



# REPUBLIC OF MOLDOVA

## FINANCIAL SECTOR ASSESSMENT PROGRAM

February 2016

### OVERSIGHT AND SUPERVISION OF FINANCIAL MARKET INFRASTRUCTURES (FMIS) AND RISK ASSESSMENT OF CENTRAL SECURITIES DEPOSITORIES—TECHNICAL NOTE

This Technical Note on Oversight and Supervision of Financial Market Infrastructures (FMIS) and Risk Assessment of Central Securities Depositories for the Republic of Moldova was prepared by a staff team of the International Monetary Fund. It is based on the information available at the time it was completed in January 2016.

Copies of this report are available to the public from

International Monetary Fund • Publication Services  
PO Box 92780 • Washington, D.C. 20090  
Telephone: (202) 623-7430 • Fax: (202) 623-7201  
E-mail: [publications@imf.org](mailto:publications@imf.org) Web: <http://www.imf.org>  
Price: \$18.00 per printed copy

**International Monetary Fund**  
**Washington, D.C.**



# REPUBLIC OF MOLDOVA

## FINANCIAL SECTOR ASSESSMENT PROGRAM

January 2016

# TECHNICAL NOTE

## OVERSIGHT AND SUPERVISION OF FINANCIAL MARKET INFRASTRUCTURES (FMIS) AND RISK ASSESSMENT OF CENTRAL SECURITIES DEPOSITORIES

Prepared By  
**Monetary and Capital Markets  
Department**

This Technical Note was prepared in the context of a joint IMF-World Bank Financial Sector Assessment Program (FSAP) mission in the Republic of Moldova during February 2014, led by Simon Gray, IMF, and Brett Coleman, World Bank, and overseen by the Monetary and Capital Markets Department, IMF, and the Finance and Markets Global Practice, World Bank. The note contains the technical analysis and detailed information underpinning the FSAP assessment's findings and recommendations. Further information on the FSAP program can be found at <http://www.imf.org/external/np/fsap/fssa.aspx>.

# CONTENTS

<b>GLOSSARY</b>	<b>3</b>
<b>EXECUTIVE SUMMARY</b>	<b>4</b>
<b>INTRODUCTION</b>	<b>7</b>
<b>OVERVIEW OF FMIS</b>	<b>8</b>
A. Description of Financial Market Infrastructures	8
B. Past and Ongoing Reforms	10
<b>MAIN ISSUES AT STAKE</b>	<b>11</b>
A. Effectiveness of the Oversight and Supervision Framework	11
B. Legal Risk	15
C. Comprehensive Risk Management Framework	16
D. Credit and Liquidity Risk	17
E. Central Securities Depository	18
F. General Business Risk	20
G. Operational Risk	21
<b>FIGURE</b>	
1. Overview of the Trading, Clearing, and Settlement Organization	9
<b>TABLES</b>	
1. Recommendations on FMI Oversight and Supervision	6
2. Average Daily Volume and Value Processed by FMIs in 2013	9
<b>APPENDICES</b>	
I. Responsibilities of Central Banks, Market Regulators, and Other Relevant Authorities	23
II. Extracts from the Principles for Financial Market Infrastructures	24
III. General Description of CSD, SSS, and Independent Registrars	26
IV. Features of CSDs/SSSs	28
V. Value of Transactions and Deposits in Book Entry System	31
VI. Stock Exchange and Secondary Market Turnover	32

## GLOSSARY

AIPS	Automated Interbank Payment System
BES	Book Entry System
CM	Capital Market
CPSS	Committee on Payment and Settlement Systems
CSD	Central Securities Depository
CSE	Chisinau Stock Exchange
DGF	Deposit Guarantee Fund
DNS	Designated-Time Net Settlement
DPO	Development Policy Operation
DVP	Delivery Versus Payment
FMI	Financial Market Infrastructure
FOP	Free of Payment
GDP	Gross Domestic Product
GMS	General Meeting of Shareholders
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IT	Information Technology
JSC	Joint Stock Company
MDL	Moldovan Leu
MOD	Market Operations Department
MOF	Ministry of Finance
MoU	Memorandum of Understanding
MSE	Moldova Stock Exchange
MTF	Multilateral Trading Facilities
NBM	National Bank of Moldova
NCFM	National Commission for Financial Markets
NPC	National Payments Council
NSD	National Securities Depository
OTC	Over the Counter
PFMI	Principles for Financial Market Infrastructures
PSD	Payment Systems Department
RSSS	Recommendations for Securities Settlement Systems
RTGS	Real Time Gross Settlement System
SSS	Securities Settlement System
TA	Technical Assistance
US\$	United States Dollar

## EXECUTIVE SUMMARY<sup>1</sup>

**Moldova has a modern interbank payment system that lies at the heart of its financial markets.** The Automated Interbank Payment System (AIPS) settled on average MDL 2 billion (US\$ 214 million) per day, or 2.7 percent of GDP in 2013. It has real-time gross settlement features that help reduce systemic risks, settles large-value and time-critical payments, and is interdependent with two securities settlement systems. This includes the central bank's Book-Entry System (BES) that handles government securities and central bank certificate settlements, and the National Securities Depository (NSD) that settles private sector securities trades. It largely met international standards in the FSAP Update of 2008. A self-assessment of the BES against the CPSS-IOSCO Principles for Financial Market Infrastructures (PFMIs) has been completed in December 2013 by the NBM. The preliminary results suggest full observance with 11 principles and broad observance with three principles (Principle 1 on Legal Basis, Principle 22 on Communication Procedures and Standards). They are currently under the peer review process by the National Commission for Financial Markets (NCFM).

**Many wide-ranging reforms to the payments and securities settlement landscape have been completed and are ongoing.** The Law on Payment Services and Electronic Money, and the Law on Capital Market (CM) came into force in September 2013. The National Payments Council (NPC) was established in the same period. Central Securities Depository (CSD) and registrar reforms are ongoing. Trading on the stock exchange of government bonds with maturities of over one year is planned (as an addition to the existing trading on the Bloomberg platform). The NSD will be the registrar for government bonds traded on the MSE, while banks (primary dealers) will continue to hold the register for government bonds traded on Bloomberg.

**The financial market infrastructure remains vulnerable to legal risk.** Legal uncertainty remains for the settlement of government and central bank securities. This is being addressed through new draft laws. Specific legal provisions are needed for the BES to protect finality, collateral and netting arrangements in case of insolvency proceedings, and investors' rights. Finality of settlements in the NSD is already legislated under specific provisions in the CM Law. Under the National Plan for Legislation Harmonization for 2014, the central bank will oversee two draft laws, including settlement finality in payment and securities settlement systems, and financial collateral arrangements. Their adoption is critical to protect the payment and securities settlement system, and to safeguard financial stability.

**However, general business risks are apparent at the NSD.** Financial constraints arise from negative net profits in recent years, and capital increases from shareholders were necessary to meet new minimum capital requirements. The risk controls in place largely focus on operational risks. There is a need to develop a comprehensive risk management framework and to assess the system

<sup>1</sup> This technical note was prepared by Tanai Khiaonarong, Senior Financial Sector Expert from the IMF's Monetary and Capital Markets Department, for the 2014 Republic of Moldova FSAP Update.

against new international standards. Given the linkage with the AIPS, operational disruptions resulting from general business risks could impact the smooth functioning of the interbank payment system. Therefore, crisis-management arrangements should be jointly developed between the authorities in cooperation with the NSD.

**Most importantly, risk continues to compromise the integrity of the corporate securities registration system, despite efforts to consolidate and replicate records.** Earlier efforts to amend the CM Law with a provision to replace independent registrars by rolling this function into a central depository were excluded from the final legislation approved by parliament. Ongoing reforms include proposed amendments to the same law to transfer the registers of securities holders of Public Interest Entities to the central depository. Joint stock companies that have fewer than 100 shareholders (holders of any class of security) and hold capital below MDL 500,000 (US\$ 37,000) would not be subject to the new criteria. Adoption by parliament is expected in the first half of 2014. To strengthen oversight, a new database system is being developed to provide daily backups of all corporate securities from the independent registrars, once the amendment to the CML is passed. Data verifications, however, will be on a random basis.

**Risk of regulatory fragmentation exist between authorities, which could undermine the effective oversight of FMIs.** The authorities need to adopt and apply consistently the new international standards, and allocate or share responsibilities according to their mandates and competencies. For example, the NBM should apply standards involving issues on systemic risks and financial stability, and the NCFM should focus on areas that protect investor rights. A joint committee should be established for this purpose to deepen regulatory cooperation under the existing Memorandum of Understanding (MoU). This cooperation agreement should be disclosed as it clearly describes the role and responsibilities of each authority, and how they cooperate through peer reviews, in overseeing FMIs.

**As national CSD reforms have progressed at a slow pace, it should be led and driven by the NPC.** Despite the NCFM's action plan in 2011 for the creation of a modern structure for the NSD, including taking over the function of holding the registers, this has failed to gain parliamentary support. There has also been mixed reactions from the NCFM and Moldova Stock Exchange towards the establishment of a single CSD, particularly on the nature of the future entity and details of its implementation. CSD reform efforts should continue under the NPC with the establishment of a Working Group on CSD Reform, to be co-chaired by the NBM and NCFM. The initial tasks are to conduct a comprehensive cost analysis, assess the financial and risk management capabilities of the private sector, and examine alternative governance arrangements. This includes central bank involvement, if required, to help establish the single CSD and ensure the safe and efficient settlement of securities.

**Loss-sharing mechanisms should be considered in the move from a registrars-based system to a fully dematerialized system for all securities.** As the process of reconciling securities records could reveal possible data inconsistencies (more securities recorded than securities effectively issued), loss-sharing arrangements could appropriately be organized ex ante. This could first operate as a pro-rata loss allocation among all security holders of a given issuance of a security. The

investors' protection fund could also be used as a second measure, but as this fund applies only to the clients of brokers and dealers, subsequent legal reforms may be required. The authorities are encouraged to assess these mechanisms as proposed under IMF TA on legal reforms.

<b>Table 1. Recommendations on Financial Market Infrastructure Oversight and Supervision</b>		
<b>Recommendations and Authority Responsible for Implementation</b>	<b>Financial Stability Relevance</b>	<b>Timeframe 1/</b>
<b>Effectiveness of Oversight and Supervision Framework</b>		
Adopt an explicit legislation on settlement finality and financial collateral, and continue legal reforms (NBM, NCFM, Parliament)	High	Immediate
Adopt amendments to the Capital Market Law to consolidate the securities records of Public Interest Entities from independent registrars to the NSD (NCFM, Parliament)	High	Immediate
Adopt the PFMI into the Policy on Payment Systems Oversight of the Republic of Moldova (NBM)	High	Immediate
Increase legal protection and staff resources to conduct FMI oversight (NBM, NCFM)	High	Near-Term
Disclose the NBM-NCFM MoU (NBM, NCFM)	Medium	Immediate
Review core mandates against the PFMI and align with competencies (NBM, NCFM)	High	Near-Term
Establish a joint committee under the MoU to conduct future FMI assessments (NBM, NCFM)	High	Near-Term
<b>FMI Risk Management</b>		
Assess the NSD against the PFMI (NCFM, NBM)	High	Immediate
Develop crisis management arrangements under risk regulations for the AIPS and BES (NBM)	High	Near-Term
Develop a comprehensive risk management framework for the NSD, including crisis management arrangements (NBM, NCFM)	High	Near-Term
Increase the guarantee fund for the NSD (NCFM)	High	Near-Term
Establish a recovery plan with sufficient liquid net assets for the NSD (NBM, NCFM)	High	Near-Term
Relocate the secondary server for the BES (NBM)	Medium	Near-Term
<b>CSD and Registrar Reforms</b>		
Conduct a cost analysis to set-up a single CSD (NBM, NCFM)	Medium	Near-Term
Strengthen supervisory standards for registrars (NCFM)	High	Near-Term
Assess the use of loss-sharing arrangements for reconciling securities records (NCFM)	Medium	Near-Term

1/ "Immediate" is within one year; "near-term" is 1–3 years; "medium-term" is 3–5 years.

## INTRODUCTION

1. **The approach taken by authorities in the oversight and supervision of FMIs is important in promoting and maintaining financial stability in Moldova.** While well-functioning FMIs can greatly improve the efficiency, transparency, and safety of financial systems, they can also concentrate systemic risk, which requires effective oversight and supervision to achieve public policy objectives. In the context of Moldova, the authorities are confronted with a national decision to create a single CSD that has good governance, robust risk management practices, and financial soundness. Vulnerabilities in FMIs could potentially undermine the implementation of monetary policy, or generate systemic disruptions in the financial markets, and more widely across the economy. A problem may be initiated by the inability of a participant to settle its obligations, or by operational failures of the system as a whole. The resulting default may be passed on to other participants, and get transmitted across financial systems and markets, threatening their stability.
2. **This note reviews the oversight and supervisory framework for FMIs in Moldova.** In this note, FMIs cover payment systems, central securities depositories, and securities settlement systems. Payment systems were assessed in the 2008 Republic of Moldova FSAP Update and are not covered in this note. Securities registrars, which play a key role in the capital markets, are not FMIs and are assessed under Principle 11 on CSDs of the PFMIs. The analysis was based on the authorities' answers to the IMF's questionnaire, IMF and World Bank technical assistance reports, and background documentation. The mission met with representatives from the NBM, NCFM, MSE, NSD, and independent registrars. This note was prepared based on the information available in February 2014.
3. **The analysis focuses on the five responsibilities of central banks, market regulators and other authorities for FMIs, and the effectiveness of oversight and supervision of the CSDs.** (Appendix I). This is assessed against the PFMIs. The targeted assessment of CSDs addresses the specific issues that were identified in earlier technical assistance missions of the IMF. They include the applicable principles as follows (Appendix II): Legal risk (Principle 1); Comprehensive risk management framework (Principle 3); Credit risk (Principle 4); Liquidity risk (Principle 7); CSDs (Principle 11); General business risk (Principle 15); and Operational risk (Principle 17).
4. **The assessment's outcome is not a detailed assessment report, but a technical note.** The note includes (i) an overview of the FMIs and description of past and ongoing reforms; and (ii) an assessment of the main issues at stake.



# OVERVIEW OF FINANCIAL MARKET INFRASTRUCTURES

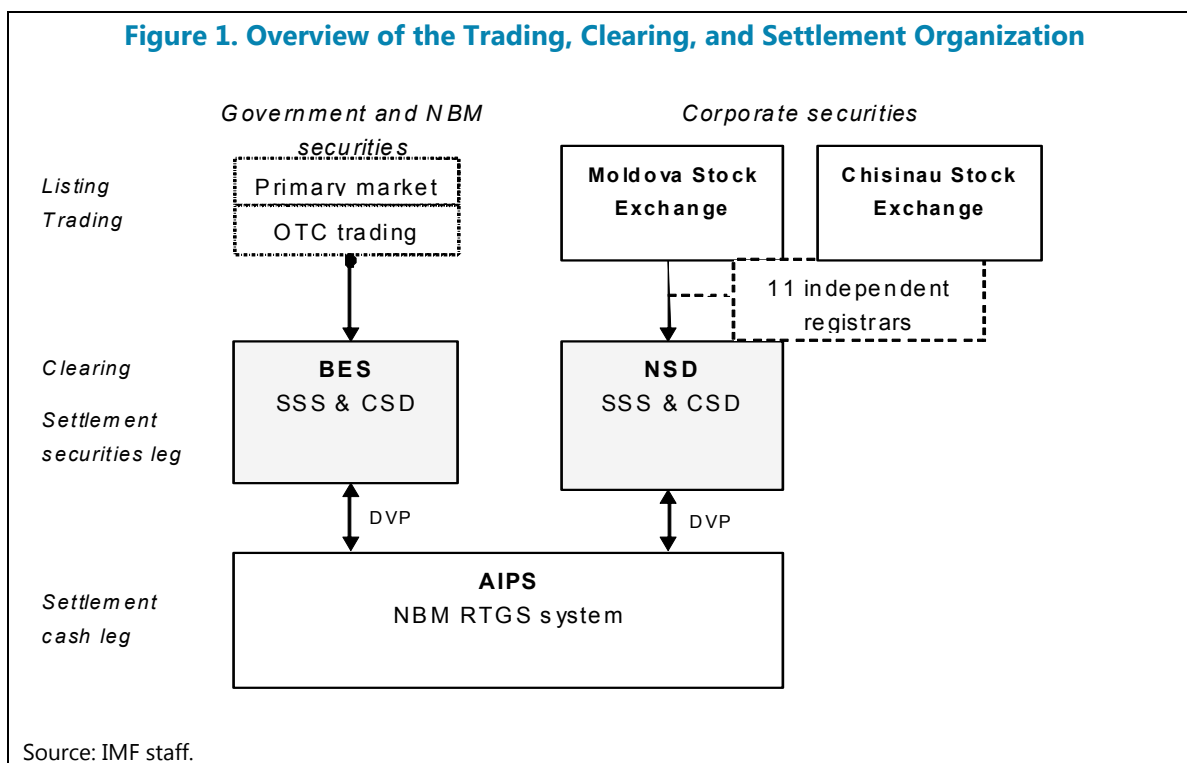
## A. Description of Financial Market Infrastructures

**5. There are three major FMIs located in Moldova (Figure 1).**<sup>2</sup> They include the Automated Interbank Payment System (AIPS) and two CSDs, the Book-Entry System of Securities (BES) and the National Securities Depository (NSD). The BES and NSD each function as a securities settlement system (SSS) (Appendix III provides a general description of CSD/SSS). Their key features are as follows (Appendix IV provides background information on the CSD/SSS in Moldova):

- The AIPS is a systemically important payment system owned and operated by the NBM. It handles only transactions denominated in Moldovan Leu (MDL). The AIPS has two main components, including a real-time gross settlement (RTGS) system for large value and time critical payments, and a designated-time net settlement (DNS) system for low value payments. The average daily values settled amounted to MDL 2 billion (US\$ 214 million), equivalent to 2.7 percent of GDP in 2013. At end February 2014, 18 participants held settlement accounts with the NBM, including 14 commercial banks, the NBM, the State Treasury within the Ministry of Finance (MOF), the Settlement Centre from Tiraspol, the NSD, and one mandated participant that does not hold an account in the AIPS—the Center for Electronic Governance. Central bank intraday liquidity facilities are only available to banks.
- The BES clears and settles government and central bank securities trades, and completes cash settlement by delivery versus payment (DVP) in the AIPS. It is also owned and administered by the NBM. The BES keeps the register of ownership of government and central bank securities at the level of its participants, while BES' participants keep the register (of beneficial ownership) at the level of their clients. The average daily values settled amounted to MDL 922 million (US\$ 73 million) or 1 percent of GDP in 2013 (Table 2). Around 80 percent of total settlement values are central bank securities (Appendix V). There were 17 participants at end February 2014.
- The NSD clears and settles corporate securities traded on the Moldova Stock Exchange (MSE), and completes cash settlement by DVP in the AIPS. There are plans to trade government bonds with a maturity above one year on the stock exchange with clearing and settlement in the NSD (as a sub-register of BES). The average daily values settled amounted to MDL 3 million (US\$ 0.2 million) in 2013. Trading volumes are thin (Appendix VI). The NSD is jointly owned by its participants, including the MSE, a registrar company, domestic commercial banks, and broker dealers. Although the NSD is licensed under the Law on Securities Markets to keep a register of corporate securities, no issuer has transferred its share registry from amongst the

<sup>2</sup> The Chisinau Stock Exchange (CSE) was licensed by the NCFM in 2012, but operations have yet to commence. As the license permits it to do clearing and settlement activities, it plans to establish its own CSD.

11 independent registrars that currently maintain registers for all joint stock companies issued in Moldova. As of March 2014, the NCFM withdrew two registrar licenses and is currently involved in their litigation. Both registrars' operations have not been suspended, and their cases are being handled by the courts.



**Table 2. Average Daily Volume and Value Processed by FMIs in 2013**

	Value (MDL million)	Value (USD million) 1/	Value (percent of GDP) 2/	Volume
<b>Payment System</b>				
AIPS 3/	2,698	214	2.7	55,301
<b>CSD/SSS</b>				
BES	922	73	1.0	31
NSD 4/	3	0.2	n/a	5

Sources: NBM and NCFM.

1/ Equivalent transaction values expressed in U.S. dollars. The average official exchange rate of the MDL against the U.S. dollar was approximately 12.59 in 2013.

2/ GDP for 2013 is based on an estimated growth of 5 percent from 2012 as actual figures have not yet been computed by the National Bureau of Statistics.

3/ This includes transactions handled by the RTGS and DNS systems.

4/ Figures are based on 252 sessions in 2013; n/a is not available as amounts are negligible.

## B. Past and Ongoing Reforms

**6. The Law on Payment Services and Electronic Money (No. 114 of May 18, 2012) came into force in September 2013.** By Decision of the Council of Administration of the NBM No. 123 of June 27, 2013, effective as of September 2013, the regulation on the activity of nonbank electronic money issuers and nonbank payment service providers was approved. Regulations on credit transfers, the activity of banks within the international money transfer systems, and payment cards were modified and amended to harmonize with this new law. The amendments have been republished in the Official Monitor of the Republic of Moldova and publicly disclosed on the website of the NBM.

**7. The NPC was established.** The Council's statute was adopted in September 2013. It describes the objectives, functions, membership, rights and obligations, organizational structure, power to establish working groups, and meeting arrangements of the Council. The NBM's Deputy Governor who is in charge of the Payment Systems Department chairs the Council and its Payment Systems Department serves as the secretariat. Council members are represented by senior officials from the NBM, MOF, Ministry of Economy, Ministry of Information Technology and Communications, Center for Electronic Governance, Moldovan Banks Association, and payment services providers and electronic money issuers licensed by the NBM.

**8. CSD reforms are ongoing.** A coherent reform strategy has yet to be formulated following a range of technical assistance (TA) recommendations.<sup>3</sup> Some progress was made in plans to consolidate the share registries held by multiple independent registrars. Under the Moldova Development Policy Operation (DPO), the NCFM and the World Bank have drafted a law to amend the Capital Market (CM) Law. These changes aim to transfer the registers of securities holders of public interest entities to the central depository.<sup>4</sup> Joint stock companies that have fewer than 100 shareholders (holders of any class of security) and hold capital below MDL 500,000 (US\$ 37,000) are not subject to mandatory transfer, and therefore unlikely to be included in the planned consolidation. Adoption by parliament is expected in the first half of 2014 with the transfer process to be overseen by the NCFM. The NCFM is in the process of developing a new database system that will provide a daily backup of all corporate securities from the independent registrars, once the law is passed.

<sup>3</sup> This has included an IMF TA advisory mission on single CSD design and functionalities in May 2013, a World Bank TA mission on the efficiency and integrity of the securities registration system and the possibilities for their reform in June 2013, and an IMF TA mission on legal framework for CSD in September 2013. No cost analysis has been conducted to further examine the economic feasibility in establishing a single CSD by providing estimations of the investment costs, transaction costs, connection costs, and foreseen cost recovery.

<sup>4</sup> A public interest entity meets at least one of the following criteria: (i) a financial institution, an insurance undertaking, and a voluntary pension fund; (ii) an issuer that has sold its securities via a public offer, within the last 24 months; (iii) an issuer that has sold its securities without a public offer prospect according with the requirements of Article 13, para 2 of the CM Law; (iv) an issuer whose securities are admitted to be traded, pursuant to the issuer's request of consent, on a regulated market of a multilateral trading facility; and (v) an issuer that has 100 shareholders or more of any class of securities issued and outstanding by that issuer and MDL 500,000 or more in statutory capital.

**9. The trading of government bonds on the stock exchange is planned.** Currently, the NCFM, NBM, MOF, and MSE are in the process of examining the possibility of trading government bonds, with maturities over one year, on the MSE with settlement in the NSD. This is expected to start in April 2014. Government securities are currently traded on Bloomberg. Under the new concept, government bonds would be tradable on the MSE if the NBM accepts the NSD as a participant in the BES. The NBM will be required to open an account in the BES to hold government bonds for those who need to trade bonds on the MSE. Client holdings could be held directly in the NSD instead of indirectly in BES, via primary dealers, as in current arrangements. This would not be compulsory, as any client who does not wish to trade their securities on the MSE could continue to hold their securities with their primary dealer. If primary dealers trade on the MSE then the flows of securities will need to move between the primary dealer's accounts and the NSD's account in the BES. The NSD will be required to open personal accounts for clients and maintain a register of client holdings of government bonds, and to provide to the NBM reports on owners in the format prescribed by the NBM Regulation on the BES of Securities. Settlement for government bonds traded on the MSE will be made in real-time based on DVP Model 1 in the AIPS.

## MAIN ISSUES AT STAKE

### A. Effectiveness of the Oversight and Supervision Framework

**10. FMI's are subject to the regulation, supervision, and oversight by the NBM or NCFM.** The NBM oversees the AIPS and BES. The NCFM regulates the NSD. The FMI's are supervised under their respective legal framework and policy mandates. There is a Memorandum of Understanding (MoU) that establishes cooperation, information sharing, and peer review of assessment results between both authorities.<sup>5</sup> If assessments or quarterly reports undertaken by the NBM identify noncompliance or gaps in the regulation, supervision or oversight in the AIPS or BES, it may apply measures in the form of modifications or amendments under the NBM/MOF legal framework.

**11. The NBM's role in the payment system is well established, but greater clarification is needed for its involvement in other types of FMI's.** The NBM's statutory objective is to oversee the payments system and facilitate the efficient functioning of interbank payments system to safeguard financial stability and public confidence.<sup>6</sup> The NBM's payment systems oversight policy fulfills this task by identifying four major types of payment and settlement systems that are subject to oversight, including the AIPS, SSS, card payment systems, and international money transfer

<sup>5</sup> The NBM and NCFM MoU was signed on December 27, 2010 and amended on October 16, 2012.

<sup>6</sup> Article 5 (f) of Law no. 548-XIII of July 21, 1995 on the NBM. Draft amendments to the NBM Law are under review by parliament. It will explicitly state the NBM's role in the oversight of the AIPS, and its licensing and supervision of payment services and electronic money (Article 5). The draft also includes a separate chapter on payment systems. There are no details on the NBM's oversight and operational roles in the BES.

systems.<sup>7</sup> The oversight policy does not clearly identify the BES as the SSS/CSD or refer to the cooperative oversight arrangements between the NBM and NCFM.<sup>8</sup> The criteria for FMI oversight are focused on their impact on financial stability and monetary and foreign exchange policies. The PFMI are not specified as the applicable international standards used to assess the AIPS and BES.

**12. The NCFM identifies FMIs under the CM Law.** This law establishes the entities and systems that are part of the capital market infrastructure, including the regulated markets, financial intermediaries, multilateral trading facilities (MTF), the CSD, and SSS, and independent registrars. Such entities are authorized and regulated under the CM Law and the NCFM Law. Under Article 79 of the CM Law, the NCFM and NBM jointly issue regulations on clearing and settlement arrangements that support the capital market.<sup>9</sup>

**13. The authorities have powers that are consistent with their relevant responsibilities.** The NBM's payment system oversight policy permits it to obtain timely information for the periodic assessment of FMIs under its oversight. Such information includes their architecture and performance, rules and procedures, activity in the FMIs from on-site bank inspections, internal and external audit reports, and regulations and information issued by other institutions. The NBM can also induce change and enforce corrective action by the use of sanctions and/or remedial measures in the form of recommendations or mandatory orders with specific terms of implementation, if it finds noncompliance from its assessments. The NCFM Law and CM Law give the NCFM licensing, regulatory, supervisory, and control powers of the capital market infrastructure, including the NSD. The NCFM's power to obtain timely information is derived from Article 141 (Supervision and Control of the Capital Market), Article 142 (Investigations), and Article 143 (External Audit) of the CM Law. Under NCFM regulations, FMIs under its oversight are required to submit on a regular basis financial reports to the NCFM.<sup>10</sup> Under the CM Law, the NCFM has the right to approve the methodology for calculating ownership equity for licensed persons and setting capital adequacy requirements. Licensed entities are obliged to immediately inform the NCFM on any material breach of laws relating to operations, manipulation activities, market abuses, or other breaches which may affect market stability. The NCFM can induce change or enforce corrective action in FMIs if it finds

<sup>7</sup> The Policy on Payment System Oversight in the Republic of Moldova was approved by the Decision of the Council of Administration of the NBM, no. 143 of June 30, 2011. This establishes the oversight principles, the types of systems and systemic components overseen, and the organization of oversight.

<sup>8</sup> The amended NBM-NCFM MoU specified the applicable assessment standards for the AIPS, the settlement bank for participants of the Moldavian Stock Exchange, and use of the PFMI for assessing the BES and NSD.

<sup>9</sup> This is in accordance with NCFM Resolution No. 31/5 of July 28, 2011, which approved the concept for the integration of the NSD with the AIPS of the NBM. NCFM Resolution No. 59/12 of December 14, 2013 also approved the general concept for the mechanism to trade government securities with maturity greater than one year on the MSE, for which the NSD will hold relevant accounts in the BES of the NBM, which maintains the records of holders of government securities.

<sup>10</sup> This includes balance sheet, profit and loss statement, cash flow statements, statements of changes in equity, audit reports, reports on financial investments and other assets, performed transactions, transactions in the account of their members, their open positions, direct transfers of ownership, contracts with issuers, the structure of the guarantee fund, the participants' risk fund, depository activities, and so forth.

nonobservance to the CM Law and other related laws. This includes sanctions in the form of a warning, public warning, suspension or withdrawal of qualification certificates, suspension or withdrawal of officials, suspension or interdiction of activities on the capital market of the natural person, suspension of license, withdrawal of license or authorization, or a fine of up to MDL 1 million. But in practice anything it tries to do can be blocked by court action, including revocation of license. A constitutional court ruling in December 2012 curbed the NCFM's powers to effectively carry out its functions as a regulator: any regulatory action may be challenged in court and can be suspended immediately, pending the court's decision.

**14. NBM and NCFM staff resources appear to be stretched with increased responsibilities, which could undermine the effectiveness for FMI oversight.** Due to an increase in oversight and supervisory responsibilities, the sufficiency of staff resources need to be regularly reviewed, clearly allocated, and increased if necessary. Since September 2013, NBM staff have been tasked with new responsibilities to enforce the Law on Payment Services and Electronic Money and support the secretariat of the NPC.<sup>11</sup> Since the PFMI's were published in April 2012, NBM and NCFM staff have also been responsible for the assessment of FMIs under their supervision against the new international standards.<sup>12</sup> As the size and complexity of the assessments and the depth of the review expected of assessors is higher under the new PFMI's, this could require additional resources for full assessments of FMIs in Moldova. Careful allocation of resources and staff training are needed to continue performing assessments of high quality and to ensure the proper identification and monitoring of issues that could compromise the safety and efficiency of FMIs. NCFM staff have not received training on the PFMI's, and would benefit from training on the new international standards. With the planned replication of securities records from independent registrars to the NCFM, staff may be faced with increased workload, particularly in data verification, although this may be on a random basis. Financial resource constraints do not appear to be an immediate issue for both authorities, but as responsibilities increase, resources may have to be increased to support further investments in staff training, for example.

**15. NBM and NCFM staff receive some form of legal protection.** The NBM Law clarifies the provision of legal protection for NBM officials, including staff in the Payment Systems Department and Market Operations Department, and safeguards against conflicts of interest. Article 38 (paragraph 7, letter d) of the Law on Financial Institutions also affords protection by stating that "the employees of the National Bank, members of the special supervision commission, the special administrator, liquidator and persons employed to assist them shall not be liable for damages,

<sup>11</sup> The PSD and MOD are responsible for FMIs. The PSD operates the AIPS and the MOD administers the BES. Within the PSD, there are 3 divisions with staffing levels as follows: Oversight of Payment Systems and Payment Instruments (five staff); Regulation, Licensing and Supervision of Payment Service Providers and E-Money Issuers (six staff); and Interbank Payments Monitoring (eight staff, six working on different shifts). AIPS and BES assessments are conducted by the Oversight of Payment Systems and Payment Instruments Division.

<sup>12</sup> The NCFM's General Directorate of Securities Supervision oversees FMIs. There are 17 staff in this unit, of which seven are in the Directorate for Regulation and Authorization of Professional Participants and nine are in the Directorate for Monitoring and Control. There are two staff working on the NSD and MSE.

actions or omissions occurred in the course of their duties, except for cases when it is demonstrated that these were intended and illegal.” However, in practice, NBM board members and employees, such as staff appointed as a bank’s liquidator, do not appear to enjoy enough protection against lawsuits while discharging their duties in good faith. Under Article 24 (2) of the NCFM Law, Members of the Council of Administration cannot be detained, arrested or called for administrative or criminal responsibility unless at the request of the General Prosecutor, with due consent of the Parliament. However, NCFM staff have concerns as they have been threatened with prosecution, while every regulatory action that was taken since December 2012 has been challenged in court.

**16. FMI policies should be made more transparent.** The NBM’s Policy on Payment System Oversight is published in the Official Monitor of the Republic of Moldova and publicly disclosed on its website. Details on the BES, which functions as the CSD and SSS, however, require greater disclosure. FMI developments are reported in separate sections of a combined chapter on the central bank’s activities in the NBM Annual Report. Developments in the BES are described in the money market section. AIPS and oversight activities are reported in the payment systems section. However, improvements are needed in a number of areas. The oversight policy and annual report should clearly describe the systemic importance and strong interdependencies between the major FMIS, including the AIPS, BES, and NSD. For the Annual Report, this could be approached with cross-references to each FMI in the respective sections, or the development of a standalone oversight report. This helps create greater clarity on the roles and responsibilities of each authority on FMIs. The NCFM does not have an explicit FMI policy. This is implied through the CM Law. The NSD and MSE operate under their rules approved by the NCFM. The CM Law grants the NCFM the right to adopt by-laws on their activity. The NCFM is now in the process of adopting regulations under the CM Law, which will also include by-laws on the activity of the CSD and of the market operator. These acts will provide NCFM the necessary policy space in this area. Any NCFM regulation is consulted in advance with all the stakeholders and published in the Official Gazette of the Republic of Moldova and is disclosed afterwards to the public on the official website of the NCFM. An explicit FMI policy statement, based on the CM Law, could be developed for clearer communication and public disclosure. The NBM-NCFM MoU, which contains clear and detailed information on how the authorities divide their responsibilities and cooperate in FMI peer assessments, should be publicly disclosed.

**17. The new international standards should be formally adopted within a year.** The NBM currently applies internal instructions for the oversight of the AIPS and BES against the PFMI. The Policy on Payment Systems Oversight does not clearly establish the adoption of the PFMI. The NBM-NCFM MoU, however, established that the NBM is obliged to perform assessments of the AIPS and BES against the PFMI for every two years, and the NCFM is responsible to assess the NSD. The NCFM is in the process of developing the regulatory framework under the CM Law where it seeks to adopt the PFMI. Thus, in the current transition period to the requirements of the new CM Law, the NCFM has informed capital market infrastructure entities that the procedure for issuing new licenses and regulations would be based on their observance of the PFMI.

**18. There appears to be regulatory fragmentation, which may undermine the effectiveness of FMI oversight.** The authorities need to adopt and apply consistently the PFMIs, and allocate or share responsibilities according to their mandates and competencies. This may necessitate the amendment of relevant laws to align authorities' competencies with oversight responsibilities on FMIs. As one way forward, the NBM could apply standards involving issues on systemic risks and financial stability. The NCFM could focus on areas that protect investor rights. The NBM-NCFM MoU provides a good basis for regulatory cooperation, and would benefit from the creation of a joint committee where staff from both authorities work together in drafting FMI assessments and recommendations.<sup>13</sup> Both authorities currently perform periodic assessments under their competence. The NBM is responsible for assessments of the AIPS and BES. The NCFM is responsible for assessing the NSD. Both parties have agreed to exchange information on the assessment results, and to take into consideration proposals and objections. Revisions to the assessment results are made on a voluntary basis and moral suasion. As both authorities have already established a common working group that meet on an ad hoc basis or when required, this forum could be further developed into a joint committee for the assessment of FMIs.

## B. Legal Risk

**19. Legal uncertainty remains for the settlement of government and central bank securities, which are being addressed through new draft laws.** Specific legal provisions are needed to protect finality, collateral and netting arrangements in case of insolvency proceedings, and investors' rights in the BES. According to the National Plan for Legislation Harmonization for 2014 (approved by the Government Decision no. 28 of 22 January 2014), the NBM will be responsible for elaborating two draft laws, including settlement finality in payment and securities settlement systems, and financial collateral arrangements. The adoption of such laws is needed. The average daily values handled by the BES amounted to MDL 922 million (US\$ 73 million) or 1 percent of GDP in 2013. Implementation of IMF TA advice on legal issues would help address uncertainties on financial collateral arrangements and international law problems.

**20. Plans to trade government bonds with maturities of over one year on the stock exchange need to be protected under the CM Law.** Article 79 empowers the NCFM and NBM to issue regulations on the procedure of clearing and settlement of transactions with financial instruments that circulate on the capital market. The NSD, in accordance with such regulations, needs to clearly establish government bonds as a financial instrument for which it will carry out clearing and settlement. Article 80 provides finality protection for settlements in the NSD. Plans to

<sup>13</sup> The NBM-NCFM MoU establishes the procedures for cooperation, responsibilities of the parties, and the exchange of information. It has five objectives, including: (i) cooperation in order to promote financial stability; (ii) cooperation in the process of licensing, authorization and supervision of financial market participants, to avoid duplication of monitoring and statistical reporting; (iii) information exchange in the field of regulation, supervision and control of financial markets; (iv) supervision of securities settlement systems and payment mechanisms; and (v) exchange of information from the parties in the exercise of powers established by the legislation in force.



adopt explicit legislation on settlement finality and financial collateral may also require further amendments to the CM Law to ensure their consistency.

**21. The legal framework requires changes to ensure that registrars do not hamper the process of fully dematerializing the transfer of private securities.** Apart from efforts to adopt settlement finality and financial collateral rules in line with international standards, there is also a need to fully dematerialize the transfer of corporate securities. The Civil Code and the Joint Stock Company (JSC) Act implicitly require the intervention of the registrar to enforce a transfer of securities ownership or the creation of a pledge. This does not adequately support the circulation of securities in book-entry form.

### C. Comprehensive Risk Management Framework

**22. The BES was self-assessed against the PFMI, while its risk management framework should be strengthened with crisis management arrangements.** The NBM has issued the Regulation on Risk Management for the BES. This was approved in August 2013 and came into effect since January 1, 2014. The regulations include specific provisions on risks management mechanisms for operational risk, settlement risk, and custody risk. Under the regulation, the NBM is allowed to assess the effectiveness of policies, procedures, and risk management mechanisms adopted by participants in the BES. BES participants are required to have a governance framework that contains a clear organizational structure with defined responsibilities. They also need to adopt their own policies and procedures to identify, manage, monitor, and report the existing or potential risks, and their internal control mechanisms. The BES does not appear to have developed scenarios that would prevent it from providing critical operations and services, or have a recovery plan.<sup>14</sup> Preliminary self-assessment of the BES against the PFMI has been completed, in Romanian, and was submitted to the NCFM for peer review on February 20, 2014. Because of the interdependencies between the AIPS and BES, and AIPS and NSD, the NBM should ensure that it has crisis-management arrangements that would allow for effective coordination among the affected entities, including cases in which its own viability or the viability of an interdependent entity is in question.

**23. A comprehensive risk management framework is lacking and a self-assessment against the new international standards is needed for the NSD.** Current risk management practices are largely focused on operational risks as guided by the Measures to Reduce Risks in Clearing and Settlement Operations of 2010. The NSD was assessed by the NCFM against the CPSS-IOSCO Recommendations for Securities Settlement Systems (RSSS) in 2011.<sup>15</sup> There has been no self-assessment of the NSD against the PFMI. The current risk policy encompasses measures to manage

<sup>14</sup> Principle 15 (General Business Risk) of the PFMI notes that recovery could include recapitalizing, replacing management, merging with another FMI, revising business strategies (including cost or fee structures), or restructuring services provided.

<sup>15</sup> The assessment was based on 15 of 19 applicable recommendations. There was full compliance in 11 areas and general compliance for four standards, including the legal framework, settlement assets, operational security, and transparency.

operational risks and settlement risks (through the guarantee fund). The NSD is also required under the CM Law (18 months after its enactment) to develop and apply internal audit policies to protect the safety, integrity and confidentiality of internal data. The audit would also include risk identification and risk management. The NSD is also required to perform a mandatory audit of its financial condition at least once a year and a technical audit of its information systems at least once every 2 years. There does not appear to be a capacity to aggregate risks or identify scenarios that would prevent it from providing critical operations and services. Recovery plans need to be developed and shift the focus from measures to manage operational risks to those that deal with financial constraints, particularly the holding of sufficient liquid net assets funded by equity to continue operations if it incurs general business losses. Because of the interdependencies between the NSD and AIPS, it should also develop crisis-management arrangements.

## D. Credit and Liquidity Risk

**24. Potential credit and liquidity risks remain in the NSD.** The NSD's settlement of corporate securities features a delivery versus payment (DVP) mechanism where final cash settlement takes place at the NBM. This is based on DVP Model 3, providing the simultaneous net settlement of securities and funds transfers at T+3. DVP Model 3 limits principal risks. Before trade execution, the MSE checks the availability of securities, resulting in a very low settlement failure rate. However, as settlement is made on the third day following a transaction, where the securities of the seller and the cash of the buyer have been earlier blocked, potentially large liquidity exposures are created if a participant fails to settle its net funds debit position. Some or all of the defaulting participants' transfers may have to be unwound under this scenario. This would impose liquidity pressures on the non-defaulting participants. If all such transfers must be deleted, and if the unwind occurs during stressed market conditions, the remaining participants could be confronted with shortfalls of funds or securities that would be extremely difficult to cover. The potential total liquidity pressure of unwinding could be equal to the gross value of the netted transactions. NSD rules provide for a sanction of 5 percent of the total value of a transaction in the event of settlement failures, but there has so far been no occurrence of such events. The NSD should evaluate the benefits and costs of a settlement cycle for corporate securities that is shorter than T+3, particularly when settlement activity has heightened. Speedier settlements also need to be balanced with the time and capacity to monitor potential raider attacks on vulnerable companies, which can only be achieved with a reform of the registrars. The NSD plans to settle government bonds with maturities over one year on T+0, which will help remove counterparty credit and liquidity risks.

**25. The guarantee fund appears to be insufficient for the NSD.** The size of the fee paid into the guarantee fund is fixed at MDL 30,000 and does not appear to be adequate to reduce potential settlement risks.<sup>16</sup> The average daily value handled by the NSD was MDL 3 million (US\$ 0.2 million) in

<sup>16</sup> The size of the participant's risk fund held by the NSD amounted to MDL 1.77 as of December 31, 2013. Every professional participant in the securities market (broker, dealer, independent registrar, etc) is currently obliged to hold a guarantee fund of 30 percent of the regulatory capital necessary for the respective type of activity which is used only with the permission of the NCFM. Although the guarantee fund insures against the risk of default, it was

(continued)

2013. This amount, although marginal, could potentially increase with planned settlement of government bonds with maturities over one year (and the expected increase in the issuance volume of government bonds) and the cross-border trading of securities. The NSD does not offer credit to its participants or permit debit balances for securities. A shortfall of funds is possible in the event of a participant default, resulting in the unwinding of participant positions and a recalculation of their obligations. This could further lead to unexpectedly large funds or securities debit positions for other participants. A second default may result if a participant is unable to cover its new obligations on time. Under Principle 7 (Liquidity Risk) of the PFMIs, the NSD should seek to maintain sufficient liquid resources to effect payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.

**26. Credit and liquidity risks are well managed in the BES.** The cash leg for government and central bank securities trades are settled in the AIPS under DVP Model 1 at T+0. This feature allows for the gross and simultaneous settlement of funds and securities. Transactions become final on an obligation-by-obligation basis during the course of the settlement day, thus reducing credit and liquidity exposures among participants or between a participant and the BES. As the cash leg is settled in the RTGS component of the AIPS, participants are not exposed to any credit risks. The NBM may extend intraday credit by providing collateralized overdrafts to banks participating in the AIPS to ensure timely settlement of securities transfers, while employing various risk controls to limit credit risk to the NBM. The BES does not permit overdraft or debit balances in securities.

## E. Central Securities Depository

**27. National CSD reforms have progressed at a slow pace, and are undermining the integrity and efficiency of the FMI landscape.** Despite the NCFM's action plan in 2011 for the creation of a modern structure for the NSD, including taking over the function of holding the registers, the necessary legislation has failed to gain parliamentary support. This action plan was approved by Law No. 35 of March 3, 2011 on the approval of the strategy on developing the financial non-banking market for 2011–14, which required implementation by the NCFM. Based on this action plan, the NCFM has provided to the NSD a license for maintaining shareholder registers. Earlier efforts to amend the CM Law with a provision to replace independent registrars with a central depository were excluded from the final version approved by parliament. There have also been mixed reactions from the NCFM and MSE towards the establishment of a single CSD, particularly on the nature of the future entity and details of its implementation.

**28. CSD reform efforts should continue under the NPC and include a cost analysis.** A possible approach is as follows. First, a Working Group on CSD Reform, co-chaired by the NBM and

---

never used. In addition, the provisions of the CM Law establishes new capital requirements for entities regulated by the NCFM, including the formation of the Investor Compensation Fund designed to cover legal risks stemming from increases in transaction volumes that may also come from cross-border trading.

NCFM, should be formed under the NPC.<sup>17</sup> Alternatively, the authorities may want to create a forum outside the Council if they consider this more appropriate and practicable. Both authorities should establish the terms of reference and representation in the working group. Second, a cost analysis should be conducted, in cooperation with international partners that have similar implementation experiences, to assess the economic feasibility of a single CSD. The analysis should provide estimations of the investment costs, transaction costs, connection costs, and foreseen cost recovery. It could include an estimation of the scale and scope economies, and how this will impact the average cost per transaction. It should address the investment cost for participants, including the connection and network cost. Third, the financial and risk management capabilities of the private sector should be assessed, particularly in meeting minimum capital requirements. As the NSD's financial condition and risk management practices appear relatively weak, so that it might not be capable of becoming the new CSD (with a modern IT system and appropriate governance arrangements), other feasible arrangements should be considered. This could include central bank involvement, if required, to help establish the single CSD and ensure the safe and efficient settlement of securities. And fourth, the working group should develop a coherent and well sequenced reform strategy, to be approved by the NPC, which will guide implementation and minimize industry impact.

**29. Fraud risk continues to compromise the integrity of the corporate securities registration system despite efforts to consolidate and replicate records.** Governance of the registrars is weak, back-ups are virtually nonexistent, and procedures for handling and controlling data and records are poorly managed and monitored. Ongoing reforms include proposed amendments to the CM Law to transfer the registers of securities holders of public interest entities to a central depository. Adoption by parliament is expected in the first half of 2014. To strengthen oversight, a new database system is being developed to provide daily backups of all corporate securities from the independent registrars, once the legislation is passed. Data verifications, however, will be on a random basis. The NCFM plans to perform data verifications based on the risk profile of the participant or the register as a result of any complaints. The verification of electronic records of independent registrars against paper documents, which cover a period of 20 years and includes about 3,000 companies, is also expected to demand significant resources. Data reconciliation measures to ensure integrity in the new database also appear to be lacking.

**30. The planned transfer of some corporate securities into a single depository is partial. The authorities should aim for fuller consolidation in the medium term.** The NCFM plans to enact amendments in the CM Law to consolidate the registration system for corporate securities traded on the stock exchange (or private securities subject to public offering) into a single depository. However, the authorities should review the criteria of limiting mandatory consolidation to public interest entities with the aim of improving integrity for the whole securities registration system, although it clearly makes sense to transfer public interest entities first. The exclusion of non-

<sup>17</sup> Although the NPC's objective does not clearly include CSD and SSS, or include the NCFM as a member of the Council, this can be later amended to account for the strong interdependencies between the AIPS, BES, and the corporate securities CSD.

public interest entities, which form over half of all registered joint stock companies, hampers efforts to prevent fraud risks. The NCFM should take into account the benefits of detecting fraud against the cost of auditing public interest entities. As interim measures, the authorities could strengthen oversight by increasing the frequency of registrar inspections from the current requirement of three years. Information obtained from periodical shareholder meetings in joint stock companies also provides an alternative approach to reconcile securities records. Such measures, however, are not as effective as moving towards the full consolidation of all securities records in a CSD. Many difficulties remain in the transfer process, which need to be addressed on a gradual basis. The independent registrars keep the register of securities holders for about 2,000 joint stock companies out of 3,000 companies held in the state register of securities. The rest of them are inactive. Around 1,000 out of 2,000 joint stock companies are registered at the stock exchange. However, the stocks of only around 200 are traded. Many contracts between the independent registrars and the inactive joint stock companies have expired. Furthermore, as the issuers have not signed new contracts, this forces the independent registrars to keep these databases on their own account. The transfer of these companies' registers to the central depository will be fairly problematic due to the impossibility of signing new contracts with the central depository, although this is necessary to comply with legal provisions. Also, the central depository may face losses by keeping these registers.

## F. General Business Risk

**31. Financial constraints could risk operational disruptions in the NSD.** There appears to be a potential impairment of the financial condition of the MSE and NSD. Although new capital was raised by shareholders and an increase of fee income has helped the MSE and NSD comply with the minimum capital requirements under the CM Law, they have operated at a loss in some years. The MSE's income did not cover total expenses during 2009 to 2011.<sup>18</sup> Financial conditions improved in 2012 with a sharp increase in the turnover of transactions on the stock exchange to MDL 623 million from MDL 241 million in the previous year. This corresponded with similar losses for the NSD during 2009 to 2010. The NSD's shareholders are currently in consultations with the NCFM for further capital increases. This lack of sustainable income constrains further modernization of the system. The lack of general business risk identification, monitoring, and management could result in operational disruptions. As the NSD has strong interdependencies with the AIPS, such risks could spillover to the interbank payment system.

**32. Liquid net assets do not appear to be sufficient or readily available to cover potential general business losses in the NSD.** The NSD periodically evaluates its financial position to prevent or avoid eventual business risks. The holding of liquid assets, however, is temporary due to the lack of a legal obligation. The resources from the Participants' Risk Fund exclude the depository's funds and are used only for participants' debt amortization regarding their obligations arising at trades settlements. Under Principle 15 (General Business Risk) of the PFMIs, the NSD should hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue

<sup>18</sup> The CSE, which has yet to commence operations since receiving its license in 2012, also recorded losses in 2012.

operations and services as a going concern if those losses materialize. Further, liquid net assets should at all times be sufficient to ensure a recovery of critical operations and services. The NSD should maintain a viable recovery plan and should hold sufficient liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) to implement this plan. At a minimum, the NSD should hold liquid net assets funded by equity equal to at least six months of current operating expenses.

## G. Operational Risk

**33. There are clear plans to deal with operational disruptions in the BES, but the close proximity between the main and secondary servers continues to pose as risks.** The NBM's Market Operations Department oversees the BES business continuity plan, which establishes the procedures for mitigating the risks associated to critical events that may affect its normal functioning. This is to ensure the resumption and recovery of critical functions and important processes in defined time intervals for each process so that transactions are processed on the settlement date. The NBM's Business Continuity Management Regulation has established the maximum possible downtime for critical processes at 2 hours. The estimated recovery time objective for BES is less than 30 minutes. This compliance is tested annually and is mandatory for the most active participants on the BES. As at November 2013, single points of failure have not been identified. The rules on evidence and management of the incidents in the NBM establishes a defined framework to ensure continuity capacity management, monitoring and avoiding incidents, recovery measures are undertaken in a timely manner and with minimal impact on the processes or activities. The main and secondary servers are located in different buildings within the same compounds of the central bank, but are approximately 30 meters apart. The NBM currently has plans to relocate to a new secondary server (approximately 10 to 40 kilometers from the main site) and should address such risks expeditiously. BES operational security was assessed as partly observed against the RSSS.

**34. The NSD appears to lack clear recovery time objectives.** There has so far been no incident of operational failure to the NSD. However, there is a lack of incident reports by the NSD or NCFM to corroborate this observation. The NSD has internal control procedures and security measures for its automated systems, designed to prevent the limit of its operational risk, by identifying and eliminating system failures, fraudulent personnel activities, as well as disclosure of confidential information. Periodic stress tests are performed. In the event of unforeseen circumstances, the depository system of the NSD is launched on the mirror-server, which allows the immediate update of its activity regarding property rights records and settlement transactions. This server is tested periodically. The NSD has a secondary site located 10 kilometers from the main site. The secondary site is tested every month without participants. Data regarding the operations performed, except electronic evidence, is covered by making paper copies, which allows the possibility to double check the information in cases of system errors. The information regarding the operations performed is also kept electronically in a box leased in the commercial banks, which is periodically updated. Also in accordance with the CM Law, the NSD is required to develop and, if necessary, implement an emergency plan for data recovery to any failure and periodic testing of backup systems. The NSD's Measures to Reduce Risks in Clearing and Settlement Operations do not specify recovery time

objectives. A recovery plan in exceptional cases or force majeure is currently missing. NSD operational security was assessed as generally compliant against the RSSS.

## Appendix I. Responsibilities of Central Banks, Market Regulators, and Other Relevant Authorities

### **Responsibility A: Regulation, supervision, and oversight of FMIs**

FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.

### **Responsibility B: Regulatory, supervisory, and oversight powers and resources**

Central banks, market regulators, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating, supervising, and overseeing FMIs.

### **Responsibility C: Disclosure of policies with respect to FMIs**

Central banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and oversight policies with respect to FMIs.

### **Responsibility D: Application of the principles for FMIs**

Central banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO Principles for Financial Market Infrastructures and apply them consistently.

### **Responsibility E: Cooperation with other authorities**

Central banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.

Source: CPSS-IOSCO (2012) Principles for Financial Market Infrastructures, April.



## Appendix II. Extracts from the Principles for Financial Market Infrastructures

### Legal risk

**The risk of the unexpected application of a law or regulation, usually resulting in a loss.** Legal risk can also arise if the application of relevant laws and regulations is uncertain. For example, legal risk encompasses the risk that counterparty faces from an unexpected application of a law that renders contracts illegal or unenforceable. Legal risk also includes the risk of loss resulting from a delay in the recovery of financial assets or a freezing of positions resulting from a legal procedure. In cross-border as well as some national contexts, different bodies of law can apply to a single transaction, activity, or participant. In such instances, an FMI and its participants may face losses resulting from the unexpected application of a law, or the application of a law different from that specified in a contract, by a court in a relevant jurisdiction.

### Credit risk

**FMI and their participants may face various types of credit risk, which is the risk that a counterparty, whether a participant or other entity, will be unable to meet fully its financial obligations when due, or at any time in the future.** FMIs and their participants may face replacement-cost risk (often associated with pre-settlement risk) and principal risk (often associated with settlement risk). Replacement-cost risk is the risk of loss of unrealized gains on unsettled transactions with counterparty (for example, the unsettled transactions of a CCP). The resulting exposure is the cost of replacing the original transaction at current market prices. Principal risk is the risk that a counterparty will lose the full value involved in a transaction, for example, the risk that a seller of a financial asset will irrevocably deliver the asset but not receive payment. Credit risk can also arise from other sources, such as the failure of settlement banks, custodians, or linked FMIs to meet their financial obligations.

### Liquidity risk

**FMIs and their participants may face liquidity risk, which is the risk that a counterparty, whether a participant or other entity, will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future.** Liquidity risk includes the risk that a seller of an asset will not receive payment when due, and the seller may have to borrow or liquidate assets to complete other payments. It also includes the risk that a buyer of an asset will not receive delivery when due, and the buyer may have to borrow the asset in order to complete its own delivery obligation. Thus, both parties to a financial transaction are potentially exposed to liquidity risk on the settlement date. Liquidity problems have the potential to create systemic problems, particularly if they occur when markets are closed or illiquid or when asset prices are changing rapidly, or if they create concerns about solvency. Liquidity risk can also arise from other sources, such as the failure or the inability of settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs to perform as expected.

### General business risk

**FMIs face general business risks, which are the risks related to the administration and operation of an FMI as a business enterprise, excluding those related to the default of a participant or another entity, such as a settlement bank, global custodian, or another FMI.** General business risk refers to any potential impairment of the financial condition (as a business concern) of an FMI due to declines in its revenues or growth in its expenses, resulting in expenses exceeding revenues and a loss that must be charged against capital. Such impairment may be a result of adverse reputational effects, poor execution of business strategy, ineffective response to competition, losses in other business lines of the FMI or its parent, or other business factors. Business-related losses also may arise from risks covered by other principles, for example, legal or operational risk. A failure to manage general business risk could result in a disruption of an FMI's business operations.

**Operational risk**

**All FMIs face operational risk, which is the risk that deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events will result in the reduction, deterioration, or breakdown of services provided by an FMI.** These operational failures may lead to consequent delays, losses, liquidity problems, and in some cases systemic risks. Operational deficiencies also can reduce the effectiveness of measures that FMIs may take to manage risk, for example, by impairing their ability to complete settlement, or by hampering their ability to monitor and manage their credit exposures. In the case of TRs, operational deficiencies could limit the usefulness of the transaction data maintained by a TR. Possible operational failures include errors or delays in processing, system outages, insufficient capacity, fraud, and data loss and leakage. Operational risk can stem from both internal and external sources. For example, participants can generate operational risk for FMIs and other participants, which could result in liquidity or operational problems within the broader financial system.

Source: CPSS-IOSCO (2012) Principles for Financial Market Infrastructures, April.

## Appendix III. General Description of CSD, SSS, and Independent Registrars

The definitions for CSD and SSS below are based on the CPSS-IOSCO PFMIs. The role of CSDs, SSSs, and independent registrars in the context of Moldova are further described.

### CSD

- **A CSD provides securities accounts, central safekeeping services, and asset services, which may include the administration of corporate actions and redemptions, and plays an important role in helping to ensure the integrity of securities issues (that is, ensure that securities are not accidentally or fraudulently created or destroyed or their details changed).** A CSD can hold securities either in physical form (but immobilized) or in dematerialized form (that is, they exist only as electronic records). The precise activities of a CSD vary based on jurisdiction and market practices.
- **The activities of a CSD may vary depending on whether it operates in a jurisdiction with a direct or indirect holding arrangement or a combination of both.** In a direct holding system, each beneficial or direct owner of the security is known to the CSD or the issuer. In some countries, the use of direct holding systems is required by law. Alternatively, an indirect holding system employs a multi-tiered arrangement for the custody and transfer of ownership of securities (or the transfer of similar interests therein) in which investors are identified only at the level of their custodian or intermediary.
- **A CSD may maintain the definitive record of legal ownership for a security; in some cases, however, a separate securities registrar will serve this notary function.** A securities registrar is an entity that provides the service of preparing and recording accurate, current, and complete securities registers for securities issuers.
- **In many countries, a CSD also operates a securities settlement system.** In market practice, CSDs often perform SSS functions.

### SSS

- **An SSS enables securities to be transferred and settled by book entry according to a set of predetermined multilateral rules.** Such systems allow transfers of securities either free of payment or against payment. When transfer is against payment, many systems provide delivery versus payment (DvP), where delivery of the security occurs if and only if payment occurs. An SSS may be organized to provide additional securities clearing and settlement functions, such as the confirmation of trade and settlement instructions.

### CSDs and SSSs in Moldova

- **There are two CSDs that operate their own SSSs.** The BES provides the definitive record of legal ownership of government and central bank securities. The NSD is licensed under the Law on Securities Market to perform the registry function for private securities. However, this is done by separate securities registrars in practice, making it difficult to distinguish the type of holding regime. On the one hand, the CM Law requires the full dematerialization of securities traded on a regulated market or MTF, under a regime of direct holding, with the transfer of ownership taking place within the CSD. On the other hand, the Civil Code and the JSC Law continue to organize the creation of private securities in bearer or registered form, with the possible intervention of a nominee (substantiating therefore a regime of indirect holding).

### Independent Registrars

- **Independent registrars are an inheritance of Moldova's mass privatization of state property in the early 1990s.** They provide two categories of services, including: (i) maintaining a database for each JSC, and (ii) consulting joint stock companies on corporate events (preparing and conducting the general meeting of shareholders (GMS), or preparing and submitting of the JSC's annual report with the NCFM).
- **The database maintained by independent registrars includes functions on:** (i) maintaining the description of each security covered by the registrar; (ii) opening and maintaining accounts for the joint stock companies and

the securities holders; (iii) transferring securities from one owner to another; (iv) recording encumbrances of security rights (e.g., pledges); (v) recording the results of non-trading operations with securities (conversion, splitting, consolidation, transferring in nominal holding); and (vi) offering individual and consolidated information on shareholders and the JSC (i.e., generating the shareholders list).

- **Securities registration services include the following:** (i) creating and maintaining the list of shareholders with all related information (name, address, national identification number, number of shares owned by the shareholder and the historical amendments to this information); (ii) maintaining records concerning the JSC, shareholders, trading and non-trading operations with securities; (iii) providing to shareholders the extract from the shareholders list (which confirms that the shareholder owns securities and shows if these securities are encumbered); (iv) providing the list of shareholders to the JSCs in order to conduct the GMS; (v) providing the list of minority shareholders to the majority shareholder in order to carry out a takeover bid; (vi) blocking the securities on to the shareholder's account and restricting the transfer of securities by the request of the NCFM, court, legal bodies, shareholders and other empowered public entities; (vii) executing the forced transfer of securities from one shareholder to another one by the decision of court; (viii) providing the list of shareholders and information on JSCs and shareholders for investigation purposes by the request of NCFM, court, legal bodies and other empowered public entities; (ix) conducting a periodic check to determine if the number of securities in the shareholders' accounts is the same as the number of all securities issued by the JSC; (x) keeping and archiving all documents related to the operation; and (xi) sending announcements to the shareholders at the request of the JSC (e.g., to inform shareholders of a planned GMS) or at the request of a major shareholder (e.g., to inform shareholders of a planned takeover bid).

Sources: CPSS-IOSCO (2012) Principles for Financial Market Infrastructures, April; IMF (2013) Technical Assistance on the Legal Framework for Securities Settlement Systems and Central Securities Depositories, December; World Bank (2013) Efficiency and Integrity of the Securities Registration System and Possibilities for Reform.

## Appendix IV. Features of Central Securities Depository/Securities Settlement System

### Book Entry System

- Institutional framework:** (i) The NBM Law provides the NBM, as the fiscal agent for the MOF with powers to operate the BES. All securities are dematerialized. The BES provides safekeeping services of securities issued by the MOF and the NBM. It ensures their settlement. In this regard, the system has functionalities for recording the results of financial instruments issues, securities account management, and management of payments related to outstanding issues; (ii) the Regulation on the BES (approved by the Decision of the Council of Administration of the NBM, no.250 of October, 25, 2013) determines the 2-tier structure of the BES, the participants, the services for securities market, such as securities account maintenance, registrations of securities issuance, and transfer and settlement services, finality and irrevocability of payments for transactions with BES-eligible securities, operational day schedule, etc; (iii) the Regulation on Risk Management for the BES (approved in August 2013 and came into effect since January 1, 2014) includes specific provisions on risks management mechanisms for operational risk, settlement risk, and custody risk; (iv) the plan for ensuring continuity of operations of the BES (approved by the NBM First Deputy Governor on March 30, 2012); and (v) Instruction on the Organization of the Securities Settlement System Oversight (approved by the NBM First Deputy Governor and Deputy Governor on February 9, 2012).
- Participation:** There were 17 participants at end February 2014. Comprising of commercial banks (in their role as primary dealers or normal participants), the NBM, the MOF, and the Deposit Guarantee Fund (DGF). The NBM as the BES administrator may, upon its own discretion, open personal accounts at Tier 1 to keep records of government securities for entities which hold a settlement account with any bank (primary dealer and own a portfolio of government securities in an amount of at least MDL 25 million on an average per quarter).
- Types of transactions:** BES keeps the register of beneficial ownership of government securities and central bank securities at the level of its participants. BES' participants keep the register at the level of their clients. The government and central bank securities are cleared and settled by the BES system, with cash settlement in the AIPS. Types of BES operations include registration of transaction in the primary market (securities' selling auctions/negotiations), payment of interests on government bonds, redemption of securities, registration of open market operations, operations of pledging in NBM standing facilities, repurchase transactions, selling-buying transactions, pledge transfer in NBM credit provision/reimbursement or in interbank credit transactions, and portfolio transfers.
- Operation of the system:** Daily operations are from 8:15 a.m. to 5:00 p.m. BES participants can initiate transactions with securities as follows: (i) Free of Payment (FOP) transactions from 9:00 a.m. to 4:15 p.m. and (ii) DVP transactions from 9:00 a.m. to 3:00 p.m.

- **Risk management:** The NBM develops and adopts regulations which specify the risks management mechanisms regarding the activities of the BES, and has the right to assess the effectiveness of the policies, procedures and risks management mechanisms adopted by participants. BES participants are expected to have a governance framework which should contain a clear organizational structure with defined responsibilities. They should also adopt their own policies and procedures to identify, manage, monitor and report the risks that they may be exposed to and the internal control mechanisms. The risk management policies and systems are focused on disclosing known risks, ensuring participants how to manage them, and continuously strengthening internal arrangements for risk mitigation and their continued adoption by participants.
- **Links to other systems:** The BES is linked to the AIPS.
- **Pricing policy:** The NBM, as BES administrator, has established monthly fees for participants and holders of personal accounts, except for the National Bank, MOF, and the DGF. This includes 0.0005 percent of the average monthly balances of government securities and NBM certificates at par value held in BES participant's own accounts and holder's personal accounts. A charge of MDL 1 is made for each transfer form accepted by BES for the processing of securities transactions. The processing fee is applied to both parties involved in the operation, exception in the case of portfolio transfers when the fee applies only to the participant who becomes the holder of the securities. In the case of "bank to customer" operations, this fee is applied to the participant who initiated the transfer of securities in BES.

### National Securities Depository

- **Institutional framework:** The NSD holds the license for the activity of central depository, issued by the NCFM according to the Law on Securities Market. It operates according to its rules approved by the NCFM.
- **Participation:** Brokers and dealers as professional participants on the securities market have the right to become NSD participants. The NSD performs depository, clearing and settlement activities, providing these services to the MSE for all the trading activities performed.
- **Types of transactions:** The NSD's depository, clearing and settlement arrangements represent the continuity of MSE's trading system. As a result, NSD's arrangements are integrated with MSE's system to offer the possibility for automated data exchange between them.
- **Operation of the system:** Daily operations are from 8:30 a.m. to 5:00 p.m. The settlement period for the NSD, as an AIPS participant, follows a flexible schedule (no specific settlement hours). The NSD does not settle transactions after 5:00 p.m.
- **Risk management:** The NSD is guided by its Measures to Reduce Risks in Clearing and Settlement Operations of 2010. According to its regulations, the NSD implements security policies, ensuring the control of internal and external access to its systems and data, and enforce

protection measures to keep its data safe. The NSD is also the manager of the risk fund of its participants which is established to reduce the settlement risk within the stock exchange trading performed by NSD's participants.

- **Links with other systems:** The NSD is linked with the AIPS.
- **Pricing policy:** The NSD's fee schedule for its services was approved by the NCFM in 2010. Fees are grouped into three categories, including: (i) clearing and settlement services; (ii) registry services provided to issuers; and (iii) registry services provided to shareholders and their representatives. For clearing and settlement charges, account opening fees vary on the type of account. The fees are MDL 180 for opening a clearing account. Transaction fees for clearing and settlement also differ by financial instruments. For corporate and derivative securities, there is a charge of 0.005 percent of the issue value, but not less than MDL 50. Repurchase transactions are charged 0.06 percent of the transaction value (each party paying 0.03 percent, respectively). The commission for sale-purchase transactions is 0.1 percent of the transaction volume (each party paying 0.05 percent, respectively). And sale-purchase transactions with derivative securities are charged MDL 1 and 0.02 percent of the transaction value, but not more than MDL 20 (0.01 percent for each party but not more than MDL 10).

## Appendix V. Value of Transactions and Deposits in Book Entry System

Type of Settlement Transactions (Millions of MDL)	2013	2012	2011	2010
Primary market operations (government securities)	16,038.7	15,928.5	16,015.4	15,594.9
Primary market operations (National Bank certificates)	96,980.7	98,011.5	84,993.1	166,951.1
Ministry of Finance redemption of government securities	15,487.0	15,735.8	15,351.1	15,376.9
NBM redemption of National Bank certificates	98,120.1	97,181.4	85,736.2	166,380.4
Open market operations	0.6	45.7	0.0	0.0
Selling-buying operations	49.4	183.2	186.3	104.6
Pledge operations	5,680.2	1,213.3	1,335.4	2,459.9
<b>Value of settled securities—total</b>	<b>232,356.7</b>	<b>228,299.4</b>	<b>203,617.5</b>	<b>366,867.8</b>
<i>Of which government securities</i>	<i>35,754.9</i>	<i>32,421.2</i>	<i>32,728.2</i>	<i>33,513.4</i>
<i>Of which central bank securities</i>	<i>196,601.8</i>	<i>195,878.1</i>	<i>170,889.3</i>	<i>333,354.4</i>

Source: National Bank of Moldova.



## Appendix VI. Stock Exchange and Secondary Market Turnover

Indicator	2012	2013
<b>Stock Exchange Market</b>		
Total number of transactions at Moldova Stock Exchange (units)	1877	1258
The volume of transactions at Moldova Stock Exchange (millions of MDL)	623	822
Number of transactions of companies included in listing level I (units)	194	241
Volume of transactions of companies included in listing level I (millions of MDL)	274	668
Number of transactions of companies included in listing level II (units)	3	2
Volume of transactions of companies included in listing level II (millions of MDL)	1,36	0,375
Number of transactions of companies included in non-listing (units)	1680	1015
Volume of transactions of companies included in non-listing (millions of MDL)	347	152
<b>OTC Market</b>		
Total number of transactions (units)	2521	2846
The volume of transactions (millions of MDL)	628	889
<b>Types of transactions</b> —volume, millions of MDL 1/		
Sale/purchase	33	
Transactions under the court decision	83	
Securities contribution to the share capital	221	
Inheritance	6	
Donations	17	
Securities succession	119	
<b>Total Secondary Market</b>		
Total number of transactions (units)	4398	4104
The volume of transactions (millions of MDL)	1251	1711

Source: National Commission for Financial Markets and Moldova Stock Exchange.

1/ The volume of transactions of sale/purchase of securities obtained as a result of privatization bonds investment and transactions with securities at which the circulation is a closed type under Article 261 of the Law on Securities Market, is 5.3 percent. Other types of OTC transactions are not transactions of sale/purchase, but civil transactions (inheritance, donations, securities succession, etc.), according to Article 261 of the Law on Securities Market, which cannot be performed at the MSE.