

THE WORLD BANK

COMMONWEALTH OF INDEPENDENT STATES  
PAYMENTS AND SECURITIES SETTLEMENT INITIATIVE



**PAYMENTS AND SECURITIES CLEARANCE AND  
SETTLEMENT SYSTEMS IN  
ARMENIA**

**January 2008**

## FOREWORD

Following the successful experience of the Western Hemisphere Payments and Securities Clearance and Settlement Initiative (WHI) in the Latin American and Caribbean region, in September 2004, the World Bank launched the Commonwealth of Independent States Payments and Securities Settlement Initiative (CISPI). The CISPI aims to assess and strengthen payments and securities systems in the Commonwealth of Independent States with a view to improving their safety, efficiency and integrity. The long term goal of the initiative is to build institutional capacity within the region in order to sustain the continued development of payment and securities settlement systems.

A key component of the CISPI is the International Advisory Council (IAC), which is comprised of representatives of international and national institutions with experience in the field of payments and securities systems. In addition to representatives from the World Bank, this council includes members from the Secretariat of the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlements (BIS), Banque de France, European Central Bank (ECB), International Monetary Fund (IMF), Swiss National Bank (SNB), and the U.S. Securities and Exchange Commission (SEC). Other central banks, securities commissions and international organizations are expected to join the IAC over the course of the program.

To assure quality and effectiveness, the CISPI includes two important elements. First, all studies are conducted with the active participation of country officials and the project builds on the existing work being undertaken in the respective countries. Second, the initiative draws on international and national expertise on the subject, through the IAC, to provide guidance, advice and alternatives to current practices.

The initiative is undertaking a number of activities. These include: the preparation of public reports containing a systematic in-depth description of each country's payments, clearance and settlement systems; the delivery of recommendations reports to country authorities on a confidential basis; the organization of IAC meetings to review country studies and provide input for future work; the organization of workshops focusing on issues of particular interest; the creation of a web-page ([www.cis-pi.org](http://www.cis-pi.org)) to present the outputs of the Initiative and other information of interest in the payments systems area; and the promotion of working groups to ensure a continuation of the project activity.

The Kazakhstan Interbank Settlement Center (KISC) of the National Bank of Kazakhstan is currently acting as Technical Secretariat of the CISPI and is playing a major role in making the process sustainable. To this end, the initiative has helped strengthen KISC's in-house expertise. Additionally, practitioners in payments and securities clearance and settlement in some countries in the region have participated in the studies under the initiative through KISC coordination, and this has contributed to the broadening of knowledge and the transfer of know-how within the region. The endeavors of the working groups in coordination with the KISC will maintain the infrastructure created under the initiative and provide a permanent forum for the countries in the region to discuss, coordinate, and add a collective impetus to the work in the area of payments and securities clearance and settlement systems.

This report, *Payments and Securities Clearance and Settlement Systems in Armenia*, is one of the public reports in the CISPI series and was prepared with the active support of the Central Bank of Armenia.

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This document is the result of the work developed by an international team, in coordination with a local team. The international team visited the Republic of Armenia in March 2007. The international team was comprised by Mr. Jose Antonio Garcia (World Bank, mission leader), Ms. Martina Glaser (Swiss National Bank), Mr. Sait Abdulkarimov and Mr. Alexander Shishlov (National Bank of Kazakhstan, NBK). The local team comprised officials from the Central Bank of the Republic of Armenia (CBA) and was led by Mr. Samson Kazaryan, Head of the Payment Systems Development Division.

## ABBREVIATIONS AND ACRONYMS

AMD	Armenian Dram
AML	Anti-money Laundering
ArCa	Armenian Card Payment System
ARMEX	Armenia Stock Exchange
ATM	Automated Teller Machine
BCP	Business Continuity Plan
BIS	Bank for International Settlements
CBA	Central Bank of Armenia
CDA	Central Depository of Armenia, SRO
CIS	Commonwealth of Independent States
CISPI	Commonwealth of Independent States Payments and Securities Settlement Initiative
CJSC	Closed Joint Stock Company
CPSIPS	Core Principles for Systemically Important Payment Systems
CPSS	Committee on Payment and Settlement Systems
CS	The Clearing System
CSD	Central Securities Depository
CTF	Combat to Terrorism Financing
DVP	Delivery versus Payment
EAEC	Eurasian Economic Commonwealth
EBRD	European Bank for Reconstruction and Development
EFTPOS	Electronic Funds Transfer at the Point of Sale
EPS	Electronic Payments System
ETM	Expedited Domestic Electronic Transfers of Money
FIFO	First-In-First-Out

FMC	Financial Monitoring Center
GDP	Gross Domestic Product
GSASS	Government Securities Accounting and Settlement System
IAC	International Advisory Council
IMF	International Monetary Fund
ISIN	International Securities Industry Numbering
JSC	Joint Stock Company
LTB	Local Treasury Branch
MOF	Ministry of Finance
NPS	National Payment System
OJSC	Open Joint Stock Company
OTC	Over-the-counter
PBGSS	Paper-Based Gross Settlement System
POS	Point of Sale
PVP	Payment versus Payment
RTGS	Real time gross settlement
SDT	State Departments of the Treasury
SML	Securities market law
SRO	Self-regulatory organization
SSIF	State Social Insurance Fund of the Republic of Armenia
SSS	Securities settlement system
STP	Straight-through processing
SWIFT	Society for Worldwide Interbank Financial Telecommunication
WB	World Bank
WHI	Western Hemisphere Payments and Securities Clearance and Settlement Initiative

# PAYMENTS AND SECURITIES CLEARANCE AND SETTLEMENT SYSTEMS IN ARMENIA

<b>1</b>	<b>ECONOMIC AND FINANCIAL MARKET OVERVIEW .....</b>	<b>1</b>
1.1	Overview of Recent Reforms.....	1
1.2	Macroeconomic Background.....	2
1.2.1	Real Sector.....	2
1.2.2	Monetary Sector.....	3
1.2.3	Fiscal Sector.....	4
1.2.4	External Sector.....	4
1.3	Financial sector.....	5
1.3.1	Banking.....	5
1.3.2	Insurance.....	5
1.3.3	Pensions.....	6
1.4	Capital Markets.....	7
1.5	Major Trends in Payment Systems.....	8
1.5.1	Historical Background.....	8
1.5.2	Overview of Existing Payment Arrangements.....	9
1.6	Major trends in Securities Clearance and Settlement Systems.....	10
<b>2</b>	<b>INSTITUTIONAL ASPECTS.....</b>	<b>11</b>
2.1	Legislative Framework.....	11
2.1.1	Payments.....	11
2.1.2	Securities.....	12
2.1.3	Derivatives.....	12
2.1.4	Specific Legal Issues related to Clearance and Settlement.....	13
2.2	Role of Financial Institutions: Payments.....	13
2.2.1	Banking Sector.....	13
2.2.2	Other Institutions Providing Payment Services.....	14
2.3	Role of Financial Institutions: Securities.....	15
2.3.1	Securities Market Participants.....	15
2.3.2	Exchanges.....	15
2.4	Market structure and regulation.....	16
2.5	Role of the Central Bank.....	16
2.5.1	Monetary Policy and other Functions.....	16
2.5.2	Banking Supervision.....	17
2.5.3	Involvement in the Payments System.....	17
2.5.4	Deposit Insurance Schemes.....	18
2.5.5	Anti-Money Laundering Measures.....	18
2.6	Role of the Securities Regulatory Agency.....	19
2.7	The Role of other Private and Public Sector Entities.....	19
2.7.1	The Union of Armenian Banks.....	19
2.7.2	The Ministry of Finance and Economy.....	20
<b>3</b>	<b>PAYMENT MEDIA USED BY NON-FINANCIAL ENTITIES .....</b>	<b>21</b>
3.1	Cash.....	21
3.2	Payment Means and Instruments other than Cash.....	21
3.2.1	Direct Debits/Credits.....	21

3.2.2 Payment Cards.....	22
3.2.3 Money Transfers .....	22
3.3 Non-Cash Government Payments.....	23
<b>4 PAYMENTS: INTERBANK SETTLEMENT SYSTEMS.....</b>	<b>24</b>
4.1 Low Value Payment Systems .....	24
4.1.1 The Clearing System .....	24
4.1.2 ArCa Unified Card Payments System .....	24
4.2 Transfer and Settlement Systems for Large Value Payments .....	25
4.2.1 Main System Characteristics .....	26
4.2.2 Credit and Liquidity Risk.....	28
4.2.3 Operational Risk Management and Business Continuity Plans and Procedures .....	28
4.2.4 System Governance .....	29
4.3 Cross-Border Payment Settlement Systems.....	29
4.4 Foreign Exchange Settlement Systems .....	29
<b>5 SECURITIES: MARKET STRUCTURE AND TRADING SYSTEMS.....</b>	<b>31</b>
5.1 Forms of Securities .....	31
5.2 Types of Securities .....	31
5.3 Securities Identification Code .....	31
5.4 Transfer of Ownership .....	32
5.5 Treatment of Lost, Stolen, and Destroyed Securities.....	32
5.6 Primary Market.....	32
5.7 Secondary Market.....	33
5.8 Stock Exchange Trading.....	33
5.9 Over the counter market (OTC).....	34
<b>6 CLEARING AND SETTLEMENT SYSTEMS FOR GOVERNMENT AND CORPORATE SECURITIES .....</b>	<b>35</b>
6.1 Organizations and Institutions .....	35
6.1.1 Armenian Stock Exchange .....	35
6.1.2 Depositories .....	35
6.2 Securities Clearance and Settlement Process .....	36
6.2.1 Government Securities and CBA Notes .....	36
6.2.2 Corporate Securities Clearing and Settlement Systems .....	38
6.3 International Links among Clearance and Settlement Institutions .....	39
<b>7 THE ROLE OF THE CENTRAL BANK IN CLEARANCE AND SETTLEMENT SYSTEMS .....</b>	<b>40</b>
7.1 Settlement.....	40
7.2 Payments System Oversight .....	40
7.2.1 Objectives and Scope .....	40
7.2.2 Instruments.....	40
7.2.3 Organizational Arrangements.....	40
7.2.4 Dissemination of Information.....	41
7.2.5 Cooperation with other Domestic and International Regulators .....	41
7.3 Monetary Policy and Payment Systems.....	41
7.4 Pricing Policy .....	41

<b>8 SUPERVISION OF SECURITIES CLEARANCE AND SETTLEMENT SYSTEMS.....</b>	<b>42</b>
8.1 Securities Regulator Supervisory and Statutory Responsibilities .....	42
8.2 Regulatory and Statutory Responsibilities of Self-Regulatory Organizations ..	42
 <b>APPENDIX: STATISTICAL TABLES .....</b>	 <b>43</b>

# 1 ECONOMIC AND FINANCIAL MARKET OVERVIEW

## 1.1 OVERVIEW OF RECENT REFORMS

After the collapse of the Soviet Union, the former unified bank payment and settlement system fell apart, leaving the Central Bank of Armenia (“CBA”) with a number of problems, including the need to create new payment and settlement relations, the absence of a legal framework regulating interbank settlements, the technically underdeveloped situation of the banking system, the energy crisis, and the paralysis of the postal system, among others.

Since 1993, the CBA has exerted much effort at addressing the aforementioned problems, building a new system of payments and settlements, and improving interbank settlement in the context of the new realities of the recently-created independent republic.

In the period 1993-1996, the basic legal framework regulating the financial system was developed. The following laws were adopted: on the Central Bank, on Banks and Banking, and on Bank Secrecy, among others, promoting the creation and development of the Armenian banking system.

In 1998, pursuing further stabilization of the local currency, the *dram*, the CBA introduced a stipulation for banks to maintain their required reserves with the central bank in *dram* only.<sup>1</sup> In that same year, a loan agreement was concluded between KfW, the German Development Bank, and the CBA based on the Agreement on Financial Cooperation signed between the Federal Republic of Germany and the Republic of Armenia.

In 2000, several other important laws were adopted, including the Law on Securities Market Regulation, Law on Joint Stock Companies, Law on the Bankruptcy of Banks and Credit Organizations, Law on Currency Regulation and Control, and the Law on Funds Transfers by Payment Orders.

In 2001, the National Assembly endorsed a new Law on the Bankruptcy of Banks. The new law introduced objective criteria to determine when a bank is insolvent. Moreover, a clearer definition for the concept of a “bank bankruptcy” was provided.

Effective July 1, 2003, banks began making mandatory financial contributions for the newly established deposit guarantee fund for physical persons. A Credit Registry was established and began operating inside the CBA also in 2003.

The Armenian Law on Combating Legalization of Criminal Proceeds and Terrorism Financing was adopted in 2004. In the same year, the CBA announced its stance to bring the Armenian banking system in compliance with the capital requirements stated under the so-called Basel II framework.

In 2005 certain changes were made to the Armenian Law on Banks and Banking to introduce the Core Principles for Effective Supervision of the Basel Committee on Banking Supervision, Corporate Governance Principles, and Consolidated Supervision Implementation Principles. In the same year, the Armenian Law on Introducing a Unified Financial Regulation and Supervision System was adopted, empowering the CBA with comprehensive supervisory functions over all financial system institutions. A financial monitoring center was also created in the CBA that year to combat money laundering and the funding of terrorist activities.

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<sup>1</sup> Hereinafter, “AMD” is used to represent the national currency of Armenia, the dram, while “USD” is used to represent the U.S. dollar.

## **1.2 MACROECONOMIC BACKGROUND**

After independence, Armenia's economy and financial system, just like those of all former Soviet republics, went into deep recession. Starting 1994, owing to a favorable pace of timely launched reforms, Armenia entered a new phase of economic growth and development.

### **1.2.1 Real Sector**

Developments in the last 10 years have resulted in a significant improvement of Armenia's macroeconomic situation, with enlivened main sectors of the economy and notable growth in household incomes.

As the economy developed, essential changes occurred in the structure of aggregate demand where the share of private investments increased in line with reduction of private consumption. The growth rate of private investments has accelerated in the last five years: while for many years net savings in the Armenian economy had been generally negative, this situation began to change starting in 2002 when the economy reported for the first time a positive indicator for net savings.

Economic growth during 1996-2006 averaged 9.1%, notably accelerating in the last 5 years and averaging 13% during 2002-2006. In 2006, the sector structure of the gross domestic product (GDP) showed services and construction activities with the highest shares, 31.2% and 24.5%, respectively, whereas industry and agriculture made up almost 18% each.

The growing share of construction activities in the economy has been remarkable in the last 10 years, owing mostly to foreign direct investment and private transfers from abroad, as well as continuous increase in household incomes in the country.

Certain positive shifts have been recorded in agriculture and industry. Initially, growing volumes of production of import substitutes served as the main contribution to industrial growth.<sup>2</sup> The high growth rates for the industry sector from 2000-2003 are attributed largely to the development of jewelry business, in particular diamond processing. However, global diamond market conditions triggered a slow down during 2004-2006. The mining and metallurgy sub-sectors have been developing steadily since 2000 as large investments are being made into this area under rising prices of non-ferrous metals in the world markets. Production of food and building materials also reported significant growth rates. In the energy sector, the volumes of gas distribution increased by about 30% annually thanks to extensive gasification in the last four years.

In the services sector, communications and transportation have been developing faster as a result of the investments of two major companies. Over the last 4 years, investments in the communications area have broadened the spectrum and volume of services, while in the transport sphere heavy investments have been made in road construction.

Tourism has also grown significantly, especially in 2001 when the country celebrated the 1700<sup>th</sup> anniversary of the proclamation of Christianity as the official religion in Armenia. This sphere is growing continuously, in line with the development of the related infrastructures such as hotels, public catering, resort and rest-houses.

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<sup>2</sup> The main growth was recorded in processed foods production volumes.

## 1.2.2 Monetary Sector

Economic reforms implemented over the last 10 years have made it possible to manage aggregate demand effectively. Despite high levels of economic growth, inflation has averaged 3% in the period 1998-2006.<sup>3</sup>

The free floating exchange rate regime under free movement of capital helped to partly offset inflationary pressures from extra demand fuelled by significant financial flows from abroad. In this regard, Armenia's macroeconomic environment has been characterized as being in a low inflation zone under huge capital inflows in recent years, which is not the case in many CIS and Eastern European countries where accelerating inflation seems to be threatening macroeconomic stability.

Before 2006 the CBA was committed to the strategy of monetary targeting with the main objective of keeping prices stable. Broad money supply has grown on average 25% per year over the last 10 years, supported with the increase of net external reserves.

Along with implementing a monetary targeting policy, the CBA has also paid greater attention to the interest rate. Ongoing development and improvement of indirect CBA instruments and input of monetary instruments have supported this process. In particular, in addition to the main instruments (repurchase agreements, outright operations, adjustment tools), the CBA has successfully resorted to currency swaps since end-2003. Faced with the problem of the absorption of excess liquidity and limited absorbing capacities, the CBA began issuing its own securities starting in 2005. The placement of own securities in the CBA's toolkit is still regarded as an active instrument for absorption as the CBA bought a vast amount of foreign currency from the market to ease the impact of increasingly dynamic external financial inflows.

The change made by the CBA to the reserve requirement mechanism, whereby resources attracted in Armenian dram and foreign currency should be kept separately in AMD and foreign currency, was used to partially offset the impact of external financial inflows. At present, a single 8% requirement is applicable to relevant liabilities in both *dram* and foreign currency.

Notwithstanding the increasingly expansionary policy conducted by the CBA in recent years, the level of financial intermediation is still low in Armenia compared with many developing countries.

Recent developments in the monetary policy area have resulted in a destabilization in the broad money – inflation relation. The main reasons for this included varying performance of demand for money, structural changes in broad money amidst high dollarization, and material impact of non-monetary factors, i.e. external shocks, on inflation.

Under such conditions, the CBA often had to revise its broad money target to curb inflation. To this effect, the CBA announced in January 2006 that effective January 1, 2006 it would move to an inflation targeting regime.

Over the last three years the Armenian economy has significantly reduced its levels of dollarization, explained mainly by a depreciating US dollar in international markets, high growth rates of external financial inflows, and a number of measures taken by the CBA.<sup>4</sup> This has been reflected in both a twofold increase in the ratio of assets denominated in AMD, and

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<sup>3</sup> The somewhat higher inflation recorded in 2003 and in 2006 was due to supply shocks. The price rise in bread products, entirely affected by the global rise in grain prices, contributed with 5.6 percentage points to the 8.6% inflation recorded in 2003. The 5.2% inflation in 2006 was mostly due to a rise in prices of fruit and vegetable due to adverse weather conditions.

<sup>4</sup> Measures to reduce dollarization included the adoption of the Armenian Law on Currency Regulation and Control, which greatly helped reduce the volumes of transactions effected in dollar.

high growth rates of currency in circulation and AMD-denominated deposits. In 2006, dollarization declined by 13 percentage points to 30%.

Financial sector lending to the economy in recent ten years is another highlight, with growth rates having sharply increased from 11% in 2003 to reach an average 33% in the period 2004-2006. Further, faster growth rates in lending in *dram* have been recorded.

### **1.2.3 Fiscal Sector**

Considerable reforms have been conducted in the public sector of Armenia over the last 10 years, including the reduction of public expenditure concurrent with subsiding budget deficit. As a result of these fiscal arrangements, the government succeeded in keeping the annual total public deficit below 3% of the GDP. In 2006, the deficit/GDP ratio was 1.5%, which compares favorably to a deficit of 5.8% in 1996.

The conduct of the expenditures policy ensues mainly from the government's programs on Poverty Reduction Strategy and Medium-Term Expenditures. Moreover, Armenia's external debt profile has improved notably as the share of external debt under non-concessionary conditions was reduced, thus essentially strengthening the country's creditworthiness perspectives.

On the revenue side, government policies have been successful in collecting planned tax revenues, with figures growing faster than the economic growth at about 20% per annum. This dynamic growth of tax revenue is however still unsatisfactory as the tax/GDP ratio is lower compared to the equivalent ratio in most other CIS countries. It should be noted that much improvement was achieved in financing of budgetary expenditures for social aspects; reforms in public governance, healthcare, and education systems are underway.

### **1.2.4 External Sector**

Starting 1998, amidst economic developments globally and domestically, some positive developments were observed in Armenia's foreign trade turnover. After the Russian crisis of 1998, the Armenia economy moved to a new equilibrium reflecting an improved balance of external trade until 2002. In the period 1999-2002, the average growth rate of exports was 27.4%, substantially exceeding that of imports which was 6.1%. In the meantime, broadening volumes of production of import substitutes also contributed to the improvement of the external sector trade balance.

Starting 2003, however, the balance of foreign trade deteriorated in nominal terms despite a slight excess of export growth rates over imports. One exception is the year 2006, when exports reported a growth rate of only 2%, attributable mostly to export-related technical hardships.<sup>5</sup> Whereas high growth rates of imports persisted due to growing domestic demand in general, and especially the increasing demand for investment goods.

Despite the deterioration of the foreign trade balance in nominal terms since 2003, as a share of the GDP the external deficit has reduced to 14% in 2006 from 31% in 1998. The current account deficit/GDP ratio, forming a clearer picture of real transactions of the Armenian economy with other countries, has reduced considerably to 1.8% in 2006 from 21.3% in 1998.

The continued high growth of remittances from abroad has offset the deterioration of the country's foreign trade balance. In the period 2003-2006 the growth rate of remittances and

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<sup>5</sup> A slow growth of exports in 2006 was determined also by structural changes in world diamond markets as well as price-rise of unprocessed diamond by Alrosa.

seasonal workforce income averaged 58% mainly as a result of favorable developments in the Russian economy in the recent years.<sup>6</sup>

With the exception of 1998 and 1999, net capital inflows have exceeded the current account deficit since 1997, thus leading to a balance of payment surplus and accumulation of foreign reserves.

## **1.3 FINANCIAL SECTOR**

### **1.3.1 Banking**

In 1999, the Armenian banking system tested its stability and reliability as it succeeded in preventing the impact of the Russian financial crisis on the domestic banking system. New accounting standards were introduced in compliance with internationally accepted criteria. Certain other changes have been made to prudential standards (see Chapter 2).

As of end-2007, the Armenian financial system consisted of 21 commercial banks, 19 credit organizations, 11 insurance companies, 6 brokerage firms, 4 money remittance organizations, 2 payment instruments and settlement documents processing and clearing companies, 246 foreign exchange offices, 5 currency dealers, and 60 pawnshops. The securities market is home to 15 companies engaged in specialized brokerage businesses, 6 of which are licensed to engage in trust management in addition to brokerage, and 2 are licensed to engage in depository activities. There are two self-regulatory organizations functioning in the securities market – the Central Depository of Armenia and the Armenian Stock Exchange.

Commercial banks are the most important participants in the Armenian financial sector as the banking system accounts for 93% of the financial system assets. As of end-2006, the market share of banks with foreign capital amounted to 57%.

As of end-2006, the banking system capital totaled AMD 120.2 billion; liabilities totaled AMD 404.3 billion; assets totaled AMD 524.5 billion. The total capital adequacy ratio was 34.9%. Total deposits attracted from natural and legal persons accounted for 74% of the banking system liabilities. Loans provided to the economy accounted for 43.7% of total loans. It should be noted that the assets classified as of “standard” quality accounted for 97.8% of the banking system assets.

As of end-2006, the total assets of credit organizations amounted to AMD 20.6 billion.

### **1.3.2 Insurance**

Before 1991, there was a single, centralized insurance system functioning in the country. Despite that beginning on that year the insurance business ceased to be a State monopoly, the field had been left totally unregulated until 1993. In this year, the first regulation was introduced, known as the “Temporary Procedure for engaging in Insurance Business in Armenia” was adopted. In 1996, about 82 insurance companies were already operating in Armenia.

In November 1996, the Armenian Law on Insurance, and the government’s Resolution on Regulation of Activity of Insurance Companies in Armenia (No. 368) were adopted as the first steps for the supervision of the activities of insurance companies and aimed at toughening requirements thereto. The adoption of the above-mentioned regulatory framework caused a sharp reduction in the number of insurance companies. By 1997 the number of insurance companies had shrunk to 10, although in 1998 it doubled again reaching a total of 20.

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<sup>6</sup> Russia accounts for 70-80% of remittances and factor incomes flowing into Armenia.

Starting 1997, the sub-legislative framework began to take shape. Some sub-legislative acts were adopted, including: i) the Government Resolution No. 174 on “Calculation of Normative Ratio of Insurers’ Assets to Liabilities” (in 1997); ii) Chart of Accounts for Financial and Economic Activity of Insurance Companies (in 1999); and, iii) the Standard Forms for Annual Accounts of Insurance Companies.

In 2000, the Armenian Government adopted the “Concept for the Insurance System and Insurance Market Development”, and the “Creation of the Insurance Experts Training Framework”. Moreover, in 2001 it approved the program of measures to promote the development of the insurance system and insurance market in Armenia. The purpose of these undertakings was to ensure qualified expertise capacities in the regulatory entity, the Insurance Inspectorate, and creation of the actuarial system. In essence, these objectives were not accomplished, however.

In 2003, the Armenian Government revised the 1996 Law on Insurance and a new law came into effect in June 2004. The new law incorporated a very simple model reflecting the lack of sophistication and smallness of the insurance market at that time. For instance, only staff members of an insurance company could serve as insurance agents. The life, non-life insurance and reinsurance regimes were not distinguished. There were no specific provisions governing an insurance company’s exit from the market.

In 2006, however, the delivery of insurance services proved costly and limiting under the existing Law as the market was developing at a fast pace. As a result, a new model for insurance system, the European Model, was chosen along with the implementation of insurance reforms. Therefore, the Armenian Law on Insurance and Insurance Business was amended once again in 2007.

As of end-2006, the total assets of insurance companies in Armenia amounted to AMD 8.6 billion.

### **1.3.3 Pensions**

The State Social Insurance Fund of the Republic of Armenia (SSIF), which was established on October 11, 1991 under the Resolution by the Council of Ministers, is an authority that deals with assignment and payment of pensions and financing of state social insurance projects. The SSIF assigns, recalculates and pays pensions under the Armenian Laws on State Pensions (adopted on 19/11/2002), on Social Security of Military Servants and Their Families, and other government resolutions and other regulations.

The pension security of a foreign citizen or a person holding no citizenship is ensured in accordance with Armenia’s international treaties. A citizen entitled to permanent residency in Armenia or a person holding no citizenship will have the same rights to pension if he/she meets the conditions for assignment of pension and makes mandatory social insurance contributions.

The pension system functioning in Armenia still needs significant reforms as there is the necessity to address demographic issues, raise the pension amount, establish a direct link between the size of pensions, wages and social contributions, and tackle the system’s stability and other related issues.

The issue of pensions' reform has been addressed several times. Among other relevant resolutions, on December 2, 1999 the government adopted the Resolution on “Approval of Core Provisions of the Strategy for Pension Security in Armenia”, while on April 28, 2002 the government adopted the Resolution on “Approval of Conceptual Approaches to the Pension Security System Reforms in Armenia”.

These resolutions were then followed by the Resolution on “Concept for the Pension Security System Reforms in Armenia”, adopted on May 26, 2006. The latter defines the scope of pension system reforms and the new profile of the pensions system, among other relevant issues. The same Resolution sets the timetable for implementation of pension reforms.

To make sure reforms are implemented pursuant to the timetable, another Resolution adopted on July 27, 2006 established a Pension System Reforms Monitoring Board chaired by the Prime Minister of Armenia. The Board is comprised by the ministers of Finance and Economy, Labor and Social Issues, Trade and Economic Development, the Chairman of the CBA, the Chairman of the Standing Committee on Social, Healthcare, and Environmental Issues at the National Assembly; and the Chairman of the SSIF. Further, a Pension System Reform Workgroup was established under the Prime Minister’s Resolution of August 4, 2006 to ensure the implementation of pension system reforms. The CBA is fully involved in its preparatory work.

All payments from a reformed pension system are planned to be made on a non-cash basis. There are some other measures designed to improve the capital market and the payment systems in order to meet the increasing demand for financial services and products expected to be created as a result of reforms to the pensions system.

## **1.4 CAPITAL MARKETS**

The securities market in Armenia began to get shape after moving to a market economy. Privatization gave birth to many open joint stock companies shares of the most of which began floating at stock exchanges. Until 2000 there have been 4 stock exchanges functional in Armenia.

In 2000, the Armenian Law on Securities Market Regulation was adopted. The main specificity of the Law was that it clearly distinguished between the banking business and specialized activity in the securities market, i.e. it was not admitting the universal banking system concept. Another specificity of the law was that the market servicing infrastructures (the stock exchange and central depository) must be non-commercial, self-regulatory organizations.

Starting 2006, the CBA took over the responsibilities of the National Securities Committee and currently is responsible for regulating and supervising both the corporate and government securities markets. The corporate securities market is governed by the Securities Market Law (SML), while the government securities are governed by a separate legal provision, the joint CBA-MOF Decree 75 of March 2004.

At present, activity in the securities market is dominated by debt issues, mainly government and CBA securities.

The Ministry of Finance (MOF) issues T-bills and bonds with various maturities. These securities are issued in dematerialized form, with the CBA serving as the primary agent. On the other hand, the CBA issues short term notes for monetary purposes. Through the “Treasury Direct” facility, the MOF sells a part of its securities directly to individual investors. This facility represents approximately 7 to 8 percent of the total amount auctioned. Apart from this, only some of the banks and one non-banking organization act as primary dealers and have access to primary auctions of government and CBA securities.

As of end-2006 the total value of short-term T-bills in circulation was AMD 7,700 million, medium-term T-bills AMD 38,088 million, and long-term T-bills AMD 12,175.4 million. As of the same date, the value of short-term CBA bonds reached AMD 39,600 million.

The Armenia Stock Exchange (ARMEX) is the only stock exchange in Armenia. It provides an organized market for foreign currency and for corporate shares and debt securities. Secondary

market activity in corporate securities is low, totaling some USD 6 million in all of 2006. As of end-2006, the shares market capitalization is estimated to be AMD 22.38 billion.

As of end-2006, issuers running a shareholders' registry at the Central Depository numbered 710 companies, while 36 reporting issuers were listed at the ARMEX.

Finally, in 2006, there were 3 cases when companies announced placement of securities by using prospectus. In one case, there was a closed placement of shares, and in the two cases corporate securities were placed publicly.

## **1.5 MAJOR TRENDS IN PAYMENT SYSTEMS**

### **1.5.1 Historical Background**

Since 1993, the CBA has made significant efforts to develop a modern payment and settlement system infrastructure in the country. During the development process, the CBA closely collaborated with the commercial banks in Armenia, public authorities and other stakeholders.

The following developmental stages can be identified:

#### *Stage 1 (1993-1995): formation of Armenian banking industry and payment-settlement relations*

- During this period, a hierarchical three-tier banking system (CBA, commercial banks, and bank branches) was formed, and the core banking legislation was developed.
- The Armenian national currency was put into circulation in November 1993.
- In 1994, "inter-bank mail" service was introduced, ensuring delivery of interbank payment documents within Yerevan city within one day.
- Further, the same year, the CBA put into operation the interbank clearing system, facilitating the efficient use of banking liquidity and reducing number of paper documents in the settlement process.
- Since 1995 the improved security features of the mail system (FVG Email) has allowed processing of electronic payments in Yerevan and first transactions between banks outside of the city. Settlement time of a transaction made between bank branches located in the same city has been reduced from 10 business days to 5.
- The Union of Armenian Banks has been created.

#### *Stage 2 (1996-1999): Introduction of the Electronic Payments System and its development in the Republic of Armenia*

- In 1996 the CBA created the interbank network – CBANet and introduced a new structure of bank accounts.
- In the same year the Ministry of Finance and Economy of the Republic of Armenia created the Treasury of the Republic of Armenia.
- Since 1997, 12 banks, including the CBA joined the SWIFT to benefit from the settlement time reduction and operational reliability.
- Starting 1997, the CBA joined the project of implementation of the Interstate Bank payment system to participate in settlements with the CIS countries.
- In 1998 the CBA successfully implemented the project of tax collection through the banking system and initiated a project with the Ministry of Energy and the MOF on electricity bills collection.
- The Securities settlement system development started from the government sector and in 1999 the Treasury Direct system was put into operation.

*Stage 3 (2000-2005): Development of the SSS, introduction of new payment instruments and payment services in the Republic of Armenia*

- In 2000 the CBA and several commercial banks jointly established the “Armenian Card” Closed Joint-Stock Company and the “ArCa” unified card payment system.
- Later in 2003, utility payments become available via the ATM network for ArCa card holders.
- Development of the securities settlement systems (SSS) started in 1999 has been completed by introduction of the settlement system for government securities. This was upgraded in 2004 by implementing DVP principle.
- In order to improve capacity of the EPS, the CBA upgraded whole technical infrastructure and introduced new security module Araks-CB.
- According to the resolution of the President of Armenia, in 2002 the anti-money laundering committee responsible also for frauds prevention and investigations in payment systems was created.
- In 2005 on the base of Armenian Stock Exchange the CBA implemented the settlement system for foreign exchange trades.

### **1.5.2 Overview of Existing Payment Arrangements**

The payments system in the Republic of Armenia is characterized by the use of credit transfers for interbank payments, and very intensive use of cash for all other types of payments. During 2006, the ratios of currency in circulation to GDP and monetary aggregate M2 to GDP stood at 22 and 40 percent, respectively, indicating that cash remains a major means for making payments in Armenia.

The two major payment systems in the country are the CBA-operated payment system, used for both large and low value transactions, and the Armenian Card Payment System (ArCa) for retail card-based transactions. The CBA-operated payment system has two delivery channels, the Electronic Payment Systems (EPS) and the Paper-Based Gross Settlement System (PBGSS). The EPS and the PBGSS use the same processing mechanism, with the only difference of banks' submitting electronic payment orders that are processed on a straight through processing (STP) basis in the first case, and manual digitalization of paper payment orders in the second case.

Settlement takes place with the funds that are available in the correspondent accounts banks hold in the CBA. Payments are processed on a gross basis in real time with no queuing mechanism being applied in case of a liquidity shortage: After the funds are written off from a correspondent account of a sender bank and credited to a correspondent account of the beneficiary, the interbank settlement is considered final and irrevocable. Each transaction is placed to the general ledger on an individual basis.

As of January 1, 2007, there were 21 participants in the EPS and the PBGSS, and 19 in the ArCa. During 2006, there were 1,009,531 and 39,248 payments made in the EPS and the PBGSS respectively, for a total amount of AMD 4,419.5 billion.

A Clearing System (CS) is also available at the CBA to process payment transactions in case of the failure of the EPS and the PBGSS. At present, however, the CS is no longer used. In the CS, payment system participants submit to the CBA bulk payment instructions both on paper and in electronic storage device. The CBA verifies the digitalized information and the information on paper form and then manually enters the information into the CS for settlement. Settlement is performed on a multilateral net basis within available balance on the participants' correspondent accounts at the CBA.

The Armenian Card CJSC was founded in 2000 by 11 commercial banks and the CBA, which then resulted in the creation in 2001 of the “ArCa” unified card payment system. Currently, 19 banks are using the processing services provided by Armenian Card. The “Armenian Card” is a single

processing center for the “ArCa”-brand payment cards, and also has been certified by VISA International and Europay/Mastercard as a third party processor. The “Armenian Card” is working on the development of the internet and mobile banking infrastructure.

As of January 1, 2007 there were more than 210 000 cards in circulation, the number of the ATMs comprised 200 and the POS terminals more than 1200.

The CBA and 21 banks are connected to SWIFT and cross border payments are made through foreign correspondent banks. Remittances, a particular type of cross-border retail payment, are quite relevant for Armenia. In 2006 the value of remittances to the country was USD 1.2 billion. Net inflows of remittances are equivalent to about 25 percent of the country’s GDP.

## **1.6 MAJOR TRENDS IN SECURITIES CLEARANCE AND SETTLEMENT SYSTEMS**

Activity in the securities market is dominated by debt issues, mainly government and CBA securities. The Ministry of Finance (MOF) issues T-bills and bonds with various maturities. These securities are issued in dematerialized form, with the CBA serving as the primary agent. On the other hand, the CBA issues short term notes for monetary purposes.

Only banks and one non-bank organization are direct participants of the CBA securities depository. These entities act as nominees for individual investors and hold omnibus accounts for them in the CBA system. Individual investors can be identified only in the internal registries of custodians. Secondary market transactions with government and CBA securities are settled under DVP model 1 in real time at the Book-entry System operated by the CBA.

Secondary market transactions with government securities and CBA notes are settled under DVP model 1 in real time. Once the CBA confirms the trades, the Government Securities Accounting and Settlement System (GSASS) automatically blocks the relevant securities and sends a payment message to the EPS (the RTGS system). If enough funds are available in the account of the buyer, the funds are transferred to the account of the seller. Once this process is completed, the securities are transferred to the account of the buyer. According to the rules of the GSASS, settlement is considered final at this point.

The Central Depository of Armenia (CDA), which is a non-for-profit mutual organization, is the register and central depository for corporate securities. The CDA currently holds the records of all corporate securities that are traded in ARMEX.

At the CDA, all individual investors hold a depo account since so-called professional market participants (i.e. brokers-dealers) do not act as nominees or perform any custodial activities.

Full pre-funding of both cash and securities is required before any trade takes place. Once the daily trading is completed, the ARMEX calculates the final positions on a multilateral net basis for both cash and securities and sends them to the CDA for settlement, which occurs before the end of day T through a settlement-only account the CDA holds with the CBA.

## **2 INSTITUTIONAL ASPECTS**

### **2.1 LEGISLATIVE FRAMEWORK**

#### **2.1.1 Payments**

The main laws that regulate payments, payment systems and related activities and participants include the Civil Code, the Law of the Central Bank of Armenia (hereinafter, the “CBA Law”), the Law on Banks and Banking, the Law on Payment and Settlement Systems and Payment and Settlement Organizations (“Payment Systems Law”).

The key concepts for the effective operation of a national payments and securities settlement systems are covered in these laws, including:

- CBA Law, mainly article 5: General powers of the CBA to operate, regulate and oversee payment and securities settlement systems. This includes powers to regulate the payment activities of non-banking organizations.
- Payment Systems Law, Chapter 2: Licensing of payment system operators and service providers.
- Payment Systems Law, Chapter 3: Finality and irrevocability of payment orders, legal recognition of netting arrangements, isolation of collateral pledged in the payments system from claims from third parties in cases of insolvency, extra-judicial execution of pledged collateral by the CBA and other payment system participants, and non-existence of zero-hour rule.
- Electronic Commerce Law: Electronic signatures, and electronic documents.

The Payment Systems Law was adopted by the National Assembly on November 24, 2004, effective as of June 28, 2005. This Law regulates activities of payment and settlement systems and non-bank providers (payment service organizations). The Law defines terminology, the scope of the CBA regulation and supervision mechanisms over the payment systems, payments finality and procedures of licensing, payment system oversight and other relevant issues.

The Payment Systems Law provides that in order to perform processing and clearing of transfer orders and payment instruments, non-bank organizations need to receive an activity license, which is issued by the CBA. Payment service organizations cannot carry out commercial, production and other similar activities except as provided for under the law.<sup>7</sup>

With regard to the payment system oversight function, the Law on the CBA states in Article 5 that the CBA shall "provide the necessary environment for the stability, liquidity, solvency and normal activities of the banking system of the Republic of Armenia; create and develop an effective payment and settlement system; and regulate and oversee activities in the payments and settlement system, including those of non-bank organizations which provide such services." Furthermore, the Law on Payment and Settlement Systems and Payment and Settlement Organizations defines in Chapter 4 and 5 the oversight of payment and settlement activities. In November 2004 the CBA developed the document named “the CBA Payment Systems Oversight”.

Nonetheless, the aforementioned law explicitly exempts from the CBA’s oversight authority those payment and settlement systems dealing with settlement of securities transactions performed at the Armenian Stock Exchange.

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<sup>7</sup> For instance, according to this law payment service organizations may perform processing and/or clearing for third parties as well as provide other relevant payment and settlement services, as permitted by the CBA.

In the Armenian legal framework there is no legal definition of a repo transaction. A master agreement for repo transactions between the CBA and commercial banks (also applicable for repo transactions between commercial banks) does exist. In this master agreement, the repo is to be interpreted as a sell and buy-back transaction.

Apart from all these laws, there is a very complete set of normative acts issued by the CBA. The CBA has published in its website a comprehensive list of the legal acts of the Central Bank that regulate the payment and settlement areas in the Republic of Armenia. Some of the most relevant include:

- Regulation 16 on “Licensing of remittance service providers.....”
- Regulation 17 on “Licensing of processing and clearing organizations.....”
- Regulation 22 on “Reports of payment organizations, their presentation and publication”
- Procedures for operating the various payment instruments available (various provisions)
- Procedures for the Electronic Payment System of the CBA
- Procedures for the Clearing System of the CBA
- Procedures and guidelines for payment cards systems
- Procedures and guidelines for government securities accounting and settlement system

Moreover, the execution of payments initiated by checks, standing orders, direct debits and paper orders in the territory of Armenia are set forth in the respective regulations adopted by the CBA: “Regulation on Paper Transfers in the Republic of Armenia” adopted on March 16, 1999; “Regulation on Transfers by Standing Orders in the Republic of Armenia” adopted on February 1, 2000; “Regulation on Funds Transfer by Direct Debits in the Republic of Armenia” adopted on April 25, 2000; “Minimum set of Requisites required in payment orders for Payment and Settlement Operations” adopted on May 20, 2004; and “Regulation on Issuing, Servicing and Circulation of Checks in the Republic of Armenia” adopted on May 24, 2005.

Payment card operations are mainly regulated by the rules of the respective card systems (MASTERCARD, VISA and ArCa). In 2006, a Regulation on “Issuance, acquiring and circulation of payment cards in Armenia” was adopted by the CBA Board.

To efficiently mitigate operational risks in payment systems the CBA has adopted the document “Minimum Requirements for Operational Risk Management in the Armenian Banking System”.

### **2.1.2 Securities**

The main law that regulates securities is the Securities Market Regulation Law (SML) which covers: the dematerialization of securities, transfer of ownership through book-entries, segregation of accounts, legal protection of custody arrangements from third-party claims, securities lending, and the role of self-regulatory organizations, among others.

Several sub-legislative acts have been adopted pursuant to the Law, including the Securities Market Regulation Rulebook (05/12/2006) which describes the procedures for professional qualification and licensing, the procedure for internal control after professional participants, procedures and minimum requirements for reporting, procedures of SRO’s registration and reporting, and registrar rules provided by the CDA.

On the other hand, government and CBA securities, which are registered in the CBA-operated CSD and transacted OTC, are governed by a joint CBA-MOF Decree (Decree 75 of 2004).

### **2.1.3 Derivatives**

There are no specific regulations for derivatives.

## **2.1.4 Specific Legal Issues related to Clearance and Settlement**

The Armenian Law on Payment Systems and Payment Service Organizations has established the irrevocability of transfer orders and settlement finality, and the irrevocability of netting, among others, as follows:

- *Irrevocability of transfer orders:* Transfer orders shall be legally enforceable and, even in the event of suspension of payment system participant, shall be binding on interim administration, provided that before the moment of suspension transfer orders under the payment and settlement rules are deemed irrevocable. Where, exceptionally, transfer orders are entered into a system after the moment of suspension of payment system participant and are carried out on the day of suspension, they shall be legally enforceable and binding on interim administration only if payment system operator can prove that it was not aware, nor should have been aware, of such suspension. An authorized body's decision on the suspension of the payment and settlement system participant's activity shall not have retroactive effects on the participant's rights and obligations that are related to the settlements in the payment and settlement system and have arisen before the occurrence of such suspension. The moment of entry of a transfer order into a system, as well as irrevocability of such orders shall be defined by the rules of that system, in agreement with the CBA and, in the absence thereof, under the CBA regulations.
- *Irrevocability of netting:* Where netting is executed in the payment and settlement system, subject to the system's rules, after netting is executed only one net claim can be demanded or one net obligation be owed by every system participant in relation to another participant (participants). Where netting is executed in the payment and settlement system, subject to the system's rules, and a transfer order has entered the payment and settlement system and is deemed irrevocable before the payment and settlement system participant's activity is suspended, the netting of transfer order cannot be annulled and unwound.

With regard to Electronic documents and digital signature, on December 14 2004, the National Assembly adopted the Armenian Law on Electronic Document and Electronic Digital Signature that governs the relations arising out of application of electronic documents and electronic digital signatures, including the forms of presentment and maintenance of electronic documents, the use, application of electronic digital signatures, the requirements to certification centers and the process of certification, the requisite information presentable in the certificate, the period of validity of certificate, and etc.

The Treasury applies electronic documents and electronic digital signatures to its information systems pursuant to the procedure established by the state financial regulator as provided for under the Armenian Law on Treasury System.

The CBA and its licensees apply electronic documents and electronic digital signatures pursuant to the procedure established by the CBA regulations. The certification center that issues certificates for electronic documents and electronic digital signatures for the CBA and its licensees is accredited by the CBA as determined under the CBA regulations.

## **2.2 ROLE OF FINANCIAL INSTITUTIONS: PAYMENTS**

### **2.2.1 Banking Sector**

Under the Armenian Law on Banks and Banking, the banking system of the Republic of Armenia includes the CBA, banks operating in Armenia, their branches, representative offices, and foreign banks branches and representative offices operating in Armenia.

Commercial banks are the most important participants to the Armenian financial sector as the banking system accounts for 93% of the financial system assets.

As of end-2007, there were 21 commercial banks (including 4 banks with a 100% foreign capital) with 299 branch offices operating in Armenia. The share of banks with foreign capital amounts to 57%.

Banking supervision in Armenia is performed by the CBA. Pursuant to the CBA law, the objectives of the central bank in this area are to provide the necessary environment for the stability, solvency and normal activities of the Armenian banking system. For the purpose of the above, the central bank licenses, regulates and supervises activities of banks in Armenia.

As established under the Armenian Law on Banks and Banking, commercial banks can perform financial operations typical to the banking business, including payment services.

## **2.2.2 Other Institutions Providing Payment Services**

As at January 1 2008, other players of the Armenian financial market included:

- 17 credit organizations (with 10 branch offices)
- 283 exchange offices (including branch offices)
- 7 currency dealers
- 3 remittance companies ('HayPost' CJSC, 'Armenian Express' CJSC, 'Depi Toun' LTD)
- 1 payment cards processing company ('Armenian Card' CJSC)

Credit organizations may not open and maintain bank accounts for their customers and members. Credit organizations shall perform non-cash settlement through banks.

Insurance companies and other financial institutions in Armenia do not provide payment services.

### Haypost

Haypost, the postal service of Armenia, plays an important role in delivery of payment services to the general public in Armenia. Areas with higher demand include the delivery of pensions and international and national remittances. The share of Haypost in the international remittances market in Armenia constitutes approximately 1 percent or around USD 10 million per year. Haypost has 900 branches, among which 87 are in the capital city of Yerevan and the rest in rural areas. Haypost does not participate directly in the payment systems of the CBA.

Haypost is undergoing a major restructuring process. The new strategy pays much attention to the establishing of a Postbank, and to increasing the number and quality of financial services it provides within Armenia. The Postbank is planning to deal with payments, loans, deposits, insurance, mortgages and micro financing. Moreover, modernization of the existing IT and telecommunications infrastructure for the on-line interlinking of all branches is also considered as a priority.

### Armenian Card

The Armenian Card CJSC was founded in 2000 by 11 commercial banks and the CBA, which then resulted in the creation in 2001 of the "ArCa" unified card payment system. Currently, 19 banks are using the processing services provided by Armenian Card.

The "Armenian Card" is a single processing center for the "ArCa"-brand payment cards, and also has been certified by VISA International and Europay/Mastercard as a third party processor. The "Armenian Card" is intensively working on the development of the internet and mobile banking infrastructure. As of January 1, 2007 there were more than 210 000 cards in

circulation, the number of the ATMs comprised 200 and the POS terminals more than 1200.

At present, the CBA owns 66 percent of the company's shares, while 17 commercial banks hold 2 percent each.

## **2.3 ROLE OF FINANCIAL INSTITUTIONS: SECURITIES**

### **2.3.1 Securities Market Participants**

Under the Armenian Law on Securities Market Regulation, the entities performing specialized activities in the securities market of Armenia include brokerage firms, dealer companies, securities trust managers, securities depositories, and other entities defined by law. A specialized entity must be a legal entity, unless the law provides otherwise. Specialized activities in the securities market are licensed by the CBA, which has the right to supervise the activities of specialized entities.

Brokerage and dealer companies: Brokerage activity is the business of executing transactions in securities on behalf of one or more third parties based on an assignment, commission, or agent contract. Dealer activity is the activity of a person trading in securities on his own account, as a part of their main activity.

Trust managers (trustees) of securities: The management of securities, funds marked for investments in securities, securities and funds received in the result of trust management of securities, belonging to another person and placed in holding of a trust manager, carried out in the name of a manager in favor of the owner or any other person designated by the owner (beneficiary) constitute trust management of securities. It is prohibited for any trust manager to perform any activity not related to trust management activity, other than activities permitted for brokerage companies and custodians.

#### Securities depositories

Provision of services of safekeeping, custody, and registration and transfer of rights on securities constitutes custodial activity. Any legal entity, as well as the Central Depository of Armenia, that has received a license to perform custodial activity, is considered to be a securities depository. Every depository is considered as sub-depository of the Central Depository of Armenia.

As of end-2006, there were 20 specialized entities operating in the securities market of Armenia.

#### Central Depository of Armenia

In August 2000, the Armenian Law on Securities Market Regulation became effective, which reserved the monopoly of custody, registration, and clearing functions in the Republic of Armenia for the "Central Depository of Armenia" Self-Regulatory Organization, which was to be founded by the specialized entities in the securities market (brokers/dealers and banks) on a non-for-profit basis. Thus, the "Central Depository of Armenia" Self-Regulatory Organization (CDA) was created in 2001, which is the legal successor of the "Central Depository of Armenia" CJSC.

The CDA performs functions of the centralized custodian, securities registry, clearing, and final settlement.

### **2.3.2 Exchanges**

In Armenia, a stock exchange is a self-regulatory organization, the activities of which are regulated by the Armenian SML, other regulations, and its own rules.

According to the SML, a stock exchange organizes public trading in securities, including quotation of securities, transactions based on them, and determination and clearing of mutual obligations arising out of such transactions. A stock exchange may organize public trading in foreign currency only on the basis of a foreign currency purchase and sale auction organization license in accordance to the procedure established by the CBA. A stock exchange has the right to perform organization of trading activity in any other stock commodities in accordance with requirements defined by law, normative legal acts, and its rules. In the settlement of transactions concluded in the course of trading in stock commodities, the stock exchange may act as the agent of parties.

A stock exchange does not have the right to perform, directly or indirectly, any professional or any other entrepreneurial activity.

Only brokerage (dealer) companies may become members of a stock exchange. This is, only the members of the stock exchange have the right to directly participate in trading in securities and other stock commodities by using the means of the stock exchange. However, with regard to the trading of government securities and foreign exchange, in addition to the members of the stock exchange, the CBA, commercial banks, and credit organizations may take part in public trading at the stock exchange.<sup>8</sup>

## **2.4 MARKET STRUCTURE AND REGULATION**

The CBA is the sole regulator of the financial sector in Armenia after having taken over, in 2006, the responsibilities of the National Securities Committee.

Therefore, the CBA licenses and is the regulator and supervisor/overseer of banks, securities institutions and markets, insurance companies, credit organizations, payment services organizations, and entities specialized in foreign exchange operations.

## **2.5 ROLE OF THE CENTRAL BANK**

### **2.5.1 Monetary Policy and other Functions**

Primary goal of the CBA is price stability in the Republic of Armenia. The CBA coordinates the primary goal with the government of Armenia, as stipulated by the Armenian Law on State Budget. The CBA itself decides on the strategy of monetary policy it implements and targets (intermediate and operational) indicators that are contained in the monetary policy program and subject to presentation to the National Assembly. The program outlines the main directions of the monetary policy and the monetary instruments which the CBA uses in order to fulfill its objectives.

Coordination of monetary and fiscal policies is a priority in developing and implementing the monetary policy in the country. This coordination involves both opting for basic macroeconomic indicators and issues relating to short-term adjustment of liquidity by the CBA, disbursement of external financial inflows and issuance and allocation of T-bills by the government. In this regard, the CBA makes sure its activities are maximally transparent and open to public, which serve the best warrant for the general public's confidence in the monetary policy implemented by the CBA.

To make sure its activity is open and transparent, the CBA publishes a number of periodical reports, notes and statistics that present the country's macroeconomic indicators, the pace of implementation of monetary policy, the CBA activities, the payment and settlement system, and other indicators.

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<sup>8</sup> For the FX market, also licensed foreign currency dealers can participate in the trading sessions.

## 2.5.2 Banking Supervision

In 2005, the CBA drafted a Concept Paper on Unified Regulation and Supervision of the Financial System in the Republic of Armenia, which was approved by the Government of Armenia. Under the Concept Paper, creating unified regulation and supervision will considerably improve financial market risk detection efficiency, facilitate the development and implementation of unified measures aimed at the development of the financial market, increase the efficiency of financial market crisis prevention measures by considerably improving the speed of decision making, and reduce regulation and supervision costs.

On December 22 2005, the Armenian Law on Implementing a Unified System of Financial Regulation and Supervision was adopted. This law regulates the measures required for implementation of the system, including the measures needed to spread the regulation and supervision over the financial market participants.

The CBA carries out supervision of commercial banks, branches of foreign banks, credit organizations, payment service organizations, securities market participants, non-governmental entities involved in pension activities, insurance companies, pawnshops and other entities having received a license from the CBA through:

- *On-site supervision:* pursuant to the CBA Law, on-site supervision shall involve regular, ad hoc, and target examinations;
- *Off-site supervision:* by reviewing statements, reports, references, as well as other documents or information submitted (or as and when required by the Board, the Chairman or the Supervision Department of the CBA to submit) to the CBA by the licensees, as required by the Armenian Law and the CBA regulations.

## 2.5.3 Involvement in the Payments System

Since its beginnings in 1993, the CBA has played an active role in the launch of more efficient interbank payment systems, and already has been able to achieve a significant level of development for the payments systems of Armenia. The scope of the reform was broad and reached large value payment systems, securities settlement systems, foreign exchange settlement systems, and retail systems. Also, the reform has included not only improvements to the systems but also the revamping of the legal and regulatory framework.

In the current situation, its reform agenda includes fostering a broader adoption and intensive use of modern (non-cash) payment instruments by the non-banking sector of the economy and individuals.

Besides improvements to the systems, the CBA continued to work in making its payment system oversight function fully operational to ensure payment systems in the country adequately serve the payment needs of financial markets, businesses, government organizations, and individuals.

According to the CBA Law the main functions of the CBA include providing for efficient, reliable, and safe functioning of the payment system and interbank settlement. Specific functions in this area include:

- Issuing the currency of the Republic of Armenia, organizing and regulating currency circulation;
- Supervising the payment system participants and regulating the financial system;
- Overseeing the payments system;
- Providing payment and settlement services to Armenian commercial banks, the Armenian government and several non-governmental funds;

- Taking demand or time deposits, in AMD or foreign currency from government agencies and banks, international financial institutions and credit organizations and, in exceptional cases, from other parties as and when decided by the Board of the CBA;
- Operating the EPS and the PBGSS.

#### **2.5.4 Deposit Insurance Schemes**

On November 24 2004, the Armenian Law «on Guaranteeing the reimbursement of individuals' deposits» was adopted.

According to the above-mentioned law, the following funds cannot be considered as deposits: funds provided to a bank under the depositor's agreement to take the risk of its use, or the funds provided as a property or lease or purchase of the property rights, or funds provided as a compensation for services or funds guarantying liabilities.

Based on the law, the Deposit Guarantee Fund was established in March 2005, with a single shareholder - the CBA. The resources of the fund come from the regular, single and additional payments of Armenian commercial banks.<sup>9</sup>

The amount of the regular payment constitutes 0.05% of the average amount of quarterly attracted deposits. Nonetheless, the minimum contribution is no less than AMD 1 million per year. Moreover, newly opened banks are required to make a single initial contribution to the Fund in the amount of AMD 15 million within 10 business days after they have obtained their banking license. Additional payments are required if the Fund's resources are not enough to cover the reimbursements, according to the terms and conditions of the Law.

The Fund reimburses deposits only if a bank went bankrupt or insolvent according to the "Banks and credit institutions Bankruptcy Law".

According to the law, the limits for the reimbursement of deposits are as follows:

- AMD 2 million, if the deposit is denominated in AMD
- AMD 1 million, if the deposit is denominated in foreign currency
- AMD 2 million, if the deposit is denominated in both AMD and foreign currency and the amount denominated in AMD exceeds AMD 1 million
- The full amount if the amount of the deposit denominated in AMD is less than AMD 2 million, or the difference between AMD 1 million and the reimbursable amount if the deposit is denominated in both AMD and foreign currency.

Several AMD-denominated deposits in the same bank are considered as one deposit and several deposits in foreign currencies in the same bank are considered also as one deposit.

The reimbursement terms and conditions are prescribed in the Law and relevant regulations.

#### **2.5.5 Anti-Money Laundering Measures**

The CBA undertakes the following measures preventing money laundering in Armenia:

- developing and adopting the legislation;
- creating institutional framework and interagency cooperation;
- learning the best international practice;
- training and consulting.

The first anti-money laundering legislation became effective 2002 when the CBA enacted Regulation #5, which later in 2004 became the Law "On Fighting against the legalization of

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<sup>9</sup> Except foreign banks branches registered in Armenia and insolvent banks.

income received from crimes and terrorism financing". The law clearly establishes functions and a cooperation framework in anti-money laundering matters among financial and non-financial entities, the Financial Intelligence Unit,<sup>10</sup> and supervisory authorities.

The anti-money laundering legislation also includes article 190 (Money laundering) and 217.1 (terrorism financing) of the Armenian Criminal Code, and article 233 (Confiscation of the income received from criminals) of the Armenian Criminal Procedures Code.

Institutions involved in the prevention of money laundering include mainly:

- The Financial Monitoring Center (FMC) is the official financial intelligence unit created in the CBA. The FMC is responsible for collecting and analyzing financial data, communicating with a variety of Armenian authorities and exchanging information with foreign financial intelligence units;
- Law enforcement departments of the Armenian Prosecutor's Office, Police and other agencies in charge with the function of investigating money laundering cases;
- Supervisory authorities involved in anti-money laundering – authorities carrying out financial supervision, including the CBA Financial Supervision Department and those overseeing non-financial institutions.

## **2.6 ROLE OF THE SECURITIES REGULATORY AGENCY**

Since 2006 the CBA took over the responsibilities of the former National Securities Committee and currently is responsible for regulating and supervising both the corporate and government securities markets.<sup>11</sup>

At the CBA, the department charged with the responsibility for regulating the corporate securities market is the Securities Market Department. At present, the CBA is working on a new Securities Market Law and new CBA regulations in order to, among other things, allow the de-mutualization of the stock exchange, allow banks to act as brokers-dealers (although under a separate license), and allow some professional market participants to act as nominees.

The Securities Market Department of the CBA has two inspection units. One deals with the analysis and approval of registration, prospectus, periodical reports prepared by securities issuers, and other off-site information, while the other unit performs on-site inspections to ARMEX, the CDA and brokers-dealers. The latter unit has 6 full-time staff members, one which acts as Unit Head.

In 2006, the CBA performed an on-site inspection to ARMEX, to the CDA, and to 3 brokers-dealers.

## **2.7 THE ROLE OF OTHER PRIVATE AND PUBLIC SECTOR ENTITIES**

### **2.7.1 The Union of Armenian Banks**

The Union of Armenian Banks was created in September 1995.

The main objectives of the Union are:

- Protection and representation of common interests of Armenian banking community;
- Participation in drafting of legislative and normative acts related to the banking activities in Armenia;

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<sup>10</sup> In Armenia, this is the Financial Monitoring Center (FMC).

<sup>11</sup> The latter jointly with the MOF.

- Provision to the Union members with information about foreign banks and untrustworthy borrowers;
- Publications;
- Promoting the implementation of advanced banking technologies to improve the settlement of payments and service to clients;
- Promoting standardization according to the best international practice;
- Organizing seminars, conferences, forums; and providing training workshops for the banks' staff.

### **2.7.2 The Ministry of Finance and Economy**

The Republic of Armenia Ministry of Finance and Economy is a republican body of executive authority, which elaborates and implements the policies of the Armenian government in the areas of fiscal revenue collection, public finance administration, and the coordination of social-economic development programs.

In 1996, to ensure efficient management of state and local budgets of the Republic of Armenia, the Ministry of Finance and Economy created the Treasury. The Armenian Law on the Treasury System (July 27, 2001) defines the structure and functions of the Treasury.

There are 44 offices of the Treasury located in administrative regions of Armenia. All collections and disbursements are organized via the single account of the Treasury with the CBA.

## **3 PAYMENT MEDIA USED BY NON-FINANCIAL ENTITIES**

### **3.1 CASH**

Bank notes and coins are an important means of payment for consumers, representing about 62 percent of monetary aggregate M1. In most rural areas, cash is the only means of payment.

The official currency in the Republic of Armenia is the Dram, which was introduced in November 1993. The CBA is the only issuer of legal tender in the country. The CBA designs and prints bank notes, distributes them, replaces damaged ones, and identifies and removes from circulation counterfeit notes.

Bank notes are issued in the following denominations: 500, 1000, 5000, 10000, 20000 and 50000. Currently there are 13 denominations of coins, three of which (named Luma – equaled one-hundredth fraction of the Dram): 10, 20 and 50; and Dram: 1, 3, 5, 10, 20, 50, 100, 200, 500 and 25000 (the gold coin named “Anahit”).

As of January 2007, AMD 211,469 million of currency were in circulation, including bank notes and coins. Bank notes in circulation constitute 96.5 percent of the total value.

To promote cashless payments in Armenia according to the Law on Cash-Desk Operations dated December 26, 2002, there are certain limits on the amounts legal entities can pay with cash, as follows:

- Single purchase must not exceed AMD 300,000;
- Total value of cash transactions during a month must not exceed AMD 3 million.<sup>12</sup>

### **3.2 PAYMENT MEANS AND INSTRUMENTS OTHER THAN CASH**

#### **3.2.1 Direct Debits/Credits**

The payments system in the Republic of Armenia is characterized by the use of electronic credit transfers for urgent, non-urgent, and other transfers, and by the use of cash and some cashless payment instruments for retail transactions. To date debit instruments such as cheques and direct debits, are not widely used.

The RTGS operated by the CBA currently processes both large and low value transactions. As the number of payroll projects in Armenia is growing, the CBA introduced a bulk payment instruction format within the RTGS to allow salaries to be distributed via banking accounts more efficiently.

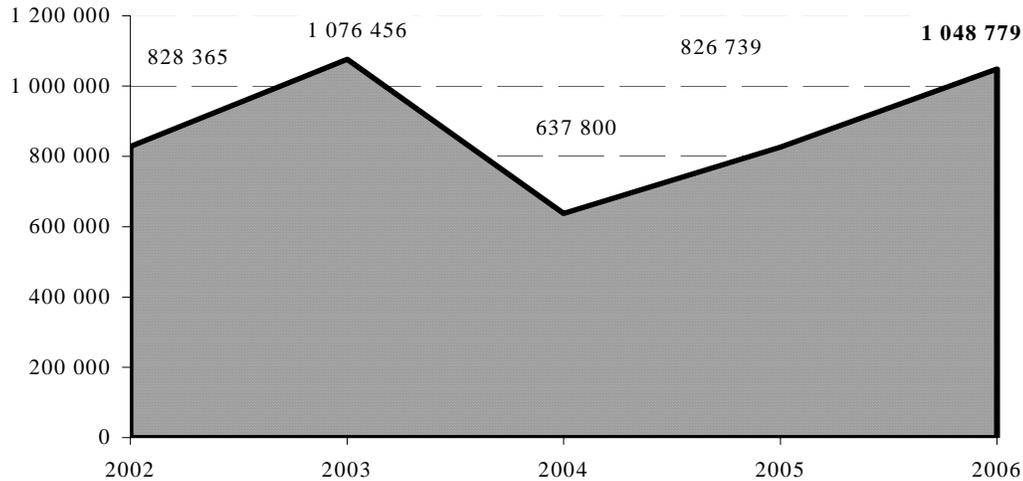
As discussed in the section 3.1, to further promote the use of cashless instruments in Armenia, the CBA has developed a draft Law restricting cash payments above certain specified limits. Moreover, salaries of more than AMD 60,000 must be paid only via banking accounts.

In 2006, there were 1,009,531 and 39,248 payments made in the EPS and the PBGSS respectively, for a total amount of AMD 4,419.5 billion.

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<sup>12</sup> By 2010 this amount will be further reduced to AMD 1 million.

**Figure 1: Combined Volume of Transactions in the EPS and the PBGSS**



### **3.2.2 Payment Cards**

The CBA pays significant attention to the development of payment cards. In 2000, the Armenian Card closed joint-stock company was founded by 11 commercial banks and the CBA, and the “ArCa” unified card payment system was created in Armenia. Currently, 19 banks are using the different services provided by Armenian Card. The Armenian Card is a single processing center for the “ArCa” cards and also has been certified by VISA International and Europay/Mastercard as a third party processor. Armenian Card is also working intensively on the development of Internet banking and mobile payments infrastructure.

As of end-2006, there were nearly 200,000 cards in circulation, of which about 186,000 were debit cards. The available infrastructure to process card transactions consisted of 180 ATMs and cash dispensers, and 1,326 POS terminals. During 2007, payments through the ArCa system amounted to AMD 27.8 billion in value, and slightly more than 1 million payment transactions.

Besides ArCa, there are two other processing centers in Armenia, belonging to Arexim Bank and to Vneshtorg Bank. Arexim Bank, however, signed an agreement with Armenian Card in 2006 under which Arexim can issue and accept ArCa cards in its network for processing.

### **3.2.3 Money Transfers**

HayPost CJSC is a major player in the Money transfer Business. HayPost offers both traditional postal (paper-based) money transfer services and electronic money transfer services. In the international arena, HayPost exchanges postal paper transfers with 23 countries. International money transfers are paid in either AMD or USD.

In 2003, HayPost implemented and is currently developing a new system of money transfers in Armenia – the “Expedited Domestic Electronic Transfers of Money” (“ETM”). Any individual and legal entity may transfer money using the ETM, without opening bank accounts. The ETM covers almost all of Armenia.

Money transferred through the ETM can be paid to the beneficiary within 10-15 minutes from a money transfer admission code being provided to the remitter.

The maximum amount of an ETM transfer is AMD 1 million (payable in national currency only), and the number of ETM transfers per day is unlimited.

Foreign money transfers are made through the main server of the World Postal Association.

### **3.3 NON-CASH GOVERNMENT PAYMENTS**

The public sector plays a very important role in the payments system of the Republic of Armenia.

Government payments are organized through the Treasury of the Ministry of Finance. The Treasury is a direct participant in the RTGS system operated by the CBA. All collections and disbursements are organized via the single account of the Treasury with the CBA.

The commercial bank network is used for disbursing salaries of state employees and also for collecting taxes and other tax-related payments from individuals and legal entities. In fact, state employees can only receive their salaries through bank accounts. In 2006, the Treasury initiated 37,535 payments with the CBA for a total amount of AMD 591 billion, which constitutes 13.5 percent of the total settlement throughput of CBA-operated payment systems.

The Treasury has 43 local treasury branches (LTB) which hold the accounts of all budget entities in the country. Administrative payments orders from any budget entity should be first authorized by the corresponding LTB. Authorization is granted on the basis of the budget disbursement plan, which should contain a record of the requested amount. Once authorization has been granted, the relevant LTB sends a transfer request to the Treasury's Headquarters Office, which then initiates the actual payment to the beneficiary through the RTGS system.

A similar procedure is applied for the disbursement of salaries of public sector employees. The Treasury HQ receives the payment instruction from the relevant LTB, including a list of recipients with indication of their banking details. The Treasury prepares a bulk payment order grouped by the beneficiaries' banks, and the order is processed via the RTGS system.

Government-funded pensions are paid through Haypost. The State Pension Fund has 40 branches which are responsible for collecting and updating information about retired people in the country on a regular basis. Monthly, each State Pension Fund Branch prepares the information about pensioners together with the post office branch through which they should be paid, and sends this information to the State Pension Fund Headquarters. A consolidated list is then sent to the Treasury. This list contains the individual amounts, names of pensioners, and identification of the servicing post office branch. At the Treasury, the information is then grouped by the commercial banks servicing the various Haypost branches, and the payment order is processed as a bulk payment via the RTGS system. Commercial banks then credit the proper account of the Haypost office, which in turn distributes pension payments to the public. Pensioners have a choice of being paid through a payment card or take cash.

## **4 PAYMENTS: INTERBANK SETTLEMENT SYSTEMS**

### **4.1 LOW VALUE PAYMENT SYSTEMS**

#### **4.1.1 The Clearing System**

The CBA's Clearing System (CS) was introduced in 1994. At present, it is no longer used on a regular basis.

The CS is a paper-based payment system which at present is only used as a backup facility in case of a failure in the RTGS system. All commercial banks can participate in the CS.

Payments are manually imported to the system from various information-storing devices such as floppy disks, CDs or even memory sticks; however, copies of the payment instructions must also be submitted to the CBA in paper form. The CBA operator checks whether the information on the paper corresponds to those in electronic form and enters the relevant information into the CS.

Participants are required to prioritize the payments orders by placing them accordingly in the paper folder they submit to the CBA. Those with less priority should be placed at the end of the paper folder.

For final settlement, the CBA transfers all available liquidity from the correspondent accounts of participants to the CS. The final positions are calculated on a multilateral net basis and are then settled with the available funds in each account. If liquidity is insufficient to cover the net debit obligation of a participant, the CBA starts unwinding payments starting with the payment orders that were placed at the end in the paper folder submitted by that participant.

Once settlement has been completed, the new liquidity positions are moved back to the single correspondent accounts at the CBA.

#### **4.1.2 ArCa Unified Card Payments System**

Currently, 19 commercial banks participate in ArCa. The operator of the system is the close joint stock company "Armenian Card CJSC".

Banks can participate in ArCa through various forms, including:

- As full members, i.e. shareholders of Armenian Card CJSC with the right to issue and acquire ArCa cards, and to participate in processing of international cards like VISA, Europay/MasterCard. At present, the CBA owns 66 percent of the company's shares, while 17 commercial banks hold 2 percent each.
- Issuing members, i.e. participants with the right to issue ArCa cards and disburse cash only at their service points.
- Acquiring members, i.e. participants with the right to act as acquirers of ArCa cards.
- Issuing and acquiring members, i.e. participants with the right to both issue and acquire ArCa cards.

**Table 1: Basic Pricing Policy of Armenian Card towards its Members**

<b>Participant Type</b>	<b>Annual fee (AMD)</b>
Full member	2,500,000
Other	5,000,000

Since 2003, Armenian Card is a principal member and processing centre (so-called “Member Service Provider”) for MasterCard and a third-party processor for VISA. Currently, 19 commercial banks have a license to issue payment cards in Armenia. Cards of both national and international systems are issued, including VISA, Europay International, American Express and Diners Club. All local transactions with cards issued in Armenia are cleared by ArCa and settled at the CBA through the RTGS system.

As the bank networks in Armenia are interoperable, except for the network of the Vneshtorg Bank, ArCa has been able to introduce a variety of services for the card holders, among which:

- Card-to-card transfers between accounts linked to ArCa, VISA and MasterCard cards.
- Utility payments (electricity, gas, water) initiated via the ATMs or the internet.
- Mobile telephone payments.
- Internet Banking.

The operational cycle of ArCa goes from 9:00 a.m. of T+0 until 9:00 a.m. of T+1. For the settlement of the resulting interbank obligations, pre-funding at the CBA is required as follows: before 11:00 a.m., banks need to send to ArCa information on the amount of money they wish to block from their correspondent account at the CBA for the purposes of fulfilling financial obligations as part of their ArCa membership. On this basis, ArCa sets a debit limit for each participant for that operational day. At 11:00 a.m., ArCa sends the information on the limits to the CBA, together with the final net positions of the previous operational day.

During the operational day Armenian Card continuously checks each incoming payment authorization request for compliance with the debit limit established for each participant. If a payment exceeds the debit limit, that transaction is not authorized regardless whether the final client has the necessary funds in his or her account with the bank. During the day, however, banks may ask ArCa to request the blocking of additional funds in their correspondent accounts with the CBA

Final settlement is executed at the RTGS. At the end of the operational day, ArCa calculates the final multilateral net settlement positions and prepares the payment instructions to be executed by the CBA. Instructions are submitted in electronic form via the CBANet. The process is executed on a fully STP basis. Having received the instructions, the CBA first debits the accounts of those participants with debit net positions in their technical clearing account within the CBA and then transfers the corresponding funds to the accounts of participants with net credit positions.

Settlement confirmation is delivered to ArCa, which then distributes final reports to all participants.

## **4.2 TRANSFER AND SETTLEMENT SYSTEMS FOR LARGE VALUE PAYMENTS**

In Armenia there is one large value payments system, the real-time gross settlement (RTGS) system operated by the Central Bank of Armenia. The system was implemented in 1997 and processes payments electronically on participant's correspondent accounts at CBA on a real time basis. Immediate finality and irrevocability are therefore technically achieved and further supported by adequate legal and regulatory provisions.

Participants of the system are the Central Bank and its 3 regional cash centers, the 21 commercial banks, the National Treasury, one remote direct participant (the Inter-State Bank), and Armenian Card CJSC.

The rules and procedures as regards financial and operational risks and their management, information on the system design, system timetable and technical procedures are described in

the “Electronic Payments System Operational Procedures” and the “Formats of Messages Used in Electronic Payments System”, in regulatory acts developed by the CBA and in the contracts between the CBA and participants.

#### **4.2.1 Main System Characteristics**

The operational day of the RTGS system starts at 9:00 a.m. with the so-called “technological stage”<sup>13</sup> and thereafter the access opening. Settlement of payments starts at 9:30 a.m. and goes on until 5:00 p.m. New orders are only accepted until 4:30 p.m. while the following half hour is only used for the settlement of payments which had previously been rejected. After 5:00 p.m., only non-payment messages may be exchanged and at 6:00 p.m. the system closes.

There are two channels for the input of payments into the RTGS system. The channel which accounts for 96 percent of payments is the Electronic Payment System (EPS). The EPS allows the electronic delivery of payment orders through CBANet on an STP basis. The alternative channel is the Paper-Based Gross Settlement System (PBGSS). The PBGSS entails the delivery of paper payment orders that are digitalized thereafter manually by the CBA. The second channel is used only by very few participants and for the settlement of transactions coming from ARMEX. However, the CBA plans to move the payment instructions from ARMEX to EPS in order to reduce to a minimum the need of manual intervention. The PBGSS channel can also be used as back-up channel by all participants in case of operational problems with the EPS.

After a payment inputted through EPS has been settled, confirmation with all details goes immediately to the receiving bank through BankMail. Payment orders inputted in paper form are communicated also in paper form to the receiving bank on T+1.

Settlement services through the RTGS system are offered at no cost to the participants by the CBA as long as the participants use the EPS to enter their payment orders into the RTGS system.

The architecture of the system is V-shaped. It is possible to settle single payments as well as bulk payments, all of which are processed on real time gross basis. Furthermore, there are no limits concerning the value of payments and no pricing differentiation between payments of low and large value.<sup>14</sup> Therefore, the RTGS system is used both for the settlement of large value as well as for small value payments.

The cash leg derived from trades of government and CBA securities is also settled on a DVP basis in the RTGS system.

System participants have two options to access settlement information. They can monitor their balance, and their total credits and debits. This information is updated every 30 minutes through the Lotus Notes Program. Secondly, there is the option to request information on balances through message 920 in BankMail, which provides the status in real time.

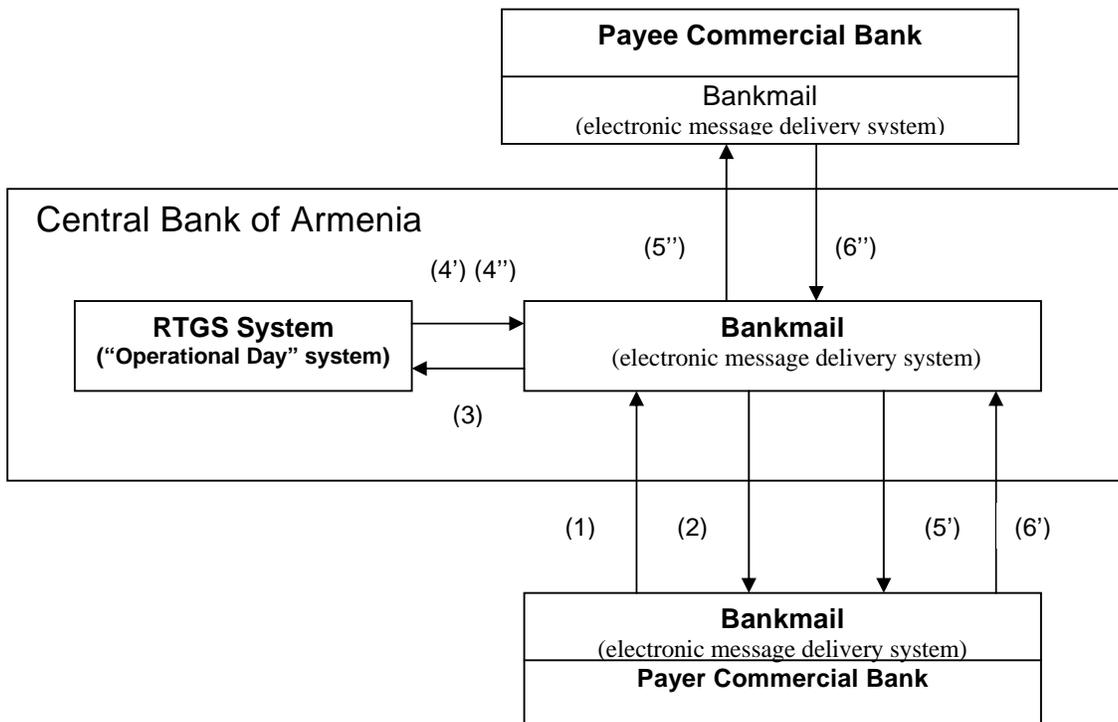
In 2006, the RTGS system settled a little over 1 million transactions. The value of settled payments has been growing steadily over the past years, reaching AMD 4,410 billion in 2006. In this year, an average of nearly 4,000 payment orders were settled through the RTGS system per day. The system capacity was increased in 2004 to 15,000 messages per day.

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<sup>13</sup> During this stage, the software is uploaded, tested, and system reports are sent/received. No payments are actually made during this stage.

<sup>14</sup> As mentioned earlier, no charges are made for payment orders entered through EPS.

**Figure 1: Settlement Flows through the EPS**



- (1) – payment order
- (2) – delivery confirmation
- (3) – payment order
- (4') – rejecting execution of payment
- (5') – rejecting execution of payment
- (6') – delivery confirmation
- (4'') – payment execution confirmation
- (5'') – payment order (payment execution confirmation)
- (6'') – delivery confirmation

#### **4.2.2 Credit and Liquidity Risk**

Since the payments of each participant are processed on a gross basis (payment by payment) via the banks' correspondent accounts using the available balances, neither the participants nor the CBA undertake any credit risk.

Credit risks associated with the settlement from other systems are controlled through pre-funding or blocking of liquidity. The RTGS system rules envisage that the participants must reserve funds for assuring completion of settlement for ArCa, currency and securities trades at ARMEX, and primary offers of government and CBA securities.

Participants in the RTGS system are allowed to use their minimum reserve requirement funds for payment purposes.<sup>15</sup> Apart from this liquidity source, no intraday credit or overdraft facilities are available: a payment is settled only if sufficient funds are available in the account of the paying participant. If the payment is larger than the funds available, it is rejected immediately. However, at present due to the high liquidity available in correspondent accounts in relation to the total value of payments settled, payment order rejections happen only rarely.

Furthermore, the Armenian RTGS system works without any queues. Payment orders which are not covered by enough funds on the correspondent accounts are rejected and sent back to the participant, which has to re-enter them later on.

As a result, in essence banks in need of fast liquidity have to obtain it through the interbank money market. It is worth mentioning, however, that the CBA is working in the implementation of a technical infrastructure to automate the repo auctioning process.<sup>16</sup> The purpose of this project is to enable the CBA and RTGS system participants to use repos as a liquidity management tool, including, eventually, intraday repos.

#### **4.2.3 Operational Risk Management and Business Continuity Plans and Procedures**

The EPS uses a proprietary telecommunications network: CBANet. Participants are satisfied with its functionality and availability. CBANet uses dedicated lines. Until recently, there was only one provider of telecommunication services but as the market is opening up to new competitors CBA intends to contract services from additional providers.

The CBA has developed a business continuity plan for the technical infrastructure of the RTGS system. There is a hot backup at the CBA building and a cold backup at 50 km distance of the main site. However, there is no staff available at the secondary site. If both servers at the CBA building break down during the day, the settlement data of the ongoing day would be lost, and the whole day would have to be repeated on the cold backup site. Backup systems are tested periodically with the system participants. Two separate lines provide electricity from the same provider and are supported by an on-site electricity generator.

System participants have to comply with technical and security requirements, which are defined in a multilateral Interbank Agreement. The CBA keeps record of all transfers between the participants during the operating day and stores them in two different locations.

In case the CBANet breaks down and payments cannot be inputted electronically through EPS, participants can use the paper-based system PBGSS. If the settlement engine of the

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<sup>15</sup> Funds held in correspondent accounts at the CBA are not remunerated.

<sup>16</sup> Repo auctions take place only once a week and the minimum maturity is seven days.

RTGS system faces operational problems, payments can still be processed through the paper-based Clearing Settlement System which settles multilateral net balances at the end of the clearing day.

#### **4.2.4 System Governance**

The CBA is the main driver of new developments in the area of payment systems. It consults with system participants on a rather informal basis. Up to now the CBA has stated the need to become more involved in international exchange of payment system know-how.

There are currently no formal working groups dealing with payment issues on a sector-wide basis. In fact, the banking community states that they have other issues which are more pressing since current payment systems overall satisfy their needs. Also, the Union of Banks of Armenia has not dealt much with payment issues so far.

The CBA is currently undertaking a reorganization effort in order to separate the oversight and payment system methodology units from the payment system development and implementation units.

### **4.3 CROSS-BORDER PAYMENT SETTLEMENT SYSTEMS**

Cross-border payment instructions are normally sent and received through SWIFT and are settled through foreign correspondents. At present 21 banks and financial institutions in the country are SWIFT members.

During 2006, the volumes of international bank transfers via SWIFT and telex from/to Armenia amounted to AMD 2,219 billion and AMD 1,873 billion, respectively.

Migrant remittances are very relevant in Armenia. The main flows come from the Russian Federation and the United States. In 2006, the value of remittances to the country was USD 1.2 billion, which is equivalent to about 20 percent of the country's GDP.

Only banks and non-banking financial institutions having a license from the CBA to operate remittances can participate in the different remittance schemes represented in Armenia. Apart from international systems such as Western Union and Money Gram, there is intense competition from system created in the CIS region, such as Anelik, Contact, Unistream, Migom, Bistraya Pochta, InterExpress, Leader (VIP Money Transfer), Private Money Transfer, STB Express, and others.

### **4.4 FOREIGN EXCHANGE SETTLEMENT SYSTEMS**

There is one organized market for foreign exchange (FX) transactions in the Republic of Armenia which is operated by the Armenian Stock Exchange (ARMEX). Trades and settlement are regulated by the "Armenian Stock Exchange FX Trading rules", the "Armenian Stock Exchange Clearing and Settlement Rules", and the Agreement between ARMEX, the CBA and participants.

Nearly 80 percent of the total value traded in the domestic foreign exchange market (USD 1 million daily) is traded at ARMEX and settled through the RTGS system of the CBA. The currencies that are traded at the ARMEX are the US dollar and the Euro, although the US dollar represents more than 95 percent of total market volume.

The FX trading system at ARMEX is a "blind" system, i.e. trades are made on an anonymous basis. Participants submit their bids to ARMEX from 11:00 a.m. until 3:00 p.m. This is done

remotely via the CBANet or through workstations located at ARMEX's trading floor. Actual trading takes place once a day from 3:00 to 3:30 p.m.

**Table 2: ARMEX Procedures and Timelines for FX Transactions**

	<i>Function</i>	<i>Deadline</i>
1	Submission of trading participants' payment orders to the CBA for deposition of funds	9:45
2	Submission of reports on deposition of cash by trading participants to ARMEX	10:00
3	Checking and finalizing the payment orders by CBA, transferring the funds to ARMEX clearing accounts, and issuing a statement on transferred funds to ARMEX	10:15
4	Information exchange notifying the CBA and trading participants of inconsistencies, if any, by ARMEX	10:30
5	In case of detected errors, the CBA sends ARMEX a corrected statement on funds transferred to the clearing accounts of the latter at the CBA	10:50
6	Checking and finalizing data by ARMEX and entering data on stock trading participants' initial positions into the trading system for the current session	11:00
7	Bid submission and trading session at ARMEX	11:00 – 15:30
8	Checking and finalizing final positions of trading participants, and, based on them, preparing and submitting payment orders to the CBA by ARMEX	15:30
9	Preparing a statement on transferable funds by trading participants and submitting them to the CBA	16:00
10	CBA checks orders, compares data, and in the case of inconsistencies notifies ARMEX and the trading participants	16:45
11	If no inconsistencies were found, the CBA crediting the accounts of trading participants	17:00
12	In case of inconsistencies, presenting adjusted payment documents to the CBA by ARMEX, and performing the final settlement by the CBA	From 17:15 up to the closing of the CBA's operational day

ARMEX holds a settlement-only account with the CBA. On the trading day, participants have to pre-fund the amounts in AMD and FX they intend to trade by transferring those amounts to this ARMEX account before 10:30 a.m. During the operational day, participants can transfer additional funds to ARMEX only once more. Matched trades are pre-settled on a gross basis with participants' pre-funded amounts, which change continuously to reflect additional incoming trades. Participants are also permitted to withdraw funds from ARMEX back to their correspondent account up to three times. If a trading amount in any currency cannot be covered by the current pre-funded position of a participant, that transaction is cancelled.

Final settlement is then executed at 3:30 p.m. ARMEX sends the final positions of participants and payment instructions to the CBA. Then, the new positions are transferred back from the account of ARMEX to the correspondent accounts of the participants.

For buyers of foreign currency, ARMEX charges a 0.005 percent of the traded amount. For sellers of foreign currency the fee is also 0.005 percent.

The remaining 20 percent of total market trading in FX is made up by over-the-counter (OTC) trades. OTC FX trades are settled through ordinary correspondent bank arrangements. Settlement of these transactions is based solely on private bilateral arrangements and is not regulated in any particular manner.

## 5 SECURITIES: MARKET STRUCTURE AND TRADING SYSTEMS

### 5.1 FORMS OF SECURITIES

All types of securities in Armenia are issued in dematerialized form.

### 5.2 TYPES OF SECURITIES

In Armenia, securities are classified into three groups: i) nominal securities; ii) bearer securities; and, iii) order securities.

Shares, bonds, certificates of deposit, checks, bills and other securities can be issued and circulated in Armenia. The SML and other relevant legal documents provide the following definitions for some of these types of securities.

- *Shares*: a security that certifies its owner's (shareholder's) right over the proportion of the company profit, the participation in the management of the company and the proportion of the property left after liquidation of the company. Shares are equity securities that are issued by joint stock companies and can be only nominal.
- *Bonds*: is a security that certifies its owner's right over receiving the nominal value of or other property equivalent to the bond from the issuer in a specified period of time. The bond entitles its owner to receive also an interest on its nominal value or other property rights.
- *Certificates of Deposit*: is a security that certifies the amount of a deposit and the depositor's right over receiving the amount of deposit and interest thereon from the bank having issued that certificate or from any branch thereof, after the end of a specified period of time. The certificate of deposits can be issued in bearer or nominal form.
- *Bills*: a security that certifies the non-conventional liability of its issuer (note of hand) or other payer noted therein (bill of exchange) to pay a certain amount specified in the bill to the holder (owner) of the bill.

Apart from issues from the private sector, the MOF issues debt securities with various maturities. Short-term securities are called Treasury bills, while longer-term securities are called Treasury bonds. The CBA also issues short term debt securities (called "CBA notes") for monetary purposes.

### 5.3 SECURITIES IDENTIFICATION CODE

Armenia uses its own numbering system for government, CBA and corporate securities, which is however fully ISIN-compliant (ISO 6166) by its length and structure. The codes consist of 12 characters: i) a prefix, which is the alpha-2 country-code, ii) the basic number, which is 9 characters (letters and digits) in length, iii) a check digit, computed using the principles set in above mentioned standard. In the case of government securities, codes are assigned by the MOF.

## **5.4 TRANSFER OF OWNERSHIP**

The SML explicitly provides for the transfer of ownership of securities by means of book entries. Article 115 of the SML item 2 states in this regard that “transfer of any dematerialized securities shall be performed solely through the accounts opened with the Central Depository in accordance with the procedure defined by the statute and other legal acts, till the time when its maintenance remains mandatory for it”.

The SML is, however, applicable to shares and debt securities issued by the private sector. In the case of securities issued by the government and the CBA, the joint CBA-MOF decree also provide for these types of securities being transferred through book entries.

Government securities and CBA notes are deposited and registered in the Book Entry System of the CBA. All transfers are executed by the CBA.

## **5.5 TREATMENT OF LOST, STOLEN, AND DESTROYED SECURITIES**

Securities in Armenia are dematerialized; therefore the issue is not relevant.

## **5.6 PRIMARY MARKET**

Government securities are issued by the MOF and include short-term issuances with less than 1 year maturity, medium term from 1 year to 5 years, and long-term securities with maturities from 6 and up to 30 years.

The placement of government securities is performed via auction sales using the CBA as its agent. The book entry system of the CBA, the Government Securities Accounting and Settlement System (GSASS) is used for this purpose. Auctions take place on Tuesdays, although only three or four times a month i.e. there are some weeks during the year in which there are no MOF securities auctions. Securities issued by the MOF can be obtained by agents and dealers.<sup>17</sup> Through the “Treasury Direct” facility, the MOF also sells a part of its securities directly to individual investors.<sup>18</sup>

Commercial banks, credit organizations, and non-bank financial organizations (securities market broker or dealer companies) may be agents or dealers of T-bills, if they concluded an appropriate agreement with the CBA and the MOF, which allows them to participate in the T-bills primary placement auctions and to be sub-depositaries of T-bills in accordance with the established terms and conditions. Commercial banks may be dealers of the CBA securities, if they concluded an appropriate agreement with the CBA, which allows them to participate in the CBA securities primary placement auctions and to be sub-depositaries of CBA securities in accordance with the established terms and conditions.

The MOF is entitled to repurchase its securities at a pre-announced yield rate, as well as it can float unallocated bonds. Since October 2006, the MOF has been issuing government saving coupon bonds that are only marketed to individuals. These securities are issued for a maturity of 3 months to 25 years.

In view of the conduct of more effective monetary policy the CBA issues government short-term discount rate securities with maturities of 3 and 6 months. These securities are placed

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<sup>17</sup> Agents are partners to the MOF in the area of domestic public debt management. Agents have clearly defined rights and liabilities. Dealers participate in primary securities placements with limited rights.

<sup>18</sup> Investors using the system Treasury Direct can only buy short-term government securities.

through regular CBA auctions. CBA notes can be purchased only by commercial banks and one investment company which holds a special current account with the CBA.

**Table 3: Government Securities allocated per year and Outstanding Balance**  
(in AMD million)

<i>Domestic public debt</i>	<i>2004</i>		<i>2005</i>		<i>2006</i>	
	<i>Bonds allocated</i>	<i>Domestic public debt</i>	<i>Bonds allocated</i>	<i>Domestic public debt</i>	<i>Bonds allocated</i>	<i>Domestic public debt</i>
Short-term securities	13,200	9,200	21,978	6,500	9,3367	7,700
Medium-term securities	28,000	34,506	17,434	36,487	16,577	38,088
Long-term securities	2,700	2,700	5,660	8,360	6,340	12,175
Total	43,900	46,406	45,072	51,347	32,254	57,963

Source: CBA.

## 5.7 SECONDARY MARKET

Secondary market activity in corporate securities is low, totaling some USD 6 million in all of 2006.

Government securities and the CBA notes are mainly traded OTC in the secondary market. The MOF is planning to allow its securities to be traded and quoted also through ARMEX. This project is expected to be launched in January 2008.

For the secondary market, transactions in government securities and CBA notes are performed in the OTC market from 9:30 a.m. to 4:30 p.m. All trades have to be confirmed by both the seller and buyer via CBANet to the CBA, as operator of the GSASS. Confirmation messages allow STP with SWIFT-like formats.

**Table 4: Secondary Market Transactions with Government Securities**  
(in AMD million)

	<i>2004</i>	<i>2005</i>	<i>2006</i>
Total value of transactions (in AMD million)	45,716	77,201	66,724
Average daily value of transactions (in AMD million)	181	304	264
Average weighted yield of transactions	6.6388%	5.4325%	6.2478%
Number of transactions	734	981	727

Source: CBA.

## 5.8 STOCK EXCHANGE TRADING

In the case of corporate securities, at present in order for these securities to be traded in ARMEX the seller must ask that these be blocked in their depo account with the CDA. Also, the buyer must have deposited the necessary funds in the “technical account” the CDA holds with the CBA.

Before trading at ARMEX opens, the CBA informs ARMEX of the securities that have been blocked and the details of how much each broker-dealer deposited to make purchases during

the day. ARMEX will allow trading as long as the pre-funding requirement is met for both legs for every transaction. Only this condition is met, trading can take place and it is automatically matched and confirmed.

There is no direct interconnection of systems between ARMEX and the CDA, and between the CDA and the CBA.

## **5.9 OVER THE COUNTER (OTC) MARKET**

For the secondary market, transactions in government securities and CBA notes are performed in the OTC market from 9:30 a.m. to 4:30 p.m. All trades have to be confirmed by both the seller and buyer via CBANet to the CBA, as operator of the GSASS. Confirmation messages allow STP with SWIFT-like formats.

The interbank money market in Armenia is an OTC market with short-term repos as the main instrument for the exchange of liquidity. At present, repo transactions constitute almost 75 percent of transactions. Securities pledges and unsecured transactions account for the rest. In almost all cases, government or CBA securities are the underlying security in these transactions. As a result, the interbank money market basically flows through the CBA securities depository and payment systems, and all secured transactions are executed on a delivery versus payment (DvP) basis.

Only banks and one non-banking investment firm participate actively in this market, which is the same situation as the primary auctions of government and CBA securities.

CBA statistics show that interbank money market activity is growing steadily, providing, for the time being, a reliable source of funds for those participants that may be facing a temporary liquidity shortage in the payment system.

## **6 CLEARING AND SETTLEMENT SYSTEMS FOR GOVERNMENT AND CORPORATE SECURITIES**

### **6.1 ORGANIZATIONS AND INSTITUTIONS**

#### **6.1.1 Armenian Stock Exchange**

The Armenia Stock Exchange (ARMEX) is the only stock exchange in Armenia. It provides an organized market for foreign currency and for corporate shares and bonds. Secondary market activity in corporate securities is low: in 2006, there were 1,181 transactions for a total amount of AMD 2,149,700 or approximately USD 6 million.

Swedish exchange operator OMX AB on January 7, 2008 bought 100% of the shares of the ARMEX and the CDA.

#### **6.1.2 Depositories**

The Central Depository of Armenia Self-Regulatory Organization (CDA) is the registry and central depository for corporate securities. The CDA currently holds the records of all corporate securities that are traded in ARMEX.

The CDA performs the following functions:

- 1) As a central custodian:
  - Renders custodial services to customers; and
  - De-materialize securities and maintain accounts for such securities;
- 2) As a centralized registry of securities, based on the contract signed with the issuer, maintains a uniform data-base system (registry) about security owners (holders), and the number, class and category of the securities;
- 3) As a clearing and final settlement agent:
  - Determines and clears mutual liabilities (collects and verifies information, and prepares accounting documents);
  - As a result of transactions in securities, transfers securities on the accounts and performs final settlement;
  - Establishes guarantee funds for reduction of risks associated with performance of its functions; and
  - May act as agent for parties in matters related to clearing and final settlement.

The members of the CDA of Armenia SRO are the Armenian Stock Exchange, specialized entities in the securities market, and banks (including the CBA).

In the case of government securities and CBA Notes, the CBA acts as a central depository, records transactions, registers rights arising out of transactions, and performs final settlement. For this purpose, it developed the GSASS, which ensures:

- Electronic presentment and automatic processing of the primary placement bids;
- Automated performance of the primary placement auction and automated settlement of depo and cash sides;
- Automated redemption of government securities; and
- Final settlement related to secondary market transactions and pledging operations without complying with the “delivery versus payment” (DVP) principle, on the basis of paper depo orders submitted by the participants of the GSASS.

The activities of the GSASS are regulated by normative legal acts of the Armenian Government and the CBA on the placement, circulation, and redemption of government bonds, the GSASS Rules and GSASS's Accounts Encoding Procedures adopted by the CBA,

and the decree that defines the Electronic Formats of Messages Related to Transactions with government bonds.

As of end-2006, the GSASS had 26 participants, including the CBA, the MOF, the Treasury Direct, 21 commercial banks (7 agent and 14 dealer banks), the Deposit Guarantee Fund, and 1 non-bank dealer.

## **6.2 SECURITIES CLEARANCE AND SETTLEMENT PROCESS**

### **6.2.1 Government Securities and CBA Notes**

To participate in primary and/or secondary trades with government securities, market players are required to have an AMD correspondent account with the CBA and a depo account in the GSASS, and to be a member of the CBANet inter-bank computer network.

The secondary market module was implemented in the GSASS, which ensures the final settlement of secondary market transactions and pledging operations in accordance with the “delivery versus payment” (DVP) principle on the basis of electronic depo orders submitted by the participants of the GSASS.

The system operates in accordance with the following principles:

- Both cash and securities legs are settled on the gross basis, during the operational hours scheduled for settlement.
- There is no priority setting; all orders are executed on a first-in, first-out basis.
- The system executes securities transfer orders on the basis of the Delivery versus Payment (DVP) principle.
- The system does not have a queuing mechanism.
- Settlements made by the system are final and irrevocable from the moment they are executed in depo accounts managed under the system.

The GSASS participants use CBANet to submit to the CBA in the appropriate formats depo orders, primary placement auction bids and transaction confirmations, which will be automatically entered into the GSASS. After entering each depo order into the system, the system automatically looks for a match.

Once matching is accomplished, the appropriate value of securities is blocked in the depo account of the seller, after which the GSASS generates a payment order that is automatically forwarded to the CBA's RTGS system, where the buyer's cash account is debited and the seller's will be credited. After the funds settlement is completed, the RTGS system sends a confirmation to the GSASS, on the basis of which the GSASS debits the seller's and credits the buyer's depo account with the respective value of securities. According to the rules of the GSASS, settlement is considered final at this point.

After the depo settlement is completed, the GSASS sends confirmation of final settlement to the buyer and seller participants.

Secondary market transactions with government securities and CBA notes are settled on T in real time once the CBA has been able to confirm the trades. In general, commercial banks trading government and CBA securities OTC send their confirmation messages to the CBA almost immediately once the trade has taken place.

There are no tools to facilitate the management of liquidity risk. If a depo account balance is not enough to execute a securities transfer order and/or if the cash account does not contain sufficient funds, the transaction is rejected and cancelled. If a transaction has been cancelled due to either insufficient securities or funds, the participants will receive a rejection message.

Custody Risk

Only banks and one non-banking organization (apart from the MOF and the CBA) are direct participants of the GSASS. These entities act as nominees for individual investors and hold omnibus accounts for the latter in them in the GSASS. While direct participants acting as nominees are required to segregate their holdings from those of their clients, the individual investors can be identified only in the internal registries of custodians.

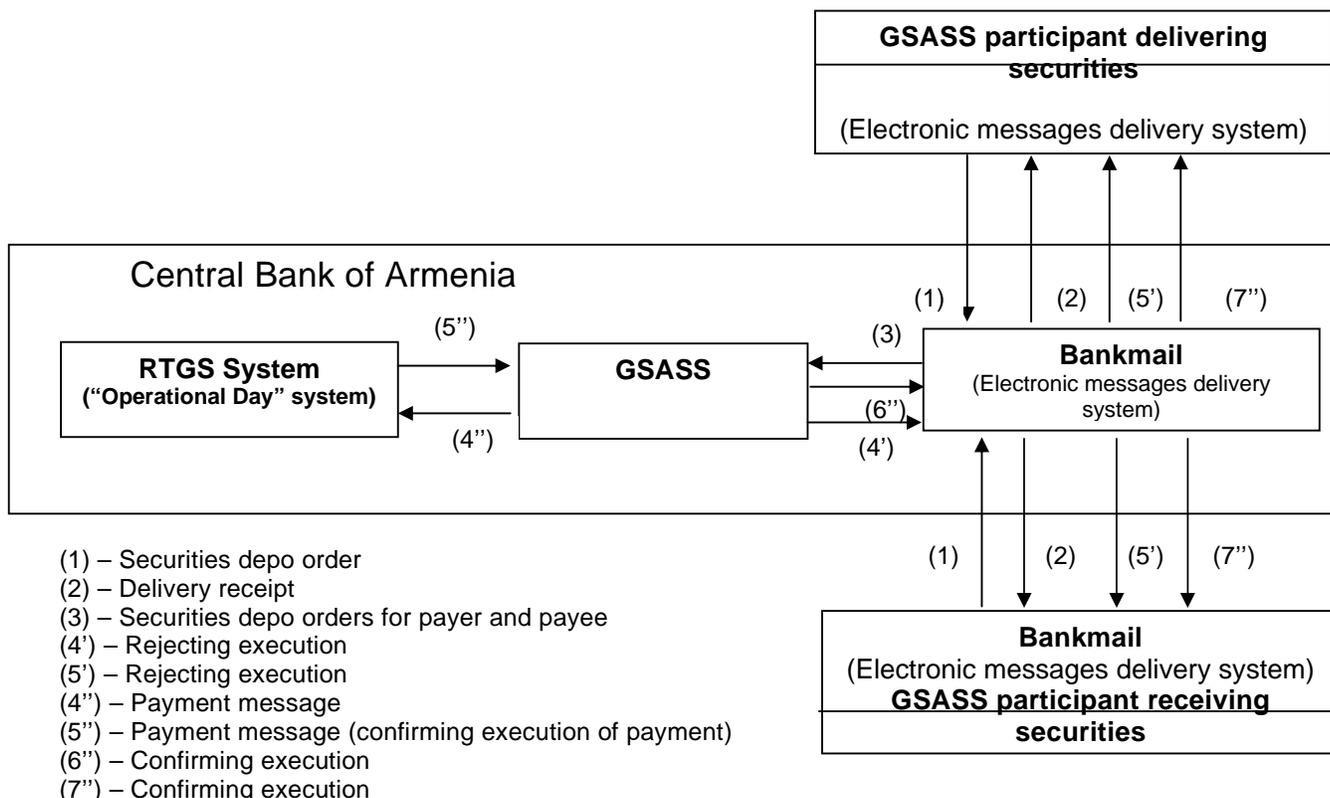
There is also a separate omnibus account for those individuals that have purchased government securities through the “Treasury Direct” system. In the latter case, individual holders can be identified in the records of the MOF.

Operational Risks

In general, operational risk management and business continuity procedures for the GSASS are identical to those applied to the EPS.

If CBANet has technical problems, making it impossible to send and/or receive financial and information documents in electronic form, there are backup procedures under which the participant submits the depo orders in paper form, which is entered into the GSASS by CBA competent official. At the same time, the system participant may be given a printed and endorsed paper copy of the undelivered electronic information sent to him.

**Figure 2: GSASS Flow Chart**



The detailed time schedule of the GSASS is shown in Table 5.

**Table 5: Schedule of the GSASS**

<i>Time</i>	<i>Action</i>
9:00am–9:30am	Opening of system operational day
9:30am–4:30pm	Execution of all types of transactions
Primary bonds auction	
up to 10:30am	acceptance of bids
10:30am	deadline for bid acceptance
Redemption of securities (or partial redemption)	
up to 12:30pm	execution of redemptions
4:30pm	Access closing stage (electronic messages are no longer received from the CBANet, and paper documents are no longer received)
5:00pm	Completion of the entries of paper documents
4:30pm–5:30pm	Printing of statements, paper notices (confirmations), operation confirming orders
5:30pm–6:00pm	Closing of operational day
6:00pm–7:00pm	Archiving of data.

Source: CBA.

## 6.2.2 Corporate Securities Clearing and Settlement Systems

Brokers-dealers are required to deposit the necessary cash, or to block the necessary securities in advance to trading. The pre-funding of cash positions is done through a commercial bank as the latter are the only ones that hold a correspondent account with the CBA. Brokers-dealers also have to indicate the amounts that they are depositing/blocking on behalf of themselves, and those on behalf of their customers.

Brokers-dealers inform the CDA of the securities they wish to block on their depo account with the latter. Commercial banks acting as settlement agents for brokers-dealers, on the other hand, inform the CBA of the payments (position funding) submitted by each broker-dealer. The CBA then sends a confirmation report to the CDA, which then prepares a summary and forwards this information to ARMEX together with information the securities that have been blocked.

ARMEX uses the statement from the CDA to produce the so-called “original balances” of securities and monetary funds. ARMEX participants are able to trade within the limits of these “original balances”.

The trading session at ARMEX starts at 12:30 p.m. and ends at 1:30 p.m. At 1:45 p.m., ARMEX calculates the multilateral net positions for each participant and sends this information to the CDA.

Once the CDA receives this information, it prepares a multi-payment order, with information on all the parties with a net credit position and those with a net debit position, and sends it to the CBA, which executes the funds transfers to all sellers. At this same time, the CDA takes the necessary securities from the depo accounts of the selling participants and transfers these to a temporary technical account of its own.

Once the settlement of the cash leg has been accomplished successfully, based on

confirmations received from the CBA, the CDA releases the securities from the temporary account and transfers them immediately to the account of the buyer. At this moment, the transaction is considered final.

In most cases, the full process is completed by 4:00 p.m. of the same day.

#### Custody Risk

In the case of corporate securities, brokers-dealers are not authorized to act as nominees. Therefore, all individuals with investments in corporate securities are direct participants in the system of the CDA. At present, the CDA has over 150,000 depo accounts.

In the case of bankruptcy of the custodian or the CDA, the SML explicitly provides protection from claims of third-party creditors to existing custody arrangements.

#### Operational Risks

The CDA and ARMEX have taken some basic measures to manage operational risk and ensure business continuity. These include daily archiving of information stemming from trades and settlement, respectively, and the deployment of backup servers with the same software and applications. Backup servers, are, however, operating in the same premises as the main servers. Moreover, there is no formal business continuity planning and regular testing.

In the case of bankruptcy of the custodian or the CDA, the SML explicitly provides protection from claims of third-party creditors to existing custody arrangements. The Law on Banks and Banking and CBA/MOF regulations provides similar protection for commercial banks acting as nominees.

#### Pricing

With regard to prices and costs applied by the CDA, securities transfers for exchange-traded securities are free of charge. There is also no monthly fee for participants, although there is a monthly maintenance fee for securities issuers. The latter is based on the number of shareholders.

On other hand there is a fee for the transfer of those securities that are traded OTC. In this case, the seller is required to pay 3 percent of the face value of the securities to the CDA for the latter to execute the transfer from the seller to the buyer.

### **6.3 INTERNATIONAL LINKS AMONG CLEARANCE AND SETTLEMENT INSTITUTIONS**

Currently, there are no cross-holdings of securities. Only commercial banks incorporated locally (and one investment company) may participate in the GSASS. Foreign investors can hold government securities, but the latter must be kept in securities accounts only through GSASS direct participants.

The CDA does not hold an omnibus accounts with neither foreign securities depositories, nor do foreign CSDs hold an account with the CDA.

## **7 THE ROLE OF THE CENTRAL BANK IN CLEARANCE AND SETTLEMENT SYSTEMS**

### **7.1 SETTLEMENT**

The correspondent accounts at the CBA are the principal means through which payments are transferred among financial intermediaries and other account holders at the CBA. Participants in the EPS and the PBGSS systems are allowed to use their minimum reserve requirement funds for payment purposes. The funds held at correspondent accounts of CBA are not remunerated.

### **7.2 PAYMENTS SYSTEM OVERSIGHT**

#### **7.2.1 Objectives and Scope**

The CBA has approved and published a concept note on payment system oversight. The concept note has been approved by a resolution of the Chairman of the CBA, and has already been made public through the CBA website.

The concept note defines the objectives, the scope and the process of the oversight function, as well as the requirements to systems falling under the scope of CBA's oversight. These requirements are based on the CPSS Core Principles for Systemically Important Payment Systems. The concept note also describes the need of cooperation with other authorities and the reporting duties towards the CBA board and the public.

The wording of the concept refers mainly to funds transfer systems, although it also relates to securities settlement systems (currently excluding the one related to the stock exchange).

Implementation of the defined oversight activities started in 2007.

#### **7.2.2 Instruments**

As stated in the concept note on payment system oversight, the CBA intends to use moral suasion as an important tool to implement the oversight function. In case the dialogue with system operators is not fruitful, the CBA can enforce its recommendations legally demanding the relevant operator to perform the required modifications, or in the extreme prohibiting the operation of the system in question.<sup>19</sup>

#### **7.2.3 Organizational Arrangements**

The department of the CBA currently in charge of payment system oversight activities is the Payment and Information Systems Development Department. Currently, the Oversight Unit within this department consists of one full-time position.

There are plans to reorganize the Payments and Information Systems Development Department in order to separate payment system methodology and oversight from the system implementation units. At present, this Department is already clearly separated from the Operational Department which handles the daily operations of the RTGS system and the GSASS.

The CBA, through this department, has already specified a work plan for its oversight function. Even though the oversight task is an ongoing process, due to personnel restrictions the

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<sup>19</sup> Based on the law on Payment and Settlement Systems and Payment and Settlement Organizations.

Oversight Unit is planning to make an assessment of systemically important payment and settlement systems every 4 years, and of systems of “prominent importance” every 6 years.

#### **7.2.4 Dissemination of Information**

The concept note on oversight states that the CBA will periodically release public information on its oversight efforts and activities including an outline of results of the assessments. General and statistical information about payment systems of Armenia is already available at the CBA website.

#### **7.2.5 Cooperation with other Domestic and International Regulators**

It is stated in the Central Bank law in Article 7 that "while implementing its tasks, the CBA shall cooperate with state bodies of the Republic of Armenia", while Article 8 deals with the international cooperation of the central bank. The oversight concept note defines that the CBA should actively cooperate with other state entities relating to the payment and settlement area. However, it is not clearly specified which entities and government departments this will involve.

At the international level CBA has established working relationships with central banks in Europe and CIS countries to, among other purposes, facilitate the know-how transfer for the oversight task.

### **7.3 MONETARY POLICY AND PAYMENT SYSTEMS**

See Section 2.5.1.

#### **7.4 PRICING POLICY**

In general, the CBA currently does not make charges to the participants for the various settlement services it offers, with one exception.

Settlement services through the RTGS system are offered at no cost to the participants by the CBA as long as the participants use the EPS to enter their payment orders into the RTGS system. Otherwise, i.e. if payment orders are sent via the PBGSS, the CBA applies a surcharge.

## **8 SUPERVISION OF SECURITIES CLEARANCE AND SETTLEMENT SYSTEMS**

### **8.1 SECURITIES REGULATOR SUPERVISORY AND STATUTORY RESPONSIBILITIES**

Since 2006 the CBA took over the responsibilities of the former National Securities Committee and currently is responsible for regulating and supervising both the corporate and government securities markets.<sup>20</sup>

In the area of securities market supervision and regulation the CBA has the general objectives of ensuring essential conditions for protection of investors in securities, formation and retention of equitable quotation at securities market, and regulation of normal fair, transparent, trustworthy activities of securities market and its development.

In accordance with the latter, the specific tasks of the CBA in this area are as follows:

- establish rules of issue and registration of securities;
- licensing of professional participants and registering of stock exchange and depository activities on the securities market, including determining the procedure for granting, suspending and revoking licenses;
- supervision of licensed and registered entities and sets sanctions for them;
- setting regulations concerning securities market;
- defining requirements and a procedure for sale of securities;
- defining requirements to the form of securities;
- determining requirements to contents of the issue prospectus for securities, the registration of the prospectus and requirements for publication of the prospectus in case of public offering of securities;
- registration of securities;
- determining the procedure for securities ownership registration, and single standards of holding and record-keeping of depository operations;
- determining the procedure for performing types of professional activities;
- setting requirements of capital adequacy to professional participants of the securities market and requirements for professional qualification, holds their attestation;
- setting rules for concluding and conducting transactions in securities, keeping records and reporting on operations with them;
- determining the composition, procedure for presenting and publishing reports or other information, set by legislation for participants of the securities market;
- any other functions in accordance with the legislation.

### **8.2 REGULATORY AND STATUTORY RESPONSIBILITIES OF SELF-REGULATORY ORGANIZATIONS**

According to the SML, the CBA has the right to regulate and supervise the activities of self-regulatory organizations. The latter shall be registered by the CBA and provide the CBA with the reports and financial statements. Its rules should also be registered by the CBA.

Under the Law, the self-regulatory organizations have the right to control the activities of its members, and determine rules and regulations for them.<sup>21</sup> Currently, ARMEX and the CDA act as SROs in Armenia.

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<sup>20</sup> The latter jointly with the MOF.

<sup>21</sup> For additional information see Chapter 2.

## APPENDIX: STATISTICAL TABLES

Series A tables are statistics on payments and securities clearance and settlement in Armenia and were completed following a standard model prepared in the context of the CISPI. They slightly differ from the model due to data availability constraints.

Table A1: Basic Statistical Data .....	44
Table A2: Settlement Media used by Non-Banks .....	44
Table A3: Settlement Media Used by Credit/Deposit Taking Institutions (year-end) .....	45
Table A4: Institutional Framework.....	45
Table A5: Bank Notes and Coins .....	46
Table A6: Cash dispensers, ATMs and EFTPOS Terminals.....	47
Table A7: Number of Payment Cards in circulation.....	47
Table A8: Indicators of Use of Various Cashless Payment Instruments (volume of transactions) .....	48
Table A9: Indicators of Use of Various Cashless Payment Instruments (value of transactions) .....	48
Table A10: Payment Instructions Handled by Selected Interbank Transfer Systems (volume of transactions).....	49
Table A-11: Payment Instructions Handled by Selected Interbank Transfer Systems (value of transactions) .....	49
Table A12: Securities and Accounts Registered in Central Securities Depositories.....	49
Table A13: Securities Holdings in Central Securities Depositories .....	50
Table A14: Transfer Instructions Handled by Securities Settlement Systems (volume of transactions) .....	50
Table A15: Transfer Instructions Handled by Securities Settlement Systems (value of transactions) .....	51
Table A16: Participation in SWIFT by Domestic Institutions.....	51
Table A17: SWIFT Message Flows To/From Domestic Users .....	52

**Table A1: Basic Statistical Data\***

	2002	2003	2004	2005	2006
Population (in million)	3,212.9	3,210.3	3,212.2	3,215.8	3,219.2
GDP (USD million)	2,376.3	2,807.1	3,576.6	4,902.8	6,386.7
GDP per Capita (USD)	739.9	874.3	1,112.8	1,523.8	1,983.4
Exchange rate AMD vs. USD					
<i>Year end</i>	584.9	566.0	485.8	450.2	363.5
<i>Average</i>	573.4	578.8	533.5	457.7	416.0

Source: National Statistical Service.

**Table A2: Settlement Media used by Non-Banks**  
(in AMD million, end of year figures)

	2002	2003	2004	2005	2006
Total notes and coins issued	92,088	96,838	105,534	155,275	226,841
Held by the public	88,553	91,997	98,569	144,311	211,469
Transferable deposits in domestic currency	26,754	31,275	33,845	57,745	83,858
<i>Households</i>	3,563	4,798	6,418	10,359	20,458
<i>Corporate sector</i>	19,411	23,118	21,476	39,554	51,018
<i>Other</i>	3,780	3,360	5,951	7,831	12,383
Narrow money supply M1	115,307	123,272	132,414	202,056	295,328
Transferable deposits in foreign currency	42,209	51,071	74,607	58,356	60,002
<i>Households</i>	19,442	27,864	32,520	29,562	28,023
<i>Corporate sector</i>	17,987	16,552	31,806	20,145	26,430
<i>Other</i>	4,779	6,656	10,281	8,649	5,549
Broad money aggregates					
<i>M2</i>	124,870	133,410	145,718	224,797	342,326
<i>M2X</i>	211,886	233,818	285,943	365,554	485,737

Source: CBA.

\* The following conventions for notation are used in all Tables throughout the Appendix: "n.a." indicates data that are not available; "... " stands for data that are not applicable; "neg" indicates where data are very small relative to other relevant data in the table concerned.

**Table A3: Settlement Media Used by Credit/Deposit Taking Institutions (year-end)**  
(in AMD million, end of year figures)

	2002	2003	2004	2005	2006
Required reserves at the Central Bank <sup>1</sup>	17,806	13,789	16,654	25,910	30,051
<i>In domestic currency</i>	n.a.	n.a.	n.a.	8,069	12,138
<i>In foreign currency</i>	n.a.	n.a.	n.a.	17,841	17,913
Of which usable for settlement	17,806	13,789	16,654	25,910	30,051
<i>In domestic currency</i>	n.a.	n.a.	n.a.	8,069	12,138
<i>In foreign currency</i>	n.a.	n.a.	n.a.	17,841	17,913
Excess reserves at the Central Bank <sup>1</sup> :	3,065	3,791	5,371	13,262	14,965
<i>In domestic currency</i>	n.a.	n.a.	n.a.	10,318	12,225
<i>In foreign currency</i>	n.a.	n.a.	n.a.	2,944	2,740
Institutions' borrowing from the Central Bank <sup>2</sup>	0	0		0	3,357
Transferable deposits at other institutions <sup>3</sup>	1,842	1,933	2,870	1,867	1,082

Source: CBA.

1 – Estimated average for the last fortnight.

2 – Includes only repo agreements borrowed from the Central Bank.

3 – Correspondent accounts in other resident banks.

**Table A4: Institutional Framework**  
(as at end-2006)

Categories	Number of Institutions	Number of branches head offices	Number of accounts	Value of accounts (AMD mln)
Central Bank <sup>1,2</sup>	1	1	301	62,507
Commercial Banks <sup>1,3,7</sup>	21	299	844,905	160,974
<i>Public banks</i>	0	0	0	0
<i>Private banks</i>	11	162	n.a.	n.a.
<i>Foreign banks<sup>4</sup></i>	10	137	n.a.	n.a.
Non-banking financial institutions <sup>5</sup>	112	130	n.a.	n.a.
Payment service organisations <sup>6</sup>	4	4	....	....
<i>Processing organizations</i>	3	3	....	....
<i>Money transfer organizations</i>	1	1	....	....
Postal Office	1	n.a.	....	....

Source: CBA.

1 – Includes customers' demand deposit accounts with balances therein.

2 – Not included Armenian banks' correspondent account with CBA.

3 – Starting 2002 the table provides the number of customers serviced by banking sector within the year.

4 – Banks with more than 50% foreign ownership.

5 – Credit companies, insurance companies, securities brokers, dealers and pawnshops.

6 – Have no rights to open and maintain banking accounts for customers.

7 – Includes also funds of non-residents.

**Table A5: Bank Notes and Coins**  
(in AMD million, end of year figures)

	2002	2003	2004	2005	2006
Total currency issued*	92,088	96,838	105,534	155,275	226,841
Banknotes:					
Total banknotes issued	91,397	94,708	101,772	150,617	219,137
<i>of which:</i>					
50000 AMD	1,607	1,386	945	1,612	15,717
20000 AMD	24,155	23,041	21,017	40,196	55,515
10000 AMD	0	7,295	25,221	42,980	79,443
5000 AMD	40,414	44,943	37,818	48,839	53,016
1000 AMD	18,742	13,922	13,510	14,971	14,519
500 AMD	4,656	2,679	2,701	1,481	392
200 AMD	171	121	87	84	84
100 AMD	1 041	746	165	153	152
50 AMD	373	353	126	121	121
25 AMD	67	59	41	40	40
10 AMD	171	161	141	140	140
Coins:					
Total coins issued	692	2,130	3,761	4,658	7,704
<i>of which:</i>					
25000 AMD	482	483	483	484	486
500 AMD	0	119	203	767	3,357
200 AMD	0	413	1,170	1,312	1,566
100 AMD	14	501	1,200	1,323	1,436
50 AMD	0	161	353	400	433
20 AMD	0	199	158	166	195
10 AMD	149	208	149	158	182
5 AMD	21	21	21	21	21
3 AMD	11	12	12	13	13
1 AMD	9	9	9	9	9
50 Luma	3	3	3	3	3
20 Luma	2	2	2	2	2
10 Luma	1	1	1	1	1
Notes and coins held by banks	3,532	4,841	6,965	10,964	15,372
Notes and coins circulating outside banks	88,556	91,997	98,569	144,311	211,469

Source: CBA.

**Table A6: Cash Dispensers, ATMs and EFTPOS Terminals**

	2002	2003	2004	2005	2006
<b>Cash dispensers and ATMs</b>					
Number of networks <sup>1</sup>	1	1	1	1	1
<i>National</i>	1	1	1	1	1
<i>Regional</i>	...	...	...	...	...
Number of terminals	22	42	71	116	180
Volume of transactions	485,973	792,776	1,367,164	1,691,999	2,464,434
Value of transactions (AMD million)	31,226	50,022	80,751	62,671	95,773
<b>EFTPOS:</b>					
Number of networks <sup>1</sup>	1	1	1	1	1
Number of terminals	207	433	685	1,057	1,409
<i>of which:</i>					
POS terminals	170	382	629	981	1326
Imprinters	37	51	56	76	83
<b>Transactions in POS terminals</b>					
Volume of transactions	130,286	210,047	384,741	473,766	547,632
Value of transactions	4,221	8,665	17,481	26,330	40,994
<b>Transactions with imprinters</b>					
Volume of transactions	729	3,158	11,185	18,620	17,503
Value of transactions	284	856	539	1,135	1,477

Source: CBA.

1- Includes only "ArCa" processing centre.

**Table A7: Number of Payment Cards in circulation**  
(end of year figures)

	2002	2003	2004	2005	2006
Cards with a cash function	22,412	61,110	108,865	137,186	209,113
Cards with a debit/credit function	22,412	61,110	108,865	137,186	209,113
<i>of which:</i>					
<i>Debit cards</i>	22,158	60,621	107,553	135,367	206,485
<i>Credit cards</i>	254	489	1,312	1,819	2,628
Cards with a cheque-guarantee function	...	...	...	...	...
Retailer and fidelity cards	...	...	...	...	...
Stored-value cards	...	...	...	...	...

Source: CBA.

**Table A8: Indicators of Use of Various Cashless Payment Instruments**  
(volume of transactions)

	2002	2003	2004	2005	2006
Cheques issued <sup>1</sup>	11,672	14,601	15,222	12,207	8,931
Payments by cards <sup>2</sup>	n.a	n.a	72,969	127,789	212,387
<i>Paper-based credit transfers</i> <sup>3</sup>	416,017	466,928	522,071	717,219	988,964
<i>Paperless credit transfers</i> <sup>3</sup>	1,079,910	1,424,397	1,062,858	1,280,968	1,412,116
<i>Direct Debits</i> <sup>4</sup>	1,243	355	323	744	5,318
<i>E-money</i>	...	...	...	...	...
Other	...	...	...	...	...
<b>Total</b>	<b>1,508,842</b>	<b>1,906,281</b>	<b>1,673,443</b>	<b>2,138,927</b>	<b>2,627,716</b>

Source: CBA.

1 - Includes only serviced cheques which were actually paid.

2- Non-cash payments made with cards, issued by resident and non-resident banks.

3 - Credit orders to beneficiary bank/branch. Effective January 2002 intrabank transfers of commercial bank are not included except for customer-customer transfers.

4- Debit orders and other debit transfers, excluding bank fees and loan payments through direct debit.

**Table A9: Indicators of Use of Various Cashless Payment Instruments**  
(value of transactions, in AMD million)

	2002	2003	2004	2005	2006
Cheques issued <sup>1</sup>	16,420	14,797	12,564	9,663	7,571
Payments by cards <sup>2</sup>	n.a	n.a	2,985	6,866	11,322
<i>Paper-based credit transfers</i> <sup>3</sup>	786,844	1,226,184	1,467,080	2,114,168	2,076,422
<i>Paperless credit transfers</i> <sup>3</sup>	1,243,279	1,806,832	2,032,136	2,743,646	3,394,735
<i>Direct Debits</i> <sup>4</sup>	3,006	1,149	4,540	4,782	4,416
<i>E-money</i>	...	...	...	...	...
Other	...	...	...	...	...
<b>Total</b>	<b>2,049,549</b>	<b>3,048,962</b>	<b>3,519,305</b>	<b>4,879,125</b>	<b>5,494,466</b>

Source: CBA.

1 - Includes only serviced cheques which were actually paid.

2- Non-cash payments made with cards, issued by resident and non-resident banks.

3- Credit orders to beneficiary bank/branch. Effective January 2002 intrabank transfers of commercial bank are not included except for customer-customer transfers.

4- Debit orders and other debit transfers, excluding bank fees and loan payments through direct debit.

**Table A10: Payment Instructions Handled by Selected Interbank Transfer Systems**  
(volume of transactions)

	2002	2003	2004	2005	2006
Electronic gross payment and settlement system	828,365	1,076,456	637,800	826,739	1,009,531
Paper-based settlement system gross	15,185	14,835	16,877	28,516	39,225
Clearing System	1,083	0	0	0	0
<b>Total</b>	<b>846,289</b>	<b>1,093,164</b>	<b>656,372</b>	<b>858,478</b>	<b>1,053,390</b>

Source: CBA.

**Table A-11: Payment Instructions Handled by Selected Interbank Transfer Systems**  
(value of transactions, in AMD million)

	2002	2003	2004	2005	2006
Electronic gross payment and settlement system	948,818	1,378,264	1,627,194	2,186,126	3,882,165
Paper-based settlement system gross	210,930	287,671	212,493	582,298	528,079
Clearing System	300	0	0	0	0
<b>Total</b>	<b>1,234,269</b>	<b>1,746,284</b>	<b>1,923,310</b>	<b>2,997,020</b>	<b>4,815,509</b>

Source: CBA.

**Table A12: Securities and Accounts Registered in Central Securities Depositories**

	2002	2003	2004	2005	2006
<b>GSASS</b>					
Number of securities registered <sup>1</sup>	53	54	42	67	113
Number of participants	n.a	20	22	24	28
Number of accounts	112	116	124	218	219
Number of foreign investors	...	...	...	...	...
<b>CDA</b>					
Number of securities registered <sup>2</sup>	260,709,993	264,561,412	268,268,860	412,060,235	2,497,556,133
Number of participants	23	16	19	18	20
Number of accounts	125,559	134,858	141,151	149,163	150,829
Number of foreign investors	117	177	241	291	376

Sources: CBA and CDA.

1- Number of issuances of securities in each year.

2- Number of all distributed securities.

**Table A13: Securities Holdings in Central Securities Depositories**  
(in AMD million, end of year figures)

	2002	2003	2004	2005	2006
<b>GSASS</b>					
Government Securities (T-bills, bonds, notes) <sup>1</sup>	45,140	56,440	59,340	75,840	109,734
Central Banks Securities <sup>1</sup>	...	...	...	22,500	41,000
<b>Central Securities Depositories</b>					
Corporate Bonds	0	0	0	200	400
Corporate Shares <sup>2</sup>	119,526	298,592	335,844	355,019	423,324

Source: CBA.

1. Redeemed securities are not included.

**Table A14: Transfer Instructions Handled by Securities Settlement Systems**  
(volume of transactions)

	2002	2003	2004	2005	2006
<b>GSASS</b>					
Government Securities	4,936	4,287	3,454	3,211	7,692
Central Banks Securities	n.a.	n.a.	n.a.	130	1,202
Corporate Shares	...	...	...	...	...
Corporate Debt	...	...	...	...	...
Other	...	...	...	...	...
<b>Trading platforms</b>					
Government Securities	0	0	0	0	0
Corporate Bonds	0	0	0	0	45
Corporate Shares	3,869	3,310	3,205	1,586	1,134
Corporate Debt	...	...	...	...	...
Other	...	...	...	...	...

Sources: CBA and CDA.

**Table A15: Transfer Instructions Handled by Securities Settlement Systems**  
(value of transactions, in AMD million)

	2002	2003	2004	2005	2006
<b>GSASS</b>					
Government Securities	231,473	269,718	264,737	305,430	382,651
Central Banks Securities	n.a.	n.a.	n.a.	14,029	56,596
Corporate Shares	...	...	...	...	...
Corporate Debt	...	...	...	...	...
Other	...	...	...	...	...
<b>Trading platforms</b>					
Government Securities	0	0	0	0	0
Corporate Bonds	0	0	0	0	468
Corporate Shares	799	423	851	605	2,150
Corporate Debt	...	...	...	...	...
Other	...	...	...	...	...

Sources: CBA and CDA.

**Table A16: Participation in SWIFT by Domestic Institutions**

	2001	2002	2003	2004	2005
Domestic SWIFT users	19	20	18	19	21
<i>Of which</i>					
Members	18	19	17	18	20
Sub members	1	1	1	1	1
Participants	0	0	0	0	0
<b>Memo:</b>					
SWIFT users worldwide	7,199	7,466	7,527	7,667	7,863
<i>Of which</i>					
Members	3,847	4,006	4,085	4,224	2,229
Sub members	3,027	3,079	3,051	3,019	3,060
Participants	325	381	391	424	2,574

Source: SWIFT.

**Table A17: SWIFT Message Flows To/From Domestic Users**  
(in thousands)

	2000	2001	2002	2003	2004	2005
Total messages sent	0	0	0	0	171	218
<i>Of which</i>						
Category I	0	0	0	0	102	131
Category II	0	0	0	0	25	31
Total messages received	....	....	....	....	294	300
<i>Of which</i>						
Category I	....	....	....	....	155	134
Category II	....	....	....	....	10	13
Memo: Global SWIFT traffic	1,298,668	1,533,906	1,817,444	2,047,564	2,299,074	2,518,285

Source: SWIFT.