sup>5</sup>
Philippines	X	X	X
Poland	X	X	
Portugal	X		
Qatar	X	X	
Romania	X	X	
Russia	X	X	
Rwanda		X	X
San Marino			
Saudi Arabia	X		
Serbia	X	X	
Singapore	X	X	
Slovak Republic	X		
Slovenia	X	X	
Solomon Islands			
South Africa	X	X	
Spain	X		X
Sri Lanka	X	X	X
Sudan	X	X	X
Swaziland	X	X	
Sweden	X	X	
Switzerland	X	X	
Taiwan	X		X
Tajikistan		X	X
Tanzania	X	X	X
Thailand	X		X
Trinidad and Tobago	X	X	
Turkey		X	
Uganda	X		X
Ukraine		X	
United Arab Emirates	X		X
United Kingdom	X	X	
USA	X	X	
Uruguay			
Venezuela	X		X
Yemen			
Zambia	X		
Zimbabwe	X		X

- 1 The BCR is currently designing its oversight strategy; however, there are some ongoing activities. The following, answer the on-going and expected activities.
- 2 Our objective as indicated in the Vision Document is Triple S + E – Safe, Secure, Sound and Efficient Payment Systems.
- 3 We do not specifically mention these aspects.
- 4 Pursuit of a higher level of competitiveness among system participants, avoiding collusive practices and consumer protection are not within the sphere of competence of Central Bank. However, the objectives of payment system oversight include safety and efficiency of whole payment system, including payment instruments.
- 5 All the indicated except consumer protection.

**PAYMENT SYSTEM OVERSIGHT AND COOPERATION**

**Table VII.3  
Scope of Payment System Oversight**

	Payment system oversight is performed over central bank-operated systems only	Payment system oversight is performed over all systemically important funds transfer systems	PS oversight performed over all systemically important payment systems, including SSS, settlement of FX transactions	PS oversight performed over all relevant payment systems in the country as long as they are operated by commercial banks	PS oversight performed over all relevant payment systems in the country regardless of whom the operator of such systems is
Afghanistan	X			X	
Albania	X	X	X		X
Algeria		X	X	X	X
Angola			X		X
Argentina		X			
Armenia					
Australia		X	X		X
Austria					X
Azerbaijan		X			
Bahamas	X				
BCEAO					X
Belarus					X
Belgium		X	X		X
Belize					
Bhutan				X	
Bolivia		X			
Bosnia - Herzegovina					X
Botswana		X	X		X
Brazil		X	X		X
Bulgaria			X		X
Cambodia					
Canada		X	X		<sup>1</sup>
Cape Verde		X			X
Chile		X			
China	X			X	
Colombia					X
Costa Rica	X				
Croatia		X			
Cyprus					X
Czech Republic					X
DR of Congo	X	X			
Denmark		X	X		
Dominican Republic		X	X		X
ECCB		X			
Egypt		X	X		X
El Salvador <sup>2</sup>		X			
Estonia		X	X		
Fiji	X				
Finland	X	X	X		X
France			X		X
Georgia					

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	Payment system oversight is performed over central bank-operated systems only	Payment system oversight is performed over all systemically important funds transfer systems	PS oversight performed over all systemically important payment systems, including SSS, settlement of FX transactions	PS oversight performed over all relevant payment systems in the country as long as they are operated by commercial banks	PS oversight performed over all relevant payment systems in the country regardless of whom the operator of such systems is
Germany		X			X
Ghana			X		
Greece		X			X
Guatemala <sup>3</sup>	X				X
Guyana	X				
Honduras					
Hong Kong		X	X		X
Hungary			X <sup>4</sup>		
Iceland		X	X		X
India			X <sup>5</sup>		
Indonesia		X	X		X
Iran		X			X
Ireland					X
Israel					
Italy		X			X
Jamaica		X			
Japan		X	X		X
Jordan	X			X	
Kazakhstan		X		X	X
Kenya		X			
Kuwait		X		X	
Kyrgyz Republic		X			X
Latvia		X		X	X
Lebanon	X				
Lesotho		X			
Lithuania		X	X <sup>6</sup>		X
Luxembourg			X		X
Macao	X				
Macedonia				X	
Madagascar					
Malaysia		X	X		X
Malta		X	X		X
Mauritius	X	X	X	X	X
Mexico			X		X
Moldova		X		X	
Mongolia		X		X	
Morocco					X
Mozambique		X	X	X	X
Myanmar	X	X	X	X	
Namibia		X	X		
Nepal	X	X	X		
Netherlands			X		X
Netherland Antilles		X			
New Zealand		X	X		X
Nicaragua					

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	Payment system oversight is performed over central bank-operated systems only	Payment system oversight is performed over all systemically important funds transfer systems	PS oversight performed over all systemically important payment systems, including SSS, settlement of FX transactions	PS oversight performed over all relevant payment systems in the country as long as they are operated by commercial banks	PS oversight performed over all relevant payment systems in the country regardless of whom the operator of such systems is
Norway			X		X
Oman	X	X	X	X	X
Pakistan		X			X
Paraguay					
Peru			X		X
Philippines	X	X	X	X	X
Poland		X			X
Portugal					X
Qatar	X				
Romania		X	X		X
Russia					X
Rwanda		X	X	X	X
San Marino	X				
Saudi Arabia		X			X
Serbia		X	X		X
Singapore					X
Slovak Republic		X			X
Slovenia					X
Solomon Islands	X		X		
South Africa		X			X
Spain		X <sup>7</sup>			X <sup>8</sup>
Sri Lanka		X			X
Sudan	X	X	X	X	X
Swaziland					
Sweden		X	X		X
Switzerland			X		X
Taiwan		X			
Tajikistan				X	
Tanzania		X	X		X
Thailand					X
Trinidad and Tobago		X			X
Turkey		X			
Uganda			X		
Ukraine				X	
United Arab Emirates		X			X
United Kingdom					X
USA		X	X		X <sup>9</sup>
Uruguay					
Venezuela		X	X		X
Yemen					
Zambia					X
Zimbabwe		X	X	X	X

1 Oversight is performed over all national payment systems subject to federal law. Other relevant systems, such as card payment systems, may be relevant and of system-wide (but not systemic) importance but have not been designated for oversight under federal law.

- 2 The BCR is currently designing its oversight strategy; however, there are some ongoing activities. The following, answer the on-going and expected activities.
- 3 Oversight to all the systems that settle its operations in the RTGS.
- 4 Please read: "Payment system oversight is performed over all systemically important payment systems, including securities settlement systems".
- 5 The central bank is the authority for Government securities settlement and Forex.
- 6 The scope of the Central Bank oversight activities does not comprise settlement of FX transactions.
- 7 "Payment system oversight" should be understood in a broad sense; i.e. in the case of Banco de España, the scope of the oversight function also includes any payment system not considered as SIPS, quasi-systems and any other settlement arrangement as correspondent banking. It also includes security of payment instruments.
- 8 "Payment system oversight" should be understood in a broad sense; i.e. in the case of Banco de España, the scope of the oversight function also includes any payment system not considered as SIPS, quasi-systems and any other settlement arrangement as correspondent banking. It includes as well the security of payment instruments.
- 9 Oversight is performed over a system only if it meets certain settlement value thresholds.

**PAYMENT SYSTEM OVERSIGHT AND COOPERATION**

**Table VII.4**  
**Instruments of Payment System Oversight**  
**(see questionnnaire for explanation on rankings)**

	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
Afghanistan	X				X
Albania	X	X	X	X	X
Algeria	X	X	X	X	X
Angola	1	2	1	1	1
Argentina	2	2	2	1	1
Armenia	1	2	1	2	3
Australia	1	1	2	1	3
Austria	1	1	1	1	2
Azerbaijan	1	2	2	3	1
Bahamas	1	1	1	2	1
BCEAO	1	1	1	3	3
Belarus	1	2	1	2	2
Belgium	1	1	2		
Belize					
Bhutan	1	2	1	1	1
Bolivia	1	2	2	3	
Bosnia - Herzegovina		X	X		
Botswana	3	1	2	5	4
Brazil	1	1	1	1	2
Bulgaria	X	X	X		X
Cambodia					
Canada	1	1	1	2 <sup>1</sup>	2 <sup>2</sup>
Cape Verde	3	2	2	2	3
Chile	X	X	X		
China	1	3	1	1	2
Colombia	1	1	1	2	2
Costa Rica	3		1	2	
Croatia	1	2	1	2	2
Cyprus	2	2	1	2	3
Czech Republic	X	X	X		
DR of Congo			X		X
Denmark	1	1	1	3	3
Dominican Republic	1	2	1	1	3
ECCB	1	1	3	2	3
Egypt	X	X	X	X	X
El Salvador <sup>3</sup>	1	1	1	2	3
Estonia	1	3	2		
Fiji	1	1	1	1	1
Finland	1	1	1	3	3
France	1	1	1	3	3
Georgia	2	2	2	2	3
Germany	1	2	3	3	3
Ghana	1	2	1	1	2

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	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
Greece	1	1		2	2
Guatemala	1	3	2	2	3
Guyana	1	2	3	3	3
Honduras					
Hong Kong	1	1	2	1	1
Hungary	1	2	3	1	1
Iceland	1	1	2	1	3
India	2 <sup>4</sup>	1	2	3	3
Indonesia	1	2	3	1	2
Iran			X	X	X
Ireland	1	1	3	3	3
Israel					
Italy	1	1	2	2	
Jamaica	1	1	1	3	3
Japan	1	1	2		
Jordan				X	X
Kazakhstan	1	2	1	1	2
Kenya	1	1	1	1	1
Kuwait	1	1	2	3	1
Kyrgyz Republic	1	1	2	2	3
Latvia	1	1	1	3	3
Lebanon			2		
Lesotho	1	1	1	1	1
Lithuania	1		2		
Luxembourg	1	1	1	3	1
Macao	1				
Macedonia	X	X	X	X	X
Madagascar					
Malaysia	1	2	2	1	1
Malta	1	1	2	2	3
Mauritius	X	X	X	X	X
Mexico	1	2	2	1	3
Moldova	1	1	1	1	1
Mongolia	1	2	2	1	2
Morocco		1	2	3	3
Mozambique	1	1	2	2	2
Myanmar	1			3	2
Namibia	1	3	1	1	2
Nepal	2	3		1	
Netherlands	2	1	2	3	2
Netherland Antilles	2	3	3	1	1
New Zealand		X			
Nicaragua	2		3	1	
Norway	1	1	1	2	3
Oman	2	4		3	1
Pakistan	1	2	1	1	1
Paraguay					
Peru	2	1	2	1	

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	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
Philippines	1	2	2	1	3
Poland	1	2	1	2	
Portugal	1	1	1	1	3
Qatar	1				
Romania	1	1	1	1	1
Russia	1	3	2	2	3
Rwanda	2	1	2	3	3
San Marino	1	1	3	3	
Saudi Arabia	1	2	4	5	3
Serbia	X	X	X	X	X
Singapore	1	1	3	1	1
Slovak Republic	1	1	1	1	
Slovenia	1	1	1	1	
Solomon Islands	1	2	2	3	1
South Africa	X	X	X	X	X
Spain	1	2	1	2	3
Sri Lanka	1	1	1	1	2
Sudan	2	3	1	2	2
Swaziland	1	1	1	1	1
Sweden	3	1	1	3	3
Switzerland	1	1	2	1	3
Taiwan	1	2	3	2	
Tajikistan	X	X	X	X	X
Tanzania	1	2	1	1	1
Thailand	1	2	2	1	2
Trinidad and Tobago	1	1	2	2	3
Turkey	1	1		1	
Uganda	1	2	1	1	1
Ukraine	1		1	2	
United Arab Emirates	3			1	2
United Kingdom	1	1	1		
USA	1	1	3	3	1 <sup>5</sup>
Uruguay					
Venezuela	X	X	X		
Yemen	3	1	1	1	3
Zambia	1	1	1	3	3
Zimbabwe	1	1	2	2	1

**Note:** some countries did not provide a ranking but rather checked the option with an "X".

- 1 Last-resort instrument that is critically important to have but also important not to use frequently.
- 2 Regular Inspection by external auditors that report directly to the Board and to the oversight agency. The power to impose special inspections is more important than the exercise of the power.
- 3 The BCR is currently designing its oversight strategy; however, there are some ongoing activities. The following, answer the on-going and expected systems.
- 4 We do very little monitoring of payment systems.
- 5 Where authorized.

PAYMENT SYSTEM OVERSIGHT AND COOPERATION

Table VII.5  
Cooperation with other relevant Authorities

	There is no significant cooperation with other relevant authorities	Cooperation with other relevant authorities occurs mostly in an informal/ad-hoc basis	Cooperation is ensured through a formal mechanism, such as a Memorandum of Understanding or is required by law	Cooperation involves mostly regular meetings and exchange of opinions and views	Cooperation also involves regular information exchanges, prior notice of regulatory action, joint inspections
Afghanistan					
Albania					
Algeria	X				X
Angola					X
Argentina		X		X	X
Armenia <sup>1</sup>					
Australia			X	X	X
Austria			X		
Azerbaijan				X	X
Bahamas			X		X
BCEAO					X
Belarus				X	X
Belgium			X	X	X
Belize					
Bhutan			X	X	X
Bolivia		X	X		
Bosnia-Herzegovina			X		X
Botswana			X	X	X
Brazil			X	X	
Bulgaria		X			
Cambodia					
Canada			X	X	X
Cape Verde				X	X
Chile			X	X	
China			X	X	
Colombia		X			
Costa Rica	X				
Croatia		X		X	
Cyprus			X	X	
Czech Republic		X			
DR of Congo	X				
Denmark		X	X		
Dominican Republic					X
ECCB		X		X	
Egypt			X		
El Salvador <sup>2</sup>		X		X	X
Estonia			X	X	
Fiji		X			X
Finland			X	X	X
France			X		X
Georgia			X	X	
Germany			X		

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	There is no significant cooperation with other relevant authorities	Cooperation with other relevant authorities occurs mostly in an informal/ad-hoc basis	Cooperation is ensured through a formal mechanism, such as a Memorandum of Understanding or is required by law	Cooperation involves mostly regular meetings and exchange of opinions and views	Cooperation also involves regular information exchanges, prior notice of regulatory action, joint inspections
Ghana					X
Greece		X	X		
Guatemala	X	X			
Guyana		X			
Honduras	X	X			
Hong Kong		X			
Hungary			X		X
Iceland			X	X	X
India		X		X <sup>3</sup>	
Indonesia		X			X
Iran		X			
Ireland		X	X	X	
Israel					
Italy		X	X	X	X
Jamaica				X	
Japan		X			
Jordan					
Kazakhstan		X		X	X
Kenya				X	X
Kuwait		X			
Kyrgyz Republic		X			
Latvia		X	X		X
Lebanon					
Lesotho		X		X	X
Lithuania		X			
Luxembourg		X			
Macao		X			
Macedonia		X			
Madagascar					
Malaysia			X		X
Malta			X		
Mauritius	X	X			
Mexico		X		X	
Moldova				X	
Mongolia		X	X		
Morocco		X			
Mozambique			X	X	X
Myanmar		X	X	X	X
Namibia		X	X		
Nepal			X		
Netherlands			X	X	X
Netherland Antilles	X	X			
New Zealand		X			
Nicaragua	X				
Norway			X		X
Oman	X	X		X	
Pakistan			X		X

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	There is no significant cooperation with other relevant authorities	Cooperation with other relevant authorities occurs mostly in an informal/ad-hoc basis	Cooperation is ensured through a formal mechanism, such as a Memorandum of Understanding or is required by law	Cooperation involves mostly regular meetings and exchange of opinions and views	Cooperation also involves regular information exchanges, prior notice of regulatory action, joint inspections
Paraguay					
Peru			X		
Philippines	X	X		X	
Poland					
Portugal			X	X	
Qatar				X	
Romania			X	X	X
Russia		X			X
Rwanda					X
San Marino			X	X	
Saudi Arabia				X	
Serbia		X		X	X
Singapore		X		X	X
Slovak Republic		X			
Slovenia			X	X	X
Solomon Islands			X	X	X
South Africa		X	X	X	X
Spain			X	X	
Sri Lanka			X	X	X
Sudan			X	X	X
Swaziland		X	X		
Sweden			X	X	
Switzerland			X		X
Taiwan			X	X	X
Tajikistan	X				
Tanzania				X	X
Thailand			X	X	X
Trinidad and Tobago		X			X
Turkey			X	X	X
Uganda			X		
Ukraine			X		
United Arab Emirates		X		X	
United Kingdom				X	X
USA		X	X	X	X
Uruguay					
Venezuela	X	X			
Yemen					
Zambia			X	X	
Zimbabwe		X	X	X	X

- 1 As financial market supervision, securities regulation and payment system oversight are all CBA's functions, there is no formal cooperation among these entities, but anyway the area and forms of CBA cooperation with other entities on the payment system oversight were set out in Oversight Conception.
- 2 The BCR is currently designing its oversight strategy; however, there are some ongoing activities. The following, answer the on-going and expected activities.
- 3 The High Level Coordination Committee of heads of regulatory bodies meeting is the forum.

PAYMENT SYSTEM OVERSIGHT AND COOPERATION

Table VII.6  
Cooperation with other stakeholders

	A formal National Payments Council is in place	Although not formalized, the Central Bank holds regular meetings with stakeholders senior levels to discuss strategic issues for the payment system	Central Bank consults stakeholders on particular operational issues. Sometimes this includes the creation of an ad-hoc task force or working group.	The Central Bank consults stakeholders sporadically and/or mostly on a bilateral basis	The Central Bank consults almost exclusively with the bankers' association
Afghanistan					
Albania	X		X		
Algeria	X	X	X	X	X
Angola	X		X		
Argentina	X		X		
Armenia			X		
Australia		X			
Austria	X	X	X	X	
Azerbaijan	X		X		
Bahamas	X		X		X
BCEAO	X	X	X		
Belarus			X		
Belgium	X	X	X	X	X
Belize					
Bhutan			X	X	
Bolivia					
Bosnia - Herzegovina	X				
Botswana	X	X	X		X
Brazil		X	X	X	
Bulgaria	X		X		
Cambodia					
Canada		X	X	X	
Cape Verde	X		X		
Chile		X	X		
China					
Colombia	X	X	X		
Costa Rica			X		
Croatia	X			X	
Cyprus	X		X		
Czech Republic			X		X
DR of Congo	X	X	X		X
Denmark		X	X		
Dominican Republic	X		X		
ECCB	X	X	X		X
Egypt	X	X	X		
El Salvador <sup>1</sup>		X	X	X	
Estonia	X		X		
Fiji		X	X		X
Finland	X	X	X		
France	X	X	X		
Georgia	X	X	X	X	
Germany		X	X	X	

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	A formal National Payments Council is in place	Although not formalized, the Central Bank holds regular meetings with stakeholders senior levels to discuss strategic issues for the payment system	Central Bank consults stakeholders on particular operational issues. Sometimes this includes the creation of an ad-hoc task force or working group.	The Central Bank consults stakeholders sporadically and/or mostly on a bilateral basis	The Central Bank consults almost exclusively with the bankers' association
Ghana		X	X		
Greece		X			X
Guatemala				X	X
Guyana		X	X		X
Honduras					X
Hong Kong		X		X	
Hungary	X		X		
Iceland	X	X	X		
India	X	X	X		X <sup>2</sup>
Indonesia		X	X		
Iran			X		
Ireland		X	X		X
Israel	<sup>3</sup>	X	X		
Italy	X		X		X
Jamaica	X	X	X		
Japan				X	
Jordan	X	X	X		
Kazakhstan		X	X	X	X
Kenya	X		X		
Kuwait		X	X	X	
Kyrgyz Republic	X	X			
Latvia		X	X	X	
Lebanon		X			X
Lesotho	X		X		
Lithuania		X			
Luxembourg		X	X		
Macao					
Macedonia	X				
Madagascar					
Malaysia			X	X	
Malta		X			X
Mauritius		X	X		
Mexico		X	X		X
Moldova		X	X		
Mongolia			X		
Morocco		X			X
Mozambique	X		X	X	X
Myanmar		X	X	X	X
Namibia	X	X	X		
Nepal		X			X
Netherlands		X	X		
Netherland Antilles			X		
New Zealand					X
Nicaragua					
Norway		X	X		
Oman		X	X		
Pakistan		X	X	X	

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	A formal National Payments Council is in place	Although not formalized, the Central Bank holds regular meetings with stakeholders senior levels to discuss strategic issues for the payment system	Central Bank consults stakeholders on particular operational issues. Sometimes this includes the creation of an ad-hoc task force or working group.	The Central Bank consults stakeholders sporadically and/or mostly on a bilateral basis	The Central Bank consults almost exclusively with the bankers' association
Paraguay					
Peru	X		X		
Philippines			X		X
Poland	X		X		
Portugal	X <sup>4</sup>				
Qatar				X	
Romania		X	X		
Russia		X	X	X	
Rwanda <sup>5</sup>		X	X	X	
San Marino					X
Saudi Arabia		X	X	X	
Serbia		X	X		X
Singapore		X	X	X	
Slovak Republic		X	X		
Slovenia	X	X			
Solomon Islands		X	X	X	X
South Africa	X	X	X		
Spain	X		X		
Sri Lanka	X		X		
Sudan		X	X		X
Swaziland					X
Sweden	X	X	X		
Switzerland	X	X	X		
Taiwan		X	X		
Tajikistan					
Tanzania	X	X	X		
Thailand	X	X	X		
Trinidad and Tobago	X		X		X
Turkey			X		X
Uganda	X		X		
Ukraine		X	X		
United Arab Emirates			X		
United Kingdom	X		X		
USA	<sup>6</sup>	X	X	X	
Uruguay					
Venezuela		X	X		
Yemen		X			
Zambia	X		X		
Zimbabwe	X	X	X		

- 1 The BCR is currently designing its oversight strategy; however, there are some ongoing activities. The following, answer the on-going and expected activities.
- 2 We consult IBA on important payment systems issues from time to time i.e. NPCI, domestic bank car network, customer service issues, Payment and Settlement Systems Bill.
- 3 The rules and procedures of ZAHAV system set a National Payments Council, this was not implemented yet.
- 4 CISP consists of the Central Banks, commercial banks, interbank services provider and the Portuguese Banking Association.
- 5 The National Payments Council is in the process of being formed.

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- 6 Although a formal National Payments Council does not exist in the United States, the Federal Reserve does consult regularly with participants in the payment system through a variety of standing and ad hoc advisory committees and industry groups.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.1**  
**What elements of the national payments system are being reformed?**

	Legal and Regulatory Framework	Large-value funds transfer systems	Retail payment systems	Securities settlement systems	FX settlement mechanisms	Other
Afghanistan						
Albania	X	X	X	X		X
Algeria	X	X	X	X		X
Angola			X			X
Argentina	X	X	X			X
Armenia <sup>1</sup>			X	X	X	
Australia			X			
Austria		X	X			
Azerbaijan	X	X	X			X
Bahamas	X	X	X	X		X
BCEAO	X			X		X
Belarus	X	X	X	X		
Belgium	X	X				
Belize	X	X	X			
Bhutan	X		X	X	X	X
Bolivia	X					
Bosnia - Herzegovina				X		
Botswana	X	X	X	X	X	X
Brazil			X			
Bulgaria	X	X	X	X	X	X
Cambodia			X			
Canada <sup>2</sup>			X			
Cape Verde	X	X	X	X		
Chile				X		
China	X	X			X	
Colombia	X		X		X	
Costa Rica				X	X	
Croatia	X					X <sup>3</sup>
Cyprus						
Czech Republic						
DR of Congo	X	X	X	X	X	X
Denmark						
Dominican Republic	X	X	X	X	X	X
ECCB	X	X	X	X		X
Egypt	X	X	X	X	X	X
El Salvador	X	X		X		X
Estonia		X				
Fiji		X				
Finland	X	X	X	X		
France	X	X	X	X		
Georgia	X	X	X	X		
Germany	X	X	X			
Ghana	X		X	X	X	
Greece		X	X			

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	Legal and Regulatory Framework	Large-value funds transfer systems	Retail payment systems	Securities settlement systems	FX settlement mechanisms	Other
Guatemala	X		X	X		
Guyana		X				
Honduras	X	X	X	X		X
Hong Kong		X		X		
Hungary	X		X			
Iceland	X <sup>4</sup>		X <sup>5</sup>	X <sup>6</sup>		
India	X	X	X	X	X	X
Indonesia	X	X			X	X
Iran		X	X			
Ireland	X	X	X	X		X
Israel			X			X <sup>7</sup>
Italy		X	X	X		
Jamaica	X	X	X	X	X	X
Japan	X	X		X		
Jordan			X			
Kazakhstan	X					X
Kenya	X		X	X		X
Kuwait	X	X	X		X	
Kyrgyz Republic	X	X	X	X		X
Latvia	X	X	X	X		
Lebanon	X	X	X	X		
Lesotho	X		X			X
Lithuania						
Luxembourg	X	X	X	X		
Macao	X	X				
Macedonia	X					
Madagascar	X	X	X	X		
Malaysia			X	X		
Malta	X	X	X	X		
Mauritius	X		X			X
Mexico				X	X	X
Moldova						
Mongolia	X	X	X	X	X	
Morocco	X			X		X
Mozambique	X	X	X	X	X	X
Myanmar						
Namibia	X		X	X		X
Nepal	X					
Netherlands	X	X	X	X		
Netherlands Antilles	X	X	X			X
New Zealand						
Nicaragua	X	X				
Norway		X	X	X		
Oman	X	X	X	X	X	X
Pakistan	X	X	X	X	X	X
Paraguay	X	X		X		
Peru	X	X		X		X
Philippines	X	X	X	X		X
Poland						

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	Legal and Regulatory Framework	Large-value funds transfer systems	Retail payment systems	Securities settlement systems	FX settlement mechanisms	Other
Portugal		X <sup>8</sup>	X <sup>9</sup>	X <sup>10</sup>		
Qatar						
Romania						
Russia	X	X	X			X
Rwanda	X	X	X	X		X
San Marino	X		X			
Saudi Arabia		X	X			
Serbia					X	
Singapore			X			X
Slovak Republic	X	X	X	X		
Slovenia						
Solomon Islands						
South Africa						
Spain <sup>11</sup>						
Sri Lanka	X		X			
Sudan	X	X	X	X	X	X
Swaziland	X	X	X			X
Sweden <sup>12</sup>		X				
Switzerland	X			X		
Taiwan	X	X		X		X
Tajikistan	X		X			
Tanzania						
Thailand	X		X		X	X
Trinidad and Tobago	X					X
Turkey	X		X			X
Uganda <sup>13</sup>	X	X	X			X
Ukraine		X	X			
United Arab Emirates		X	X	X		
United Kingdom			X			
USA						
Uruguay	X	X	X	X	X	X
Venezuela	X	X				
Yemen						
Zambia			X	X		X
Zimbabwe	X	X	X	X	X	X

- 1 Maybe it is not so major improvement or reform, but STP feature and guarantee fund mechanism in Stock Exchange for government and corporate securities are being discussed.
- 2 Maybe it is not so major improvement or reform, but STP feature and guarantee fund mechanism in Stock Exchange for government and corporate securities are being discussed.
- 3 Fully equipped alternate processing site for Large-value funds transfer systems.
- 4 New regulations for payment systems released in April 2007.
- 5 Changed in April 2007 from being bilateral to multilateral- improved statistics from the system: new locking mechanism in the system.
- 6 New European settlement feature.
- 7 CLS
- 8 TARGET 2.
- 9 SEPA.
- 10 TARGET 2 Securities.
- 11 Spain has recently finished its payment system's reform. For further information, please visit our Website at <http://www.bde.es/sispago/sprefe.htm>. However, three major projects are tanking place at European level: TARGET2 system in the field of large value payment systems; SEPA for retail payment systems and TARGET2 Securities in the securities field. Here again, further information can be found at <http://www.bde.es/sispago/spcadee.htm>.

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- 12 A new RTGS system will be implemented in October 2007.
- 13 In (b), please note that although the RTGS system was implemented in 2005, a major project is underway to leverage the safety and efficiency features of the RTGS system to streamline the both the Government payment and revenue processes. In this ongoing project, all Government payments will only be made through the RTGS and Electronic Fund Transfer (EFT) systems. All or most of the taxes and other forms of Government revenue will be collected through the RTGS system. The project involves connecting the Ministry of Finance through SWIFT to the RTGS system and being able to initiate RTGS and EFT payments through the SWIFT Network. The tax/revenue collection agency (Uganda Revenue Authority) will also have online and real-time access to tax and revenue collection, and it is anticipated that through linkage and integration to the back office systems, service delivery of the revenue collection agency is expected to improve. The new system is also expected to eliminate the large Government cheque float, and the attendant design, printing, transportation, personalization, storage, processing and the various risk costs associated with cheque payment processes.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.2**  
**What elements triggered the planned or on-going reform?**

	Need to reduce systemic risk	Need to improve the overall efficiency of the payment system	Demands from the market for better payment and settlement services	Demands from end-users for better payment and settlement services	Demands from government institutions for better payment services	Response to technological innovations	Other
Afghanistan							
Albania		X			X		
Algeria	X	X	X	X			
Angola		X		X			
Argentina	X	X	X		X	X	
Armenia		X	X				X
Australia		X					
Austria	X	X				X	
Azerbaijan	X	X				X	
Bahamas	X	X	X	X	X	X	
BCEAO	X	X	X	X	X		
Belarus	X	X	X	X	X	X	
Belgium		X	X				
Belize	X	X					
Bhutan	X	X	X	X	X	X	
Bolivia	X	X	X				
Bosnia-Herzegovina							X
Botswana	X	X	X	X	X	X	
Brazil		X		X	X		
Bulgaria							<sup>1</sup>
Cambodia	X	X	X				
Canada	X	X				X	X <sup>2</sup>
Cape Verde	X	X				X	
Chile	X	X					
China		X	X	X			
Colombia	X	X	X	X	X	X	
Costa Rica	X		X				
Croatia	X	X	X	X	X	X	
Cyprus							
Czech Republic							
DR of Congo			X				
Denmark							
Dominican Republic	X	X	X			X	
ECCB	X	X	X	X		X	
Egypt	X	X				X	X <sup>3</sup>
El Salvador	X	X	X	X	X		
Estonia							
Fiji	X	X	X			X	
Finland		X	X				X <sup>4</sup>
France		X	X	X		X	
Georgia	X	X	X	X	X	X	
Germany		X	X		X <sup>5</sup>	X	

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	Need to reduce systemic risk	Need to improve the overall efficiency of the payment system	Demands from the market for better payment and settlement services	Demands from end-users for better payment and settlement services	Demands from government institutions for better payment services	Response to technological innovations	Other
Ghana	X	X				X	
Greece	X	X	X	X			
Guatemala	X	X			X	X	
Guyana	X	X					
Honduras	X	X				X	
Hong Kong	X	X	X		X	X	
Hungary		X		X		X	
Iceland	X	X	X			X	
India	X	X	X	X	X	X	X
Indonesia	X	X	X	X	X	X	
Iran		X	X	X			
Ireland		X				X	X <sup>6</sup>
Israel	X	X	X			X	X <sup>7</sup>
Italy		X	X	X		X	X <sup>8</sup>
Jamaica	X	X	X	X	X	X	
Japan	X	X	X			X	
Jordan		X					
Kazakhstan		X				X	
Kenya	X	X	X		X	X	X
Kuwait	X	X	X	X	X	X	
Kyrgyz Republic	X	X	X	X	X	X	
Latvia							X
Lebanon	X	X	X				
Lesotho	X	X					
Lithuania							
Luxembourg			X			X	X
Macao	X	X	X				
Macedonia	X	X	X	X	X	X	X
Madagascar	X	X	X				
Malaysia	X	X	X			X	
Malta		X	X				X
Mauritius	X	X	X			X	
Mexico	X	X	X				X <sup>9</sup>
Moldova							X <sup>10</sup>
Mongolia	X	X					
Morocco		X	X			X	
Mozambique	X	X	X	X	X	X	X
Myanmar							
Namibia	X	X					
Nepal		X					
Netherlands		X	X		X	X	
Netherlands Antilles	X	X	X			X	
New Zealand							
Nicaragua		X			X		
Norway						X	X
Oman	X	X	X			X	
Pakistan	X	X	X		X	X	

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	Need to reduce systemic risk	Need to improve the overall efficiency of the payment system	Demands from the market for better payment and settlement services	Demands from end-users for better payment and settlement services	Demands from government institutions for better payment services	Response to technological innovations	Other
Paraguay	X	X	X	X	X	X	
Peru	X	X					
Philippines	X	X	X	X			
Poland							
Portugal			X	X	X		
Qatar							
Romania							
Russia	X	X	X	X		X	
Rwanda	X	X	X	X	X	X	
San Marino	X	X					
Saudi Arabia	X	X	X	X		X	
Serbia		X		X			
Singapore	X	X	X		X	X	
Slovak Republic							X <sup>11</sup>
Slovenia							
Solomon Islands							
South Africa							
Spain							
Sri Lanka	X	X	X	X			
Sudan	X	X		X	X	X	
Swaziland	X	X				X	
Sweden		X				X	
Switzerland		X					X <sup>12</sup>
Taiwan	X	X					
Tajikistan		X	X	X		X	
Tanzania							
Thailand		X	X	X		X	
Trinidad and Tobago	X	X					X <sup>13</sup>
Turkey		X	X	X		X	
Uganda	X	X	X	X	X		
Ukraine		X				X	
United Arab Emirates	X	X	X		X	X	
United Kingdom				X	X		
USA							
Uruguay	X	X	X				
Venezuela	X	X	X			X	
Yemen							
Zambia	X	X		X			
Zimbabwe	X	X	X	X	X	X	

- 1 Participation in the EMU.
- 2 Global trends.
- 3 An overall banking and financial sectors reform: i) The need to build the infrastructure for payment clearing and settlement systems to develop the investment and market stability; ii) the need to catch up with developments in Payment systems that is happening in other countries (reducing the gap); iii) acting as catalyst for change, Central Bank of Egypt is supporting commercial banks to provide better payment systems to end-users.
- 4 Establishment of the Single Euro Payments Area within the EU entails restructuring of retail payment systems in all EU countries, with the aim of cross-border consolidation of infrastructures for efficiency gains.

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- Euro system central banks are planning a centralized securities settlement platform for the whole Euro-area (s.c. TARGET2 for Securities), which may affect also the national CSDs/SSSs.
- 5 In Europe: SEPA as result of the Single Market Project and the introduction of the euro in Europe.
  - 6 ECB/EU Commissions SEPA initiative.
  - 7 CLS, World Bank Assessment.
  - 8 Participation to the future TARGET2 system & SEPA.
  - 9 The need to reduce operational risk in the securities settlement system.
  - 10 In order to organize the secondary market for government securities with maturities > 1year through Stock Exchange, the National Depository will become Participant in Book-entry System of the National Bank of Moldova.
  - 11 Preparation for Euro currency adoption on 1 January 2009 and connection to TARGET2.
  - 12 Market and government driven.
  - 13 WHPI Task force recommendations.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.3**  
**Approach followed in the latest reform effort**

	Broad/Holistic	System-specific	"Big bang" approach	Gradualist	Strategic (goal-based)	Starting from the operational particularities in the country
Afghanistan						
Albania		X		X		
Algeria		X	X		X	
Angola	X		X			X
Argentina	X			X	X	
Armenia				X		
Australia	X			X	X	
Austria	X			X	X	
Azerbaijan	X				X	
Bahamas	X	X		X		
BCEAO	X		X	X		
Belarus		X		X	X	
Belgium		X		X	X	
Belize				X		
Bhutan					X	
Bolivia					X	
Bosnia - Herzegovina					X	
Botswana	X					X
Brazil		X		X	X	
Bulgaria					X	
Cambodia						
Canada		X		X		X
Cape Verde					X	
Chile		X		X	X	
China				X		
Colombia	X			X	X	
Costa Rica					X	
Croatia						
Cyprus						
Czech Republic						
DR of Congo						X
Denmark						
Dominican Republic	X			X	X	
ECCB	X			X	X	
Egypt		X		X	X	
El Salvador	X			X	X	
Estonia	X		X		X	
Fiji				X	X	
Finland		X		X	X	
France				X	X	
Georgia	X			X		X
Germany		X	X		X	

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	Broad/Holistic	System-specific	"Big bang" approach	Gradualist	Strategic (goal-based)	Starting from the operational particularities in the country
Ghana		X			X	
Greece		X	X		X	
Guatemala		X		X		X
Guyana	X			X		X
Honduras	X			X	X	
Hong Kong		X	X		X	
Hungary	X			X	X	
Iceland					X	
India	X			X	X	
Indonesia		X		X	X	
Iran	X					
Ireland	X			X	X	
Israel	X					
Italy		X		X	X	
Jamaica	X				X	
Japan		X		X	X	
Jordan						
Kazakhstan		X				
Kenya		X			X	
Kuwait		X		X		X
Kyrgyz Republic	X	X		X	X	X
Latvia		X	X		X	
Lebanon		X		X		X
Lesotho	X				X	
Lithuania		X		X		X
Luxembourg		X	X		X	
Macao						
Macedonia					X	
Madagascar		X		X	X	
Malaysia			X			
Malta	X		X		X	
Mauritius					X	
Mexico		X		X	X	
Moldova					X	
Mongolia					X	X
Morocco					X	
Mozambique	X				X	
Myanmar		X		X		X
Namibia	X			X	X	
Nepal					X	
Netherlands						
Netherlands Antilles	X					
New Zealand						
Nicaragua						X
Norway		X	X		X	
Oman	X			X	X	
Pakistan	X				X	

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	Broad/Holistic	System-specific	“Big bang” approach	Gradualist	Strategic (goal-based)	Starting from the operational particularities in the country
Paraguay		X		X	X	
Peru					X	
Philippines		X		X		X
Poland		X		X		X
Portugal					X	
Qatar		X		X		X
Romania						
Russia	X			X	X	
Rwanda					X	
San Marino						
Saudi Arabia		X			X	X
Serbia	X		X		X	
Singapore	X		X			
Slovak Republic		X			X	
Slovenia						
Solomon Islands						
South Africa						
Spain	X			X	X	
Sri Lanka	X		X		X	
Sudan	X		X		X	
Swaziland		X			X	
Sweden		X				X
Switzerland	X				X	
Taiwan		X			X	
Tajikistan						
Tanzania		X		X		
Thailand		X	X		X	X
Trinidad and Tobago	X					
Turkey		X		X	X	
Uganda	X				X	
Ukraine		X		X		
United Arab Emirates						X
United Kingdom		X		X	X	X
USA						
Uruguay		X				
Venezuela				X	X	
Yemen						
Zambia		X		X	X	
Zimbabwe <sup>1</sup>	X		X	X	X	

1 However, a combination of approaches is sometimes used depending on the situation at hand.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.1  
Current status of the reform process - Legal Framework**

	Conceptual Stage	Requirements of law have been defined	Draft Law under Development	Implementation
Afghanistan				
Albania			X	
Algeria				X
Angola				
Argentina		X		
Armenia				
Australia				X
Austria				
Azerbaijan			X	
Bahamas		X		
BCEAO				
Belarus				X
Belgium				X
Belize	X			
Bhutan	X			
Bolivia	X			
Bosnia and Herzegovina				
Botswana				X
Brazil	X			
Bulgaria				X
Cambodia				
Canada		X		X
Cape Verde		X		
Chile				
China		X		
Colombia				X
Costa Rica			X	
Croatia		X		
Cyprus				
Czech Republic				
DR of Congo	X			
Denmark				
Dominican Republic				X
ECCB				X
Egypt		X		
El Salvador	X	X		X
Estonia			X	X
Fiji	X			
Finland		X		
France	X			
Georgia	X			
Germany				X
Ghana		X		
Greece				

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	Conceptual Stage	Requirements of law have been defined	Draft Law under Development	Implementation
Guatemala				X
Guyana				
Honduras		X		
Hong Kong				
Hungary				
Iceland				X
India				X <sup>1</sup>
Indonesia		X		
Iran				
Ireland			X	
Israel				X
Italy				
Jamaica		X		
Japan	X			
Jordan				
Kazakhstan		X		
Kenya		X		
Kuwait	X			
Kyrgyz Republic			X	X
Latvia				X
Lebanon	X			
Lesotho				X
Lithuania				
Luxembourg				X
Macao	X			
Macedonia		X		
Madagascar		X		
Malaysia				
Malta				
Mauritius				
Mexico				
Moldova	X			
Mongolia			X	
Morocco		X		
Mozambique				X
Myanmar				
Namibia				X
Nepal	X			
Netherlands				X
Netherlands Antilles			X	
New Zealand				
Nicaragua	X			
Norway				
Oman		X		
Pakistan				X
Paraguay	X			
Peru		X		
Philippines	X			
Poland				

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	Conceptual Stage	Requirements of law have been defined	Draft Law under Development	Implementation
Portugal				
Qatar				
Romania	X	X		
Russia		X		
Rwanda		X		
San Marino				
Saudi Arabia				
Serbia				
Singapore	X			
Slovak Republic				
Slovenia				
Solomon Islands				
South Africa				X
Spain				X
Sri Lanka				X
Sudan				X <sup>2</sup>
Swaziland				
Sweden				X
Switzerland				X
Taiwan				
Tajikistan				X
Tanzania			X	
Thailand		X		
Trinidad and Tobago		X		
Turkey				X <sup>3</sup>
Uganda				
Ukraine				
United Arab Emirates				
United Kingdom	X			
USA				
Uruguay				
Venezuela				
Yemen				X
Zambia				
Zimbabwe				

- 1 The Payment and settlement Systems Bill has been drafted and would be placed in the Parliament.
- 2 New securities law.
- 3 Several draft laws including the National Payment System Law are ready and are due for discussion by Parliament.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.2.1  
Current status of the reform process – RTGS system**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania		X			
Algeria					X
Angola					
Argentina		X			
Armenia					
Australia					X
Austria			X		
Azerbaijan					X
Bahamas					X
BCEAO					
Belarus					X
Belgium					X <sup>1</sup>
Belize	X				
Bhutan					
Bolivia					
Bosnia - Herzegovina					
Botswana					X
Brazil					
Bulgaria		X			
Cambodia					
Canada					
Cape Verde	X				
Chile					
China	X				
Colombia					X
Costa Rica					
Croatia					
Cyprus					
Czech Republic					
DR of Congo	X				
Denmark					
Dominican Republic					X
ECCB					X
Egypt					X
El Salvador	X	X		X	
Estonia			X		X
Fiji					X
Finland			X		
France	X	X	X		
Georgia		X			
Germany					X
Ghana					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece			X		
Guatemala					X
Guyana					
Honduras		X			
Hong Kong			X		
Hungary					
Iceland					
India					X <sup>2</sup>
Indonesia		X			
Iran					X
Ireland			X		
Israel					X
Italy			X		
Jamaica		X		X	
Japan	X	X	X		
Jordan					
Kazakhstan					
Kenya					X
Kuwait					X
Kyrgyz Republic				X	
Latvia					X
Lebanon	X				
Lesotho					X
Lithuania					
Luxembourg					X
Macao			X		
Macedonia					
Madagascar				X	
Malaysia		X			
Malta					
Mauritius					
Mexico					
Moldova					
Mongolia		X			
Morocco					X
Mozambique	X				
Myanmar					
Namibia					
Nepal	X				
Netherlands					X
Netherlands Antilles			X		
New Zealand					
Nicaragua			X		X
Norway				X	
Oman					X
Pakistan					X
Paraguay	X				
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines	X				
Poland					
Portugal		X			
Qatar					X
Romania					
Russia		X	X		X
Rwanda	X				
San Marino					
Saudi Arabia					X
Serbia					
Singapore					
Slovak Republic	X				
Slovenia					
Solomon Islands					
South Africa					
Spain					X
Sri Lanka					
Sudan		X			
Swaziland					X
Sweden					X
Switzerland					
Taiwan					X
Tajikistan					
Tanzania					X
Thailand					
Trinidad and Tobago					X
Turkey					
Uganda		X			
Ukraine					
United Arab Emirates					
United Kingdom					
USA					
Uruguay				X	
Venezuela		X	X		
Yemen					
Zambia					X
Zimbabwe					

- 1 TARGET2 implementation starts from 19November 2007. Belgium is part of the second migration wave and will migrate on 18 February 2008.
- 2 Implemented.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.2.2**  
**Current status of the reform process – Other Large-Value System**

	Conceptual Stage	Requirements/ functionalities have been defined	Development ( <i>for systems being developed in- house</i> )	Procurement ( <i>systems being purchased from vendors</i> )	Implementation
Afghanistan					
Albania					
Algeria					
Angola					
Argentina					
Armenia					
Australia					
Austria					
Azerbaijan					
Bahamas					
BCEAO					
Belarus					
Belgium					
Belize					
Bhutan					
Bolivia					
Bosnia-Herzegovina					
Botswana					X
Brazil					
Bulgaria					
Cambodia					
Canada					
Cape Verde					
Chile					
China					
Colombia					
Costa Rica					
Croatia					X <sup>1</sup>
Cyprus					
Czech Republic					
DR of Congo					
Denmark					
Dominican Republic					
ECCB					
Egypt					
El Salvador					
Estonia					
Fiji					
Finland					
France					
Georgia					
Germany					
Ghana					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in- house)	Procurement (systems being purchased from vendors)	Implementation
Greece					
Guatemala					
Guyana					
Honduras					
Hong Kong					
Hungary					
Iceland					
India					
Indonesia					
Iran					
Ireland					
Israel					
Italy					
Jamaica					
Japan					
Jordan					
Kazakhstan					
Kenya		X <sup>2</sup>			
Kuwait					
Kyrgyz Republic					
Latvia					
Lebanon					
Lesotho					
Lithuania					
Luxembourg					
Macao					
Macedonia					
Madagascar					
Malaysia					
Malta				X <sup>3</sup>	
Mauritius					
Mexico					
Moldova					
Mongolia					
Morocco					
Mozambique					X
Myanmar					
Namibia					
Nepal					
Netherlands					
Netherlands Antilles					
New Zealand					
Nicaragua					
Norway					
Oman					
Pakistan					
Paraguay					
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in- house)	Procurement (systems being purchased from vendors)	Implementation
Philippines					
Poland					
Portugal					
Qatar					
Romania					
Russia					
Rwanda					
San Marino					
Saudi Arabia					
Serbia					
Singapore					
Slovak Republic					
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan					
Swaziland					
Sweden					
Switzerland					
Taiwan					X <sup>4</sup>
Tajikistan					
Tanzania					X
Thailand					
Trinidad and Tobago					
Turkey		X			
Uganda					
Ukraine					
United Arab Emirates					
United Kingdom					
USA					
Uruguay					
Venezuela					
Yemen					
Zambia					
Zimbabwe					

- 1 Fully equipped alternate processing site for Large-value funds transfer systems.
- 2 Cross-border RTGS Linkage.
- 3 Accounting system.
- 4 Systems integration.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.2.3  
Current status of the reform process - ACH**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania		X			
Algeria					X
Angola	X				
Argentina	X				
Armenia					
Australia					X
Austria					X
Azerbaijan					X
Bahamas				X	
BCEAO					
Belarus					
Belgium					
Belize	X				
Bhutan					
Bolivia					
Bosnia - Herzegovina					
Botswana					X
Brazil	X				
Bulgaria	X				
Cambodia					
Canada					
Cape Verde	X				
Chile					
China					
Colombia					X
Costa Rica					
Croatia					
Cyprus					
Czech Republic					
DR of Congo					
Denmark					
Dominican Republic					
ECCB		X			
Egypt					
El Salvador	X	X			
Estonia					
Fiji	X				
Finland					
France	X	X	X		
Georgia		X			
Germany					
Ghana			X		

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece			X		
Guatemala				X	
Guyana					
Honduras					X
Hong Kong					
Hungary	X				
Iceland					
India	X <sup>1</sup>				
Indonesia					
Iran		X			
Ireland		X			
Israel					X <sup>2</sup>
Italy		X			
Jamaica					X
Japan					
Jordan					
Kazakhstan					
Kenya					
Kuwait		X			
Kyrgyz Republic					X
Latvia			X		
Lebanon	X				
Lesotho	X				
Lithuania					
Luxembourg					X
Macao					
Macedonia					
Madagascar				X	
Malaysia					
Malta					
Mauritius					
Mexico					
Moldova					
Mongolia			X		
Morocco					X
Mozambique					X
Myanmar					
Namibia					
Nepal	X				
Netherlands					
Netherlands Antilles			X		
New Zealand					
Nicaragua					
Norway	X				
Oman					X
Pakistan	X				
Paraguay					
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines	X				
Poland					
Portugal					
Qatar					
Romania					
Russia					
Rwanda	X				
San Marino					
Saudi Arabia					
Serbia					
Singapore					
Slovak Republic		X			
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan					X
Swaziland					
Sweden					
Switzerland					
Taiwan					
Tajikistan					
Tanzania					X
Thailand					X
Trinidad and Tobago					X
Turkey					
Uganda					
Ukraine					
United Arab Emirates					
United Kingdom			X		
USA					
Uruguay		X			
Venezuela					
Yemen					
Zambia					X
Zimbabwe	X				

- 1 The plan is to integrate the ACH system now being operated at 67 centre's into a single ACH with jurisdiction all over the country.
- 2 Changes were made, not a new development.

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**Table VIII.4.2.4  
Current status of the reform process - Cheque Clearing**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania					
Algeria					
Angola	X				
Argentina	X				
Armenia					
Australia					X
Austria					
Azerbaijan					
Bahamas		X		X	
BCEAO					
Belarus					
Belgium					
Belize	X				
Bhutan					X
Bolivia					
Bosnia - Herzegovina					
Botswana					X
Brazil	X				
Bulgaria					
Cambodia	X				
Canada		X	X		
Cape Verde		X			
Chile					
China					
Colombia					X
Costa Rica					
Croatia					
Cyprus					
Czech Republic					
DR of Congo	X				
Denmark					
Dominican Republic					X
ECCB		X			
Egypt					
El Salvador	X	X			X
Estonia					
Fiji		X			
Finland					
France					
Georgia					
Germany					
Ghana			X		

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece					
Guatemala					X
Guyana		X	X	X	
Honduras					X
Hong Kong					
Hungary					
Iceland					
India					X <sup>1</sup>
Indonesia					
Iran					
Ireland		X			
Israel			X <sup>2</sup>		
Italy					
Jamaica					X
Japan					
Jordan				X	X
Kazakhstan					
Kenya		X			
Kuwait			X		
Kyrgyz Republic					
Latvia					
Lebanon	X				
Lesotho					X
Lithuania					
Luxembourg					
Macao					
Macedonia					
Madagascar				X	
Malaysia		X			
Malta					
Mauritius	X				
Mexico					
Moldova					
Mongolia	X				
Morocco					X
Mozambique					X
Myanmar					
Namibia					
Nepal					
Netherlands					
Netherlands Antilles			X		
New Zealand					
Nicaragua					
Norway					
Oman					X
Pakistan	X				
Paraguay					
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines	X				
Poland					
Portugal					
Qatar					
Romania					
Russia					
Rwanda	X				
San Marino		X			
Saudi Arabia					X
Serbia					
Singapore					
Slovak Republic					
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan					X
Swaziland					
Sweden					
Switzerland					
Taiwan					
Tajikistan					
Tanzania					X
Thailand	X <sup>3</sup>				
Trinidad and Tobago					
Turkey					
Uganda					X <sup>4</sup>
Ukraine					
United Arab Emirates					
United Kingdom					
USA					
Uruguay		X			
Venezuela					
Yemen					
Zambia					X
Zimbabwe					

- 1 Cheque truncation planned to go live in New Delhi shortly.
- 2 Changing's in the existing system.
- 3 Reform truncation.
- 4 To improve efficiency and strengthen risk management in the national payment system, cheque amounts are to be capped at about US\$ 11,000 with effect from July 2007.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.2.5  
Current status of the reform process - Payment Card Systems**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania					
Algeria					
Angola					
Argentina					
Armenia					
Australia					X
Austria					
Azerbaijan					X
Bahamas		X			
BCEAO			X		
Belarus					X
Belgium					
Belize	X				
Bhutan					
Bolivia					
Bosnia - Herzegovina					
Botswana					
Brazil	X				
Bulgaria	X				
Cambodia					
Canada		X	X		
Cape Verde		X			
Chile					
China					
Colombia					X
Costa Rica					
Croatia					
Cyprus					
Czech Republic					
DR of Congo	X				
Denmark					
Dominican Republic					X
ECCB		X			
Egypt					
El Salvador					
Estonia					
Fiji	X				
Finland					
France					
Georgia			X		
Germany					
Ghana			X		

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece					
Guatemala					X
Guyana					
Honduras					
Hong Kong					
Hungary					
Iceland					
India					X <sup>1</sup>
Indonesia					
Iran					
Ireland		X			
Israel					
Italy					
Jamaica					X
Japan					
Jordan					
Kazakhstan					
Kenya					
Kuwait					
Kyrgyz Republic					X
Latvia					
Lebanon		X			
Lesotho	X				
Lithuania					
Luxembourg					
Macao	X				
Macedonia					
Madagascar					
Malaysia					
Malta					
Mauritius					
Mexico					
Moldova					
Mongolia			X		
Morocco					X
Mozambique					X
Myanmar					
Namibia					X
Nepal					
Netherlands					
Netherlands Antilles					
New Zealand					
Nicaragua					
Norway					
Oman					X
Pakistan	X				
Paraguay					
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines					
Poland					
Portugal	X				
Qatar					
Romania					
Russia	X				
Rwanda					X
San Marino					
Saudi Arabia					X
Serbia					
Singapore					
Slovak Republic		X			
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan					X
Swaziland	X				
Sweden					
Switzerland					
Taiwan					
Tajikistan					
Tanzania					X
Thailand					
Trinidad and Tobago					
Turkey					
Uganda					
Ukraine					
United Arab Emirates					
United Kingdom					
USA					
Uruguay	X				
Venezuela					
Yemen					
Zambia					X
Zimbabwe					

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.2.6**  
**Current status of the reform process – Other Retail System**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania					
Algeria					
Angola					
Argentina					
Armenia					
Australia					
Austria					
Azerbaijan					
Bahamas					
BCEAO					
Belarus					
Belgium					
Belize					
Bhutan					
Bolivia					
Bosnia - Herzegovina					
Botswana					
Brazil					
Bulgaria					
Cambodia					
Canada					
Cape Verde					
Chile					
China					
Colombia					
Costa Rica					
Croatia					
Cyprus					
Czech Republic					
DR of Congo					
Denmark					
Dominican Republic					
ECCB					
Egypt					
El Salvador					
Estonia					
Fiji					
Finland	X				
France					
Georgia					
Germany					X
Ghana					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece					
Guatemala					
Guyana					
Honduras					
Hong Kong					
Hungary					
Iceland					
India					X <sup>1</sup>
Indonesia					
Iran					
Ireland					
Israel					
Italy					
Jamaica					
Japan					
Jordan					
Kazakhstan					
Kenya					
Kuwait					
Kyrgyz Republic					
Latvia					
Lebanon					
Lesotho					
Lithuania					
Luxembourg					
Macao					
Macedonia					
Madagascar					
Malaysia					
Malta					
Mauritius					
Mexico					
Moldova					
Mongolia					
Morocco					X
Mozambique					X
Myanmar					
Namibia					
Nepal					
Netherlands					
Netherlands Antilles					
New Zealand					
Nicaragua					
Norway					
Oman		X <sup>2</sup>			
Pakistan					
Paraguay					
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines					
Poland					
Portugal	X				
Qatar					
Romania					
Russia					
Rwanda					
San Marino					
Saudi Arabia					
Serbia					
Singapore					
Slovak Republic					
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan					X
Swaziland					
Sweden					
Switzerland					
Taiwan					X <sup>3</sup>
Tajikistan					
Tanzania					
Thailand					
Trinidad and Tobago			X <sup>4</sup>	X <sup>5</sup>	
Turkey					
Uganda	X <sup>6</sup>	X <sup>7</sup>			
Ukraine					
United Arab Emirates					
United Kingdom					
USA					
Uruguay					
Venezuela					
Yemen					
Zambia					
Zimbabwe					

- 1 Retail Electronic Funds Transfer/National EFT has been implemented.
- 2 Cheque Imaging System.
- 3 E-money and e-check.
- 4 Government payments systems.
- 5 Online Banking systems.
- 6 1.Mobile banking. 2.Electronic purse schemes.
- 7 East African Cross border payment system.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.4.2.7  
Current status of the reform process - Securities settlement systems**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania					X
Algeria					X
Angola					
Argentina					
Armenia	X <sup>1</sup>	X <sup>2</sup>			
Australia					X
Austria					
Azerbaijan			X		
Bahamas		X			
BCEAO					
Belarus					X
Belgium					
Belize					
Bhutan					X
Bolivia					X
Bosnia - Herzegovina					
Botswana				X	
Brazil					
Bulgaria	X				
Cambodia					
Canada					
Cape Verde		X			
Chile	X				
China					
Colombia					X
Costa Rica			X		
Croatia					
Cyprus					
Czech Republic					
DR Congo					
Denmark					
Dominican Republic					X
ECCB		X			
Egypt				X <sup>3</sup>	
El Salvador	X	X			X
Estonia					
Fiji	X				
Finland	X			X	
France	X	X	X		
Georgia		X			
Germany					
Ghana					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece					
Guatemala			X		
Guyana					
Honduras		X			
Hong Kong			X		
Hungary					
Iceland		X	X		
India		X <sup>4</sup>			
Indonesia					
Iran	X				
Ireland					
Israel				X <sup>5</sup>	
Italy	X				
Jamaica		X		X	
Japan			X		
Jordan					
Kazakhstan					
Kenya	X				
Kuwait					
Kyrgyz Republic			X		
Latvia					
Lebanon		X	X	X	
Lesotho					
Lithuania					
Luxembourg	X				
Macao					
Macedonia					
Madagascar		X			
Malaysia					
Malta					
Mauritius					
Mexico			X		
Moldova		X			
Mongolia	X				
Morocco					X
Mozambique					X
Myanmar					
Namibia	X				
Nepal					
Netherlands	X				
Netherlands Antilles					
New Zealand					
Nicaragua	X				
Norway			X		
Oman	X				
Pakistan					X
Paraguay	X				
Peru					X

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines					
Poland					
Portugal	X				
Qatar					
Romania					
Russia					
Rwanda	X				
San Marino					
Saudi Arabia					
Serbia					
Singapore					
Slovak Republic	X	X			
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan		X			
Swaziland	X				
Sweden					
Switzerland					X <sup>6</sup>
Taiwan					X
Tajikistan					
Tanzania					X
Thailand					
Trinidad and Tobago					X
Turkey					
Uganda					
Ukraine					
United Arab Emirates					
United Kingdom					
USA					
Uruguay				X	
Venezuela					
Yemen					
Zambia					X
Zimbabwe					

- 1 For Prefunding Mechanism.
- 2 For STP.
- 3 Update of the existing system.
- 4 Streamlining of electronic clearing system is being carried out.
- 5 Changes were made, not a new development.
- 6 Merger of the big three operators of trading, securities settlement and fund settlement systems in Switzerland.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.2.8**  
**Current status of the reform process - Foreign exchange settlement systems**

	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Afghanistan					
Albania					
Algeria	X				
Angola					
Argentina					
Armenia	X <sup>1</sup>	X <sup>2</sup>			
Australia					X
Austria					
Azerbaijan					X
Bahamas					
BCEAO					
Belarus					
Belgium					
Belize					
Bhutan					X
Bolivia					
Bosnia - Herzegovina					X
Botswana					X
Brazil					
Bulgaria					
Cambodia					
Canada					
Cape Verde					
Chile	X				
China			X		
Colombia					X
Costa Rica			X		
Croatia					
Cyprus					
Czech Republic					
DR of Congo	X				
Denmark					
Dominican Republic					
ECCB					
Egypt					
El Salvador					
Estonia					
Fiji	X				
Finland					
France					
Georgia					
Germany					
Ghana					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Greece					
Guatemala					X
Guyana					
Honduras		X			
Hong Kong					
Hungary					
Iceland					
India					X <sup>3</sup>
Indonesia	X				
Iran					
Ireland					
Israel			X <sup>4</sup>		
Italy					
Jamaica	X				
Japan					
Jordan					
Kazakhstan					
Kenya					
Kuwait					
Kyrgyz Republic					
Latvia					
Lebanon					
Lesotho					
Lithuania					
Luxembourg					
Macao					
Macedonia					
Madagascar					
Malaysia					
Malta					
Mauritius					
Mexico		X			
Moldova					
Mongolia	X				
Morocco					X
Mozambique					X
Myanmar					
Namibia					
Nepal					
Netherlands					
Netherlands Ant			X		
New Zealand					
Nicaragua					
Norway					
Oman	X				
Pakistan	X				
Paraguay					
Peru					

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	Conceptual Stage	Requirements/ functionalities have been defined	Development (for systems being developed in-house)	Procurement (systems being purchased from vendors)	Implementation
Philippines					
Poland					
Portugal					
Qatar					
Romania					
Russia					
Rwanda	X				
San Marino					
Saudi Arabia					
Serbia			X		X
Singapore					
Slovak Republic					
Slovenia					
Solomon Islands					
South Africa					
Spain					
Sri Lanka					
Sudan		X			
Swaziland	X				
Sweden					
Switzerland					
Taiwan					
Tajikistan					
Tanzania	X				
Thailand	X				
Trinidad and Tobago					
Turkey					
Uganda					
Ukraine					
UAE					
United Kingdom					
USA					
Uruguay				X	
Venezuela					
Yemen					
Zambia					X
Zimbabwe					

- 1 For Prefunding Mechanism.
- 2 For STP.
- 3 Already exists.
- 4 NSI will be included in CLS from April 2008.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.1**  
**How relevant are/have been the following elements as an enabling factor or an obstacle for establishing payment system development objectives (Awareness and Cooperation)**

	Central bank awareness of risk and efficiency issues		Other financial authorities' awareness of risk and efficiency issues		Private-sector awareness of risk and efficiency issues		Clarity of central bank PS development objectives	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan								
Albania	1		2		3		1	
Algeria	1		1			3	1	
Angola		3		3		3	1	
Argentina								
Armenia <sup>1</sup>	1		3		3		2	
Australia	1		3			2	3	
Austria	1		2		2		2	
Azerbaijan	1		2		3		1	
Bahamas	1		2		2		1	
BCEAO	1	2	2		2	2	1	
Belarus	1	3	3	3	3	2	2	3
Belgium	1		2		1			
Belize	1				1	1	1	
Bhutan	2	3	1	3	1	2	1	3
Bolivia	2		3			2	1	
Bosnia-Herzegovina								
Botswana	1		2		2		1	
Brazil	1		2		1		1	
Bulgaria	1	3	2	2	1	2	1	3
Cambodia	1				1		1	
Canada	1		3		1	2	1	
Cape Verde	1		1		2	2	1	
Chile	1		1		2		1	
China	1		1		2		1	
Colombia	1		1		2		1	
Costa Rica	1		3		3		1	
Croatia	1		1		1		1	
Cyprus	2				2		3	3
Czech Republic <sup>2</sup>								
DR of Congo	1		1		3		1	
Denmark	2		2		3		3	
Dominican Republic	1		3		1		1	
ECCB	1		1			2	1	
Egypt	2		3			3	1	
El Salvador	1		1		2		1	
Estonia	1						2	
Fiji	1	3	1	3	1	3	1	3
Finland	1	3	2	2	1	2	1	3
France	x				x		x	

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	Central bank awareness of risk and efficiency issues		Other financial authorities' awareness of risk and efficiency issues		Private-sector awareness of risk and efficiency issues		Clarity of central bank PS development objectives	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Georgia	1		1		3		2	
Germany	1	3	3		1		2	
Ghana	1					2		
Greece	1		3		2		1	
Guatemala	1		1		2		1	
Guyana	1		3		3		2	
Honduras	1	3	2	3	3	3	1	3
Hong Kong	1				3		1	
Hungary	1		3		2		1	
Iceland								
India	1		2		2		1	
Indonesia	1		2		1		2	
Iran	1		1				1	
Ireland	1		1		2		2	
Israel	1		2		3		3	
Italy	1		3		1		2	
Jamaica	1		1		1		1	
Japan	1		1		1		2	
Jordan	1		2		2		2	
Kazakhstan	1		1		1		1	
Kenya	1		2		2		2	
Kuwait	3							
Kyrgyz Republic	1		1		2		1	
Latvia	1		1		2		1	
Lebanon	2				2			3
Lesotho			1		2		1	
Lithuania	1		3	3	3	3	1	
Luxembourg	1		1		1		1	
Macao	1		2		2		2	
Macedonia	1			2	2		2	
Madagascar	1		1		2		1	
Malaysia	1		2		2		1	
Malta	1		2				3	
Mauritius	1	3	1	3	1	3	1	3
Mexico	1		2		1		1	
Moldova	1		1		1		1	
Mongolia	2			2		3	2	
Morocco								
Mozambique	2		2		2		1	
Myanmar	1		3				2	
Namibia	1	3	1	3	1	3	1	3
Nepal	1		1		2		2	
Netherlands	1	1	2	1	1	1	1	1
Netherlands Antilles	1		1		1	3	1	
New Zealand	1			3		3	2	
Nicaragua							1	

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	Central bank awareness of risk and efficiency issues		Other financial authorities' awareness of risk and efficiency issues		Private-sector awareness of risk and efficiency issues		Clarity of central bank PS development objectives	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Norway	1		2		1		1	
Oman	1		2		3		1	
Pakistan	1			2		1	1	
Paraguay	1		1		1		1	
Peru	1			2		2	2	
Philippines	1		1		1		1	
Poland	1		3		2		1	
Portugal	1		1		1		1	
Qatar	1	3	1	3	2	2	2	2
Romania	1		1		1		1	
Russia	1			2	2		1	
Rwanda	1		1			2	1	
San Marino	1		3		3		2	
Saudi Arabia	2		2		1		1	
Serbia	1		1		2		1	
Singapore	2				2		1	
Slovak Republic								
Slovenia	1			2		3	1	
Solomon Islands	1		1		1		1	
South Africa	1	1	1		1	1	1	1
Spain <sup>3</sup>								
Sri Lanka	1		1		2		1	
Sudan	1			2		1	1	
Swaziland	1			2	2		1	
Sweden	1		3		3		1	
Switzerland <sup>4</sup>	1	3	3	3	2	1	3	3
Taiwan	1		2		3		1	
Tajikistan	1		2		3		1	
Tanzania	1		2				1	
Thailand	1		1		1		1	
Trinidad and Tobago	1		2			2	1	
Turkey	1		1		1		1	
Uganda	1		2		2		1	
Ukraine	1		2		2		1	
UAE	2		2		2		3	
United Kingdom	2				3		1	
USA	1		2		2		1	
Uruguay	1		1			2	1	
Venezuela	x		x		x		x	
Yemen	1			1	3		1	
Zambia	1		1		2		1	
Zimbabwe	1		1		2		1	
<b>Total Answers 1</b>	<b>101</b>	<b>2</b>	<b>43</b>	<b>2</b>	<b>34</b>	<b>6</b>	<b>85</b>	<b>2</b>
<b>Total Answers 2</b>	<b>12</b>	<b>1</b>	<b>34</b>	<b>10</b>	<b>41</b>	<b>16</b>	<b>22</b>	<b>1</b>
<b>Total Answers 3</b>	<b>1</b>	<b>12</b>	<b>19</b>	<b>11</b>	<b>20</b>	<b>12</b>	<b>7</b>	<b>11</b>

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- 1 Please note that the requirements of this Table were not so clear for us, so there might be misunderstandings.
- 2 It is highly theoretical and academical point. Therefore, the answers depend on general context and point of view. We consider it quite problematic to assess these issues. In general terms, the priority of the Banco de España in its policy in this field is the promotion of safe, sound and efficient payment systems. So, elements with the highest importance for us are those related to the safety of systems.
- 3 However, in the moment of the decision of reforming the payment systems in Spain the drivers were more related with the improvement of risk management and efficiency. At the same time, Banco de España issued its policy stance on oversight of payment systems in order to clearly establish its objectives in this area and give transparency on the performance of this central bank function. Ensuring appropriate governance/supervision/oversight was not an issue in that moment. We do not identify any obstacle to the reform of the payment systems in Spain; on the contrary, this reform has been agreed with the banking industry at the highest level.
- 4 Read the left number as enabler for the new Securities law and the right number as enabler for the Merger of the big three operators of trading, securities settlement and fund settlement systems in Switzerland

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.1 (continued)**  
**How relevant are/have been the following elements as an enabling factor or an obstacle for establishing payment system development objectives (Awareness and Cooperation)**

	Transparency of central bank PS development objectives		Commitment on objectives by other authorities		Commitment on objectives by private sector	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan						
Albania	1		2		2	
Algeria	1		1			3
Angola	1			3	1	
Argentina						
Armenia	2		3		2	
Australia	3		3			2
Austria	2					
Azerbaijan	1		2	2	2	3
Bahamas	2					
BCEAO	2		1	2	1	1
Belarus	3	3	3	2	3	2
Belgium					1	
Belize	1				1	1
Bhutan	1	3	1	3	1	3
Bolivia	1		2		2	
Bosnia - Herzegovina				x		
Botswana	2		1		1	
Brazil	1		1		2	
Bulgaria	2	2	2	2	1	3
Cambodia	1					
Canada	1		1	2	1	1
Cape Verde	1		2	1	2	1
Chile	1		1		1	
China	1		2		3	
Colombia	1		2		2	
Costa Rica	1			3	2	
Croatia	1		2		3	
Cyprus	3	3			2	
Czech Republic						
DR of Congo	1		2		3	
Denmark	2		3		3	
Dominican Republic	1		2		1	
ECCB	1		2			2
Egypt	2		2		2	
El Salvador	1		2		3	
Estonia						
Fiji	1	3	2	2	2	2
Finland	1	3	1	2	1	2
France	x					
Georgia	2		2		3	
Germany	3		3		1	
Ghana	1					1

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	Transparency of central bank PS development objectives		Commitment on objectives by other authorities		Commitment on objectives by private sector	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Greece	1		3		2	
Guatemala	2			3		3
Guyana	2		3		3	
Honduras	1	3	2	3	3	3
Hong Kong	1				1	
Hungary	1		1		1	
Iceland						
India	1		3		3	
Indonesia	2		3		3	
Iran	1			1		
Ireland	2		2		3	
Israel	2		2		2	
Italy	2		3		2	
Jamaica	1		1		1	
Japan	2		2		2	
Jordan	1		2		2	
Kazakhstan	1					
Kenya	2		2		2	
Kuwait					1	
Kyrgyz Republic	1		3		3	
Latvia	1		2		3	
Lebanon		3				
Lesotho	1			1		1
Lithuania	1		3	3	3	3
Luxembourg	1			2		
Macao	2		3		3	
Macedonia	2			2	2	
Madagascar	1		1		1	
Malaysia	1		2		2	
Malta						
Mauritius	1	3	2	2	2	2
Mexico	1		2		1	
Moldova	1					
Mongolia	2			2		3
Morocco						
Mozambique	1		3		3	
Myanmar		3		2		1
Namibia	1	3	3	3	1	3
Nepal	1		2		2	
Netherlands	1	1	1	1	1	1
Netherlands Antilles		2		3		3
New Zealand	3					
Nicaragua			3	1	3	1
Norway	1		2		1	
Oman	1		2		3	
Pakistan	1		2			3
Paraguay	2		2		2	
Peru	2		2			3

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	Transparency of central bank PS development objectives		Commitment on objectives by other authorities		Commitment on objectives by private sector	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Philippines	1		1		1	
Poland	1		3		3	
Portugal	1		1		1	
Qatar	2	2	2	2	1	3
Romania	1		2		1	
Russia	1		1		2	
Rwanda	1		1			2
San Marino	3		3		3	
Saudi Arabia	1		2		1	
Serbia	2		1		2	
Singapore					3	
Slovak Republic						
Slovenia	2			2		3
Solomon Islands	1		2	1	2	1
South Africa	1	1	1		1	1
Spain						
Sri Lanka	1		2		2	
Sudan	1		3			2
Swaziland	1			2		2
Sweden	1		2		3	
Switzerland	3	3	3	3	1	1
Taiwan	1		2		3	
Tajikistan	1					
Tanzania	1		2		3	
Thailand	1		2		2	
Trinidad and Tobago	2		2		3	
Turkey	1		2		1	
Uganda	1		2		2	
Ukraine	2		2		2	
United Arab Emirates	3		3		3	
United Kingdom	1		1			
USA	1		2		1	
Uruguay	1			1	3	
Venezuela	x					
Yemen	1			1	3	
Zambia	2		1		2	
Zimbabwe	1		2		2	
<b>Total Answers 1</b>	<b>73</b>	<b>2</b>	<b>21</b>	<b>7</b>	<b>30</b>	<b>12</b>
<b>Total Answers 2</b>	<b>28</b>	<b>3</b>	<b>46</b>	<b>15</b>	<b>31</b>	<b>9</b>
<b>Total Answers 3</b>	<b>8</b>	<b>11</b>	<b>21</b>	<b>9</b>	<b>29</b>	<b>14</b>

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.2**  
**How relevant are/have been the following elements as an enabling factor or an obstacle for developing efficient payment and settlement arrangements**

	State of physical infrastructure/ demography/ geography/ culture/ industrial structure		Impact of macroeconomic/political environment		Support of legal/regulatory regime		Alignment with financial/market structure	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan								
Albania		2	2		2		2	
Algeria	1			3	1		1	
Angola		3	1		1			3
Argentina		3		1				
Armenia	3	1	2	2	1	3	2	2
Australia		1		3	1			3
Austria	2		2		2		2	
Azerbaijan	1	1	1		2		1	
Bahamas	1		3		2		3	
BCEAO	2	2	3	2	2	2		
Belarus	2	2	2	2	1	2	3	1
Belgium	1		2		1		1	
Belize	1		2		1	1		
Bhutan	2	2	2	3	2	3	2	3
Bolivia			2		2			
Bosnia-Herzegovina								
Botswana		2	1		1		1	
Brazil	2		2		1		1	
Bulgaria	1	1	1	1	1	1	1	1
Cambodia	1		1		1		1	
Canada	1		3	3	1	2	1	2
Cape Verde	2	1	2		1		1	
Chile		3		3		3		3
China	1		2		1		1	
Colombia	2		1			2	2	
Costa Rica	1		1			3	2	
Croatia	2		2		1		2	
Cyprus	1		3	3	2		3	3
Czech Republic								
DR of Congo		1		1		1		
Denmark	1		3		1		1	
Dominican Republic		3	3			2	2	
ECCB		1	2		2		1	
Egypt	2		2		3		1	
El Salvador		1	1		2		2	
Estonia							3	
Fiji	1	2	2	2	1	1	1	1
Finland	2	3	2	3	1	3	1	2
France						x		
Georgia	3		2		2		2	

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	State of physical infrastructure/ demography/ geography/ culture/ industrial structure		Impact of macroeconomic/political environment		Support of legal/regulatory regime		Alignment with financial/market structure	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Germany	1	3	2	2	2	2	1	
Ghana			1			2		
Greece		3	3			3	1	
Guatemala		3	3		1		2	
Guyana		2		3		2		2
Honduras	2	2	1	3	2	2	1	3
Hong Kong	1		1		1		1	
Hungary	3	1	1		1			1
Iceland								
India		2		2		2	2	
Indonesia		1	1			2	2	
Iran		2				2		
Ireland	3		3		2		3	
Israel	2			3		1	3	
Italy		2	3		2 <sup>1</sup>		2 <sup>2</sup>	
Jamaica	1		1		2		1	
Japan	3		3		1		2	
Jordan	1		2		2		2	
Kazakhstan	1		1		1		1	
Kenya		2	1		2		1	
Kuwait	1							
Kyrgyz Republic	2			2	2		1	
Latvia	1		2		2		2	
Lebanon	2			2		2		2
Lesotho		1	2			1	2	
Lithuania	3	3	2		3		2	2
Luxembourg								
Macao	2		3		2		3	
Macedonia	2		1		2		3	
Madagascar		2	1		1		2	
Malaysia		2	2		1		1	
Malta					2			
Mauritius	2	2	1	3	1	3	1	3
Mexico	3		1		1		3	
Moldova					1		1	
Mongolia	3		3			3	2	
Morocco								
Mozambique	1		1		1		2	
Myanmar		1			2			
Namibia	1	3	1	3	1	3	1	3
Nepal	2		3		1		1	
Netherlands	1	1	1	1	1	1	1	1
Netherlands Antilles		1	3	2	2		3	3
New Zealand	3		3			1		3
Nicaragua	2	3			1	1	3	2
Norway	2		1		1		1	
Oman	3		1		3		2	

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	State of physical infrastructure/ demography/ geography/ culture/ industrial structure		Impact of macroeconomic/political environment		Support of legal/regulatory regime		Alignment with financial/market structure	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Pakistan		1		3	1		2	
Paraguay		2	1			1	2	
Peru	2	2	2		2			
Philippines		2		2		2	1	
Poland		2				3		
Portugal	3		2		2		2	
Qatar	1	3	1	3	2	2	2	2
Romania	3		3		1		1	
Russia	2		2			1		2
Rwanda		1	1		1	2	1	
San Marino	1		3		3		3	
Saudi Arabia	1		2		1		1	
Serbia	2		2		1		2	
Singapore					2		3	
Slovak Republic								
Slovenia	1		2		3		3	
Solomon Islands	1	1	1	1	1		1	
South Africa	2	1	1	1	1	2	1	2
Spain								
Sri Lanka	1		2		1		1	
Sudan		2		3	2			2
Swaziland	2	2		2		2	2	2
Sweden	1		2		1		1	
Switzerland	1	1	3	1	3	3	2	1
Taiwan		3		3		3	2	
Tajikistan		1	1		1			
Tanzania		2	2		2	2	2	
Thailand	2		2			2	1	
Trinidad and Tobago	1			3		3		2
Turkey	1	2	2	2	1	1	1	
Uganda		2	2 <sup>3</sup>	1		2	2	
Ukraine	3		2		1		2	
United Arab Emirates	1		1			2		
United Kingdom					3		2	
USA	2	2	1		3		2	
Uruguay	1	1			2	3		
Venezuela	x				x		x	
Yemen			2		3		3	
Zambia	2	2	1		1		1	
Zimbabwe	2	2	2	2	1		1	
<b>Total Answers 1</b>	<b>35</b>	<b>20</b>	<b>35</b>	<b>8</b>	<b>49</b>	<b>13</b>	<b>43</b>	<b>6</b>
<b>Total Answers 2</b>	<b>29</b>	<b>27</b>	<b>38</b>	<b>13</b>	<b>31</b>	<b>23</b>	<b>35</b>	<b>13</b>
<b>Total Answers 3</b>	<b>13</b>	<b>13</b>	<b>19</b>	<b>17</b>	<b>8</b>	<b>13</b>	<b>16</b>	<b>10</b>

1 1 for securities settlement systems.

2 1 for securities settlement systems.

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- 3 The political instability and high inflation of the 1970s led to financial disintermediation and a sharp reduction in the use of non-cash payment instruments, hence the ranking of 1 as an obstacle. On the other hand, the sustained positive macroeconomic performance since 1986 has led to calls for a more efficient national payment system to support fast, reliable and efficient transfer of monetary values within the economy, hence the ranking of 2 as an enabler.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.2 (continued)**  
**How relevant are/have been the following elements as an enabling factor or an obstacle for developing efficient payment and settlement arrangements**

	Degree of access of population to financial services		State of existing payment and settlement arrangements and instruments		Roles of the central bank in the payment system		Roles of other authorities	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan								
Albania	3		1		1		2	
Algeria	1			3	1		1	
Angola		3	3		1			3
Argentina		2	3		2		1	
Armenia	2	1	2	2	1			
Australia		1		2	2			3
Austria	2		2		1		2	
Azerbaijan	2	2	1	1	1		3	
Bahamas	3		1		1		3	
BCEAO	2	2	3	3	1	1	2	2
Belarus	1	1	2	2	1	1	3	3
Belgium					2			
Belize	1	1	1	1	1			
Bhutan	3	3	2	2	1	3	1	3
Bolivia		2			1		2	
Bosnia-Herzegovina								x
Botswana		3	1		1		2	
Brazil	2		2		1		3	
Bulgaria	2	2	1	1	1	1	2	2
Cambodia	2				1			
Canada	1		2	3	1	3	2	2
Cape Verde	2			1	1		1	
Chile	2		2		1		1	
China	2		2		1		3	
Colombia		2		2	1		2	
Costa Rica	3		1		1		3	
Croatia	2		2		1		2	
Cyprus	3	3	2		2			
Czech Republic								
DR of Congo		1		1	1		1	
Denmark	1		1		2		2	
Dominican Republic		2	2		1		3	
ECCB	1		1		1		1	
Egypt		1	2		1			1
El Salvador		3	1		1		3	
Estonia			2		1			
Fiji	2	2	2	2	1	2	1	2
Finland	2	3	1	3	2	3	2	3
France			x		x			
Georgia	2		2	2	1		3	
Germany	1		1	3	1	3	3	

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	Degree of access of population to financial services		State of existing payment and settlement arrangements and instruments		Roles of the central bank in the payment system		Roles of other authorities	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Ghana		3	2		1			
Greece	3		2		1		3	
Guatemala		1	2		1			3
Guyana	2		2		1		3	
Honduras	2	3	2	3	1	3	2	2
Hong Kong	1		1		1			
Hungary	1			3	1		3	
Iceland								
India	3		2		1		3	
Indonesia		2	1		1		2	
Iran		1		2	1			
Ireland	2		2		2		2	
Israel	2			3	1		2	
Italy		3		3	1 <sup>1</sup>		3	
Jamaica	1		2		1		1	
Japan	3		2		2		2	
Jordan	2		1		1		2	
Kazakhstan	2		1		1		2	
Kenya	1		2		1		2	
Kuwait					3			
Kyrgyz Republic	1		1		1		3	
Latvia	1		1		1		3	
Lebanon		2		3	1			
Lesotho		1	2		1			3
Lithuania	3	3	1	3	1	3	3	3
Luxembourg					1			
Macao	3		2		1		2	
Macedonia	2		2		2			3
Madagascar	2		1		1		2	
Malaysia	1		1		1		2	
Malta					1		3	
Mauritius	1	3	1	3	1	3	1	3
Mexico		1		2	1		1	
Moldova					1		1	
Mongolia		3	2		2		2	
Morocco								
Mozambique	1		1		3			
Myanmar	3			3	1			2
Namibia	3	3	1	3	1	3	3	3
Nepal	2		2		1		2	
Netherlands	1	1	1	1	1	1	1	1
Netherlands Antilles	1	2	2	1	1		3	
New Zealand	3		3		3			3
Nicaragua		3	3	3	3	3	3	3
Norway	1		1		1		2	
Oman	2		1		1		2	
Pakistan		1	1		1		3	

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	Degree of access of population to financial services		State of existing payment and settlement arrangements and instruments		Roles of the central bank in the payment system		Roles of other authorities	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Paraguay		1	2		2		2	
Peru		2	2		1		2	
Philippines		2	1		1		1	
Poland		2		2	3			
Portugal	x		x		x		x	
Qatar	1	3	2	3	1			
Romania	2		1		1		2	
Russia	1		1		1			2
Rwanda		2		2	1		2	
San Marino	1		3		1		3	
Saudi Arabia	2		2		1		3	
Serbia	2		2		1		2	
Singapore					1			
Slovak Republic								
Slovenia	2		2		1			2
Solomon Islands	1		3	1	3		3	
South Africa	1	1	2	1	1	1	2	2
Spain								
Sri Lanka	1		1		1		2	
Sudan	2			3	1		3	
Swaziland		2	2		1		2	2
Sweden	1		1		1		2	
Switzerland <sup>2</sup>	3	3	1	1	1	3	3	3
Taiwan	2		2		1		2	
Tajikistan		1	2		1		2	
Tanzania		2			1		2	
Thailand		2	1		1		2	
Trinidad and Tobago	2		3		1		2	
Turkey	1	3	1		1		2	
Uganda		2		2	1		2	
Ukraine	2		1		1		2	
United Arab Emirates	2		2		1			
United Kingdom				3	2		2	
USA	1		1	1	1		2	2
Uruguay				2	1		3	
Venezuela			x		x		x	
Yemen		1	3		1			1
Zambia		1	2		1		1	
Zimbabwe		2	1		1		1	
<b>Total Answers 1</b>	<b>28</b>	<b>17</b>	<b>39</b>	<b>11</b>	<b>100</b>	<b>5</b>	<b>16</b>	<b>3</b>
<b>Total Answers 2</b>	<b>33</b>	<b>20</b>	<b>43</b>	<b>13</b>	<b>12</b>	<b>1</b>	<b>45</b>	<b>11</b>
<b>Total Answers 3</b>	<b>14</b>	<b>17</b>	<b>9</b>	<b>18</b>	<b>6</b>	<b>10</b>	<b>29</b>	<b>14</b>

1 1 for securities settlement systems.

2 Read the left number as enabler for the new Securities law and the right number as enabler for the Merger of the big three operators of trading, securities settlement and fund settlement systems in Switzerland.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.3**  
**How relevant are/have been the following elements as an enabling factor or an obstacle for promoting safe payment and settlement arrangements**

	State of physical infrastructure/ demography/ geography/ culture/ industrial structure		Impact of macroeconomic/political environment		Support of legal/regulatory regime		Alignment with financial/market structure	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan								
Albania		3	2		1		2	
Algeria	1			3	1		1	
Angola		3	1		1			3
Argentina		1		2		3		
Armenia	3	1	2	2	1	3	2	2
Australia	3		3		1		3	
Austria	2		2		1		1	
Azerbaijan	1	1	3	3	1		3	
Bahamas	2		3		2		1	
BCEAO	2	2	3	3	2	2	2	3
Belarus	3	3	2	2	1	2	1	1
Belgium	1							
Belize	2		2		1		2	
Bhutan	2	2	2	2	2	2	2	2
Bolivia			2		2			
Bosnia-Herzegovina								
Botswana		2	1		1		1	
Brazil	2		2		1		1	
Bulgaria	1	1	2	2	3	3	1	1
Cambodia	1		1		1		1	
Canada	2		3		1		1	
Cape Verde	2	2	2		1		1	
Chile		3		3		3		3
China	2		2		1		2	
Colombia	2		1			2	2	
Costa Rica	1		1			3	2	
Croatia	2		2		1		2	
Cyprus	3		3	3	1			2
Czech Republic								
DR of Congo		1		1		1		1
Denmark	1		3		1		1	
Dominican Republic		3	2			2	2	
ECCB		1	2		2		1	
Egypt		2	2		2		3	
El Salvador		1	1		2		3	
Estonia							3	
Fiji	2	1	1	2	1	1	2	1
Finland	2	3	2	3	1	3	1	2
France					x			
Georgia	3		2		2		2	

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	State of physical infrastructure/ demography/ geography/ culture/ industrial structure		Impact of macroeconomic/political environment		Support of legal/regulatory regime		Alignment with financial/market structure	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Germany	1	3	1		1		2	2
Ghana			1			2		
Greece	3		3			3	1	
Guatemala		1	2		2		2	
Guyana		2		3	3		3	
Honduras	2	2	1	3	2	2	1	3
Hong Kong	1		1		1		1	
Hungary	2	3			1		1	
Iceland								
India		2		2		2	2	
Indonesia		1	1			2	2	
Iran		2				2		
Ireland	3		3		2		3	
Israel		2		2		1	2	
Italy		2	3		1 <sup>1</sup>		1	
Jamaica	1		1		2		1	
Japan	3		3		1		2	
Jordan	1		2		2		2	
Kazakhstan	1		1		1		1	
Kenya	2	3	2		2		2	
Kuwait	1				3			
Kyrgyz Republic		2		x	1		1	
Latvia	1	3	2	2	1		1	
Lebanon	2			2		2		2
Lesotho		1				1	2	
Lithuania	3	3	3	3	2	3	2	3
Luxembourg					1			
Macao	2		3		2		2	
Macedonia	2		1		2		3	
Madagascar	1			2	1		2	
Malaysia		2	2		1		1	
Malta					1			
Mauritius	1	3	1	3	1	3	1	3
Mexico	3		1		1		3	
Moldova					1		1	
Mongolia	3		3			3		3
Morocco								
Mozambique	1		1		1		1	
Myanmar					2			2
Namibia	1	3	1	3	1	3	1	3
Nepal	2		3		1		1	
Netherlands	1	1	1	1	1	1	1	1
Netherlands Antilles	1	1	3	3	1		3	3
New Zealand	3		3			3	3	
Nicaragua	3	3	3	3		1	3	3
Norway	2		1		1		1	
Oman	3		1		3		2	

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	State of physical infrastructure/ demography/ geography/ culture/ industrial structure		Impact of macroeconomic/political environment		Support of legal/regulatory regime		Alignment with financial/market structure	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Pakistan		1		3	1		2	
Paraguay		2	1			1	2	
Peru								
Philippines		2		2		2		
Poland	2				2			
Portugal	1		1		1		1	
Qatar	1	3	2	2	2	2	2	2
Romania	3		3		1		1	
Russia	2		2			1		2
Rwanda		1	1			2	1	
San Marino	2		3		3		3	
Saudi Arabia	2		2		2		1	
Serbia	2		2		1		2	
Singapore					2		2	
Slovak Republic								
Slovenia	2		2		2		3	
Solomon Islands	1	1	1	1	1	2	1	
South Africa	1			1	1			
Spain								
Sri Lanka	1		2		1		1	
Sudan		2		2	2			2
Swaziland	2	2	2	2	2	2	2	2
Sweden	1		2		1		1	
Switzerland <sup>2</sup>	1	1	3	3	2	2	1	1
Taiwan		2		3		3	2	
Tajikistan		1	1		1			
Tanzania		3	3		2	3		
Thailand		2	2			2	1	
Trinidad and Tobago	2			3	3			2
Turkey	1	2	2	2	1	1	1	
Uganda		2	2			2	2	
Ukraine	3		2		1		2	
United Arab Emirates	1		1			2		
United Kingdom					3		2	
USA	2	2	1		1	1	1	
Uruguay	1		1			2	3	
Venezuela	x				x		x	
Yemen			2		3		3	
Zambia		1	1		1		1	
Zimbabwe	2	2		2	1		1	
<b>Total Answers 1</b>	<b>30</b>	<b>19</b>	<b>31</b>	<b>4</b>	<b>55</b>	<b>10</b>	<b>43</b>	<b>6</b>
<b>Total Answers 2</b>	<b>31</b>	<b>23</b>	<b>35</b>	<b>17</b>	<b>27</b>	<b>21</b>	<b>35</b>	<b>13</b>
<b>Total Answers 3</b>	<b>16</b>	<b>16</b>	<b>22</b>	<b>17</b>	<b>8</b>	<b>14</b>	<b>16</b>	<b>10</b>

1 1 for securities settlement systems.

2 Read the left number as enabler for the new Securities law and the right number as enabler for the Merger of the big three operators of trading, securities settlement and fund settlement systems in Switzerland.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.3 (continued)**  
**How relevant are/have been each of the following elements as an enabling factor or an obstacle for promoting safe payment and settlement arrangements**

	State of existing payment and settlement arrangements and instruments		Roles of the central bank in the payment system		Roles of other authorities		Applicability of international standards	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan								
Albania	1		1		2		1	
Algeria		3	1		1		1	
Angola	3		1			3	1	
Argentina			1		2		3	
Armenia	2	2	1				1	2
Australia	2		1		3		2	
Austria	2		1		1		1	
Azerbaijan	1	1	1		3		2	
Bahamas	1		1		3		1	
BCEAO	2	2	1	1			2	2
Belarus	1	1	1	3	3	3	2	3
Belgium			1					
Belize	1		1				1	
Bhutan	2	2	1	3	1	3	1	3
Bolivia	3		1		2		2	
Bosnia-Herzegovina						x		
Botswana	1		1		1		1	
Brazil	1		1		3		1	
Bulgaria	1	1	1	1	2	2	2	2
Cambodia			1					
Canada	2	1	2	1		1	2	1
Cape Verde		2	1		3		1	
Chile	2		1		1		1	
China	1		1		2		1	
Colombia	1		1		2		1	
Costa Rica	3		1		3		3	
Croatia	2		1		2		1	
Cyprus		1	1				1	
Czech Republic								
DR of Congo		1	1		3			
Denmark	1		2		2		2	
Dominican Republic	2		1		2		2	
ECCB	1		1		1		1	
Egypt		1	1		2		2	
El Salvador	1		1		3		1	
Estonia	2		1					
Fiji	1	2	1	3	1	2	1	1
Finland	1	3	2	3	2	3	2	3
France	x		x				x	
Georgia	2		1		2		1	
Germany	2	2	1		3		1	

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	State of existing payment and settlement arrangements and instruments		Roles of the central bank in the payment system		Roles of other authorities		Applicability of international standards	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Ghana			1				1	
Greece	2		1		3		1	
Guatemala	2		2			2	2	
Guyana	3		1		3		1	
Honduras	1	3	1	3	2	2	1	3
Hong Kong	1		1				1	
Hungary		3	1		1		3	
Iceland								
India	2		1		3		1	
Indonesia	1		1		2		1	
Iran			1				1	
Ireland	2		1		2		1	
Israel	2		1		2		1	
Italy		2	1 <sup>1</sup>		3		1 <sup>2</sup>	
Jamaica	2		1		1		1	
Japan	2		2		2		2	
Jordan	1		1		2		1	
Kazakhstan	2		1		2		1	
Kenya	2		2		2		2	
Kuwait								
Kyrgyz Republic	1		1		3		1	
Latvia	1		1		2		1	
Lebanon		3	1				1	
Lesotho	2		1			1	1	
Lithuania	1	3	1	3	3	3	1	3
Luxembourg			1				1	
Macao	2		1		3		3	
Macedonia	2		2			3	1	
Madagascar	1		1		2		1	
Malaysia	1		1		1		2	
Malta			2				3	
Mauritius	1	3	1	3	1	3	1	3
Mexico		2	1		1		1	
Moldova			1		1		1	
Mongolia	3		2		2		3	
Morocco								
Mozambique	1		1		3		1	
Myanmar			1		3			1
Namibia	1	3	1	3	3	3	1	3
Nepal	2		2		1		2	
Netherlands	1	1	1	1	3	1	1	1
Netherlands Antilles	1	1	1		3	3	2	
New Zealand	3		1		3		1	
Nicaragua	1	3	1	3	3	3	1	3
Norway	1		1		1		1	
Oman	1		1		1		1	
Pakistan	1		1		3		1	

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	State of existing payment and settlement arrangements and instruments		Roles of the central bank in the payment system		Roles of other authorities		Applicability of international standards	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Paraguay		1	2		2		3	
Peru								
Philippines	1		1		1		1	
Poland	1		1				1	
Portugal	1		1		1		1	
Qatar	2	3	1		3		2	
Romania	1		1		2		1	
Russia	1		1			2	1	
Rwanda		2	1		2		1	
San Marino	3		1		3		3	
Saudi Arabia	2		1		2		1	
Serbia	2		1		2		1	
Singapore	3		1				2	
Slovak Republic								
Slovenia	3		1			2	1	
Solomon Islands	3	1	2		2		2	
South Africa		1	1		2		3	
Spain								
Sri Lanka	1		1		1		1	
Sudan		3	1		3		2	
Swaziland			1		1	2	2	2
Sweden	1		1		2		1	
Switzerland	1	1	2	2	3	3	2	2
Taiwan	2		2		2		2	
Tajikistan	1		1				1	
Tanzania	2		1		2		1	
Thailand	1		1		2		1	
Trinidad and Tobago		1	1		2		2	
Turkey	1		1		2		1	
Uganda	1		1		2		2	
Ukraine	1		1		2		2	
United Arab Emirates	2		2				1	
United Kingdom	2		2				1	
USA	1	1	1		2	2	1	
Uruguay		2	1		3		1	
Venezuela	x		x		x		x	
Yemen	3		1			1	1	
Zambia	2		1		1		1	
Zimbabwe	1		1		1		1	
<b>Total Answers 1</b>	<b>49</b>	<b>14</b>	<b>102</b>	<b>3</b>	<b>23</b>	<b>3</b>	<b>77</b>	<b>3</b>
<b>Total Answers 2</b>	<b>32</b>	<b>11</b>	<b>15</b>	<b>1</b>	<b>39</b>	<b>9</b>	<b>26</b>	<b>5</b>
<b>Total Answers 3</b>	<b>11</b>	<b>11</b>	<b>0</b>	<b>9</b>	<b>30</b>	<b>11</b>	<b>9</b>	<b>8</b>

- 1 1 for securities settlement systems.  
2 1 for securities settlement systems.

**PLANNED AND ON-GOING REFORMS TO THE NATIONAL PAYMENTS SYSTEM**

**Table VIII.5.4**  
**How relevant are/have been each following elements as an enabling factor or an obstacle for ensuring appropriate governance/supervision/oversight**

	Roles of the central bank		Roles of other authorities		Roles of private-sector groups/SROs/individual institutions/other "stakeholders"	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Afghanistan						
Albania	1		2		3	
Algeria	1		1		1	
Angola	1			3	2	
Argentina	1		2			
Armenia	1		3			
Australia	1		1			3
Austria	1		1		1	
Azerbaijan	1		2		3	
Bahamas	1		3		3	
BCEAO	1	1	2	2	2	2
Belarus	1	3	3	3	2	3
Belgium	1		3		3	
Belize	1				2	
Bhutan	1	3	1	3	2	2
Bolivia	1		2		3	
Bosnia - Herzegovina						
Botswana	1		1		1	
Brazil	1		1		2	
Bulgaria	1	1	2	2	1	1
Cambodia	1					
Canada	1	3	2	2	1	2
Cape Verde	1		1		1	
Chile	1		1		1	
China	1		2		3	
Colombia	1		2		2	
Costa Rica	3			3		3
Croatia	1		2		3	
Cyprus	1				3	
Czech Republic						
DR of Congo	1		3		3	
Denmark	2		2		3	
Dominican Republic	1		2		1	
ECCB	1		1		2	
Egypt	2			2		1
El Salvador	1		1		3	
Estonia	1		3		2	
Fiji	1	3	1	2	1	2
Finland	1	3	1	2	1	2
France	x				X	
Georgia	1		3		3	
Germany	1		1		1	

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	Roles of the central bank		Roles of other authorities		Roles of private-sector groups/SROs/individual institutions/other "stakeholders"	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Ghana	1		1		3	
Greece	1		3		2	
Guatemala	1			2		3
Guyana	1		3		3	
Honduras	1	3	1	3	1	2
Hong Kong	1				3	
Hungary	1		2		1	1
Iceland						
India	1		3		3	
Indonesia	1		2		2	
Iran	1					
Ireland	1		2		1	
Israel	1			3		2
Italy	1 <sup>1</sup>		3 <sup>2</sup>		2 <sup>3</sup>	
Jamaica	1		1		2	
Japan	1		1		2	
Jordan	2		3		3	
Kazakhstan	1		2		2	
Kenya	1		1		1	
Kuwait	3				1	
Kyrgyz Republic	1		3		3	
Latvia	1		3		3	
Lebanon	1					
Lesotho	1		2		3	
Lithuania	1		3		3	
Luxembourg	1		1		2	
Macao	1		1		3	
Macedonia	1			3	2	
Madagascar	1		2		2	
Malaysia	1		1		1	
Malta	1		2		3	
Mauritius	1	3	1	3	2	2
Mexico	1		2		3	
Moldova	1		1		1	
Mongolia	2		2		3	
Morocco						
Mozambique	1		3		2	
Myanmar	1		2		3	
Namibia	1	3	1	3	1	3
Nepal	1		2		3	
Netherlands	1	1	1	1	1	1
Netherlands Antilles	1		3	3	1	3
New Zealand	3		3		3	
Nicaragua	1	3	1	3	1	3
Norway	1		1		1	
Oman	1		2		3	
Pakistan	1		3		3	

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	Roles of the central bank		Roles of other authorities		Roles of private-sector groups/SROs/individual institutions/other "stakeholders"	
	Enabler	Obstacle	Enabler	Obstacle	Enabler	Obstacle
Paraguay	2		1		1	
Peru						
Philippines	1		1		2	
Poland	1		3		3	
Portugal	1		2		1	
Qatar	1		3	1	2	2
Romania	1		1		1	
Russia	1		2			1
Rwanda	1		1		1	
San Marino	1		3		3	
Saudi Arabia	1		3		3	
Serbia	1		1		2	
Singapore	1		3		2	
Slovak Republic						
Slovenia	1		3		3	
Solomon Islands	1		1		1	1
South Africa	1		2		2	
Spain						
Sri Lanka	1		1		2	
Sudan	1		3			2
Swaziland	2	2	2	2	2	2
Sweden	1		2		3	
Switzerland <sup>4</sup>	1	1	2	2	1	1
Taiwan	1		1		2	
Tajikistan	1			2		
Tanzania	1		2			2
Thailand	1		2		2	
Trinidad and Tobago	1		3		2	
Turkey	1		2		1	
Uganda	1		2		2	
Ukraine	1		2		3	
United Arab Emirates	1					
United Kingdom	1					
USA	1		2	2	2	
Uruguay	1		3			3
Venezuela	x		X			
Yemen	1			1	3	
Zambia	1		1		1	
Zimbabwe	1		1		2	
<b>Total Answers 1</b>	<b>109</b>	<b>4</b>	<b>37</b>	<b>3</b>	<b>31</b>	<b>7</b>
<b>Total Answers 2</b>	<b>6</b>	<b>1</b>	<b>36</b>	<b>10</b>	<b>33</b>	<b>12</b>
<b>Total Answers 3</b>	<b>3</b>	<b>9</b>	<b>28</b>	<b>12</b>	<b>37</b>	<b>8</b>

1 1 for securities settlement systems.

2 1 for securities settlement systems.

3 1 for securities settlement systems.

4 Read the left number as enabler for the new Securities law and the right number as enabler for the Merger of the big three operators of trading, securities settlement and fund settlement systems in Switzerland.